

**StdAir**

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## 1 StdAir Documentation

### 1.1 Getting Started

- Main features
- Installation
- Linking with StdAir
- Users Guide
- Tutorials
- Copyright and License
- Make a Difference
- Make a new release
- People

### 1.2 StdAir on GitHub

- Project page
- Download StdAir
- Issues/tickets (bugs or features)
  - Open an issue/ticket

### 1.3 StdAir Development

- Git Repository

```
$ git clone git@github.com:airsim/stdair.git stdairgit # If SSH is allowed
$ git clone https://github.com/airsim/stdair.git stdairgit # If the firewall does not allow SSH
$ cd stdairgit
$ git checkout trunk
```

- Coding Rules
- Documentation Rules
- Test Rules

### 1.4 External Libraries

- Boost (C++ STL extensions)
- ZeroMQ (networking made easy)
- Python
- MariaDB (drop-in replacement for MySQL)
- SOCI (C++ DB API)

## 1.5 Support StdAir

### 1.6 About StdAir

StdAir aims at providing a clean API, and the corresponding C++ implementation, for the basis of Airline IT and travel distribution Business Object Model (BOM), that is, to be used by several other open source projects, including all the components of the Travel Market Simulator (<http://www.travel-market-simulator.com>), such as AirRAC, RMOL, AirlInv, AvlCal, AirTSP, SimFQT, SimLFS, SimCRS, TravelCCM, SEvMgr, TraDemGen, and TvlSim.

StdAir mainly targets simulation purposes. **N** Indeed, StdAir is the fundamental brick of the Travel Market Simulator. However, it may be used in a stand-alone mode.

StdAir makes an extensive use of existing open-source libraries for increased functionality, speed and accuracy. In particular **Boost** (*C++ STL Extensions*) library is used.

The StdAir library originates from the Travel Intelligence (TI) Business Unit (BI) at [Amadeus](#). StdAir is released under the terms of the [GNU Lesser General Public License](#) (LGPLv2.1) for you to enjoy.

StdAir should work on [GNU/Linux](#), [Sun Solaris](#), Microsoft Windows (with [Cygwin](#), [MinGW/MSYS](#), or [Microsoft Visual C++ .NET](#)) and [Mac OS X](#) operating systems.

StdAir has been packaged for [RedHat/CentOS/Fedora](#). On RedHat/CentOS, you have [to enable the EPEL repositories](#).

#### Note

(N) - The StdAir library is **NOT** intended, in any way, to be used by airlines, or by anyone else, for production systems. If you want to report issue, bug or feature request, or if you just want to give feedback, have a look on the right-hand side of this page for the preferred reporting methods. In any case, please do not contact Amadeus directly for any matter related to StdAir.

## 2 BomAbstract

Abstract part of the Business Object Model (BOM)

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#### Date

20/01/2010

## 3 C++ Utility Class Browsing and Dumping the StdAir BOM Tree

```

/
// //////////////////////////////////////////////////////////////////
// Import section
// //////////////////////////////////////////////////////////////////
// STL
#include <cassert>
#include <iostream>
// StdAir
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/AirportPair.hpp>

```

```

#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/FareFeatures.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/bom/Bucket.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/bom/OnDDate.hpp>

namespace stdair {

    struct FlagSaver {
public:
    FlagSaver (std::ostream& oStream)
        : _oStream (oStream), _streamFlags (oStream.flags()) {
    }

    ~FlagSaver() {
        // Reset formatting flags of the given output stream
        _oStream.flags (_streamFlags);
    }

private:
    std::ostream& _oStream;
    std::ios::fmtflags _streamFlags;
};

// /////////////////////////////////
void BomDisplay::list (std::ostream& oStream, const BomRoot& iBomRoot,
                      const AirlineCode_T& iAirlineCode,
                      const FlightNumber_T& iFlightNumber) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Check whether there are Inventory objects
    if (BomManager::hasList<Inventory> (iBomRoot) == false) {
        return;
    }

    // Browse the inventories
    unsigned short invIdx = 1;
    const InventoryList_T& lInventoryList =
        BomManager::getList<Inventory> (iBomRoot);
    for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
         itInv != lInventoryList.end(); ++itInv, ++invIdx) {
        const Inventory* lInv_ptr = *itInv;
        assert (lInv_ptr != NULL);

        // Retrieve the inventory key (airline code)
        const AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();

        // Display only the requested inventories
        if (iAirlineCode == "all" || lAirlineCode == lAirlineCode) {
            // Get the list of flight-dates for that inventory
            list (oStream, *lInv_ptr, invIdx, iFlightNumber);
        }
    }
}

// /////////////////////////////////
void BomDisplay::list (std::ostream& oStream, const Inventory& iInventory,
                      const unsigned short iInventoryIndex,
                      const FlightNumber_T& iFlightNumber) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Check whether there are FlightDate objects
    if (BomManager::hasMap<FlightDate> (iInventory) == false) {
        return;
    }

    // const AirlineCode_T& lAirlineCode = iInventory.getAirlineCode();
    oStream << iInventoryIndex << ". " << lAirlineCode << std::endl;

    // Browse the flight-dates
    unsigned short lCurrentFlightNumber = 0;
    unsigned short flightNumberIdx = 0;
    unsigned short departureDateIdx = 1;
    const FlightDateMap_T& lFlightDateList =
        BomManager::getMap<FlightDate> (iInventory);
    for (FlightDateMap_T::const_iterator itFD = lFlightDateList.begin();
         itFD != lFlightDateList.end(); ++itFD, ++departureDateIdx) {
        const FlightDate* lFD_ptr = itFD->second;
    }
}

```

```

assert (lFD_ptr != NULL);

// Retrieve the key of the flight-date
const FlightNumber_T& lFlightNumber = lFD_ptr->getFlightNumber();
const Date_T& lFlightDateDate = lFD_ptr->getDepartureDate();

// Display only the requested flight number
if (iFlightNumber == 0 || iFlightNumber == lFlightNumber) {
    //
    if (lCurrentFlightNumber != lFlightNumber) {
        lCurrentFlightNumber = lFlightNumber;
        ++flightNumberIdx; departureDateIdx = 1;
        oStream << " " << iInventoryIndex << "." << flightNumberIdx << ". "
            << lAirlineCode << lFlightNumber << std::endl;
    }

    oStream << " " << iInventoryIndex << "." << flightNumberIdx
        << "." << departureDateIdx << ". "
        << lAirlineCode << lFlightNumber << " / " << lFlightDateDate
        << std::endl;
    }
}

// /////////////////////////////////
void BomDisplay::listAirportPairDateRange (std::ostream& oStream,
                                            const BomRoot& iBomRoot) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Check whether there are AirportPair objects
    if (BomManager::hasList<AirportPair> (iBomRoot) == false) {
        return;
    }

    const AirportPairList_T& lAirportPairList =
        BomManager::getList<AirportPair> (iBomRoot);
    for (AirportPairList_T::const_iterator itAir = lAirportPairList.begin();
         itAir != lAirportPairList.end(); ++itAir) {
        const AirportPair* lAir_ptr = *itAir;
        assert (lAir_ptr != NULL);

        // Check whether there are date-period objects
        assert (BomManager::hasList<DatePeriod> (*lAir_ptr) == true);

        // Browse the date-period objects
        const DatePeriodList_T& lDatePeriodList =
            BomManager::getList<DatePeriod> (*lAir_ptr);

        for (DatePeriodList_T::const_iterator itDP = lDatePeriodList.begin();
             itDP != lDatePeriodList.end(); ++itDP) {
            const DatePeriod* lDP_ptr = *itDP;
            assert (lDP_ptr != NULL);

            // Display the date-period object
            oStream << lAir_ptr->describeKey()
                << " / " << lDP_ptr->describeKey() << std::endl;
        }
    }
}

// /////////////////////////////////
void BomDisplay::csvDisplay (std::ostream& oStream,
                            const BomRoot& iBomRoot) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << std::endl;
    oStream << "====="
        << std::endl;
    oStream << "BomRoot: " << iBomRoot.describeKey() << std::endl;
    oStream << "====="
        << std::endl;

    // Check whether there are Inventory objects
    if (BomManager::hasList<Inventory> (iBomRoot) == false) {
        return;
    }

    // Browse the inventories
    const InventoryList_T& lInventoryList =
        BomManager::getList<Inventory> (iBomRoot);
    for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
         itInv != lInventoryList.end(); ++itInv) {
        const Inventory* lInv_ptr = *itInv;
        assert (lInv_ptr != NULL);
}

```

```

    // Display the inventory
    csvDisplay (oStream, *lInv_ptr);
}
}

// /////////////////////////////////
void BomDisplay::csvDisplay (std::ostream& oStream,
                           const Inventory& iInventory) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "+++++++" << std::endl;
    oStream << "Inventory: " << iInventory.describeKey() << std::endl;
    oStream << "+++++++" << std::endl;

    // Check whether there are FlightDate objects
    if (BomManager::hasList<FlightDate> (iInventory) == false) {
        return;
    }

    // Browse the flight-dates
    const FlightDateList_T& lFlightDateList =
        BomManager::getList<FlightDate> (iInventory);
    for (FlightDateList_T::const_iterator itFD = lFlightDateList.begin();
         itFD != lFlightDateList.end(); ++itFD) {
        const FlightDate* lFD_ptr = *itFD;
        assert (lFD_ptr != NULL);

        // Display the flight-date
        csvDisplay (oStream, *lFD_ptr);
    }

    // Check if the inventory contains a list of partners
    if (BomManager::hasList<Inventory> (iInventory)) {

        // Browse the partner's inventories
        const InventoryList_T& lPartnerInventoryList =
            BomManager::getList<Inventory> (iInventory);

        for (InventoryList_T::const_iterator itInv = lPartnerInventoryList.begin();
             itInv != lPartnerInventoryList.end(); ++itInv) {

            oStream << "-----" << std::endl;
            oStream << "Partner inventory:" << std::endl;
            oStream << "-----" << std::endl;
            const Inventory* lInv_ptr = *itInv;
            assert (lInv_ptr != NULL);

            // Display the inventory
            csvDisplay (oStream, *lInv_ptr);
        }
        oStream << "*****" << std::endl;
        oStream << std::endl;
    }

    // Check if the inventory contains a list of O&D dates
    if (BomManager::hasList<OnDDate> (iInventory)) {

        //Browse the O&Ds
        const OnDDateList_T& lOnDDateList =
            BomManager::getList<OnDDate> (iInventory);

        for (OnDDateList_T::const_iterator itOnD = lOnDDateList.begin();
             itOnD != lOnDDateList.end(); ++itOnD) {
            oStream << "*****" << std::endl;
            oStream << "O&D-Date:" << std::endl;
            oStream << "-----" << std::endl;
            oStream << "Airline, Date, Origin-Destination, Segments, " << std::endl;

            const OnDDate* lOnDDate_ptr = *itOnD;
            assert (lOnDDate_ptr != NULL);

            // Display the O&D date
            csvDisplay (oStream, *lOnDDate_ptr);
        }
        oStream << "*****" << std::endl;
    }

    // ///////////////////////////////
    void BomDisplay::csvDisplay (std::ostream& oStream,
                               const OnDDate& iOnDDate) {
        // Save the formatting flags for the given STL output stream
        FlagSaver flagSaver (oStream);
    }
}

```

```

const AirlineCode_T& lAirlineCode = iOnDDate.getAirlineCode();
const Date_T& lDate = iOnDDate.getDate();
const AirportCode_T& lOrigin = iOnDDate.getOrigin();
const AirportCode_T& lDestination = iOnDDate.getDestination();

oStream << lAirlineCode << ", " << lDate << ", " << lOrigin << "-"
    << lDestination << ", " << iOnDDate.describeKey() << ", "
    << std::endl;

const StringDemandStructMap_T& lDemandInfoMap =
    iOnDDate.getDemandInfoMap();

// Check if the map contains information.
const bool isInfoMapEmpty = lDemandInfoMap.empty();
if (isInfoMapEmpty) {
    return;
}
assert (lDemandInfoMap.empty() == false);

oStream << "-----" << std::endl;
oStream << "Cabin-Class path, Demand mean, Demand std dev, Yield, "
    << std::endl;

for (StringDemandStructMap_T::const_iterator itDI = lDemandInfoMap.begin();
     itDI != lDemandInfoMap.end(); ++itDI) {

    const std::string& lCabinClassPath = itDI->first;
    const YieldDemandPair_T lYieldDemandPair =
        itDI->second;
    const Yield_T lYield = lYieldDemandPair.first;
    const MeanStdDevPair_T lMeanStdDevPair =
        lYieldDemandPair.second;
    const MeanValue_T lDemandMean = lMeanStdDevPair.first;
    const StdDevValue_T lDemandStdDev = lMeanStdDevPair.second;

    oStream << lCabinClassPath << ", "
        << lDemandMean << ", "
        << lDemandStdDev << ", "
        << lYield << ", "
        << std::endl;
}

// /////////////////////////////////
void BomDisplay::csvDisplay (std::ostream& oStream,
                            const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    oStream << "*****" << std::endl;
    oStream << "FlightDate: " << lAirlineCode << iFlightDate.describeKey()
        << std::endl;
    oStream << "*****" << std::endl;

    //
    // csvSegmentDateDisplay (oStream, iFlightDate);
    //
    // csvLegDateDisplay (oStream, iFlightDate);

    //
    // csvLegCabinDisplay (oStream, iFlightDate);

    //
    // csvBucketDisplay (oStream, iFlightDate);

    //
    // csvFareFamilyDisplay (oStream, iFlightDate);

    //
    // csvBookingClassDisplay (oStream, iFlightDate);
}

// ///////////////////////////////
void BomDisplay::csvLegDateDisplay (std::ostream& oStream,
                                    const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "Leg-Dates:" << std::endl
        << "-----" << std::endl;
    oStream << "Flight, Leg, BoardDate, BoardTime, "
        << "OffDate, OffTime, Date Offset, Time Offset, Elapsed, "
        << "Distance, Capacity, " << std::endl;
}

```

```

// Retrieve the key of the flight-date
const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

// Check whether there are LegDate objects
if (BomManager::hasList<LegDate> (iFlightDate) == false) {
    return;
}

// Browse the leg-dates
const LegDateList_T& lLegDateList =
    BomManager::getList<LegDate> (iFlightDate);
for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
     itLD != lLegDateList.end(); ++itLD) {
    const LegDate* lLD_ptr = *itLD;
    assert (lLD_ptr != NULL);

    oStream << lAirlineCode << lFlightNumber << " "
          << lFlightDateDate << ", ";

    oStream << lLD_ptr->getBoardingPoint() << "-"
          << lLD_ptr->getOffPoint() << ", "
          << lLD_ptr->getBoardingDate() << ", "
          << lLD_ptr->getBoardingTime() << ", "
          << lLD_ptr->getOffDate() << ", "
          << lLD_ptr->getOffTime() << ", "
          << lLD_ptr->getElapsedTime() << ", "
          << lLD_ptr->getDateOffset().days() << ", "
          << lLD_ptr->getTimeOffset() << ", "
          << lLD_ptr->getDistance() << ", "
          << lLD_ptr->getCapacity() << ", " << std::endl;
}
oStream << "*****" << std::endl;
}

// ///////////////////////////////////////////////////////////////////
void BomDisplay::csvSegmentDateDisplay (std::ostream& oStream,
                                         const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "SegmentDates:" << std::endl
          << "-----" << std::endl;
    oStream << "Flight, Segment, Date"
          << std::endl;

    // Retrieve the key of the flight-date
    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
    const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

    // Check whether there are SegmentDate objects
    if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
        return;
    }

    // Browse the segment-dates
    const SegmentDateList_T& lSegmentDateList =
        BomManager::getList<SegmentDate> (iFlightDate);
    for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
         itSD != lSegmentDateList.end(); ++itSD) {
        const SegmentDate* lSD_ptr = *itSD;
        assert (lSD_ptr != NULL);

        // Retrieve the key of the segment-date, as well as its dates
        const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
        const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
        const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();
        oStream << lAirlineCode << lFlightNumber << " " << lFlightDateDate << ", "
              << lBoardPoint << "-" << lOffPoint << ", " << lSegmentDateDate << std::endl;

        // Check if the current segment has corresponding marketing segments.
        const bool hasMarketingSDList = BomManager::hasList<SegmentDate>(*lSD_ptr);
        if (hasMarketingSDList == true) {
            //
            const SegmentDateList_T& lMarketingSDList = BomManager::getList<SegmentDate>
                (*lSD_ptr);

            oStream << " *** Marketed by ";
            for (SegmentDateList_T::const_iterator itMarketingSD = lMarketingSDList.begin();
                 itMarketingSD != lMarketingSDList.end(); ++itMarketingSD) {
                const SegmentDate* lMarketingSD_ptr = *itMarketingSD;
                FlightDate* lMarketingFD_ptr = BomManager::getParentPtr<FlightDate>(*lMarketingSD_ptr);
                Inventory* lMarketingInv_ptr = BomManager::getParentPtr<Inventory>(*lMarketingFD_ptr);
        }
    }
}

```

```

        oStream << lMarketingInv_ptr->toString() << lMarketingFD_ptr->toString() << " * ";
    }

    // Check if the current segment is operated by another segment date.
    const SegmentDate* lOperatingSD_ptr = lSD_ptr->getOperatingSegmentDate ();
    if (lOperatingSD_ptr != NULL) {

        const FlightDate* lOperatingFD_ptr = BomManager::getParentPtr<FlightDate>(*lOperatingSD_ptr);
        const Inventory* lOperatingInv_ptr = BomManager::getParentPtr<Inventory>(*lOperatingFD_ptr);
        oStream << " *** Operated by " << lOperatingInv_ptr->toString()
            << lOperatingFD_ptr->toString() << std::endl;
    }

    oStream << std::endl;
}

// /////////////////////////////////
void BomDisplay::csvLegCabinDisplay (std::ostream& oStream,
                                     const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "LegCabins:" << std::endl
        << "-----" << std::endl;
    oStream << "Flight, Leg, Cabin, "
        << "OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, "
        << "CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice, "
        << std::endl;

    // Retrieve the key of the flight-date
    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
    const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

    // Check whether there are LegDate objects
    if (BomManager::hasList<LegDate> (iFlightDate) == false) {
        return;
    }

    // Browse the leg-dates
    const LegDateList_T& lLegDateList =
        BomManager::getList<LegDate> (iFlightDate);
    for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
         itLD != lLegDateList.end(); ++itLD) {
        const LegDate* lLD_ptr = *itLD;
        assert (lLD_ptr != NULL);

        // Retrieve the key of the leg-date, as well as its off point
        const Date_T& lLegDateDate = lLD_ptr->getBoardingDate();
        const AirportCode_T& lBoardPoint = lLD_ptr->getBoardingPoint();
        const AirportCode_T& lOffPoint = lLD_ptr->getOffPoint();

        // Browse the leg-cabins
        const LegCabinList_T& lLegCabinList =
            BomManager::getList<LegCabin> (*lLD_ptr);
        for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
             itLC != lLegCabinList.end(); ++itLC) {
            const LegCabin* lLC_ptr = *itLC;
            assert (lLC_ptr != NULL);

            oStream << lAirlineCode << lFlightNumber << " "
                << lFlightDateDate << ", ";

            oStream << lBoardPoint << "-" << lOffPoint
                << " " << lLegDateDate << ", ";

            oStream << lLC_ptr->getCabinCode() << ", ";

            oStream << lLC_ptr->getOfferedCapacity() << ", "
                << lLC_ptr->getPhysicalCapacity() << ", "
                << lLC_ptr->getRegradeAdjustment() << ", "
                << lLC_ptr->getAuthorizationLevel() << ", "
                << lLC_ptr->getUPR() << ", "
                << lLC_ptr->getSoldSeat() << ", "
                << lLC_ptr->getStaffNbOfSeats() << ", "
                << lLC_ptr->getWLnbOfSeats() << ", "
                << lLC_ptr->getGroupNbOfSeats() << ", "
                << lLC_ptr->getCommittedSpace() << ", "
                << lLC_ptr->getAvailabilityPool() << ", "
                << lLC_ptr->getAvailability() << ", "
                << lLC_ptr->getNetAvailability() << ", "
                << lLC_ptr->getGrossAvailability() << ", "
                << lLC_ptr->getAvgCancellationPercentage() << ", "
                << lLC_ptr->getETB() << ", "

```

```

        << lLC_ptr->getCurrentBidPrice() << ", "
        << std::endl;
    }
}
oStream << "*****" << std::endl;
}

// ****
void BomDisplay::csvSegmentCabinDisplay (std::ostream& oStream,
                                         const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);
}

// ****
void BomDisplay::csvFareFamilyDisplay (std::ostream& oStream,
                                         const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "SegmentCabins:" << std::endl
          << "-----" << std::endl;
    oStream << "Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, "
          << "CommSpace, AvPool, BP, " << std::endl;

    // Retrieve the key of the flight-date
    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
    const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

    // Check whether there are SegmentDate objects
    if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
        return;
    }

    // Browse the segment-dates
    const SegmentDateList_T& lSegmentDateList =
        BomManager::getList<SegmentDate> (iFlightDate);
    for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
         itSD != lSegmentDateList.end(); ++itSD) {
        const SegmentDate* lSD_ptr = *itSD;
        assert (lSD_ptr != NULL);

        // Retrieve the key of the segment-date, as well as its dates
        const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
        const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
        const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();

        // Browse the segment-cabins
        const SegmentCabinList_T& lSegmentCabinList =
            BomManager::getList<SegmentCabin> (*lSD_ptr);
        for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
             itSC != lSegmentCabinList.end(); ++itSC) {
            const SegmentCabin* lSC_ptr = *itSC;
            assert (lSC_ptr != NULL);

            // Retrieve the key of the segment-cabin
            const CabinCode_T& lCabinCode = lSC_ptr->getCabinCode();

            // Check whether there are fare family objects
            if (BomManager::hasList<FareFamily> (*lSC_ptr) == false) {
                continue;
            }

            // Browse the fare families
            const FareFamilyList_T& lFareFamilyList =
                BomManager::getList<FareFamily> (*lSC_ptr);
            for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
                 itFF != lFareFamilyList.end(); ++itFF) {
                const FareFamily* lFF_ptr = *itFF;
                assert (lFF_ptr != NULL);

                oStream << lAirlineCode << lFlightNumber << " "
                      << lFlightDateDate << ", ";

                oStream << lBoardPoint << "-" << lOffPoint << " "
                      << lSegmentDateDate << ", ";

                oStream << lCabinCode << " " << lFF_ptr->getFamilyCode() << " ";
                oStream << lSC_ptr->getBookingCounter() << " "
                      << lSC_ptr->getMIN() << " "
                      << lSC_ptr->getUPR() << " "
                      << lSC_ptr->getCommittedSpace() << " "
                      << lSC_ptr->getAvailabilityPool() << " "
            }
        }
    }
}

```

```

        << lSC_ptr->getCurrentBidPrice() << ", "
        << std::endl;
    }
}
oStream << "*****" << std::endl;

// ///////////////////////////////////////////////////////////////////
void BomDisplay::csvBucketDisplay (std::ostream& oStream,
                                    const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "Buckets:" << std::endl
          << "-----" << std::endl;
    oStream << "Flight, Leg, Cabin, Yield, AU/SI, SS, AV, "
          << std::endl;

    // Retrieve the key of the flight-date
    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
    const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

    // Check whether there are LegDate objects
    if (BomManager::hasList<LegDate> (iFlightDate) == false) {
        return;
    }

    // Browse the leg-dates
    const LegDateList_T& lLegDateList =
        BomManager::getList<LegDate> (iFlightDate);
    for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
         itLD != lLegDateList.end(); ++itLD) {
        const LegDate* lLD_ptr = *itLD;
        assert (lLD_ptr != NULL);

        // Retrieve the key of the leg-date, as well as its off point
        const Date_T& lLegDateDate = lLD_ptr->getBoardingDate();
        const AirportCode_T& lBoardPoint = lLD_ptr->getBoardingPoint();
        const AirportCode_T& lOffPoint = lLD_ptr->getOffPoint();

        // Browse the leg-cabins
        const LegCabinList_T& lLegCabinList =
            BomManager::getList<LegCabin> (*lLD_ptr);
        for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
             itLC != lLegCabinList.end(); ++itLC) {
            const LegCabin* lLC_ptr = *itLC;
            assert (lLC_ptr != NULL);

            // Check whether there are bucket objects
            if (BomManager::hasList<Bucket> (*lLC_ptr) == false) {
                continue;
            }

            // Retrieve the key of the leg-cabin
            const CabinCode_T& lCabinCode = lLC_ptr->getCabinCode();

            // Browse the buckets
            const BucketList_T& lBucketList = BomManager::getList<Bucket> (*lLC_ptr);
            for (BucketList_T::const_iterator itBuck = lBucketList.begin();
                 itBuck != lBucketList.end(); ++itBuck) {
                const Bucket* lBucket_ptr = *itBuck;
                assert (lBucket_ptr != NULL);

                oStream << lAirlineCode << lFlightNumber << " "
                      << lFlightDateDate << ", ";

                oStream << lBoardPoint << "-" << lOffPoint << " "
                      << lLegDateDate << ", " << lCabinCode << ", ";

                oStream << lBucket_ptr->getYieldRangeUpperValue() << ", "
                      << lBucket_ptr->getSeatIndex() << ", "
                      << lBucket_ptr->getSoldSeats() << ", "
                      << lBucket_ptr->getAvailability() << ", ";
                oStream << std::endl;
            }
        }
    }
    oStream << "*****" << std::endl;
}

// ///////////////////////////////////////////////////////////////////
void BomDisplay::csvBookingClassDisplay (std::ostream& oStream,
                                         const BookingClass& iBookingClass,
                                         const std::string& iLeadingString) {

```

```

// Save the formatting flags for the given STL output stream
FlagSaver flagSaver (oStream);

oStream << iLeadingString << iBookingClass.getClassCode();

if (iBookingClass.getSubclassCode() == 0) {
    oStream << ", ";
} else {
    oStream << iBookingClass.getSubclassCode() << ", ";
}
oStream << iBookingClass.getAuthorizationLevel() << " (" 
    << iBookingClass.getProtection() << "), "
    << iBookingClass.getNegotiatedSpace() << ", "
    << iBookingClass.getNoShowPercentage() << ", "
    << iBookingClass.getCancellationPercentage() << ", "
    << iBookingClass.getNbOfBookings() << ", "
    << iBookingClass.getNbOfGroupBookings() << " (" 
        << iBookingClass.getNbOfPendingGroupBookings() << "), "
        << iBookingClass.getNbOfStaffBookings() << ", "
        << iBookingClass.getNbOfWLBookings() << ", "
    << iBookingClass.getETB() << ", "
    << iBookingClass.getNetClassAvailability() << ", "
    << iBookingClass.getNetRevenueAvailability() << ", "
    << iBookingClass.getSegmentAvailability() << ", "
    << std::endl;
}

// /////////////////////////////////
void BomDisplay::csvBookingClassDisplay (std::ostream& oStream,
                                         const FlightDate& iFlightDate) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Headers
    oStream << "*****" << std::endl;
    oStream << "Subclasses:" << std::endl
        << "-----" << std::endl;
    oStream << "Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), "
        << "Nego, NS%, OB%, "
        << "Bkgs, GrpBks (pdg), StfBkgs, WLBkgs, ETB, "
        << "ClassAvl, RevAvl, SegAvl, "
        << std::endl;

    // Retrieve the key of the flight-date
    const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
    const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
    const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();

    // Check whether there are SegmentDate objects
    if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
        return;
    }

    // Browse the segment-dates
    const SegmentDateList_T& lSegmentDateList =
        BomManager::getList<SegmentDate> (iFlightDate);
    for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
         itSD != lSegmentDateList.end(); ++itSD) {
        const SegmentDate* lSD_ptr = *itSD;
        assert (lSD_ptr != NULL);

        // Retrieve the key of the segment-date, as well as its dates
        const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
        const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
        const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();

        // Browse the segment-cabins
        const SegmentCabinList_T& lSegmentCabinList =
            BomManager::getList<SegmentCabin> (*lSD_ptr);
        for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
             itSC != lSegmentCabinList.end(); ++itSC) {
            const SegmentCabin* lSC_ptr = *itSC;
            assert (lSC_ptr != NULL);

            // Retrieve the key of the segment-cabin
            const CabinCode_T& lCabinCode = lSC_ptr->getCabinCode();

            // Build the leading string to be displayed
            std::ostringstream oSCLeadingStr;
            oSCLeadingStr << lAirlineCode << lFlightNumber << " "
                << lFlightDateDate << ", "
                << lBoardPoint << "-" << lOffPoint << " "
                << lSegmentDateDate << ", "
                << lCabinCode << ", ";

            // Default Fare Family code, when there are no FF
            FamilyCode_T lFamilyCode ("NoFF");
        }
    }
}

```

```

// Check whether there are FareFamily objects
if (BomManager::hasList<FareFamily> (*lSC_ptr) == true) {

    // Browse the fare families
    const FareFamilyList_T& lFareFamilyList =
        BomManager::getList<FareFamily> (*lSC_ptr);
    for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
         itFF != lFareFamilyList.end(); ++itFF) {
        const FareFamily* lFF_ptr = *itFF;
        assert (lFF_ptr != NULL);

        // Retrieve the key of the segment-cabin
        lFamilyCode = lFF_ptr->getFamilyCode();

        // Complete the leading string to be displayed
        std::ostringstream oFFLeadingStr;
        oFFLeadingStr << oSCLeadingStr.str() << lFamilyCode << ", ";

        // Browse the booking-classes
        const BookingClassList_T& lBookingClassList =
            BomManager::getList<BookingClass> (*lFF_ptr);
        for (BookingClassList_T::const_iterator itBC =
             lBookingClassList.begin();
             itBC != lBookingClassList.end(); ++itBC) {
            const BookingClass* lBC_ptr = *itBC;
            assert (lBC_ptr != NULL);

            //
            csvBookingClassDisplay (oStream, *lBC_ptr, oFFLeadingStr.str());
        }
    }

    // Go on to the next segment-cabin
    continue;
}
assert (BomManager::hasList<FareFamily> (*lSC_ptr) == false);

// The fare family code is a fake one ('NoFF'), and therefore
// does not vary
std::ostringstream oFFLeadingStr;
oFFLeadingStr << oSCLeadingStr.str() << lFamilyCode << ", ";

// Browse the booking-classes, directly from the segment-cabin object
const BookingClassList_T& lBookingClassList =
    BomManager::getList<BookingClass> (*lSC_ptr);
for (BookingClassList_T::const_iterator itBC =
     lBookingClassList.begin();
     itBC != lBookingClassList.end(); ++itBC) {
    const BookingClass* lBC_ptr = *itBC;
    assert (lBC_ptr != NULL);

    //
    csvBookingClassDisplay (oStream, *lBC_ptr, oFFLeadingStr.str());
}
}

oStream << "*****" << std::endl;
}

// /////////////////////////////////
void BomDisplay::
csvDisplay (std::ostream& oStream,
           const TravelSolutionList_T& iTravelSolutionList) {

    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "Travel solutions:";

    unsigned short idx = 0;
    for (TravelSolutionList_T::const_iterator itTS =
         iTravelSolutionList.begin();
         itTS != iTravelSolutionList.end(); ++itTS, ++idx) {
        const TravelSolutionStruct& lTS = *itTS;

        oStream << std::endl;
        oStream << "[" << idx << "] " << lTS.display();
    }
}

// ///////////////////////////////
void BomDisplay::
csvDisplay (std::ostream& oStream,
           const DatePeriodList_T& iDatePeriodList) {

    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);
}

```

```

// Browse the date-period objects
for (DatePeriodList_T::const_iterator itDP = iDatePeriodList.begin();
     itDP != iDatePeriodList.end(); ++itDP) {
    const DatePeriod* lDP_ptr = *itDP;
    assert (lDP_ptr != NULL);

    // Display the date-period object
    csvDateDisplay (oStream, *lDP_ptr);
}

// /////////////////////////////////
void BomDisplay::csvSimFQTAirRACDisplay (std::ostream& oStream,
                                         const BomRoot& iBomRoot) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << std::endl;
    oStream << "======" << std::endl;
    oStream << "BomRoot: " << iBomRoot.describeKey() << std::endl;
    oStream << "======" << std::endl;

    // Check whether there are airport-pair objects
    if (BomManager::hasList<AirportPair> (iBomRoot) == false) {
        return;
    }

    // Browse the airport-pair objects
    const AirportPairList_T& lAirportPairList =
        BomManager::getList<AirportPair> (iBomRoot);
    for (AirportPairList_T::const_iterator itAir = lAirportPairList.begin();
         itAir != lAirportPairList.end(); ++itAir) {
        const AirportPair* lAir_ptr = *itAir;
        assert (lAir_ptr != NULL);

        // Display the airport pair object
        csvAirportPairDisplay (oStream, *lAir_ptr);
    }

    // ///////////////////////////////
    void BomDisplay::csvAirportPairDisplay (std::ostream& oStream,
                                            const AirportPair& iAirportPair) {
        // Save the formatting flags for the given STL output stream
        FlagSaver flagSaver (oStream);

        oStream << "+++++" << std::endl;
        oStream << "AirportPair: " << iAirportPair.describeKey() << std::endl;
        oStream << "+++++" << std::endl;

        // Check whether there are date-period objects
        if (BomManager::hasList<DatePeriod> (iAirportPair) == false) {
            return;
        }

        // Browse the date-period objects
        const DatePeriodList_T& lDatePeriodList =
            BomManager::getList<DatePeriod> (iAirportPair);
        for (DatePeriodList_T::const_iterator itDP = lDatePeriodList.begin();
             itDP != lDatePeriodList.end(); ++itDP) {
            const DatePeriod* lDP_ptr = *itDP;
            assert (lDP_ptr != NULL);

            // Display the date-period object
            csvDateDisplay (oStream, *lDP_ptr);
        }

        // ///////////////////////////////
        void BomDisplay::csvDateDisplay (std::ostream& oStream,
                                         const DatePeriod& iDatePeriod) {

            // Save the formatting flags for the given STL output stream
            FlagSaver flagSaver (oStream);

            oStream << "-----" << std::endl;
            oStream << "DatePeriod: " << iDatePeriod.describeKey() << std::endl;
            oStream << "-----" << std::endl;

            // Check whether there are pos-channel objects
            if (BomManager::hasList<PosChannel> (iDatePeriod) == false) {
                return;
            }
        }
    }
}

```

```

// Browse the pos-channel objects
const PosChannelList_T& lPosChannelList =
    BomManager::getList<PosChannel> (iPeriod);
for (PosChannelList_T::const_iterator itPC = lPosChannelList.begin();
     itPC != lPosChannelList.end(); ++itPC) {
    const PosChannel* lPC_ptr = *itPC;
    assert (lPC_ptr != NULL);

    // Display the pos-channel object
    csvPosChannelDisplay (oStream, *lPC_ptr);
}

// /////////////////////////////////
void BomDisplay::csvPosChannelDisplay (std::ostream& oStream,
                                       const PosChannel& iPosChannel) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "*****" << std::endl;
    oStream << "PosChannel: " << iPosChannel.describeKey() << std::endl;
    oStream << "*****" << std::endl;

    // Check whether there are time-period objects
    if (BomManager::hasList<TimePeriod> (iPosChannel) == false) {
        return;
    }

    // Browse the time-period objects
    const TimePeriodList_T& lTimePeriodList =
        BomManager::getList<TimePeriod> (iPosChannel);
    for (TimePeriodList_T::const_iterator itTP = lTimePeriodList.begin();
         itTP != lTimePeriodList.end(); ++itTP) {
        const TimePeriod* lTP_ptr = *itTP;
        assert (lTP_ptr != NULL);

        // Display the time-period object
        csvTimeDisplay (oStream, *lTP_ptr);
    }

    // ///////////////////////////////
    void BomDisplay::csvTimeDisplay (std::ostream& oStream,
                                    const TimePeriod& iTPeriod) {

        // Save the formatting flags for the given STL output stream
        FlagSaver flagSaver (oStream);

        oStream << "-----" << std::endl;
        oStream << "TimePeriod: " << iTPeriod.describeKey() << std::endl;
        oStream << "-----" << std::endl;

        // Only one of the fare/yield feature list exists. Each of the following
        // two methods will check for the existence of the list. So, only the
        // existing list will be actually displayed.
        csvFeatureListDisplay<FareFeatures> (oStream, iTPeriod);
        csvFeatureListDisplay<YieldFeatures> (oStream, iTPeriod);
    }

    // ///////////////////////////////
    template <typename FEATURE_TYPE>
    void BomDisplay::csvFeatureListDisplay (std::ostream& oStream,
                                           const TimePeriod& iTPeriod) {

        // Check whether there are fare/yield-feature objects
        if (BomManager::hasList<FEATURE_TYPE> (iTPeriod) == false) {
            return;
        }

        // Browse the fare/yield-feature objects
        typedef typename BomHolder<FEATURE_TYPE>::BomList_T FeaturesList_T;
        const FeaturesList_T& lFeaturesList =
            BomManager::getList<FEATURE_TYPE> (iTPeriod);
        for (typename FeaturesList_T::const_iterator itFF = lFeaturesList.begin();
             itFF != lFeaturesList.end(); ++itFF) {
            const FEATURE_TYPE* lFF_ptr = *itFF;
            assert (lFF_ptr != NULL);

            // Display the fare-features object
            csvFeaturesDisplay (oStream, *lFF_ptr);
        }

        // ///////////////////////////////
        template <typename FEATURE_TYPE>
        void BomDisplay::csvFeaturesDisplay (std::ostream& oStream,
                                             const FEATURE_TYPE& iFeatures) {

```

```

// Save the formatting flags for the given STL output stream
FlagSaver flagSaver (oStream);

oStream << "-----" << std::endl;
oStream << "Fare/yield-Features: " << iFeatures.describeKey() << std::endl;
oStream << "-----" << std::endl;

// Check whether there are airlineClassList objects
if (BomManager::hasList<AirlineClassList> (iFeatures) == false) {
    return;
}

// Browse the airlineClassList objects
const AirlineClassListList_T& lAirlineClassListList =
    BomManager::getList<AirlineClassList> (iFeatures);
for (AirlineClassListList_T::const_iterator itACL =
     lAirlineClassListList.begin();
     itACL != lAirlineClassListList.end(); ++itACL) {
    const AirlineClassList* lACL_ptr = *itACL;
    assert (lACL_ptr != NULL);

    // Display the airlineClassList object
    csvAirlineClassDisplay(oStream, *lACL_ptr);
}
}

// /////////////////////////////////
void BomDisplay::
csvAirlineClassDisplay (std::ostream& oStream,
                       const AirlineClassList& iAirlineClassList) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    oStream << "-----" << std::endl;
    oStream << "AirlineClassList: "
          << iAirlineClassList.describeKey() << std::endl;
    oStream << "-----" << std::endl;
}
}

```

## 4 KeyAbstract

Part of the Business Object Model (BOM) handling (hash-like )keys

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### Date

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## 5 C++ Class Building Sample StdAir BOM Trees

```

/
// /////////////////////////////////
// Import section
// /////////////////////////////////
// STL
#include <cassert>
#include <sstream>
// StdAir
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_DefaultObject.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomRetriever.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/AirlineFeature.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/LegCabin.hpp>

```

```

#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/FareFeatures.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/factory/FacBom.hpp>
#include <stdair/command/CmdBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/OnDDate.hpp>
#include <stdair/bom/SegmentPeriod.hpp>
#include <stdair/bom/FlightPeriod.hpp>

namespace stdair {

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildSampleBom (BomRoot& ioBomRoot) {

    // DEBUG
    STDAIR_LOG_DEBUG ("StdAir is building the BOM tree from built-in "
                      << "specifications.");

    // //////////////////////////////////////////////////////////////////
    // Build the inventory (flight-dates) and the schedule (flight period)
    // parts.
    buildSampleInventorySchedule (ioBomRoot);

    // Build the pricing (fare rules) and revenue accounting (yields) parts.
    buildSamplePricing (ioBomRoot);

    // //////////////////////////////////////////////////////////////////
    // Build the inventory (flight-dates) and the schedule (flight period)
    // parts.
    buildPartnershipsSampleInventoryAndRM (ioBomRoot);

    // Build the pricing (fare rules) and revenue accounting (yields) parts.
    buildPartnershipsSamplePricing (ioBomRoot);

    // Build a dummy inventory, needed by RMOL.
    buildCompleteDummyInventory (ioBomRoot);

    // //////////////////////////////////////////////////////////////////
    // Build the inventory (flight-dates) and the schedule (flight period)
    // parts with fare families.
    buildSampleInventoryScheduleForFareFamilies (ioBomRoot);

    // Build the pricing (fare rules) and revenue accounting (yields) parts.
    buildSamplePricingForFareFamilies (ioBomRoot);

    // Build a dummy inventory, needed by RMOL.
    buildCompleteDummyInventoryForFareFamilies (ioBomRoot);
}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildSampleInventorySchedule (BomRoot& ioBomRoot) {

    // Inventory
    // Step 0.1: Inventory level
    // Create an Inventory for BA
    const AirlineCode_T lAirlineCodeBA ("BA");
    const InventoryKey lBAKey (lAirlineCodeBA);
    Inventory& lBAInv = FacBom<Inventory>::instance().
        create (lBAKey);
    FacBomManager::addToListAndMap (ioBomRoot, lBAInv);
    FacBomManager::linkWithParent (ioBomRoot, lBAInv);

    // Add the airline feature object to the BA inventory
    const AirlineFeatureKey lAirlineFeatureBAKey (lAirlineCodeBA);
    AirlineFeature& lAirlineFeatureBA =
        FacBom<AirlineFeature>::instance().create (lAirlineFeatureBAKey
    );
    FacBomManager::setAirlineFeature (lBAInv, lAirlineFeatureBA);
    FacBomManager::linkWithParent (lBAInv, lAirlineFeatureBA);
    // Link the airline feature object with the top of the BOM tree
    FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureBA);

    // Create an Inventory for AF
    const AirlineCode_T lAirlineCodeAF ("AF");
}

```

```

const InventoryKey lAFKey (lAirlineCodeAF);
Inventory& lAFInv = FacBom<Inventory>::instance().
    create (lAFKey);
FacBomManager::addToListAndMap (ioBomRoot, lAFInv);
FacBomManager::linkWithParent (ioBomRoot, lAFInv);

// Add the airline feature object to the AF inventory
const AirlineFeatureKey lAirlineFeatureAFKey (lAirlineCodeAF);
AirlineFeature& lAirlineFeatureAF =
    FacBom<AirlineFeature>::instance().create (lAirlineFeatureAFKey
    );
FacBomManager::setAirlineFeature (lAFInv, lAirlineFeatureAF);
FacBomManager::linkWithParent (lAFInv, lAirlineFeatureAF);
// Link the airline feature object with the top of the BOM tree
FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureAF);

// BA
// Step 0.2: Flight-date level
// Create a Flight Date (BA9/10-JUN-2011) for BA's Inventory
FlightNumber_T lFlightNumber = 9;
Date_T lDate (2011, 6, 10);
FlightDateKey lFlightDateKey (lFlightNumber, lDate);

FlightDate& lBA9_20110610_FD =
    FacBom<FlightDate>::instance().create (lFlightDateKey);
FacBomManager::addToListAndMap (lBAInv, lBA9_20110610_FD);
FacBomManager::linkWithParent (lBAInv, lBA9_20110610_FD);

// Display the flight-date
// STDAIR_LOG_DEBUG ("FlightDate: " << lBA9_20110610_FD.toString());

// Step 0.3: Segment-date level
// Create a first SegmentDate (LHR-SYD) for BA's Inventory
// See
// http://www.britishairways.com/travel/flightinformation/public/fr_fr?&Carrier=BA&FlightNumber=0009&from=LHR&to=SYD&depD
const AirportCode_T lLHR ("LHR");
const AirportCode_T lSYD ("SYD");
const DateOffset_T l1Day (1);
const DateOffset_T l2Days (2);
const Duration_T l2135 (21, 45, 0);
const Duration_T l0610 (6, 10, 0);
const Duration_T l2205 (22, 05, 0);
SegmentDateKey lSegmentDateKey (lLHR, lSYD);

SegmentDate& lLHRSYDSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (lBA9_20110610_FD, lLHRSYDSegment);
FacBomManager::linkWithParent (lBA9_20110610_FD, lLHRSYDSegment);

// Add the routing leg keys to the LHR-SYD segment.
const std::string lBALHRRoutingLegStr = "BA;9;2011-Jun-10;LHR";
const std::string lBABKRoutingLegStr = "BA;9;2011-Jun-10;BKK";
lLHRSYDSegment.addLegKey (lBALHRRoutingLegStr);
lLHRSYDSegment.addLegKey (lBABKRoutingLegStr);

// Fill the SegmentDate content
lLHRSYDSegment.setBoardingDate (lDate);
lLHRSYDSegment.setOffDate (lDate + l2Days);
lLHRSYDSegment.setBoardingTime (l2135);
lLHRSYDSegment.setOffTime (l0610);
lLHRSYDSegment.setElapsedTime (l2135);

// Display the segment-date
// STDAIR_LOG_DEBUG ("SegmentDate: " << lLHRSYDSegment);

// Create a second SegmentDate (LHR-BKK) for BA's Inventory
// See
// http://www.britishairways.com/travel/flightinformation/public/fr_fr?&Carrier=BA&FlightNumber=0009&from=LHR&to=BKK&depD
const AirportCode_T lBKK ("BKK");
const Duration_T l1540 (15, 40, 0);
const Duration_T l1105 (11, 5, 0);
lSegmentDateKey = SegmentDateKey (lLHR, lBKK);

SegmentDate& lLHRBKKSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (lBA9_20110610_FD, lLHRBKKSegment);
FacBomManager::linkWithParent (lBA9_20110610_FD, lLHRBKKSegment);

// Add the routing leg key to the LHR-BKK segment.
lLHRBKKSegment.addLegKey (lBALHRRoutingLegStr);

// Fill the SegmentDate content
lLHRBKKSegment.setBoardingDate (lDate);
lLHRBKKSegment.setOffDate (lDate + l1Day);
lLHRBKKSegment.setBoardingTime (l2135);
lLHRBKKSegment.setOffTime (l1540);
lLHRBKKSegment.setElapsedTime (l1105);

```

```

// Display the segment-date
// STDAIR_LOG_DEBUG ("SegmentDate: " << lLHRBKKSegment);

// Create a third SegmentDate (BKK-SYD) for BA's Inventory
// See
// http://www.britishairways.com/travel/flightinformation/public/fr_fr?&Carrier=BA&FlightNumber=0009&from=BKK&to=SYD&depD...
const Duration_T 11705 (17, 5, 0);
const Duration_T 10905 (9, 5, 0);
lSegmentDateKey = SegmentDateKey (1BKK, 1SYD);

SegmentDate& lBKKSYDSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (1BA9_20110610_FD, lBKKSYDSegment);
FacBomManager::linkWithParent (1BA9_20110610_FD, lBKKSYDSegment);

// Add the routing leg key to the BKK-SYD segment.
lBKKSYDSegment.addLegKey (1BABKKRoutingLegStr);

// Fill the SegmentDate content
lBKKSYDSegment.setBoardingDate (lDate + 11Day);
lBKKSYDSegment.setOffDate (lDate + 12Days);
lBKKSYDSegment.setBoardingTime (11705);
lBKKSYDSegment.setOffTime (11540);
lBKKSYDSegment.setElapsedTime (10905);

// Display the segment-date
// STDAIR_LOG_DEBUG ("SegmentDate: " << lBKKSYDSegment);

// Step 0.4: Leg-date level
// Create a first LegDate (LHR) for BA's Inventory
LegDateKey lLegDateKey (1LHR);

LegDate& lLHRLeg = FacBom<LegDate>::instance().
    create (lLegDateKey);
FacBomManager::addToListAndMap (1BA9_20110610_FD, lLHRLeg);
FacBomManager::linkWithParent (1BA9_20110610_FD, lLHRLeg);

// Fill the LegDate content
lLHRLeg.setOffPoint (1BKK);
lLHRLeg.setBoardingDate (lDate);
lLHRLeg.setOffDate (lDate + 11Day);
lLHRLeg.setBoardingTime (12135);
lLHRLeg.setOffTime (11540);
lLHRLeg.setElapsedTime (11105);

// Display the leg-date
// STDAIR_LOG_DEBUG ("LegDate: " << lLHRLeg.toString());

// Create a second LegDate (BKK)
lLegDateKey = LegDateKey (1BKK);

LegDate& lBKKLeg = FacBom<LegDate>::instance().
    create (lLegDateKey);
FacBomManager::addToListAndMap (1BA9_20110610_FD, lBKKLeg);
FacBomManager::linkWithParent (1BA9_20110610_FD, lBKKLeg);

// Display the leg-date
// STDAIR_LOG_DEBUG ("LegDate: " << lBKKLeg.toString());

// Fill the LegDate content
lBKKLeg.setOffPoint (1SYD);
lBKKLeg.setBoardingDate (lDate + 11Day);
lBKKLeg.setOffDate (lDate + 12Days);
lBKKLeg.setBoardingTime (11705);
lBKKLeg.setOffTime (11540);
lBKKLeg.setElapsedTime (10905);

// Step 0.5: segment-cabin level
// Create a SegmentCabin (Y) for the Segment LHR-BKK of BA's Inventory
const CabinCode_T lY ("Y");
SegmentCabinKey lYSegmentCabinKey (lY);

SegmentCabin& lLHRBKKSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lLHRBKKSegment, lLHRBKKSegmentYCabin);
FacBomManager::linkWithParent (lLHRBKKSegment, lLHRBKKSegmentYCabin);

// Display the segment-cabin
// STDAIR_LOG_DEBUG ("SegmentCabin: " << lLHRBKKSegmentYCabin.toString());

// Create a SegmentCabin (Y) of the Segment BKK-SYD;
SegmentCabin& lBKKSYDSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lBKKSYDSegment, lBKKSYDSegmentYCabin);
FacBomManager::linkWithParent (lBKKSYDSegment, lBKKSYDSegmentYCabin);

```

```

// Display the segment-cabin
// STDAIR_LOG_DEBUG ("SegmentCabin: " << lBKKSYDSegmentYCabin.toString());

// Create a SegmentCabin (Y) of the Segment LHR-SYD;
SegmentCabin& lLHRSYDSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lLHRSYDSegment, lLHRSYDSegmentYCabin);
FacBomManager::linkWithParent (lLHRSYDSegment, lLHRSYDSegmentYCabin);

// Display the segment-cabin
// STDAIR_LOG_DEBUG ("SegmentCabin: " << lLHRSYDSegmentYCabin.toString());

// Step 0.6: leg-cabin level
// Create a LegCabin (Y) for the Leg LHR-BKK on BA's Inventory
LegCabinKey lYLegCabinKey (lY);

LegCabin& lLHRLegYCabin =
    FacBom<LegCabin>::instance().create (lYLegCabinKey);
FacBomManager::addToListAndMap (lLHRLeg, lLHRLegYCabin);
FacBomManager::linkWithParent (lLHRLeg, lLHRLegYCabin);

// Display the leg-cabin
// STDAIR_LOG_DEBUG ("LegCabin: " << lLHRLegYCabin.toString());

// Create a LegCabin (Y) for the Leg BKK-SYD
LegCabin& lBKKLegYCabin =
    FacBom<LegCabin>::instance().create (lYLegCabinKey);
FacBomManager::addToListAndMap (lBKKLeg, lBKKLegYCabin);
FacBomManager::linkWithParent (lBKKLeg, lBKKLegYCabin);
// Display the leg-cabin
// STDAIR_LOG_DEBUG ("LegCabin: " << lBKKLegYCabin.toString());

// Step 0.7: fare family level
// Create a FareFamily (1) for the Segment LHR-BKK, cabin Y on BA's Inv
const FamilyCode_T l1 ("EcoSaver");
FareFamilyKey l1FareFamilyKey (l1);

FareFamily& lLHRBKKSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lLHRBKKSegmentYCabin,
                               lLHRBKKSegmentYCabin1Family);
FacBomManager::linkWithParent (lLHRBKKSegmentYCabin,
                               lLHRBKKSegmentYCabin1Family);

// Display the booking class
// STDAIR_LOG_DEBUG ("FareFamily: "
//                    << lLHRBKKSegmentYCabin1Family.toString());

// Create a FareFamily (1) for the Segment BKK-SYD, cabin Y on BA's Inv
FareFamily& lBKKSYDSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lBKKSYDSegmentYCabin,
                               lBKKSYDSegmentYCabin1Family);
FacBomManager::linkWithParent (lBKKSYDSegmentYCabin,
                               lBKKSYDSegmentYCabin1Family);

// Display the booking class
// STDAIR_LOG_DEBUG ("FareFamily: "
//                    << lLHRBKKSegmentYCabin1Family.toString());

// Create a FareFamily (1) for the Segment LHR-SYD, cabin Y on BA's Inv
FareFamily& lLHRSYDSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lLHRSYDSegmentYCabin,
                               lLHRSYDSegmentYCabin1Family);
FacBomManager::linkWithParent (lLHRSYDSegmentYCabin,
                               lLHRSYDSegmentYCabin1Family);

// Display the booking class
// STDAIR_LOG_DEBUG ("FareFamily: "
//                    << lLHRBKKSegmentYCabin1Family.toString());

// Step 0.8: booking class level
// Create a BookingClass (Q) for the Segment LHR-BKK, cabin Y,
// fare family 1 on BA's Inv
const ClassCode_T lQ ("Q");
BookingClassKey lQBookingClassKey (lQ);

BookingClass& lLHRBKKSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (lQBookingClassKey);
FacBomManager::addToListAndMap (lLHRBKKSegmentYCabin1Family,
                               lLHRBKKSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (lLHRBKKSegmentYCabin1Family,
                               lLHRBKKSegmentYCabin1FamilyQClass);

```

```

FacBomManager::addToListAndMap (1LHRBKKSegmentYCabin,
                               1LHRBKKSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (1LHRBKKSegment,
                               1LHRBKKSegmentYCabin1FamilyQClass);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1LHRBKKSegmentYCabin1FamilyQClass.toString()));

// Create a BookingClass (Q) for the Segment BKK-SYD, cabin Y,
// fare family 1 on BA's Inv
BookingClass& 1BKKSYDSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (1QBookingClassKey);
FacBomManager::addToListAndMap (1BKKSYDSegmentYCabin1Family,
                               1BKKSYDSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (1BKKSYDSegmentYCabin1Family,
                               1BKKSYDSegmentYCabin1FamilyQClass);

FacBomManager::addToListAndMap (1BKKSYDSegmentYCabin,
                               1BKKSYDSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (1BKKSYDSegment,
                               1BKKSYDSegmentYCabin1FamilyQClass);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1LHRBKKSegmentYCabin1FamilyQClass.toString());

// Create a BookingClass (Q) for the Segment LHR-SYD, cabin Y,
// fare family 1 on BA's Inv
BookingClass& 1LHRSYDSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (1QBookingClassKey);
FacBomManager::addToListAndMap (1LHRSYDSegmentYCabin1Family,
                               1LHRSYDSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (1LHRSYDSegmentYCabin1Family,
                               1LHRSYDSegmentYCabin1FamilyQClass);

FacBomManager::addToListAndMap (1LHRSYDSegmentYCabin,
                               1LHRSYDSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (1LHRSYDSegment,
                               1LHRSYDSegmentYCabin1FamilyQClass);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1LHRBKKSegmentYCabin1FamilyQClass.toString());

// ///////////////////////////////////////////////////////////////////
// Step 0.2: Flight-date level
// Create a FlightDate (AF084/20-MAR-2011) for AF's Inventory
lFlightNumber = 84;
lDate = Date_T (2011, 3, 20);
lFlightDateKey = FlightDateKey (lFlightNumber, lDate);

FlightDate& 1AF084_20110320_FD =
    FacBom<FlightDate>::instance().create (lFlightDateKey);
FacBomManager::addToListAndMap (1AFInv, 1AF084_20110320_FD);
FacBomManager::linkWithParent (1AFInv, 1AF084_20110320_FD);

// Display the flight-date
// STDAIR_LOG_DEBUG ("FlightDate: " << 1AF084_20110320_FD.toString());

// Step 0.3: Segment-date level
// Create a SegmentDate (CDG-SFO) for AF's Inventory
const AirportCode_T 1CDG ("CDG");
const AirportCode_T 1SFO ("SFO");
const Duration_T 11040 (10, 40, 0);
const Duration_T 11250 (12, 50, 0);
const Duration_T 11110 (11, 10, 0);
lSegmentDateKey = SegmentDateKey (1CDG, 1SFO);

SegmentDate& 1CDGSFOSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (1AF084_20110320_FD, 1CDGSFOSegment);
FacBomManager::linkWithParent (1AF084_20110320_FD, 1CDGSFOSegment);

// Add the routing leg key to the CDG-SFO segment.
const std::string 1AFCDCGRoutingLegStr = "AF;84;2011-Mar-20;CDG";
1CDGSFOSegment.addLegKey (1AFCDCGRoutingLegStr);

// Display the segment-date
// STDAIR_LOG_DEBUG ("SegmentDate: " << 1CDGSFOSegment.toString());

// Fill the SegmentDate content
1CDGSFOSegment.setBoardingDate (lDate);
1CDGSFOSegment.setOffDate (lDate);
1CDGSFOSegment.setBoardingtime (11040);
1CDGSFOSegment.setOffTime (11250);

```

```

LCDGSFOSegment.setElapsedTime (11110);

// Step 0.4: Leg-date level
// Create a LegDate (CDG) for AF's Inventory
lLegDateKey = LegDateKey (1CDG);

LegDate& lCDGLeg = FacBom<LegDate>::instance() .
    create (lLegDateKey);
FacBomManager::addToListAndMap (1AF084_20110320_FD, lCDGLeg);
FacBomManager::linkWithParent (1AF084_20110320_FD, lCDGLeg);

// Fill the LegDate content
1CDGLeg.setOffPoint (1SFO);
1CDGLeg.setBoardingDate (1Date);
1CDGLeg.setOffDate (1Date);
1CDGLeg.setBoardingTime (11040);
1CDGLeg.setOffTime (11250);
1CDGLeg.setElapsedTime (11110);

// Display the leg-date
// STDAIR_LOG_DEBUG ("LegDate: " << lCDGLeg.toString());

// Step 0.5: segment-cabin level
// Create a SegmentCabin (Y) for the Segment CDG-SFO of AF's Inventory
SegmentCabin& 1CDGSFOSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (1YSegmentCabinKey);
FacBomManager::addToListAndMap (1CDGSFOSegment, 1CDGSFOSegmentYCabin);
FacBomManager::linkWithParent (1CDGSFOSegment, 1CDGSFOSegmentYCabin);

// Display the segment-cabin
// STDAIR_LOG_DEBUG ("SegmentCabin: " << 1CDGSFOSegmentYCabin.toString());

// Step 0.6: leg-cabin level
// Create a LegCabin (Y) for the Leg CDG-SFO on AF's Inventory
LegCabin& 1CDGLegYCabin =
    FacBom<LegCabin>::instance().create (1YLegCabinKey);
FacBomManager::addToListAndMap (1CDGLeg, 1CDGLegYCabin);
FacBomManager::linkWithParent (1CDGLeg, 1CDGLegYCabin);

// Display the leg-cabin
// STDAIR_LOG_DEBUG ("LegCabin: " << 1LHRLegYCabin.toString());

// Step 0.7: fare family level
// Create a fareFamily (1) for the Segment CDG-SFO, cabin Y on AF's Inv
FareFamily& 1CDGSFOSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (11FareFamilyKey);
FacBomManager::addToListAndMap (1CDGSFOSegmentYCabin,
    1CDGSFOSegmentYCabin1Family);
FacBomManager::linkWithParent (1CDGSFOSegmentYCabin,
    1CDGSFOSegmentYCabin1Family);

// Display the fare family
// STDAIR_LOG_DEBUG ("fareFamily: "
// << 1CDGSFOSegmentYCabin1Family.toString());

// Step 0.8: booking class level Create a BookingClass (Q) for the
// Segment CDG-SFO, cabin Y, fare family 1 on AF's Inv
BookingClass& 1CDGSFOSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (1QBookingClassKey);
FacBomManager::addToListAndMap (1CDGSFOSegmentYCabin1Family,
    1CDGSFOSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (1CDGSFOSegmentYCabin1Family,
    1CDGSFOSegmentYCabin1FamilyQClass);

FacBomManager::addToListAndMap (1CDGSFOSegmentYCabin,
    1CDGSFOSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (1CDGSFOSegment,
    1CDGSFOSegmentYCabin1FamilyQClass);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
// << 1CDGSFOSegmentYCabin1FamilyQClass.toString());

/*=====
=====
=====
=====*/
// Schedule:
// BA:
// Step 1: flight period level
// Create a flight period for BA9:
const DoWStruct lDoWSruct ("1111111");
const Date_T lBA9DateRangeStart (2010, boost::gregorian::Jun, 6);
const Date_T lBA9DateRangeEnd (2010, boost::gregorian::Jun, 7);
const DatePeriod_T lBA9DatePeriod (lBA9DateRangeStart, lBA9DateRangeEnd);
const PeriodStruct lBA9PeriodStruct (lBA9DatePeriod, lDoWSruct);

```

```

lFlightNumber = FlightNumber_T (9);

FlightPeriodKey lBA9FlightPeriodKey (lFlightNumber, lBA9PeriodStruct);

FlightPeriod& lBA9FlightPeriod =
    FacBom<FlightPeriod>::instance().create (lBA9FlightPeriodKey);
FacBomManager::addToListAndMap (lBAInv, lBA9FlightPeriod);
FacBomManager::linkWithParent (lBAInv, lBA9FlightPeriod);

// Step 2: segment period level
// Create a segment period for LHR-SYD:

SegmentPeriodKey lLHRSYDSegmentPeriodKey (lLHR, lSYD);

SegmentPeriod& lLHRSYDSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (
        lLHRSYDSegmentPeriodKey);
FacBomManager::addToListAndMap (lBA9FlightPeriod, lLHRSYDSegmentPeriod);
FacBomManager::linkWithParent (lBA9FlightPeriod, lLHRSYDSegmentPeriod);

lLHRSYDSegmentPeriod.setBoardingTime (12135);
lLHRSYDSegmentPeriod.setOffTime (11540);
lLHRSYDSegmentPeriod.setElapsedTime (11105);
ClassList_String_T lYM ("YM");
lLHRSYDSegmentPeriod.addCabinBookingClassList (lY, lYM);

// AF:
// Step 1: flight period level
// Create a flight period for AF84:
const Date_T lAF84DateRangeStart (2011, boost::gregorian::Mar, 20);
const Date_T lAF84DateRangeEnd (2011, boost::gregorian::Mar, 21);
const DatePeriod_T lAF84DatePeriod (lAF84DateRangeStart, lAF84DateRangeEnd);
const PeriodStruct lAF84PeriodStruct (lAF84DatePeriod, lDoWSrtuct);

lFlightNumber = FlightNumber_T (84);

FlightPeriodKey lAF84FlightPeriodKey (lFlightNumber, lAF84PeriodStruct);

FlightPeriod& lAF84FlightPeriod =
    FacBom<FlightPeriod>::instance().create (lAF84FlightPeriodKey);
FacBomManager::addToListAndMap (lAFInv, lAF84FlightPeriod);
FacBomManager::linkWithParent (lAFInv, lAF84FlightPeriod);

// Step 2: segment period level
// Create a segment period for CDG-SFO:

SegmentPeriodKey lCDGSFOSegmentPeriodKey (lCDG, lSFO);

SegmentPeriod& lCDGSFOSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (
        lCDGSFOSegmentPeriodKey);
FacBomManager::addToListAndMap (lAF84FlightPeriod, lCDGSFOSegmentPeriod);
FacBomManager::linkWithParent (lAF84FlightPeriod, lCDGSFOSegmentPeriod);

lCDGSFOSegmentPeriod.setBoardingTime (11040);
lCDGSFOSegmentPeriod.setOffTime (11250);
lCDGSFOSegmentPeriod.setElapsedTime (11110);
lCDGSFOSegmentPeriod.addCabinBookingClassList (lY, lYM);

/*=====
=====
=====
=====*/
// O&D
// Create an O&D Date (BA;9,2010-Jun-06;LHR,SYD) for BA's Inventory
OnDString_T lBALHRSYDOnDStr = "BA;9,2010-Jun-06;LHR,SYD";
OnDStringList_T lBAOnDStrList;
lBAOnDStrList.push_back (lBALHRSYDOnDStr);

OnDDateKey lBAOnDDateKey (lBAOnDStrList);
OnDDate& lBA_LHRSYD_OnDDate =
    FacBom<OnDDate>::instance().create (lBAOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lBAInv, lBA_LHRSYD_OnDDate);
FacBomManager::linkWithParent (lBAInv, lBA_LHRSYD_OnDDate);

// Add the segment
FacBomManager::addToListAndMap (lBA_LHRSYD_OnDDate, lLHRSYDSegment);

// Add total forecast info for cabin Y.
const MeanStdDevPair_T lMean60StdDev6 (60.0, 6.0);
const WTP_T lWTP750 = 750.0;
const WTPDemandPair_T lWTP750Mean60StdDev6 (lWTP750, lMean60StdDev6);
lBA_LHRSYD_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);

// Create an O&D Date (AF;84,2011-Mar-21;CDG,SFO) for AF's Inventory
OnDString_T lAFLHRSYDOnDStr = "AF;84,2011-Mar-21;CDG,SFO";
OnDStringList_T lAFOnDStrList;

```

```

lAFOnDStrList.push_back (lAFLHRSYDOnDStr);

OnDDateKey lAFOnDDateKey (lAFOnDStrList);
OnDDate& lAF_LHRSYD_OnDDate =
    FacBom<OnDDate>::instance().create (lAFOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lAFInv, lAF_LHRSYD_OnDDate);
FacBomManager::linkWithParent (lAFInv, lAF_LHRSYD_OnDDate);

// Add the segment
FacBomManager::addToListAndMap (lAF_LHRSYD_OnDDate, lLHRSYDSegment);

// Add total forecast info for cabin Y.
lAF_LHRSYD_OnDDate.setTotalForecast (1Y, lWTP750Mean60StdDev6);

}

// /////////////////////////////////
void CmdBomManager::buildSampleInventoryScheduleForFareFamilies (BomRoot& ioBomRoot) {

    // Inventory
    // Step 0.1: Inventory level
    // Get the Inventory SQ (already built by construction)
    const InventoryKey lSQKey ("SQ");
    Inventory& lSQInv = BomManager::getObject<Inventory>(ioBomRoot,
        lSQKey.toString());

    // SQ
    // Step 0.2: Flight-date level
    // Create a FlightDate (SQ747/8-FEB-2010) for SQ's Inventory
    const FlightNumber_T lFlightNumber747 = 747;
    const Date_T lDate (2010, 2, 8);
    const FlightDateKey lFlightDateKey (lFlightNumber747, lDate);

    FlightDate& lSQ747_20100208_FD =
        FacBom<FlightDate>::instance().create (lFlightDateKey);
    FacBomManager::addToListAndMap (lSQInv, lSQ747_20100208_FD);
    FacBomManager::linkWithParent (lSQInv, lSQ747_20100208_FD);

    // Display the flight-date
    // STDAIR_LOG_DEBUG ("FlightDate: " << lSQ747_20100208_FD.toString());

    // Step 0.3: Segment-date level
    // Create a SegmentDate (SIN-BKK) for SQ's Inventory
    const AirportCode_T lSIN ("SIN");
    const AirportCode_T lBKK ("BKK");
    const Duration_T 10635 (6, 35, 0);
    const Duration_T 10800 (8, 0, 0);
    const Duration_T 10225 (2, 25, 0);
    const SegmentDateKey lSegmentDateKey (lSIN, lBKK);

    SegmentDate& lSINBKKSegment =
        FacBom<SegmentDate>::instance().create (lSegmentDateKey);
    FacBomManager::addToListAndMap (lSQ747_20100208_FD, lSINBKKSegment);
    FacBomManager::linkWithParent (lSQ747_20100208_FD, lSINBKKSegment);

    // Add the routing leg key to the SIN-BKK segment.
    const std::string lSQSINTRoutingLegStr = "SQ;747;2010-Feb-8;SIN";
    lSINBKKSegment.addLegKey (lSQSINTRoutingLegStr);

    // Fill the SegmentDate content
    lSINBKKSegment.setBoardingDate (lDate);
    lSINBKKSegment.setOffDate (lDate);
    lSINBKKSegment.setBoardingTime (10635);
    lSINBKKSegment.setOffTime (10800);
    lSINBKKSegment.setElapsedTime (10225);

    // Display the segment-date
    // STDAIR_LOG_DEBUG ("SegmentDate: " << lSINBKKSegment);

    // Step 0.4: Leg-date level
    // Create a LegDate (SIN) for SQ's Inventory
    const LegDateKey lLegDateKey (lSIN);

    LegDate& lSINLeg = FacBom<LegDate>::instance().
        create (lLegDateKey);
    FacBomManager::addToListAndMap (lSQ747_20100208_FD, lSINLeg);
    FacBomManager::linkWithParent (lSQ747_20100208_FD, lSINLeg);

    // Fill the LegDate content
    lSINLeg.setOffPoint (lBKK);
    lSINLeg.setBoardingDate (lDate);
    lSINLeg.setOffDate (lDate);
    lSINLeg.setBoardingTime (10635);
    lSINLeg.setOffTime (10800);
    lSINLeg.setElapsedTime (10225);
}

```

```

// Display the leg-date
// STDAIR_LOG_DEBUG ("LegDate: " << lSINLeg.toString());

// Step 0.5: segment-cabin level
// Create a SegmentCabin (Y) for the Segment SIN-BKK of SQ's Inventory
const CabinCode_T lY ("Y");
const SegmentCabinKey lYSegmentCabinKey (lY);
SegmentCabin& lSINBKKSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lSINBKKSegment, lSINBKKSegmentYCabin);
FacBomManager::linkWithParent (lSINBKKSegment, lSINBKKSegmentYCabin);
lSINBKKSegmentYCabin.activateFareFamily ();

// Display the segment-cabin
// STDAIR_LOG_DEBUG ("SegmentCabin: " << lSINBKKSegmentYCabin.toString());

// Step 0.6: leg-cabin level
// Create a LegCabin (Y) for the Leg SIN-BKK on SQ's Inventory
const LegCabinKey lYLegCabinKey (lY);
LegCabin& lSINLegYCabin =
    FacBom<LegCabin>::instance().create (lYLegCabinKey);
FacBomManager::addToListAndMap (lSINLeg, lSINLegYCabin);
FacBomManager::linkWithParent (lSINLeg, lSINLegYCabin);

// Display the leg-cabin
// STDAIR_LOG_DEBUG ("LegCabin: " << lSINLegYCabin.toString());

// Step 0.7: fare family level
// Create a FareFamily (1) for the Segment SIN-BKK, cabin Y on SQ's Inv
const FamilyCode_T l1 ("1");
const FareFamilyKey l1FareFamilyKey (l1);
FareFamily& lSINBKKSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1Family);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1Family);

// Display the booking class
// STDAIR_LOG_DEBUG ("FareFamily: "
//                   << lSINBKKSegmentYCabin1Family.toString());

// Create a FareFamily (2) for the Segment SIN-BKK, cabin Y on SQ's Inv
const FamilyCode_T l2 ("2");
const FareFamilyKey l2FareFamilyKey (l2);
FareFamily& lSINBKKSegmentYCabin2Family =
    FacBom<FareFamily>::instance().create (l2FareFamilyKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin2Family);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin2Family);

// Display the booking class
// STDAIR_LOG_DEBUG ("FareFamily: "
//                   << lSINBKKSegmentYCabin2Family.toString());

// Step 0.8: booking class level
// Create a BookingClass (Y) for the Segment SIN-BKK, cabin Y,
// fare family 2 on SQ's Inv
const ClassCode_T lClassY ("Y");
const BookingClassKey lYBookingClassKey (lClassY);
BookingClass& lSINBKKSegmentYCabin2FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin2Family,
                               lSINBKKSegmentYCabin2FamilyYClass);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin2Family,
                               lSINBKKSegmentYCabin2FamilyYClass);

FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin2FamilyYClass);
FacBomManager::addToListAndMap (lSINBKKSegment,
                               lSINBKKSegmentYCabin2FamilyYClass);
lSINBKKSegmentYCabin2FamilyYClass.setYield(1200);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                   << lSINBKKSegmentYCabin2FamilyYClass.toString());

// Create a BookingClass (B) for the Segment SIN-BKK, cabin Y,
// fare family 2 on SQ's Inv
const ClassCode_T lB ("B");
const BookingClassKey lBBookingClassKey (lB);
BookingClass& lSINBKKSegmentYCabin2FamilyBClass =
    FacBom<BookingClass>::instance().create (lBBookingClassKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin2Family,
                               lSINBKKSegmentYCabin2FamilyBClass);

```

```

FacBomManager::linkWithParent (1SINBKKSegmentYCabin2Family,
                             1SINBKKSegmentYCabin2FamilyBClass);

FacBomManager::addToListAndMap (1SINBKKSegmentYCabin,
                             1SINBKKSegmentYCabin2FamilyBClass);
FacBomManager::addToListAndMap (1SINBKKSegment,
                             1SINBKKSegmentYCabin2FamilyBClass);
1SINBKKSegmentYCabin2FamilyBClass.setYield(800);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1SINBKKSegmentYCabin2FamilyBClass.toString()));

// Create a BookingClass (M) for the Segment SIN-BKK, cabin Y,
// fare family 1 on SQ's Inv
const ClassCode_T lM ("M");
const BookingClassKey lMBookingClassKey (lM);
BookingClass& 1SINBKKSegmentYCabin1FamilyMClass =
    FacBom<BookingClass>::instance().create (lMBookingClassKey);
FacBomManager::addToListAndMap (1SINBKKSegmentYCabin1Family,
                             1SINBKKSegmentYCabin1FamilyMClass);
FacBomManager::linkWithParent (1SINBKKSegmentYCabin1Family,
                             1SINBKKSegmentYCabin1FamilyMClass);

FacBomManager::addToListAndMap (1SINBKKSegmentYCabin,
                             1SINBKKSegmentYCabin1FamilyMClass);
FacBomManager::addToListAndMap (1SINBKKSegment,
                             1SINBKKSegmentYCabin1FamilyMClass);
1SINBKKSegmentYCabin1FamilyMClass.setYield(900);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1SINBKKSegmentYCabin1FamilyMClass.toString());

// Create a BookingClass (Q) for the Segment SIN-BKK, cabin Y,
// fare family 1 on SQ's Inv
const ClassCode_T lQ ("Q");
const BookingClassKey lQBookingClassKey (lQ);
BookingClass& 1SINBKKSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (lQBookingClassKey);
FacBomManager::addToListAndMap (1SINBKKSegmentYCabin1Family,
                             1SINBKKSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (1SINBKKSegmentYCabin1Family,
                             1SINBKKSegmentYCabin1FamilyQClass);

FacBomManager::addToListAndMap (1SINBKKSegmentYCabin,
                             1SINBKKSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (1SINBKKSegment,
                             1SINBKKSegmentYCabin1FamilyQClass);
1SINBKKSegmentYCabin1FamilyQClass.setYield(600);

// Display the booking class
// STDAIR_LOG_DEBUG ("BookingClass: "
//                     << 1SINBKKSegmentYCabin1FamilyQClass.toString());

/*=====
 =====
 =====
 */
// Schedule:
// SQ:
// Step 1: flight period level
// Create a flight period for SQ747:
const DoWStruct lDoWSruct ("1111111");
const Date_T lSQ747DateRangeStart (2010, boost::gregorian::Feb, 8);
const Date_T lSQ747DateRangeEnd (2010, boost::gregorian::Feb, 9);
const DatePeriod_T lSQ747DatePeriod (lSQ747DateRangeStart,
                                      lSQ747DateRangeEnd);
const PeriodStruct lSQ747PeriodStruct (lSQ747DatePeriod, lDoWSruct);

const FlightPeriodKey lSQ747FlightPeriodKey (lFlightNumber747,
                                             lSQ747PeriodStruct);
FlightPeriod& lSQ747FlightPeriod =
    FacBom<FlightPeriod>::instance().create (lSQ747FlightPeriodKey);
FacBomManager::addToListAndMap (lSQInv, lSQ747FlightPeriod);
FacBomManager::linkWithParent (lSQInv, lSQ747FlightPeriod);

// Step 2: segment period level
// Create a segment period for SIN-BKK:

const SegmentPeriodKey lSINBKKSegmentPeriodKey (lSIN, lBKK);
SegmentPeriod& lSINBKKSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (
        lSINBKKSegmentPeriodKey);
FacBomManager::addToListAndMap (lSQ747FlightPeriod, lSINBKKSegmentPeriod)
;
FacBomManager::linkWithParent (lSQ747FlightPeriod, lSINBKKSegmentPeriod);

```

```

ClassList_String_T lYBMO ("YBMO");
lSINBKSegmentPeriod.addCabinBookingClassList (lY, lYBMO);
lSINBKSegmentPeriod.setBoardingTime (10635);
lSINBKSegmentPeriod.setOffTime (10800);
lSINBKSegmentPeriod.setElapsedTime (10225);

/*=====
=====
=====
=====
*/
// O&D
// Create an O&D Date (SQ;747,2011-Feb-14;SIN,BKK) for SQ's Inventory
const OnDString_T lSQSINBKOnDStr = "SQ;747,2011-Feb-14;SIN,BKK";
OnDStringList_T lSQOnDStrList;
lSQOnDStrList.push_back (lSQSINBKOnDStr);

const OnDDateKey lSQOnDDateKey (lSQOnDStrList);
OnDDate& lSQ_SINBKK_OnDDate =
    FacBom<OnDDate>::instance().create (lSQOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lSQInv, lSQ_SINBKK_OnDDate);
FacBomManager::linkWithParent (lSQInv, lSQ_SINBKK_OnDDate);
// Add total forecast info for cabin Y.
const MeanStdDevPair_T lMean120StdDev12 (120.0, 12.0);
const WTP_T lWTP1000 = 1000.0;
const WTPDemandPair_T lWTP1000Mean120StdDev12 (lWTP1000, lMean120StdDev12);
lSQ_SINBKK_OnDDate.setTotalForecast (lY, lWTP1000Mean120StdDev12);

// Add the segment
FacBomManager::addToListAndMap (lSQ_SINBKK_OnDDate, lSINBKSegment);
}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildDummyLegSegmentAccesses (BomRoot& ioBomRoot) {

/* Build the direct accesses between the dummy segment cabins and the dummy
 * leg cabins within the dummy flight dates (the dummy fare family
 * flight date and the classic dummy flight date).

* As for now (May 2012), that method is called only by RMOL.
* It is a substitute for the code doing it automatically located in AirInv.
* See the AIRINV::InventoryManager::createDirectAccesses command.
*/
// ///////////////////////////////////////////////////////////////////
// Retrieve the (sample) segment-cabin.
SegmentCabin& lDummySegmentCabin =
    BomRetriever::retrieveDummySegmentCabin (ioBomRoot);

// Retrieve the (sample) leg-cabin.
LegCabin& lDummyLegCabin =
    BomRetriever::retrieveDummyLegCabin (ioBomRoot);

// Links between the segment-date and the leg-date
FacBomManager::addToListAndMap (lDummyLegCabin, lDummySegmentCabin);
FacBomManager::addToListAndMap (lDummySegmentCabin, lDummyLegCabin);

// ///////////////////////////////////////////////////////////////////
const bool isForFareFamilies = true;
// Retrieve the (sample) segment-cabin for fare families.
SegmentCabin& lFFDummySegmentCabin =
    BomRetriever::retrieveDummySegmentCabin (ioBomRoot,
    isForFareFamilies);

// Retrieve the (sample) leg-cabin for fare families.
stdair::LegCabin& lFFDummyLegCabin =
    stdair::BomRetriever::retrieveDummyLegCabin (ioBomRoot,
                                                isForFareFamilies);

// Links between the segment-date and the leg-date for fare families.
FacBomManager::addToListAndMap (lFFDummyLegCabin, lFFDummySegmentCabin);
FacBomManager::addToListAndMap (lFFDummySegmentCabin, lFFDummyLegCabin);
}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildCompleteDummyInventory (BomRoot& ioBomRoot) {

// Build a dummy inventory, containing a dummy flight-date with a
// single segment-cabin and a single leg-cabin.
const CabinCapacity_T lCapacity = DEFAULT_CABIN_CAPACITY;
buildDummyInventory (ioBomRoot, lCapacity);

// Retrieve the (sample) segment-cabin.
SegmentCabin& lDummySegmentCabin =
    BomRetriever::retrieveDummySegmentCabin (ioBomRoot);

// Retrieve the (sample) leg-cabin.
}

```

```

LegCabin& lDummyLegCabin =
    BomRetriever::retrieveDummyLegCabin (ioBomRoot);

// Add some booking classes to the dummy segment-cabin and some
// virtual ones to the dummy leg-cabin.
// First booking class yield and demand information.
Yield_T lYield = 100;
MeanValue_T lMean = 20;
StdDevValue_T lStdDev= 9;
BookingClassKey lBCKey (DEFAULT_CLASS_CODE);

BookingClass& lDummyBookingClass =
    FacBom<BookingClass>::instance().create (lBCKey);
lDummyBookingClass.setYield (lYield);
lDummyBookingClass.setMean (lMean);
lDummyBookingClass.setStdDev (lStdDev);
// Add a booking class to the segment-cabin.
FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);
BookingClassList_T lDummyBookingClassList;
lDummyBookingClassList.push_back (&lDummyBookingClass);

VirtualClassStruct lDummyVirtualClass (lDummyBookingClassList);
lDummyVirtualClass.setYield (lYield);
lDummyVirtualClass.setMean (lMean);
lDummyVirtualClass.setStdDev (lStdDev);
// Add the corresponding virtual class to the leg-cabin.
lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

// Second booking class yield and demand information.
lYield = 70;
lMean = 45;
lStdDev= 12;
lDummyBookingClass.setYield (lYield);
lDummyBookingClass.setMean (lMean);
lDummyBookingClass.setStdDev (lStdDev);
// Add a booking class to the segment-cabin.
FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);

lDummyVirtualClass.setYield (lYield);
lDummyVirtualClass.setMean (lMean);
lDummyVirtualClass.setStdDev (lStdDev);
// Add the corresponding virtual class to the leg-cabin.
lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

// Third booking class yield and demand information.
lYield = 42;
lMean = 80;
lStdDev= 16;
lDummyBookingClass.setYield (lYield);
lDummyBookingClass.setMean (lMean);
lDummyBookingClass.setStdDev (lStdDev);
// Add a booking class to the segment-cabin.
FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);

lDummyVirtualClass.setYield (lYield);
lDummyVirtualClass.setMean (lMean);
lDummyVirtualClass.setStdDev (lStdDev);
// Add the corresponding virtual class to the leg-cabin.
lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

}

// /////////////////////////////////
void CmdBomManager::buildDummyInventory (BomRoot& ioBomRoot,
                                         const CabinCapacity_T& iCapacity) {
    // Inventory
    const InventoryKey lInventoryKey (DEFAULT_AIRLINE_CODE);
    Inventory& lInv = FacBom<Inventory>::instance().
        create (lInventoryKey);
    FacBomManager::addToListAndMap (ioBomRoot, lInv);
    FacBomManager::linkWithParent (ioBomRoot, lInv);

    // Add the airline feature object to the dummy inventory
    const AirlineFeatureKey lAirlineFeatureKey (DEFAULT_AIRLINE_CODE);
    AirlineFeature& lAirlineFeature =
        FacBom<AirlineFeature>::instance().create (lAirlineFeatureKey);
    FacBomManager::setAirlineFeature (lInv, lAirlineFeature);
    FacBomManager::linkWithParent (lInv, lAirlineFeature);
    // Link the airline feature object with the top of the BOM tree
    FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeature);

    // Flight-date
    FlightDateKey lFlightDateKey(DEFAULT_FLIGHT_NUMBER,
                                DEFAULT_DEPARTURE_DATE);
    FlightDate& lFlightDate =
        FacBom<FlightDate>::instance().create (lFlightDateKey);
    FacBomManager::addToListAndMap (lInv, lFlightDate);
}

```

```

FacBomManager::linkWithParent (lInv, lFlightDate);

// Leg-date
LegDateKey lLegDateKey (DEFAULT_ORIGIN);
LegDate& lLeg = FacBom<LegDate>::instance().create (lLegDateKey);
FacBomManager::addToListAndMap (lFlightDate, lLeg);
FacBomManager::linkWithParent (lFlightDate, lLeg);

// Fill the LegDate content
lLeg.setOffPoint (DEFAULT_DESTINATION);
lLeg.setBoardingDate (DEFAULT_DEPARTURE_DATE);
lLeg.setOffDate (DEFAULT_DEPARTURE_DATE);
lLeg.setBoardingTime (Duration_T (14, 0, 0));
lLeg.setOffTime (Duration_T (16, 0, 0));
lLeg.setElapsedTime (Duration_T (8, 0, 0));

// Leg-cabin
LegCabinKey lLegCabinKey (DEFAULT_CABIN_CODE);
LegCabin& lLegCabin = FacBom<LegCabin>::instance().
    create (lLegCabinKey);
FacBomManager::addToListAndMap (lLeg, lLegCabin);
FacBomManager::linkWithParent (lLeg, lLegCabin);

lLegCabin.setCapacities (iCapacity);
lLegCabin.setAvailabilityPool (iCapacity);

// Segment-date
SegmentDateKey lSegmentDateKey (DEFAULT_ORIGIN, DEFAULT_DESTINATION);
SegmentDate& lSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (lFlightDate, lSegment);
FacBomManager::linkWithParent (lFlightDate, lSegment);

// Add the routing leg key to the dummy segment.
std::ostringstream oStr;
oStr << DEFAULT_AIRLINE_CODE << ";"
    << DEFAULT_FLIGHT_NUMBER << ";"
    << DEFAULT_DEPARTURE_DATE << ";"
    << DEFAULT_ORIGIN;
lSegment.addLegKey (oStr.str());

// Fill the SegmentDate content
lSegment.setBoardingDate (DEFAULT_DEPARTURE_DATE);
lSegment.setOffDate (DEFAULT_DEPARTURE_DATE);
lSegment.setBoardingTime (Duration_T (14, 0, 0));
lSegment.setOffTime (Duration_T (16, 0, 0));
lSegment.setElapsedTime (Duration_T (8, 0, 0));

// Segment-cabin
SegmentCabinKey lSegmentCabinKey (DEFAULT_CABIN_CODE);
SegmentCabin& lSegmentCabin =
    FacBom<SegmentCabin>::instance().create (lSegmentCabinKey);
FacBomManager::addToListAndMap (lSegment, lSegmentCabin);
FacBomManager::linkWithParent (lSegment, lSegmentCabin);

// Create a FareFamily (1) for the Segment LHR-BKK, cabin Y on BA's Inv
const FamilyCode_T l1 ("EcoSaver");
FareFamilyKey l1FareFamilyKey (l1);

FareFamily& lSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin1Family);
FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin1Family);

// Create a booking-class
const ClassCode_T lQ ("Q");
BookingClassKey lQBookingClassKey (lQ);

BookingClass& lSegmentYCabin1FamilyQClass =
    FacBom<BookingClass>::instance().create (lQBookingClassKey);
FacBomManager::addToListAndMap (lSegmentYCabin1Family,
    lSegmentYCabin1FamilyQClass);
FacBomManager::linkWithParent (lSegmentYCabin1Family,
    lSegmentYCabin1FamilyQClass);

FacBomManager::addToListAndMap (lSegmentCabin,
    lSegmentYCabin1FamilyQClass);
FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyQClass);

/*=====
=====
=====
=====
*/
// Schedule:
// XX:
// Step 1: flight period level
// Create a flight period for XX:
const DoWStruct lDoWSrtuct ("1111111");

```

```

const Date_T lXXDateRangeStart (DEFAULT_DEPARTURE_DATE);
const Date_T lXXDateRangeEnd (DEFAULT_DEPARTURE_DATE);
const DatePeriod_T lXXDatePeriod (lXXDateRangeStart, lXXDateRangeEnd);
const PeriodStruct lXXPeriodStruct (lXXDatePeriod, lDoWSrtuct);

FlightPeriodKey lXXFlightPeriodKey (DEFAULT_FLIGHT_NUMBER, lXXPeriodStruct);

FlightPeriod& lXXFlightPeriod =
    FacBom<FlightPeriod>::instance().create (lXXFlightPeriodKey);
FacBomManager::addToListAndMap (lInv, lXXFlightPeriod);
FacBomManager::linkWithParent (lInv, lXXFlightPeriod);

// Step 2: segment period level
// Create a segment period

SegmentPeriodKey lXXSegmentPeriodKey (DEFAULT_ORIGIN, DEFAULT_DESTINATION);

SegmentPeriod& lXXSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (lXXSegmentPeriodKey);
FacBomManager::addToListAndMap (lXXFlightPeriod, lXXSegmentPeriod);
FacBomManager::linkWithParent (lXXFlightPeriod, lXXSegmentPeriod);

lXXSegmentPeriod.setBoardingTime (Duration_T (14, 0, 0));
lXXSegmentPeriod.setOffTime (Duration_T (16, 0, 0));
lXXSegmentPeriod.setElapsedTime (Duration_T (8, 0, 0));
const CabinCode_T lY ("Y");
const ClassList_String_T lYQ ("YQ");
lXXSegmentPeriod.addCabinBookingClassList (lY, lYQ);

}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::
buildCompleteDummyInventoryForFareFamilies (BomRoot& ioBomRoot) {

    // Build a dummy inventory, containing a dummy flight-date with a
    // single segment-cabin and a single leg-cabin (for fare families
    // algorithms)

    // Get the default Inventory object (already built in by construction)
    const InventoryKey lInventoryKey (DEFAULT_AIRLINE_CODE);
    Inventory& lInv = BomManager::getObject<Inventory>(ioBomRoot,
                                                lInventoryKey.toString());

    // Create a dummy Flight-date
    const FlightDateKey lFlightDateKey(DEFAULT_FLIGHT_NUMBER_FF,
                                       DEFAULT_DEPARTURE_DATE);
    FlightDate& lFlightDate =
        FacBom<FlightDate>::instance().create (lFlightDateKey);
    FacBomManager::addToListAndMap (lInv, lFlightDate);
    FacBomManager::linkWithParent (lInv, lFlightDate);

    // Create a dummy Leg-date
    LegDateKey lLegDateKey (DEFAULT_ORIGIN);
    LegDate& lLeg = FacBom<LegDate>::instance().create (lLegDateKey);
    FacBomManager::addToListAndMap (lFlightDate, lLeg);
    FacBomManager::linkWithParent (lFlightDate, lLeg);

    // Fill the LegDate content
    lLeg.setOffPoint (DEFAULT_DESTINATION);
    lLeg.setBoardingDate (DEFAULT_DEPARTURE_DATE);
    lLeg.setOffDate (DEFAULT_DEPARTURE_DATE);
    lLeg.setBoardingTime (Duration_T (14, 0, 0));
    lLeg.setOffTime (Duration_T (16, 0, 0));
    lLeg.setElapsedTime (Duration_T (8, 0, 0));

    // Create a dummy Leg-cabin
    const LegCabinKey lLegCabinKey (DEFAULT_CABIN_CODE);
    LegCabin& lLegCabin = FacBom<LegCabin>::instance().
        create (lLegCabinKey);
    FacBomManager::addToListAndMap (lLeg, lLegCabin);
    FacBomManager::linkWithParent (lLeg, lLegCabin);
    const CabinCapacity_T lCapacity = DEFAULT_CABIN_CAPACITY;
    lLegCabin.setCapacities (lCapacity);
    lLegCabin.setAvailabilityPool (lCapacity);

    // Create a dummy Segment-date
    const SegmentDateKey lSegmentDateKey (DEFAULT_ORIGIN, DEFAULT_DESTINATION);
    SegmentDate& lSegment =
        FacBom<SegmentDate>::instance().create (lSegmentDateKey);
    FacBomManager::addToListAndMap (lFlightDate, lSegment);
    FacBomManager::linkWithParent (lFlightDate, lSegment);

    // Add the routing leg key to the dummy segment.
    std::ostringstream oStr;
    oStr << DEFAULT_AIRLINE_CODE << ";"
}

```

```

    << DEFAULT_FLIGHT_NUMBER << ";" 
    << DEFAULT_DEPARTURE_DATE << ";" 
    << DEFAULT_ORIGIN;
lSegment.addLegKey (oStr.str());

// Fill the SegmentDate content
lSegment.setBoardingDate (DEFAULT_DEPARTURE_DATE);
lSegment.setOffDate (DEFAULT_DEPARTURE_DATE);
lSegment.setBoardingTime (Duration_T (14, 0, 0));
lSegment.setOffTime (Duration_T (16, 0, 0));
lSegment.setElapsedTime (Duration_T (8, 0, 0));

// Create a dummy Segment-cabin
const SegmentCabinKey lSegmentCabinKey (DEFAULT_CABIN_CODE);
SegmentCabin& lSegmentCabin =
    FacBom<SegmentCabin>::instance().create (lSegmentCabinKey);
FacBomManager::addToListAndMap (lSegment, lSegmentCabin);
FacBomManager::linkWithParent (lSegment, lSegmentCabin);

// Create a dummy FareFamily (FF1)
const FamilyCode_T l1 ("FF1");
const FareFamilyKey l1FareFamilyKey (l1);

FareFamily& lSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
// Set the forecasted demand
// TODO change the size (hard code)
MeanStdDevPairVector_T lDemandVector1FareFamily;
const unsigned int size = 16;
for (unsigned int idx = 0; idx < size; ++idx) {
    double i = static_cast<double> (idx);
    MeanStdDevPair_T lMeanStdDevPair (i/4.0, i/20.0);
    lDemandVector1FareFamily.push_back (lMeanStdDevPair);
}
lSegmentYCabin1Family.setMeanStdDev (lDemandVector1FareFamily);
FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin1Family);
FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin1Family);

// Create a dummy booking-class
const ClassCode_T lY ("Y");
const BookingClassKey lYBookingClassKey (lY);

BookingClass& lSegmentYCabin1FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
lYield = 1000;
lSegmentYCabin1FamilyYClass.setYield(lYield);
FacBomManager::addToListAndMap (lSegmentYCabin1Family,
                               lSegmentYCabin1FamilyYClass);
FacBomManager::linkWithParent (lSegmentYCabin1Family,
                               lSegmentYCabin1FamilyYClass);

FacBomManager::addToListAndMap (lSegmentCabin,
                               lSegmentYCabin1FamilyYClass);
FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyYClass);

// Create a second dummy booking-class
const ClassCode_T lU ("U");
const BookingClassKey lUBookingClassKey (lU);

BookingClass& lSegmentYCabin1FamilyUClass =
    FacBom<BookingClass>::instance().create (lUBookingClassKey);
lYield = 600;
lSegmentYCabin1FamilyUClass.setYield(lYield);
FacBomManager::addToListAndMap (lSegmentYCabin1Family,
                               lSegmentYCabin1FamilyUClass);
FacBomManager::linkWithParent (lSegmentYCabin1Family,
                               lSegmentYCabin1FamilyUClass);

FacBomManager::addToListAndMap (lSegmentCabin,
                               lSegmentYCabin1FamilyUClass);
FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyUClass);

// Create a second dummy FareFamily (2)
const FamilyCode_T l2 ("FF2");
const FareFamilyKey l2FareFamilyKey (l2);

FareFamily& lSegmentYCabin2Family =
    FacBom<FareFamily>::instance().create (l2FareFamilyKey);
// Set the forecasted demand
// TODO change the size (hard code)
MeanStdDevPairVector_T lDemandVector2FareFamily;
for (unsigned int idx = 0; idx < size; ++idx) {
    double i = static_cast<double> (idx);
    MeanStdDevPair_T lMeanStdDevPair (i/2.0, i/10.0);
    lDemandVector2FareFamily.push_back (lMeanStdDevPair);
}
lSegmentYCabin2Family.setMeanStdDev (lDemandVector2FareFamily);

```

```

FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin2Family);
FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin2Family);

// Create a third dummy booking-class
const ClassCode_T lO ("O");
const BookingClassKey lOBookingClassKey (lO);

BookingClass& lSegmentYCabin2FamilyOClass =
    FacBom<BookingClass>::instance().create (lOBookingClassKey);
lYield = 750;
lSegmentYCabin2FamilyOClass.setYield(lYield);
FacBomManager::addToListAndMap (lSegmentYCabin2Family,
                               lSegmentYCabin2FamilyOClass);
FacBomManager::linkWithParent (lSegmentYCabin2Family,
                               lSegmentYCabin2FamilyOClass);

FacBomManager::addToListAndMap (lSegmentCabin,
                               lSegmentYCabin2FamilyOClass);
FacBomManager::addToListAndMap (lSegment, lSegmentYCabin2FamilyOClass);

// Create a fourth dummy booking-class
const ClassCode_T lQ ("Q");
const BookingClassKey lQBookingClassKey (lQ);

BookingClass& lSegmentYCabin2FamilyQClass =
    FacBom<BookingClass>::instance().create (lQBookingClassKey);
lYield = 400;
lSegmentYCabin2FamilyQClass.setYield(lYield);
FacBomManager::addToListAndMap (lSegmentYCabin2Family,
                               lSegmentYCabin2FamilyQClass);
FacBomManager::linkWithParent (lSegmentYCabin2Family,
                               lSegmentYCabin2FamilyQClass);

FacBomManager::addToListAndMap (lSegmentCabin,
                               lSegmentYCabin2FamilyQClass);
FacBomManager::addToListAndMap (lSegment, lSegmentYCabin2FamilyQClass);

/*=====
 =====
 =====
 */
// Schedule:
// XX:
// Step 1: flight period level
// Create a flight period for XX:
const DoWSStruct lDoWSrtuct ("1111111");
const Date_T lXXDateRangeStart (DEFAULT_DEPARTURE_DATE);
const Date_T lXXDateRangeEnd (DEFAULT_DEPARTURE_DATE);
const DatePeriod_T lXXDatePeriod (lXXDateRangeStart, lXXDateRangeEnd);
const PeriodStruct lXXPeriodStruct (lXXDatePeriod, lDoWSrtuct);

const FlightPeriodKey lXXFlightPeriodKey (DEFAULT_FLIGHT_NUMBER_FF,
                                         lXXPeriodStruct);

FlightPeriod& lXXFlightPeriod =
    FacBom<FlightPeriod>::instance().create (lXXFlightPeriodKey);
FacBomManager::addToListAndMap (lInv, lXXFlightPeriod);
FacBomManager::linkWithParent (lInv, lXXFlightPeriod);

// Step 2: segment period level
// Create a segment period
const SegmentPeriodKey lXXSegmentPeriodKey (DEFAULT_ORIGIN,
                                             DEFAULT_DESTINATION);

SegmentPeriod& lXXSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (lXXSegmentPeriodKey);
FacBomManager::addToListAndMap (lXXFlightPeriod, lXXSegmentPeriod);
FacBomManager::linkWithParent (lXXFlightPeriod, lXXSegmentPeriod);

lXXSegmentPeriod.setBoardingTime (Duration_T (14, 0, 0));
lXXSegmentPeriod.setOffTime (Duration_T (16, 0, 0));
lXXSegmentPeriod.setElapsedTime (Duration_T (8, 0, 0));
const CabinCode_T lYCabin ("Y");
const ClassList_String_T lYUOQ ("YUOQ");
lXXSegmentPeriod.addCabinBookingClassList (lYCabin, lYUOQ);

}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildSamplePricing (BomRoot& ioBomRoot) {

    // Set the airport-pair primary key.
    const AirportPairKey lAirportPairKey (AIRPORT_LHR, AIRPORT_SYD);

    // Create the AirportPairKey object and link it to the BOM tree root.
    AirportPair& lAirportPair =

```

```

FacBom<AirportPair>::instance().create (lAirportPairKey);
FacBomManager::addToListAndMap (ioBomRoot, lAirportPair);
FacBomManager::linkWithParent (ioBomRoot, lAirportPair);

// Set the fare date-period primary key.
const Date_T lDateRangeStart (2011, boost::gregorian::Jan, 15);
const Date_T lDateRangeEnd (2011, boost::gregorian::Dec, 31);
const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
const DatePeriodKey lDatePeriodKey (lDateRange);

// Create the DatePeriodKey object and link it to the PosChannel object.
DatePeriod& lDatePeriod =
    FacBom<DatePeriod>::instance().create (lDatePeriodKey);
FacBomManager::addToListAndMap (lAirportPair, lDatePeriod);
FacBomManager::linkWithParent (lAirportPair, lDatePeriod);

// Set the point-of-sale-channel primary key.
const PosChannelKey lPosChannelKey (POS_LHR, CHANNEL_DN);

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& lPosChannel =
    FacBom<PosChannel>::instance().create (lPosChannelKey);
FacBomManager::addToListAndMap (lDatePeriod, lPosChannel);
FacBomManager::linkWithParent (lDatePeriod, lPosChannel);

// Set the fare time-period primary key.
const Time_T lTimeRangeStart (0, 0, 0);
const Time_T lTimeRangeEnd (23, 0, 0);
const TimePeriodKey lTimePeriodKey (lTimeRangeStart, lTimeRangeEnd);

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& lTimePeriod =
    FacBom<TimePeriod>::instance().create (lTimePeriodKey);
FacBomManager::addToListAndMap (lPosChannel, lTimePeriod);
FacBomManager::linkWithParent (lPosChannel, lTimePeriod);

// Pricing -- Generate the FareRule
const FareFeaturesKey lFareFeaturesKey (TRIP_TYPE_ROUND_TRIP,
                                       NO_ADVANCE_PURCHASE,
                                       SATURDAY_STAY,
                                       CHANGE_FEES,
                                       NON_REFUNDABLE,
                                       NO_STAY_DURATION);

// Create the FareFeaturesKey and link it to the TimePeriod object.
FareFeatures& lFareFeatures =
    FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
FacBomManager::addToListAndMap (lTimePeriod, lFareFeatures);
FacBomManager::linkWithParent (lTimePeriod, lFareFeatures);

// Revenue Accounting -- Generate the YieldRule
const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ROUND_TRIP,
                                         CABIN_Y);

// Create the YieldFeaturesKey and link it to the TimePeriod object.
YieldFeatures& lYieldFeatures =
    FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
FacBomManager::addToListAndMap (lTimePeriod, lYieldFeatures);
FacBomManager::linkWithParent (lTimePeriod, lYieldFeatures);

// Generate Segment Features and link them to their respective
// fare and yield rules.
AirlineCodeList_T lAirlineCodeList;
lAirlineCodeList.push_back (AIRLINE_CODE_BA);
ClassList_StringList_T lClassCodeList;
lClassCodeList.push_back (CLASS_CODE_Y);
const AirlineClassListKey lAirlineClassListKey (lAirlineCodeList,
                                              lClassCodeList);

// Create the AirlineClassList
AirlineClassList& lAirlineClassList =
    FacBom<AirlineClassList>::instance().
        create (lAirlineClassListKey);
// Link the AirlineClassList to the FareFeatures object
lAirlineClassList.setFare (900);
FacBomManager::addToListAndMap (lFareFeatures, lAirlineClassList);
FacBomManager::linkWithParent (lFareFeatures, lAirlineClassList);

// Link the AirlineClassList to the YieldFeatures object
lAirlineClassList.setYield (900);
FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassList);
// \todo (gsabatier): the following calls overrides the parent for
//                   lAirlineClassList. Check that it is what is actually wanted.
FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassList);
}

// ///////////////////////////////////////////////////////////////////

```

```

void CmdBomManager::buildSamplePricingForFareFamilies (BomRoot& ioBomRoot) {

    // Get the airport-pair primary key SIN-BKK
    // (already built by construction)
    const AirportPairKey lAirportPairKey ("SIN", "BKK");
    AirportPair& lAirportPair =
        BomManager::getObject<AirportPair>(ioBomRoot, lAirportPairKey.toString());

    // Set the fare date-period primary key.
    const Date_T lDateRangeStart (2010, boost::gregorian::Feb, 1);
    const Date_T lDateRangeEnd (2011, boost::gregorian::Feb, 15);
    const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
    const DatePeriodKey lDatePeriodKey (lDateRange);

    // Create the DatePeriodKey object and link it to the PosChannel object.
    DatePeriod& lDatePeriod =
        FacBom<DatePeriod>::instance().create (lDatePeriodKey);
    FacBomManager::addToListAndMap (lAirportPair, lDatePeriod);
    FacBomManager::linkWithParent (lAirportPair, lDatePeriod);

    // Set the point-of-sale-channel primary key.
    const PosChannelKey lPosChannelKey ("SIN", CHANNEL_IN);

    // Create the PositionKey object and link it to the AirportPair object.
    PosChannel& lPosChannel =
        FacBom<PosChannel>::instance().create (lPosChannelKey);
    FacBomManager::addToListAndMap (lDatePeriod, lPosChannel);
    FacBomManager::linkWithParent (lDatePeriod, lPosChannel);

    // Set the fare time-period primary key.
    const Time_T lTimeRangeStart (0, 0, 0);
    const Time_T lTimeRangeEnd (23, 0, 0);
    const TimePeriodKey lTimePeriodKey (lTimeRangeStart, lTimeRangeEnd);

    // Create the TimePeriodKey and link it to the DatePeriod object.
    TimePeriod& lTimePeriod =
        FacBom<TimePeriod>::instance().create (lTimePeriodKey);
    FacBomManager::addToListAndMap (lPosChannel, lTimePeriod);
    FacBomManager::linkWithParent (lPosChannel, lTimePeriod);

    // Pricing -- Generate the FareRule
    const DayDuration_T ONE_MONTH_ADVANCE_PURCHASE = 30;
    // Generate the first FareFeatures for the class Q
    const FareFeaturesKey lFareFeaturesQKey (TRIP_TYPE_ONE WAY,
                                             ONE_MONTH_ADVANCE_PURCHASE,
                                             SATURDAY_STAY,
                                             CHANGE_FEES,
                                             NON_REFUNDABLE,
                                             NO_STAY_DURATION);

    // Create the FareFeaturesKey and link it to the TimePeriod object.
    FareFeatures& lFareFeaturesQ =
        FacBom<FareFeatures>::instance().create (lFareFeaturesQKey);
    FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesQ);
    FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesQ);

    // Generate the second FareFeatures for the class M
    const FareFeaturesKey lFareFeaturesMKey (TRIP_TYPE_ONE WAY,
                                             NO_ADVANCE_PURCHASE,
                                             SATURDAY_STAY,
                                             CHANGE_FEES,
                                             NON_REFUNDABLE,
                                             NO_STAY_DURATION);

    // Create the FareFeaturesKey and link it to the TimePeriod object.
    FareFeatures& lFareFeaturesM =
        FacBom<FareFeatures>::instance().create (lFareFeaturesMKey);
    FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesM);
    FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesM);

    // Generate the third FareFeatures for the class B
    const FareFeaturesKey lFareFeaturesBKey (TRIP_TYPE_ONE WAY,
                                             ONE_MONTH_ADVANCE_PURCHASE,
                                             SATURDAY_STAY,
                                             NO_CHANGE_FEES,
                                             NO_NON_REFUNDABLE, //Refundable
                                             NO_STAY_DURATION);

    // Create the FareFeaturesKey and link it to the TimePeriod object.
    FareFeatures& lFareFeaturesB =
        FacBom<FareFeatures>::instance().create (lFareFeaturesBKey);
    FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesB);
    FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesB);

    // Generate the fourth FareFeatures for the class Y
    const FareFeaturesKey lFareFeaturesYKey (TRIP_TYPE_ONE WAY,
                                             NO_ADVANCE_PURCHASE,
                                             NO_CHANGE_FEES,
                                             NO_NON_REFUNDABLE, //Refundable
                                             NO_STAY_DURATION);
}

```

```

        SATURDAY_STAY,
        NO_CHANGE_FEES,
        NO_NON_REFUNDABLE, //Refundable
        NO_STAY_DURATION);

// Create the FareFeaturesKey and link it to the TimePeriod object.
FareFeatures& lFareFeaturesY =
    FacBom<FareFeatures>::instance().create (lFareFeaturesYKey);
FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesY);
FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesY);

// Revenue Accounting -- Generate the YieldRule
const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ONE WAY,
                                         CABIN_Y);

// Create the YieldFeaturesKey and link it to the TimePeriod object.
YieldFeatures& lYieldFeatures =
    FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
FacBomManager::addToListAndMap (lTimePeriod, lYieldFeatures);
FacBomManager::linkWithParent (lTimePeriod, lYieldFeatures);

// Generate Segment Features and link them to their respective
// fare and yield rules.
AirlineCodeList_T lAirlineCodeList;
lAirlineCodeList.push_back ("SQ");

ClassList_StringList_T lClassYList;
lClassYList.push_back (CLASS_CODE_Y);
const AirlineClassListKey lAirlineClassYListKey (lAirlineCodeList,
                                              lClassYList);

// Create the AirlineClassList
AirlineClassList& lAirlineClassYList =
    FacBom<AirlineClassList>::instance().
    create (lAirlineClassYListKey);
// Link the AirlineClassList to the FareFeatures object
FacBomManager::addToListAndMap (lFareFeaturesY, lAirlineClassYList);
FacBomManager::linkWithParent (lFareFeaturesY, lAirlineClassYList);
lAirlineClassYList.setFare (1200);
lAirlineClassYList.setYield (1200);

// Link the AirlineClassList to the YieldFeatures object
FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassYList);
// \todo (gsabatier): the following calls overrides the parent for
//                   lAirlineClassList. Check that it is what is actually wanted.
FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassYList);

ClassList_StringList_T lClassBList;
lClassBList.push_back ("B");
const AirlineClassListKey lAirlineClassBListKey (lAirlineCodeList,
                                              lClassBList);

// Create the AirlineClassList
AirlineClassList& lAirlineClassBList =
    FacBom<AirlineClassList>::instance().
    create (lAirlineClassBListKey);
// Link the AirlineClassList to the FareFeatures object
FacBomManager::addToListAndMap (lFareFeaturesB, lAirlineClassBList);
FacBomManager::linkWithParent (lFareFeaturesB, lAirlineClassBList);
lAirlineClassBList.setFare (800);
lAirlineClassBList.setYield (800);

// Link the AirlineClassList to the YieldFeatures object
FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassBList);
// \todo (gsabatier): the following calls overrides the parent for
//                   lAirlineClassList. Check that it is what is actually wanted.
FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassBList);

ClassList_StringList_T lClassMList;
lClassMList.push_back ("M");
const AirlineClassListKey lAirlineClassMListKey (lAirlineCodeList,
                                              lClassMList);

// Create the AirlineClassList
AirlineClassList& lAirlineClassMList =
    FacBom<AirlineClassList>::instance().
    create (lAirlineClassMListKey);
// Link the AirlineClassList to the FareFeatures object
FacBomManager::addToListAndMap (lFareFeaturesM, lAirlineClassMList);
FacBomManager::linkWithParent (lFareFeaturesM, lAirlineClassMList);
lAirlineClassMList.setFare (900);
lAirlineClassMList.setYield (900);

// Link the AirlineClassList to the YieldFeatures object
FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassMList);
// \todo (gsabatier): the following calls overrides the parent for
//                   lAirlineClassList. Check that it is what is actually wanted.
FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassMList);

```

```

ClassList_StringList_T lClassQList;
lClassQList.push_back ("Q");
const AirlineClassListKey lAirlineClassQListKey (lAirlineCodeList,
                                              lClassQList);

// Create the AirlineClassList
AirlineClassList lAirlineClassQList =
    FacBom<AirlineClassList>::instance().
        create (lAirlineClassQListKey);
// Link the AirlineClassList to the FareFeatures object
FacBomManager::addToListAndMap (lFareFeaturesQ, lAirlineClassQList);
FacBomManager::linkWithParent (lFareFeaturesQ, lAirlineClassQList);
lAirlineClassQList.setFare (600);
lAirlineClassQList.setYield (600);

// Link the AirlineClassList to the YieldFeatures object
FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassQList);
// \todo (gsabatier): the following calls overrides the parent for
//                   lAirlineClassList. Check that it is what is actually wanted.
FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassQList);

}

// /////////////////////////////////
void CmdBomManager::
buildSampleTravelSolutionForPricing (TravelSolutionList_T& ioTravelSolutionList) {

    // Clean the list
    ioTravelSolutionList.clear();

    //
    const std::string lBA9_SegmentDateKey ("BA, 9, 2011-06-10, LHR, SYD, 21:45");

    // Add the segment date key to the travel solution
    TravelSolutionStruct lTS;
    lTS.addSegment (lBA9_SegmentDateKey);

    // Add the travel solution to the list
    ioTravelSolutionList.push_back (lTS);
}

// ///////////////////////////////
void CmdBomManager::
buildSampleTravelSolutions (TravelSolutionList_T& ioTravelSolutionList) {

    // Clean the list
    ioTravelSolutionList.clear();

    //
    const std::string lBA9_SegmentDateKey ("BA, 9, 2011-06-10, LHR, SYD, 21:45");

    // Add the segment date key to the travel solution
    TravelSolutionStruct lTS1;
    lTS1.addSegment (lBA9_SegmentDateKey);

    // Fare option number 1
    const ClassCode_T lClassPathQ (CLASS_CODE_Q);
    const Fare_T lFare900 (900);
    const ChangeFees_T lChangeFee (CHANGE_FEES);
    const NonRefundable_T isNonRefundable (NON_REFUNDABLE);
    const SaturdayStay_T lSaturdayStay (SATURDAY_STAY);
    const FareOptionStruct lFareOption1 (lClassPathQ, lFare900, lChangeFee,
                                         isNonRefundable, lSaturdayStay);

    // Add (a copy of) the fare option
    lTS1.addFareOption (lFareOption1);
    //

    // Map of class availabilities: set the availability for the Q
    // booking class (the one corresponding to the fare option) to 8.
    ClassAvailabilityMap_T lClassAvailabilityMap1;
    const Availability_T lAvl1 (8);
    bool hasInsertOfQBeenSuccessful = lClassAvailabilityMap1.
        insert (ClassAvailabilityMap_T::value_type (lClassPathQ, lAvl1)).second;
    assert (hasInsertOfQBeenSuccessful == true);
    // Add the map to the dedicated list held by the travel solution
    lTS1.addClassAvailabilityMap (lClassAvailabilityMap1);

    // Add the travel solution to the list
    ioTravelSolutionList.push_back (lTS1);

    //
    const std::string lQF12_SegmentDateKey ("QF, 12, 2011-06-10, LHR, SYD, 20:45");

    // Add the segment date key to the travel solution
    TravelSolutionStruct lTS2;
}

```

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lTS2.addSegment (lQF12_SegmentDateKey);

// Fare option number 2
const ClassCode_T lClassPathY (CLASS_CODE_Y);
const Fare_T lFare1000 (1000);
const ChangeFees_T lNoChangeFee (NO_CHANGE_FEES);
const NonRefundable_T isRefundable (NO_NON_REFUNDABLE);
const FareOptionStruct lFareOption2 (lClassPathY, lFare1000, lNoChangeFee,
                                     isRefundable, lSaturdayStay);

// Map of class availabilities: set the availability for the Y
// booking class (the one corresponding to the fare option) to 9.
ClassAvailabilityMap_T lClassAvailabilityMap2;
const Availability_T lAvl2 (9);
const bool hasInsertOfYBeenSuccessful = lClassAvailabilityMap2.
    insert (ClassAvailabilityMap_T::value_type (lClassPathY, lAvl2)).second;
assert (hasInsertOfYBeenSuccessful == true);
// Add the map to the dedicated list held by the travel solution
lTS2.addClassAvailabilityMap (lClassAvailabilityMap2);

// Add (a copy of) the fare option
lTS2.addFareOption (lFareOption2);

// Fare option number 3
const Fare_T lFare920 (920);
const FareOptionStruct lFareOption3 (lClassPathQ, lFare920, lNoChangeFee,
                                     isNonRefundable, lSaturdayStay);

// Map of class availabilities: set the availability for the Q
// booking class (the one corresponding to the fare option) to 9.
hasInsertOfQBeenSuccessful = lClassAvailabilityMap2.
    insert (ClassAvailabilityMap_T::value_type (lClassPathQ, lAvl2)).second;
assert (hasInsertOfQBeenSuccessful == true);
// Add the map to the dedicated list held by the travel solution
lTS2.addClassAvailabilityMap (lClassAvailabilityMap2);

// Add (a copy of) the fare option
lTS2.addFareOption (lFareOption3);

// Add the travel solution to the list
ioTravelSolutionList.push_back (lTS2);

}

////////////////////////////////////////////////////////////////////////
BookingRequestStruct CmdBomManager::buildSampleBookingRequest () {
    // Origin
    const AirportCode_T lOrigin (AIRPORT_LHR);

    // Destination
    const AirportCode_T lDestination (AIRPORT_SYD);

    // Point of Sale (POS)
    const CityCode_T lPOS (POS_LHR);

    // Preferred departure date (10-JUN-2011)
    const Date_T lPreferredDepartureDate (2011, boost::gregorian::Jun, 10);

    // Preferred departure time (08:00)
    const Duration_T lPreferredDepartureTime (8, 0, 0);

    // Date of the request (15-MAY-2011)
    const Date_T lRequestDate (2011, boost::gregorian::May, 15);

    // Time of the request (10:00)
    const Duration_T lRequestTime (10, 0, 0);

    // Date-time of the request (made of the date and time above)
    const DateTime_T lRequestDateTime (lRequestDate, lRequestTime);

    // Preferred cabin (also named class of service sometimes)
    const CabinCode_T lPreferredCabin (CABIN_ECO);

    // Number of persons in the party
    const PartySize_T lPartySize (3);

    // Channel (direct/indirect, on-line/off-line)
    const ChannelLabel_T lChannel (CHANNEL_DN);

    // Type of the trip (one-way, inbound/outbound of a return trip)
    const TripType_T lTripType (TRIP_TYPE_INBOUND);

    // Duration of the stay (expressed as a number of days)
    const DayDuration_T lStayDuration (DEFAULT_STAY_DURATION);

    // Frequent flyer tier (member, silver, gold, platinum, senator, etc)
    const FrequentFlyer_T lFrequentFlyerType (

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```

FREQUENT_FLYER_MEMBER);

// Maximum willing-to-pay (WTP, expressed in monetary unit, e.g., EUR)
const WTP_T lWTP (DEFAULT_WTP);

// Value of time, for the customer (expressed in monetary unit per
// unit of time, e.g., EUR/hour)
const PriceValue_T lValueOfTime (DEFAULT_VALUE_OF_TIME);

// Restrictions
const ChangeFees_T lChangeFees = false;
const Disutility_T lChangeFeeDisutility = 30;
const NonRefundable_T lNonRefundable = false;
const Disutility_T lNonRefundableDisutility = 50;

// Creation of the booking request structure
BookingRequestStruct oBookingRequest (lOrigin, lDestination, lPOS,
                                       lPreferredDepartureDate,
                                       lRequestDateTime,
                                       lPreferredCabin,
                                       lPartySize, lChannel,
                                       lTripType, lStayDuration,
                                       lFrequentFlyerType,
                                       lPreferredDepartureTime,
                                       lWTP, lValueOfTime,
                                       lChangeFees, lChangeFeeDisutility,
                                       lNonRefundable,
                                       lNonRefundableDisutility);

return oBookingRequest;
}

////////////////////////////////////////////////////////////////////////
BookingRequestStruct CmdBomManager::buildSampleBookingRequestForCRS() {
    // Origin
    const AirportCode_T lOrigin (AIRPORT_SIN);

    // Destination
    const AirportCode_T lDestination (AIRPORT_BKK);

    // Point of Sale (POS)
    const CityCode_T lPOS (POS_SIN);

    // Preferred departure date (30-JAN-2010)
    const Date_T lPreferredDepartureDate (2010, boost::gregorian::Jan, 30);

    // Preferred departure time (10:00)
    const Duration_T lPreferredDepartureTime (10, 0, 0);

    // Date of the request (22-JAN-2010)
    const Date_T lRequestDate (2010, boost::gregorian::Jan, 22);

    // Time of the request (10:00)
    const Duration_T lRequestTime (10, 0, 0);

    // Date-time of the request (made of the date and time above)
    const DateTime_T lRequestDateTime (lRequestDate, lRequestTime);

    // Preferred cabin (also named class of service sometimes)
    const CabinCode_T lPreferredCabin (CABIN_ECO);

    // Number of persons in the party
    const PartySize_T lPartySize (3);

    // Channel (direct/indirect, on-line/off-line)
    const ChannelLabel_T lChannel (CHANNEL_IN);

    // Type of the trip (one-way, inbound/outbound of a return trip)
    const TripType_T lTripType (TRIP_TYPE_INBOUND);

    // Duration of the stay (expressed as a number of days)
    const DayDuration_T lStayDuration (DEFAULT_STAY_DURATION);

    // Frequent flyer tier (member, silver, gold, platinum, senator, etc)
    const FrequentFlyer_T lFrequentFlyerType (
        FREQUENT_FLYER_MEMBER);

    // Maximum willing-to-pay (WTP, expressed in monetary unit, e.g., EUR)
    const WTP_T lWTP (DEFAULT_WTP);

    // Value of time, for the customer (expressed in monetary unit per
    // unit of time, e.g., EUR/hour)
    const PriceValue_T lValueOfTime (DEFAULT_VALUE_OF_TIME);

    // Restrictions
    const ChangeFees_T lChangeFees = true;
    const Disutility_T lChangeFeeDisutility = 50;
}

```

```

const NonRefundable_T lNonRefundable = true;
const Disutility_T lNonRefundableDisutility = 50;

// Creation of the booking request structure
BookingRequestStruct oBookingRequest (lOrigin,
                                       lDestination,
                                       lPOS,
                                       lPreferredDepartureDate,
                                       lRequestDateTime,
                                       lPreferredCabin,
                                       lPartySize, lChannel,
                                       lTripType, lStayDuration,
                                       lFrequentFlyerType,
                                       lPreferredDepartureTime,
                                       lWTP, lValueOfTime,
                                       lChangeFees, lChangeFeeDisutility,
                                       lNonRefundable,
                                       lNonRefundableDisutility);

return oBookingRequest;
}

////////////////////////////////////////////////////////////////
void CmdBomManager::buildPartnershipsSampleInventoryAndRM (BomRoot& ioBomRoot) {

    // Step 0.1: Inventory level
    // Create an Inventory for SQ
    const AirlineCode_T lAirlineCodeSQ ("SQ");
    const InventoryKey lSQKey (lAirlineCodeSQ);
    Inventory& lSQInv = FacBom<Inventory>::instance().
        create (lSQKey);
    FacBomManager::addToListAndMap (ioBomRoot, lSQInv);
    FacBomManager::linkWithParent (ioBomRoot, lSQInv);

    // Add the airline feature object to the SQ inventory
    const AirlineFeatureKey lAirlineFeatureSQKey (lAirlineCodeSQ);
    AirlineFeature& lAirlineFeatureSQ =
        FacBom<AirlineFeature>::instance().create (lAirlineFeatureSQKey
    );
    FacBomManager::setAirlineFeature (lSQInv, lAirlineFeatureSQ);
    FacBomManager::linkWithParent (lSQInv, lAirlineFeatureSQ);
    // Link the airline feature object with the top of the BOM tree
    FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureSQ);

    // Create an Inventory for CX
    const AirlineCode_T lAirlineCodeCX ("CX");
    const InventoryKey lCXKey (lAirlineCodeCX);
    Inventory& lCXInv = FacBom<Inventory>::instance().
        create (lCXKey);
    FacBomManager::addToListAndMap (ioBomRoot, lCXInv);
    FacBomManager::linkWithParent (ioBomRoot, lCXInv);

    // Add the airline feature object to the CX inventory
    const AirlineFeatureKey lAirlineFeatureCXKey (lAirlineCodeCX);
    AirlineFeature& lAirlineFeatureCX =
        FacBom<AirlineFeature>::instance().create (lAirlineFeatureCXKey
    );
    FacBomManager::setAirlineFeature (lCXInv, lAirlineFeatureCX);
    FacBomManager::linkWithParent (lCXInv, lAirlineFeatureCX);
    // Link the airline feature object with the top of the BOM tree
    FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureCX);

    // ///// SQ //////
    // Step 0.2: Flight-date level
    // Create a FlightDate (SQ11/08-MAR-2010) for SQ's Inventory
    FlightNumber_T lFlightNumber = 11;
    Date_T lDate (2010, 3, 8);
    FlightDateKey lFlightDateKey (lFlightNumber, lDate);

    FlightDate& lSQ11_20100308_FD =
        FacBom<FlightDate>::instance().create (lFlightDateKey);
    FacBomManager::addToListAndMap (lSQInv, lSQ11_20100308_FD);
    FacBomManager::linkWithParent (lSQInv, lSQ11_20100308_FD);

    // Create a (mkt) FlightDate (SQ1200/08-MAR-2010) for SQ's Inventory
    FlightNumber_T lMktFlightNumber = 1200;
    //lDate = Date_T (2010, 3, 8);
    FlightDateKey lMktFlightDateKey (lMktFlightNumber, lDate);

    FlightDate& lSQ1200_20100308_FD =
        FacBom<FlightDate>::instance().create (lMktFlightDateKey);
    FacBomManager::addToListAndMap (lSQInv, lSQ1200_20100308_FD);
    FacBomManager::linkWithParent (lSQInv, lSQ1200_20100308_FD);

    // Display the flight-date
    // STDAIR_LOG_DEBUG ("FlightDate: " << lBA9_20110610_FD.toString());
}

```

```

// Step 0.3: Segment-date level
// Create a first SegmentDate (SIN-BKK) for SQ's Inventory
const AirportCode_T lSIN ("SIN");
const AirportCode_T lBKK ("BKK");
const DateOffset_T l1Day (1);
const DateOffset_T l2Days (2);
const Duration_T l0820 (8, 20, 0);
const Duration_T l1100 (11, 0, 0);
const Duration_T l0340 (3, 40, 0);
SegmentDateKey lSegmentDateKey (lSIN, lBKK);

SegmentDate& lSINBKKSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (lSQ11_20100308_FD, lSINBKKSegment);
FacBomManager::linkWithParent (lSQ11_20100308_FD, lSINBKKSegment);

// Add the routing leg key to the SIN-BKK segment.
const std::string lSQSINRoutingLegStr = "SQ;11;2010-Mar-8;SIN";
lSINBKKSegment.addLegKey (lSQSINRoutingLegStr);

// Fill the SegmentDate content
lSINBKKSegment.setBoardingDate (lDate);
lSINBKKSegment.setOffDate (lDate);
lSINBKKSegment.setBoardingTime (l0820);
lSINBKKSegment.setOffTime (l1100);
lSINBKKSegment.setElapsedTime (l0340);

// Create a second (mkt) SegmentDate (BKK-HKG) for SQ's Inventory
const AirportCode_T lHKG ("HKG");
const Duration_T l1200 (12, 0, 0);
const Duration_T l1540 (15, 40, 0);
const Duration_T l0240 (2, 40, 0);
SegmentDateKey lMktSegmentDateKey (lBKK, lHKG);

SegmentDate& lMktBKKHKGSegment =
    FacBom<SegmentDate>::instance().create (lMktSegmentDateKey);
FacBomManager::addToListAndMap (lSQ1200_20100308_FD, lMktBKKHKGSegment);
FacBomManager::linkWithParent (lSQ1200_20100308_FD, lMktBKKHKGSegment);

// Add the routing leg key CX;12;2010-Mar-8;BKK to the marketing
// SQ;1200;2010-Mar-8;BKK-HKG segment.
const std::string lCXBKKRoutingLegStr = "CX;12;2010-Mar-8;BKK";
lMktBKKHKGSegment.addLegKey (lCXBKKRoutingLegStr);

// Fill the (mkt) SegmentDate content
lMktBKKHKGSegment.setBoardingDate (lDate);
lMktBKKHKGSegment.setOffDate (lDate);
lMktBKKHKGSegment.setBoardingTime (l1200);
lMktBKKHKGSegment.setOffTime (l1540);
lMktBKKHKGSegment.setElapsedTime (l0240);

// Step 0.4: Leg-date level
// Create a first LegDate (SIN) for SQ's Inventory
LegDateKey lLegDateKey (lSIN);

LegDate& lSINLeg = FacBom<LegDate>::instance().
    create (lLegDateKey);
FacBomManager::addToListAndMap (lSQ11_20100308_FD, lSINLeg);
FacBomManager::linkWithParent (lSQ11_20100308_FD, lSINLeg);

// Fill the LegDate content
lSINLeg.setOffPoint (lBKK);
lSINLeg.setBoardingDate (lDate);
lSINLeg.setOffDate (lDate);
lSINLeg.setBoardingTime (l0820);
lSINLeg.setOffTime (l1100);
lSINLeg.setElapsedTime (l0340);

// Step 0.5: segment-cabin level
// Create a SegmentCabin (Y) for the Segment SIN-BKK of SQ's Inventory
const CabinCode_T lY ("Y");
SegmentCabinKey lYSegmentCabinKey (lY);

SegmentCabin& lSINBKKSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lSINBKKSegment, lSINBKKSegmentYCabin);
FacBomManager::linkWithParent (lSINBKKSegment, lSINBKKSegmentYCabin);

// Create a SegmentCabin (Y) for the (mkt) Segment BKK-HKG of SQ's Inventory
SegmentCabin& lMktBKKHKGSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
FacBomManager::addToListAndMap (lMktBKKHKGSegment,
    lMktBKKHKGSegmentYCabin);
FacBomManager::linkWithParent (lMktBKKHKGSegment, lMktBKKHKGSegmentYCabin);
;

```

```

// Step 0.6: leg-cabin level
// Create a LegCabin (Y) for the Leg SIN-BKK on SQ's Inventory
LegCabinKey lYLegCabinKey (lY);

LegCabin& lSINLegYCabin =
    FacBom<LegCabin>::instance().create (lYLegCabinKey);
FacBomManager::addToListAndMap (lSINLeg, lSINLegYCabin);
FacBomManager::linkWithParent (lSINLeg, lSINLegYCabin);

CabinCapacity_T lCapacity (100);
lSINLegYCabin.setCapacities (lCapacity);
lSINLegYCabin.setAvailabilityPool (lCapacity);

// Step 0.7: fare family level
// Create a FareFamily (1) for the Segment SIN-BKK, cabin Y on SQ's Inv
const FamilyCode_T l1 ("EcoSaver");
FareFamilyKey l1FareFamilyKey (l1);

FareFamily& lSINBKKSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1Family);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1Family);

// Create a FareFamily (1) for the (mkt) Segment BKK-HKG, cabin Y on SQ's Inv
FareFamily& lMktBKKHKGSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (l1FareFamilyKey);
FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
                               lMktBKKHKGSegmentYCabin1Family);
FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin,
                               lMktBKKHKGSegmentYCabin1Family);

// Step 0.8: booking class level
// Create a BookingClass (Y) for the Segment SIN-BKK, cabin Y,
// fare family 1 on SQ's Inv
BookingClassKey lYBookingClassKey (lY);

BookingClass& lSINBKKSegmentYCabin1FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
                               lSINBKKSegmentYCabin1FamilyYClass);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
                               lSINBKKSegmentYCabin1FamilyYClass);

FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1FamilyYClass);
FacBomManager::addToListAndMap (lSINBKKSegment,
                               lSINBKKSegmentYCabin1FamilyYClass);

lSINBKKSegmentYCabin1FamilyYClass.setYield(700);

// Create a BookingClass (Y) for the (mkt) Segment BKK-HKG, cabin Y,
// fare family 1 on SQ's Inv
BookingClass& lMktBKKHKGSegmentYCabin1FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin1Family,
                               lMktBKKHKGSegmentYCabin1FamilyYClass);
FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin1Family,
                               lMktBKKHKGSegmentYCabin1FamilyYClass);

FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
                               lMktBKKHKGSegmentYCabin1FamilyYClass);
FacBomManager::addToListAndMap (lMktBKKHKGSegment,
                               lMktBKKHKGSegmentYCabin1FamilyYClass);

lMktBKKHKGSegmentYCabin1FamilyYClass.setYield(700);

// Create a BookingClass (M) for the Segment SIN-BKK, cabin Y,
// fare family 1 on SQ's Inv
const ClassCode_T lM ("M");
BookingClassKey lMBookingClassKey (lM);

BookingClass& lSINBKKSegmentYCabin1FamilyMClass =
    FacBom<BookingClass>::instance().create (lMBookingClassKey);
FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
                               lSINBKKSegmentYCabin1FamilyMClass);
FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
                               lSINBKKSegmentYCabin1FamilyMClass);

FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
                               lSINBKKSegmentYCabin1FamilyMClass);
FacBomManager::addToListAndMap (lSINBKKSegment,
                               lSINBKKSegmentYCabin1FamilyMClass);

```

```

1SINBKKSegmentYCabin1FamilyMClass.setYield(500);

// Create a BookingClass (M) for the (mkt) Segment BKK-HKG, cabin Y,
// fare family 1 on SQ's Inv
BookingClass& lMktBKKHKGSegmentYCabin1FamilyMClass =
    FacBom<BookingClass>::instance().create (lMBookingClassKey);
FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin1Family,
                               lMktBKKHKGSegmentYCabin1FamilyMClass);
FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin1Family,
                               lMktBKKHKGSegmentYCabin1FamilyMClass);

FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
                               lMktBKKHKGSegmentYCabin1FamilyMClass);
FacBomManager::addToListAndMap (lMktBKKHKGSegment,
                               lMktBKKHKGSegmentYCabin1FamilyMClass);

lMktBKKHKGSegmentYCabin1FamilyMClass.setYield(500);

/* ===== */

// Step 1.0: O&D level
// Create an O&D Date (SQ11/08-MAR-2010/SIN-BKK-SQ1200/08-MAR-2010/BKK-HKG)
// for SQ's Inventory
OnDString_T lSQSINBKKOnDStr = "SQ;11,2010-Mar-08;SIN,BKK";
OnDString_T lMktSQBKKHKGOnDStr = "SQ;1200,2010-Mar-08;BKK,HKG";
OnDStringList_T lOnDStringList;
lOnDStringList.push_back (lSQSINBKKOnDStr);
lOnDStringList.push_back (lMktSQBKKHKGOnDStr);

OnDDateKey lOnDDateKey (lOnDStringList);
OnDDate& lSQ_SINHKG_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lSQInv, lSQ_SINHKG_OnDDate);
FacBomManager::linkWithParent (lSQInv, lSQ_SINHKG_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lSQ_SINHKG_OnDDate, lSINBKKSegment);
FacBomManager::addToListAndMap (lSQ_SINHKG_OnDDate, lMktBKKHKGSegment);

// Add total forecast info for cabin Y.
const MeanStdDevPair_T lMean60StdDev6 (60.0, 6.0);
const WTP_T lWTP750 = 750.0;
const WTPDemandPair_T lWTP750Mean60StdDev6 (lWTP750, lMean60StdDev6);
lSQ_SINHKG_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);

// Add demand info (optional).
// 2 legs here, so 2 CabinClassPair to add in the list.
// First leg: cabin Y, class M.
CabinClassPair_T lCC_YM1 (lY, lM);
// Second leg: cabin Y, class M too.
CabinClassPair_T lCC_YM2 (lY, lM);
CabinClassPairList_T lCabinClassPairList;
lCabinClassPairList.push_back (lCC_YM1);
lCabinClassPairList.push_back (lCC_YM2);
const MeanStdDevPair_T lMean20StdDev2 (20.0, 2.0);
const Yield_T lYield850 = 850.0;
const YieldDemandPair_T lYield850Mean20StdDev2 (lYield850, lMean20StdDev2);
lSQ_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList, lYield850Mean20StdDev2);

CabinClassPair_T lCC_YY1 (lY, lY);
CabinClassPair_T lCC_YY2 (lY, lY);
lCabinClassPairList.clear();
lCabinClassPairList.push_back (lCC_YY1);
lCabinClassPairList.push_back (lCC_YY2);
const MeanStdDevPair_T lMean10StdDev1 (10.0, 1.0);
const Yield_T lYield1200 = 1200.0;
const YieldDemandPair_T lYield1200Mean10StdDev1 (lYield1200,
                                                lMean10StdDev1);
lSQ_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield1200Mean10StdDev1);

// Create an O&D Date (SQ11/08-MAR-2010/SIN-BKK) for SQ's Inventory
lOnDStringList.clear();
lOnDStringList.push_back (lSQSINBKKOnDStr);

lOnDDateKey = OnDDateKey(lOnDStringList);
OnDDate& lSQ_SINBKK_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lSQInv, lSQ_SINBKK_OnDDate);
FacBomManager::linkWithParent (lSQInv, lSQ_SINBKK_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lSQ_SINBKK_OnDDate, lSINBKKSegment);

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// Add total forecast info for cabin Y.
const WTP_T lWTP400 = 400.0;
const WTPDemandPair_T lWTP400Mean60StdDev6 (lWTP400, lMean60StdDev6);
lSQ_SINBKK_OnDDate.setTotalForecast (lY, lWTP400Mean60StdDev6);

// Add demand info (optional).
lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YM1);
const MeanStdDevPair_T lMean20StdDev1 (20.0, 1.0);
const Yield_T lYield500 = 500.0;
const YieldDemandPair_T lYield500Mean20StdDev1 (lYield500, lMean20StdDev1);
lSQ_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield500Mean20StdDev1);

lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YY1);
const Yield_T lYield700 = 700.0;
const YieldDemandPair_T lYield700Mean20StdDev1 (lYield700, lMean10StdDev1 );
lSQ_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield700Mean20StdDev1);

/********************* Create an O&D Date (SQ1200/08-MAR-2010/BKK-HKG) for SQ's Inventory
// Create an O&D Date (SQ1200/08-MAR-2010/BKK-HKG) for SQ's Inventory
lFullKeyList.clear();
lFullKeyList.push_back (lMktSQBKKHKGFullKeyStr);

lOnDDateKey = OnDDateKey(lFullKeyList);
OnDDate& lMktSQ_BKKHKG_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lSQInv, lMktSQ_BKKHKG_OnDDate);
FacBomManager::linkWithParent (lSQInv, lMktSQ_BKKHKG_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lMktSQ_BKKHKG_OnDDate, lMktBKKHKGSegment);

// Demand info is not added for purely marketed O&Ds
// Add demand info
// lCabinClassPairList.clear();
// lCabinClassPairList.push_back(lCC_YM2);
// lMktSQ_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList, 500.0, 20.0, 1.0);
// */

// ///////////////////////////////////////////////////////////////////
// Step 0.2: Flight-date level
// Create a FlightDate (CX12/08-MAR-2010) for CX's Inventory
lFlightNumber = 12;
//lDate = Date_T (2010, 2, 8);
lFlightDateKey = FlightDateKey (lFlightNumber, lDate);

FlightDate& lCX12_20100308_FD =
    FacBom<FlightDate>::instance().create (lFlightDateKey);
FacBomManager::addToListAndMap (lCXInv, lCX12_20100308_FD);
FacBomManager::linkWithParent (lCXInv, lCX12_20100308_FD);

// Create a (mkt) FlightDate (CX1100/08-FEB-2010) for CX's Inventory
lFlightNumber = 1100;
//lDate = Date_T (2010, 2, 8);
lMktFlightDateKey = FlightDateKey (lFlightNumber, lDate);

FlightDate& lCX1100_20100308_FD =
    FacBom<FlightDate>::instance().create (lMktFlightDateKey);
FacBomManager::addToListAndMap (lCXInv, lCX1100_20100308_FD);
FacBomManager::linkWithParent (lCXInv, lCX1100_20100308_FD);

// Display the flight-date
// STDAIR_LOG_DEBUG ("FlightDate: " << lAF084_20110320_FD.toString());

// Step 0.3: Segment-date level
// Create a SegmentDate BKK-HKG for CX's Inventory

lSegmentDateKey = SegmentDateKey (lBKK, lHKG);

SegmentDate& lBKKHKGSegment =
    FacBom<SegmentDate>::instance().create (lSegmentDateKey);
FacBomManager::addToListAndMap (lCX12_20100308_FD, lBKKHKGSegment);
FacBomManager::linkWithParent (lCX12_20100308_FD, lBKKHKGSegment);

// Add the routing leg key to the marketing BKK-HKG segment.
lBKKHKGSegment.addLegKey (lCXBKKRoutingLegStr);

// Fill the SegmentDate content
lBKKHKGSegment.setBoardingDate (lDate);
lBKKHKGSegment.setOffDate (lDate);
lBKKHKGSegment.setBoardingTime (l1200);
lBKKHKGSegment.setOffTime (l1540);

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1BKKHKGSegment.setElapsedTime (10240);

// Create a second (mkt) SegmentDate (SIN-BKK) for CX's Inventory
1MktSegmentDateKey = SegmentDateKey (1SIN, 1BKK);

SegmentDate& 1MktSINBKKSegment =
    FacBom<SegmentDate>::instance().create (1MktSegmentDateKey);
FacBomManager::addToListAndMap (1CX1100_20100308_FD, 1MktSINBKKSegment);
FacBomManager::linkWithParent (1CX1100_20100308_FD, 1MktSINBKKSegment);

// Add the routing leg key SQ;11;2010-Mar-8;SIN to the marketing
// CX;1100;2010-Mar-8;SIN-BKK segment.
1MktSINBKKSegment.addLegKey (1SQSINRoutingLegStr);

// Fill the (mkt) SegmentDate content
1MktSINBKKSegment.setBoardingDate (1Date);
1MktSINBKKSegment.setOffDate (1Date);
1MktSINBKKSegment.setBoardingTime (10820);
1MktSINBKKSegment.setOffTime (11100);
1MktSINBKKSegment.setElapsedTime (10340);

// Step 0.4: Leg-date level
// Create a LegDate (BKK) for CX's Inventory
1LegDateKey = LegDateKey (1BKK);

LegDate& 1BKKLeg = FacBom<LegDate>::instance().
    create (1LegDateKey);
FacBomManager::addToListAndMap (1CX12_20100308_FD, 1BKKLeg);
FacBomManager::linkWithParent (1CX12_20100308_FD, 1BKKLeg);

// Fill the LegDate content
1BKKLeg.setOffPoint (1HKG);
1BKKLeg.setBoardingDate (1Date);
1BKKLeg.setOffDate (1Date);
1BKKLeg.setBoardingTime (11200);
1BKKLeg.setOffTime (11540);
1BKKLeg.setElapsedTime (10240);

// Display the leg-date
// STDAIR_LOG_DEBUG ("LegDate: " << 1CDGLeg.toString());

// Step 0.5: segment-cabin level
// Create a SegmentCabin (Y) for the Segment BKK-HKG of CX's Inventory
SegmentCabin& 1BKKHKGSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (1YSegmentCabinKey);
FacBomManager::addToListAndMap (1BKKHKGSegment, 1BKKHKGSegmentYCabin);
FacBomManager::linkWithParent (1BKKHKGSegment, 1BKKHKGSegmentYCabin);

// Create a SegmentCabin (Y) for the (mkt) Segment SIN-BKK of CX's Inventory
SegmentCabin& 1MktSINBKKSegmentYCabin =
    FacBom<SegmentCabin>::instance().create (1YSegmentCabinKey);
FacBomManager::addToListAndMap (1MktSINBKKSegment,
    1MktSINBKKSegmentYCabin);
FacBomManager::linkWithParent (1MktSINBKKSegment, 1MktSINBKKSegmentYCabin);
;

// Step 0.6: leg-cabin level
// Create a LegCabin (Y) for the Leg BKK-HKG on CX's Inventory
LegCabin& 1BKKLegYCabin =
    FacBom<LegCabin>::instance().create (1YLegCabinKey);
FacBomManager::addToListAndMap (1BKKLeg, 1BKKLegYCabin);
FacBomManager::linkWithParent (1BKKLeg, 1BKKLegYCabin);

1Capacity = CabinCapacity_T(100);
1BKKLegYCabin.setCapacities (1Capacity);
1BKKLegYCabin.setAvailabilityPool (1Capacity);

// Step 0.7: fare family level
// Create a fareFamily (1) for the Segment BKK-HKG, cabin Y on CX's Inv
FareFamily& 1BKKHKGSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (11FareFamilyKey);
FacBomManager::addToListAndMap (1BKKHKGSegmentYCabin,
    1BKKHKGSegmentYCabin1Family);
FacBomManager::linkWithParent (1BKKHKGSegmentYCabin,
    1BKKHKGSegmentYCabin1Family);

// Create a FareFamily (1) for the (mkt) Segment SIN-BKK, cabin Y on CX's Inv
FareFamily& 1MktSINBKKSegmentYCabin1Family =
    FacBom<FareFamily>::instance().create (11FareFamilyKey);
FacBomManager::addToListAndMap (1MktSINBKKSegmentYCabin,
    1MktSINBKKSegmentYCabin1Family);
FacBomManager::linkWithParent (1MktSINBKKSegmentYCabin,
    1MktSINBKKSegmentYCabin1Family);

// Step 0.8: booking class level
// Create a BookingClass (Y) for the

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// Segment BKK-HKG, cabin Y, fare family 1 on CX's Inv
BookingClass& lBKKHKGSegmentYCabin1FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin1Family,
                               lBKKHKGSegmentYCabin1FamilyYClass);
FacBomManager::linkWithParent (lBKKHKGSegmentYCabin1Family,
                               lBKKHKGSegmentYCabin1FamilyYClass);

FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin,
                               lBKKHKGSegmentYCabin1FamilyYClass);
FacBomManager::addToListAndMap (lBKKHKGSegment,
                               lBKKHKGSegmentYCabin1FamilyYClass);

lBKKHKGSegmentYCabin1FamilyYClass.setYield(700);

// Create a BookingClass (Y) for the (mkt) Segment SIN-BKK, cabin Y,
// fare family 1 on CX's Inv
BookingClass& lMktSINBKKSegmentYCabin1FamilyYClass =
    FacBom<BookingClass>::instance().create (lYBookingClassKey);
FacBomManager::addToListAndMap (lMktSINBKKSegmentYCabin1Family,
                               lMktSINBKKSegmentYCabin1FamilyYClass);
FacBomManager::linkWithParent (lMktSINBKKSegmentYCabin1Family,
                               lMktSINBKKSegmentYCabin1FamilyYClass);

FacBomManager::addToListAndMap (lMktSINBKKSegmentYCabin,
                               lMktSINBKKSegmentYCabin1FamilyYClass);
FacBomManager::addToListAndMap (lMktSINBKKSegment,
                               lMktSINBKKSegmentYCabin1FamilyYClass);

lMktSINBKKSegmentYCabin1FamilyYClass.setYield(700);

//Create a BookingClass (M) for the
// Segment BKK-HKG, cabin Y, fare family 1 on CX's Inv
BookingClass& lBKKHKGSegmentYCabin1FamilyMClass =
    FacBom<BookingClass>::instance().create (lMBookingClassKey);
FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin1Family,
                               lBKKHKGSegmentYCabin1FamilyMClass);
FacBomManager::linkWithParent (lBKKHKGSegmentYCabin1Family,
                               lBKKHKGSegmentYCabin1FamilyMClass);

FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin,
                               lBKKHKGSegmentYCabin1FamilyMClass);
FacBomManager::addToListAndMap (lBKKHKGSegment,
                               lBKKHKGSegmentYCabin1FamilyMClass);

lBKKHKGSegmentYCabin1FamilyMClass.setYield(500);

// Create a BookingClass (M) for the (mkt) Segment SIN-BKK, cabin Y,
// fare family 1 on CX's Inv
BookingClass& lMktSINBKKSegmentYCabin1FamilyMClass =
    FacBom<BookingClass>::instance().create (lMBookingClassKey);
FacBomManager::addToListAndMap (lMktSINBKKSegmentYCabin1Family,
                               lMktSINBKKSegmentYCabin1FamilyMClass);
FacBomManager::linkWithParent (lMktSINBKKSegmentYCabin1Family,
                               lMktSINBKKSegmentYCabin1FamilyMClass);

FacBomManager::addToListAndMap (lMktSINBKKSegmentYCabin,
                               lMktSINBKKSegmentYCabin1FamilyMClass);
FacBomManager::addToListAndMap (lMktSINBKKSegment,
                               lMktSINBKKSegmentYCabin1FamilyMClass);

lMktSINBKKSegmentYCabin1FamilyMClass.setYield(500);

/* ===== */

// Step 1.0: O&D level
// Create an O&D Date (CX1100/08-MAR-2010/SIN-BKK-CX12/08-MAR-2010/BKK-HKG) for CX's Inventory
OnDString_T lMktCXSINBKKonDStr = "CX;1100,2010-Mar-08;SIN,BKK";
OnDString_T lCXBKKHKGOnDStr = "CX;12,2010-Mar-08;BKK,HKG";
lOnDStringList.clear();
lOnDStringList.push_back (lMktCXSINBKKonDStr);
lOnDStringList.push_back (lCXBKKHKGOnDStr);

lOnDDateKey = OnDDateKey(lOnDStringList);
OnDDate& lCX_SINHKG_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lCXInv, lCX_SINHKG_OnDDate);
FacBomManager::linkWithParent (lCXInv, lCX_SINHKG_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lCX_SINHKG_OnDDate, lMktSINBKKSegment);
FacBomManager::addToListAndMap (lCX_SINHKG_OnDDate, lBKKHKGSegment);

// Add total forecast info for cabin Y.
lCX_SINHKG_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);

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// Add demand info
lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YM1);
lCabinClassPairList.push_back(lCC_YM2);
lCX_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield850Mean20StdDev2);

lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YY1);
lCabinClassPairList.push_back(lCC_YY2);
lCX_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield1200Mean10StdDev1);

//*****************************************************************************
// Create an O&D Date (CX1100/08-MAR-2010/SIN-BKK) for CX's Inventory
lFullKeyList.clear();
lFullKeyList.push_back (lMktCXSINBKKFullKeyStr);

lOnDDateKey = OnDDateKey(lFullKeyList);
OnDDate& lMktCX_SINBKK_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lCXInv, lMktCX_SINBKK_OnDDate);
FacBomManager::linkWithParent (lCXInv, lMktCX_SINBKK_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lMktCX_SINBKK_OnDDate, lMktSINBKKSegment);

// Demand info is not added for purely marketed O&Ds
// Add demand info
// lCabinClassPairList.clear();
// lCabinClassPairList.push_back(lCC_YM1);
// lMktCX_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList, 500.0, 20.0, 1.0);
// */

// Create an O&D Date (CX12/08-FEB-2010/BKK-HKG) for CX's Inventory
lOnDStringList.clear();
lOnDStringList.push_back (lCXBKKHKGOndStr);

lOnDDateKey = OnDDateKey(lOnDStringList);
OnDDate& lCX_BKKHKG_OnDDate =
    FacBom<OnDDate>::instance().create (lOnDDateKey);
// Link to the inventory
FacBomManager::addToListAndMap (lCXInv, lCX_BKKHKG_OnDDate);
FacBomManager::linkWithParent (lCXInv, lCX_BKKHKG_OnDDate);

// Add the segments
FacBomManager::addToListAndMap (lCX_BKKHKG_OnDDate, lBKKHKGSegment);

// Add total forecast info for cabin Y.
lCX_BKKHKG_OnDDate.setTotalForecast (1Y, lWTP400Mean60StdDev6);

// Add demand info
lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YM2);
lCX_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield500Mean20StdDev1);

lCabinClassPairList.clear();
lCabinClassPairList.push_back(lCC_YY2);
const YieldDemandPair_T lYield700Mean10StdDev1 (lYield700, lMean10StdDev1 );
lCX_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList,
                                         lYield700Mean10StdDev1);

//*****************************************************************************
=====
=====*
// Schedule:
// SQ:
// Step 1: flight period level
// Create a flight period for SQ11:
const DoWStruct lDoWSruct ("1111111");
const Date_T lDateRangeStart (2010, boost::gregorian::Mar, 8);
const Date_T lDateRangeEnd (2010, boost::gregorian::Mar, 9);
const DatePeriod_T lDatePeriod (lDateRangeStart, lDateRangeEnd);
const PeriodStruct lPeriodStruct (lDatePeriod,lDoWSruct);

lFlightNumber = FlightNumber_T (11);

FlightPeriodKey lFlightPeriodKey (lFlightNumber, lPeriodStruct);

FlightPeriod& lSQ11FlightPeriod =
    FacBom<FlightPeriod>::instance().create (lFlightPeriodKey);
FacBomManager::addToListAndMap (lSQInv, lSQ11FlightPeriod);
FacBomManager::linkWithParent (lSQInv, lSQ11FlightPeriod);

// Step 2: segment period level

```

```

// Create a segment period for SIN-BKK:
SegmentPeriodKey lSegmentPeriodKey (lSIN, lBKK);

SegmentPeriod& lSINBKKSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (lSegmentPeriodKey);
FacBomManager::addToListAndMap (lSQ11FlightPeriod, lSINBKKSegmentPeriod);
FacBomManager::linkWithParent (lSQ11FlightPeriod, lSINBKKSegmentPeriod);

lSINBKKSegmentPeriod.setBoardingTime (10820);
lSINBKKSegmentPeriod.setOffTime (11100);
lSINBKKSegmentPeriod.setElapsedTime (10340);
ClassList_String_T lYM ("YM");
lSINBKKSegmentPeriod.addCabinBookingClassList (lY, lYM);

// CX:
// Step 1: flight period level
// Create a flight period for CX12:
lFlightNumber = FlightNumber_T (12);

lFlightPeriodKey = FlightPeriodKey(lFlightNumber, lPeriodStruct);

FlightPeriod& lCX12FlightPeriod =
    FacBom<FlightPeriod>::instance().create (lFlightPeriodKey);
FacBomManager::addToListAndMap (lCXInv, lCX12FlightPeriod);
FacBomManager::linkWithParent (lCXInv, lCX12FlightPeriod);

// Step 2: segment period level
// Create a segment period for BKK-HKG:

lSegmentPeriodKey = SegmentPeriodKey (lBKK, lHKG);

SegmentPeriod& lBKKHKGSegmentPeriod =
    FacBom<SegmentPeriod>::instance().create (lSegmentPeriodKey);
FacBomManager::addToListAndMap (lCX12FlightPeriod, lBKKHKGSegmentPeriod);
FacBomManager::linkWithParent (lCX12FlightPeriod, lBKKHKGSegmentPeriod);

lBKKHKGSegmentPeriod.setBoardingTime (11200);
lBKKHKGSegmentPeriod.setOffTime (11540);
lBKKHKGSegmentPeriod.setElapsedTime (10240);
lBKKHKGSegmentPeriod.addCabinBookingClassList (lY, lYM);

}

// ///////////////////////////////////////////////////////////////////
void CmdBomManager::buildPartnershipsSamplePricing (BomRoot& ioBomRoot) {

/*=====
// First airport pair SIN-BKK.
// Set the airport-pair primary key.
AirportPairKey lAirportPairKey ("SIN", "BKK");

// Create the AirportPairKey object and link it to the ioBomRoot object.
AirportPair& lSINBKKAAirportPair =
    FacBom<AirportPair>::instance().create (lAirportPairKey);
FacBomManager::addToListAndMap (ioBomRoot, lSINBKKAAirportPair);
FacBomManager::linkWithParent (ioBomRoot, lSINBKKAAirportPair);

// Set the fare date-period primary key.
const Date_T lDateRangeStart (2010, boost::gregorian::Mar, 01);
const Date_T lDateRangeEnd (2010, boost::gregorian::Mar, 31);
const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
const DatePeriodKey lDatePeriodKey (lDateRange);

// Create the DatePeriodKey object and link it to the PosChannel object.
DatePeriod& lSINBKKDatePeriod =
    FacBom<DatePeriod>::instance().create (lDatePeriodKey);
FacBomManager::addToListAndMap (lSINBKKAAirportPair, lSINBKKDatePeriod);
FacBomManager::linkWithParent (lSINBKKAAirportPair, lSINBKKDatePeriod);

// Set the point-of-sale-channel primary key.
PosChannelKey lPosChannelKey ("SIN", "IN");

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& lSINPosChannel =
    FacBom<PosChannel>::instance().create (lPosChannelKey);
FacBomManager::addToListAndMap (lSINBKKDatePeriod, lSINPosChannel);
FacBomManager::linkWithParent (lSINBKKDatePeriod, lSINPosChannel);

// Set the fare time-period primary key.
const Time_T lTimeRangeStart (0, 0, 0);
const Time_T lTimeRangeEnd (23, 0, 0);
const TimePeriodKey lFareTimePeriodKey (lTimeRangeStart,
                                         lTimeRangeEnd);

// Create the TimePeriodKey and link it to the DatePeriod object.

```

```

TimePeriod& lSINBKKFareTimePeriod =
    FacBom<TimePeriod>::instance().create (lFareTimePeriodKey);
FacBomManager::addToListAndMap (lSINPosChannel, lSINBKKFareTimePeriod);
FacBomManager::linkWithParent (lSINPosChannel, lSINBKKFareTimePeriod);

// Generate the FareRule
const FareFeaturesKey lFareFeaturesKey (TRIP_TYPE_ONE WAY,
                                         NO_ADVANCE_PURCHASE,
                                         SATURDAY_STAY,
                                         CHANGE_FEES,
                                         NON_REFUNDABLE,
                                         NO_STAY_DURATION);

// Create the FareFeaturesKey and link it to the TimePeriod object.
FareFeatures& lSINBKKFareFeatures =
    FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
FacBomManager::addToListAndMap (lSINBKKFareTimePeriod,
                               lSINBKKFareFeatures);
FacBomManager::linkWithParent (lSINBKKFareTimePeriod, lSINBKKFareFeatures)
;

// Generate Segment Features and link them to their FareRule.
AirlineCodeList_T lSQAirlineCodeList;
lSQAirlineCodeList.push_back ("SQ");

ClassList_StringList_T lYClassCodeList;
lYClassCodeList.push_back ("Y");
const AirlineClassListKey lSQAirlineYClassListKey (lSQAirlineCodeList,
                                                lYClassCodeList);

ClassList_StringList_T lMClassCodeList;
lMClassCodeList.push_back ("M");
const AirlineClassListKey lSQAirlineMClassListKey (lSQAirlineCodeList,
                                                lMClassCodeList);

// Create the AirlineClassListKey and link it to the FareFeatures object.
AirlineClassList& lSQAirlineYClassList =
    FacBom<AirlineClassList>::instance().
        create (lSQAirlineYClassListKey);
lSQAirlineYClassList.setFare(700);
FacBomManager::addToListAndMap (lSINBKKFareFeatures, lSQAirlineYClassList
);
FacBomManager::linkWithParent (lSINBKKFareFeatures, lSQAirlineYClassList);

AirlineClassList& lSQAirlineMClassList =
    FacBom<AirlineClassList>::instance().
        create (lSQAirlineMClassListKey);
lSQAirlineMClassList.setFare(500);
FacBomManager::addToListAndMap (lSINBKKFareFeatures, lSQAirlineMClassList
);
FacBomManager::linkWithParent (lSINBKKFareFeatures, lSQAirlineMClassList);

/*=====
// Second airport pair BKK-HKG.
// Set the airport-pair primary key.
lAirportPairKey = AirportPairKey ("BKK", "HKG");

// Create the AirportPairKey object and link it to the ioBomRoot object.
AirportPair& lBKKHKGAirportPair =
    FacBom<AirportPair>::instance().create (lAirportPairKey);
FacBomManager::addToListAndMap (ioBomRoot, lBKKHKGAirportPair);
FacBomManager::linkWithParent (ioBomRoot, lBKKHKGAirportPair);

// Set the fare date-period primary key.
// Use the same as previously.

// Create the DatePeriodKey object and link it to the PosChannel object.
DatePeriod& lBKKHKGDatePeriod =
    FacBom<DatePeriod>::instance().create (lDatePeriodKey);
FacBomManager::addToListAndMap (lBKKHKGAirportPair, lBKKHKGDatePeriod);
FacBomManager::linkWithParent (lBKKHKGAirportPair, lBKKHKGDatePeriod);

// Set the point-of-sale-channel primary key.
lPosChannelKey = PosChannelKey("BKK", "IN");

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& lBKPPosChannel =
    FacBom<PosChannel>::instance().create (lPosChannelKey);
FacBomManager::addToListAndMap (lBKKHKGDatePeriod, lBKPPosChannel);
FacBomManager::linkWithParent (lBKKHKGDatePeriod, lBKPPosChannel);

// Set the fare time-period primary key.
// Use the same as previously.

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& lBKKHKGTimePeriod =
    FacBom<TimePeriod>::instance().create (lFareTimePeriodKey);

```

```

FacBomManager::addToListAndMap (1BKHKPosChannel, 1BKHKHKGFareTimePeriod);
FacBomManager::linkWithParent (1BKHKPosChannel, 1BKHKHKGFareTimePeriod);

// Generate the FareRule
// Use the same key as previously.

// Create the FareFeaturesKey and link it to the TimePeriod object.
FareFeatures& 1BKHKHKGFareFeatures =
    FacBom<FareFeatures>::instance().create (1FareFeaturesKey);
FacBomManager::addToListAndMap (1BKHKHKGFareTimePeriod,
    1BKHKHKGFareFeatures);
FacBomManager::linkWithParent (1BKHKHKGFareTimePeriod, 1BKHKHKGFareFeatures)
;

// Generate Segment Features and link them to their FareRule.
AirlineCodeList_T 1CXAirlineCodeList;
1CXAirlineCodeList.push_back ("CX");

const AirlineClassListKey 1CXAirlineYClassListKey (1CXAirlineCodeList,
    1YClassCodeList);

const AirlineClassListKey 1CXAirlineMClassListKey (1CXAirlineCodeList,
    1MClassCodeList);

// Create the AirlineClassListKey and link it to the FareFeatures object.
AirlineClassList& 1CXAirlineYClassList =
    FacBom<AirlineClassList>::instance().
        create (1CXAirlineYClassListKey);
1CXAirlineYClassList.setFare(700);
FacBomManager::addToListAndMap (1BKHKHKGFareFeatures, 1CXAirlineYClassList
);
FacBomManager::linkWithParent (1BKHKHKGFareFeatures, 1CXAirlineYClassList);

AirlineClassList& 1CXAirlineMClassList =
    FacBom<AirlineClassList>::instance().
        create (1CXAirlineMClassListKey);
1CXAirlineMClassList.setFare(500);
FacBomManager::addToListAndMap (1BKHKHKGFareFeatures, 1CXAirlineMClassList
);
FacBomManager::linkWithParent (1BKHKHKGFareFeatures, 1CXAirlineMClassList);

/*=====
// Third airport pair SIN-HKG.
// Set the airport-pair primary key.
1AirportPairKey = AirportPairKey ("SIN", "HKG");

// Create the AirportPairKey object and link it to the ioBomRoot object.
AirportPair& 1SINHKGAirportPair =
    FacBom<AirportPair>::instance().create (1AirportPairKey);
FacBomManager::addToListAndMap (ioBomRoot, 1SINHKGAirportPair);
FacBomManager::linkWithParent (ioBomRoot, 1SINHKGAirportPair);

// Set the fare date-period primary key.
// Use the same as previously.

// Create the DatePeriodKey object and link it to the PosChannel object.
DatePeriod& 1SINHKGDatePeriod =
    FacBom<DatePeriod>::instance().create (1DatePeriodKey);
FacBomManager::addToListAndMap (1SINHKGAirportPair, 1SINHKGDatePeriod);
FacBomManager::linkWithParent (1SINHKGAirportPair, 1SINHKGDatePeriod);

// Set the point-of-sale-channel primary key.
1PosChannelKey = PosChannelKey("SIN","IN");

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& 1OnDSINPosChannel =
    FacBom<PosChannel>::instance().create (1PosChannelKey);
FacBomManager::addToListAndMap (1SINHKGDatePeriod, 1OnDSINPosChannel);
FacBomManager::linkWithParent (1SINHKGDatePeriod, 1OnDSINPosChannel);

// Set the fare time-period primary key.
// Use the same as previously.

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& 1SINHKGFareTimePeriod =
    FacBom<TimePeriod>::instance().create (1FareTimePeriodKey);
FacBomManager::addToListAndMap (1OnDSINPosChannel, 1SINHKGFareTimePeriod
);
FacBomManager::linkWithParent (1OnDSINPosChannel, 1SINHKGFareTimePeriod);

// Generate the FareRule
// Use the same key as previously.

// Create the FareFeaturesKey and link it to the TimePeriod object.
FareFeatures& 1SINHKGFareFeatures =
    FacBom<FareFeatures>::instance().create (1FareFeaturesKey);
FacBomManager::addToListAndMap (1SINHKGFareTimePeriod,

```

```

    lSINHKGfareFeatures);
FacBomManager::linkWithParent (lSINHKGfareTimePeriod, lSINHKGfareFeatures)
;

// Generate Segment Features and link them to their FareRule.
AirlineCodeList_T lSQ_CXAirlineCodeList;
lSQ_CXAirlineCodeList.push_back ("SQ");
lSQ_CXAirlineCodeList.push_back ("CX");

ClassList_StringList_T lY_YClassCodeList;
lY_YClassCodeList.push_back ("Y");
lY_YClassCodeList.push_back ("Y");
const AirlineClassListKey lSQ_CXAirlineYClassListKey (lSQ_CXAirlineCodeList,
                                                lY_YClassCodeList);

ClassList_StringList_T lM_MClassCodeList;
lM_MClassCodeList.push_back ("M");
lM_MClassCodeList.push_back ("M");
const AirlineClassListKey lSQ_CXAirlineMClassListKey (lSQ_CXAirlineCodeList,
                                                lM_MClassCodeList);

// Create the AirlineClassListKey and link it to the FareFeatures object.
AirlineClassList& lSQ_CXAirlineYClassList =
    FacBom<AirlineClassList>::instance().
        create (lSQ_CXAirlineYClassListKey);
lSQ_CXAirlineYClassList.setFare(1200);
FacBomManager::addToListAndMap (lSINHKGfareFeatures,
                               lSQ_CXAirlineYClassList);
FacBomManager::linkWithParent (lSINHKGfareFeatures,
                             lSQ_CXAirlineYClassList);

AirlineClassList& lSQ_CXAirlineMClassList =
    FacBom<AirlineClassList>::instance().
        create (lSQ_CXAirlineMClassListKey);
lSQ_CXAirlineMClassList.setFare(850);
FacBomManager::addToListAndMap (lSINHKGfareFeatures,
                               lSQ_CXAirlineMClassList);
FacBomManager::linkWithParent (lSINHKGfareFeatures,
                             lSQ_CXAirlineMClassList);

/*=====
 */

// Use the same airport pair, and date period for adding SQ SIN-BKK yields.

// Set the point-of-sale-channel primary key.
lPosChannelKey = PosChannelKey(DEFAULT_POS, DEFAULT_CHANNEL);

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& lRAC_SINBKKPosChannel =
    FacBom<PosChannel>::instance().create (lPosChannelKey);
FacBomManager::addToListAndMap (lSINBKKDatePeriod, lRAC_SINBKKPosChannel)
;
FacBomManager::linkWithParent (lSINBKKDatePeriod, lRAC_SINBKKPosChannel);

// Set the yield time-period primary key.
const TimePeriodKey lYieldTimePeriodKey (lTimeRangeStart,
                                         lTimeRangeEnd);

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& lSINBKKYieldTimePeriod =
    FacBom<TimePeriod>::instance().create (lYieldTimePeriodKey);
FacBomManager::addToListAndMap (lRAC_SINBKKPosChannel,
                               lSINBKKYieldTimePeriod);
FacBomManager::linkWithParent (lRAC_SINBKKPosChannel,
                             lSINBKKYieldTimePeriod);

// Generate the YieldRule
const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ONE WAY,
                                           CABIN_Y);

// Create the YieldFeaturesKey and link it to the TimePeriod object.
YieldFeatures& lSINBKKYieldFeatures =
    FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
FacBomManager::addToListAndMap (lSINBKKYieldTimePeriod,
                               lSINBKKYieldFeatures);
FacBomManager::linkWithParent (lSINBKKYieldTimePeriod,
                             lSINBKKYieldFeatures);

// Generate Segment Features and link them to their YieldRule.
// Use the same key as previously.

// Create the AirlineClassListKey and link it to the YieldFeatures object.
AirlineClassList& lRAC_SQAirlineYClassList =
    FacBom<AirlineClassList>::instance().
        create (lSQAirlineYClassListKey);

```

```

1RAC_SQAirlineYClassList.setYield(700);
FacBomManager::addToListAndMap (1SINBKYYieldFeatures,
                               1RAC_SQAirlineYClassList);
FacBomManager::linkWithParent (1SINBKYYieldFeatures,
                               1RAC_SQAirlineYClassList);

AirlineClassList& 1RAC_SQAirlineMClassList =
  FacBom<AirlineClassList>::instance().
  create (1SQAirlineMClassListKey);
1RAC_SQAirlineMClassList.setYield(500);
FacBomManager::addToListAndMap (1SINBKYYieldFeatures,
                               1RAC_SQAirlineMClassList);
FacBomManager::linkWithParent (1SINBKYYieldFeatures,
                               1RAC_SQAirlineMClassList);

/*=====
// Use the same airport pair, and date period for adding CX BKK-HKG yields.

// Set the point-of-sale-channel primary key.
// Use the same as previously.

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& 1RAC_BKKHKGPosChannel =
  FacBom<PosChannel>::instance().create (1PosChannelKey);
FacBomManager::addToListAndMap (1BKKHKGDatePeriod, 1RAC_BKKHKGPosChannel)
;
FacBomManager::linkWithParent (1BKKHKGDatePeriod, 1RAC_BKKHKGPosChannel);

// Set the yield time-period primary key.
// Use the same as previously.

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& 1BKKHKGYieldTimePeriod =
  FacBom<TimePeriod>::instance().create (1YieldTimePeriodKey);
FacBomManager::addToListAndMap (1RAC_BKKHKGPosChannel,
                               1BKKHKGYieldTimePeriod);
FacBomManager::linkWithParent (1RAC_BKKHKGPosChannel,
                               1BKKHKGYieldTimePeriod);

// Generate the YieldRule
// Use the same key as previously.

// Create the YieldFeaturesKey and link it to the TimePeriod object.
YieldFeatures& 1BKKHKGYieldFeatures =
  FacBom<YieldFeatures>::instance().create (1YieldFeaturesKey);
FacBomManager::addToListAndMap (1BKKHKGYieldTimePeriod,
                               1BKKHKGYieldFeatures);
FacBomManager::linkWithParent (1BKKHKGYieldTimePeriod,
                               1BKKHKGYieldFeatures);

// Generate Segment Features and link them to their YieldRule.
// Use the same key as previously.

// Create the AirlineClassListKey and link it to the YieldFeatures object.
AirlineClassList& 1RAC_CXAirlineYClassList =
  FacBom<AirlineClassList>::instance().
  create (1CXAirlineYClassListKey);
1RAC_CXAirlineYClassList.setYield(700);
FacBomManager::addToListAndMap (1BKKHKGYieldFeatures,
                               1RAC_CXAirlineYClassList);
FacBomManager::linkWithParent (1BKKHKGYieldFeatures,
                               1RAC_CXAirlineYClassList);

AirlineClassList& 1RAC_CXAirlineMClassList =
  FacBom<AirlineClassList>::instance().
  create (1CXAirlineMClassListKey);
1RAC_CXAirlineMClassList.setYield(500);
FacBomManager::addToListAndMap (1BKKHKGYieldFeatures,
                               1RAC_CXAirlineMClassList);
FacBomManager::linkWithParent (1BKKHKGYieldFeatures,
                               1RAC_CXAirlineMClassList);

/*=====
// Use the same airport pair, and date period for SQ-CX SIN-HKG

// Set the point-of-sale-channel primary key.
// Use the same as previously.

// Create the PositionKey object and link it to the AirportPair object.
PosChannel& 1RAC_SINHKGChannel =
  FacBom<PosChannel>::instance().create (1PosChannelKey);
FacBomManager::addToListAndMap (1SINHKGDatePeriod, 1RAC_SINHKGChannel);
FacBomManager::linkWithParent (1SINHKGDatePeriod, 1RAC_SINHKGChannel);

// Set the yield time-period primary key.

```

```

// Use the same as previously.

// Create the TimePeriodKey and link it to the DatePeriod object.
TimePeriod& lSINHKGYieldTimePeriod =
    FacBom<TimePeriod>::instance().create (lYieldTimePeriodKey);
FacBomManager::addToListAndMap (lRAC_SINHKGChannel,
    lSINHKGYieldTimePeriod);
FacBomManager::linkWithParent (lRAC_SINHKGChannel, lSINHKGYieldTimePeriod)
;

// Generate the YieldRule
// Use the same key as previously.

// Create the YieldFeaturesKey and link it to the TimePeriod object.
YieldFeatures& lSINHKGYieldFeatures =
    FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
FacBomManager::addToListAndMap (lSINHKGYieldTimePeriod,
    lSINHKGYieldFeatures);
FacBomManager::linkWithParent (lSINHKGYieldTimePeriod,
    lSINHKGYieldFeatures);

// Generate Segment Features and link them to their YieldRule.
// Use the same key as previously

// Create the AirlineClassListKey and link it to the YieldFeatures object.
AirlineclassList& lRAC_SQ_CXAirlineYClassList =
    FacBom<AirlineclassList>::instance().
    create (lSQ_CXAirlineYClassListKey);
lRAC_SQ_CXAirlineYClassList.setYield(1200);
FacBomManager::addToListAndMap (lSINHKGYieldFeatures,
    lRAC_SQ_CXAirlineYClassList);
FacBomManager::linkWithParent (lSINHKGYieldFeatures,
    lRAC_SQ_CXAirlineYClassList);

AirlineclassList& lRAC_SQ_CXAirlineMClassList =
    FacBom<AirlineclassList>::instance().
    create (lSQ_CXAirlineMClassListKey);
lRAC_SQ_CXAirlineMClassList.setYield(850);
FacBomManager::addToListAndMap (lSINHKGYieldFeatures,
    lRAC_SQ_CXAirlineMClassList);
FacBomManager::linkWithParent (lSINHKGYieldFeatures,
    lRAC_SQ_CXAirlineMClassList);

}

}

/
// /////////////////////////////////
// Import section
// /////////////////////////////////
// STL
#include <cassert>
#include <iostream>
// StdAir
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/factory/FacCloneBom.hpp>
#include <stdair/command/CmdCloneBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/BomRetriever.hpp>

namespace stdair {

//
void CmdCloneBomManager::cloneBomRoot (const BomRoot& iBomRoot,
                                         BomRoot& ioCloneBomRoot) {

    // Check whether there are Inventory objects
    const bool hasInventoryList = BomManager::hasList<Inventory> (iBomRoot);
    if (hasInventoryList == true) {

        // Browse the inventories
        const InventoryList_T& lInventoryList =
            BomManager::getList<Inventory> (iBomRoot);
        for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
             itInv != lInventoryList.end(); ++itInv) {
            const Inventory* lInv_ptr = *itInv;
            assert (lInv_ptr != NULL);

            // Clone the current inventory
            Inventory& lCloneInventory = cloneInventory (*lInv_ptr, ioCloneBomRoot);
            FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneInventory);
            FacBomManager::linkWithParent (ioCloneBomRoot, lCloneInventory);
        }
    }
}

```

```

// Check whether there are Airport Pair objects
const bool hasAirportPairList =
    BomManager::hasList<AirportPair> (iBomRoot);
if (hasAirportPairList == true) {

    // Browse the airport pairs
    const AirportPairList_T& lAirportPairList =
        BomManager::getList<AirportPair> (iBomRoot);
    for (AirportPairList_T::const_iterator itAirportPair =
        lAirportPairList.begin();
        itAirportPair != lAirportPairList.end(); ++itAirportPair) {
        const AirportPair* lAirportPair_ptr = *itAirportPair;
        assert (lAirportPair_ptr != NULL);

        // Clone the current airport pair
        AirportPair& lCloneAirportPair = cloneAirportPair (*lAirportPair_ptr);
        FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneAirportPair);
        FacBomManager::linkWithParent (ioCloneBomRoot, lCloneAirportPair);
    }
}

// /////////////////////////////////
Inventory& CmdCloneBomManager::cloneInventory (const Inventory& iInventory,
                                              BomRoot& ioCloneBomRoot) {

    Inventory& lCloneInventory =
        FacCloneBom<Inventory>::instance().clone (iInventory);

    // Check whether there are FlightDate objects
    const bool hasFlightDateList = BomManager::hasList<FlightDate> (iInventory);
    if (hasFlightDateList == true) {
        // Browse the flight-dates
        const FlightDateList_T& lFlightDateList =
            BomManager::getList<FlightDate> (iInventory);
        for (FlightDateList_T::const_iterator itFD = lFlightDateList.begin();
            itFD != lFlightDateList.end(); ++itFD) {
            const FlightDate* lFD_ptr = *itFD;
            assert (lFD_ptr != NULL);

            // Clone the current flight-date
            FlightDate& lCloneFD = cloneFlightDate (*lFD_ptr);
            FacBomManager::addToListAndMap (lCloneInventory, lCloneFD);
            FacBomManager::linkWithParent (lCloneInventory, lCloneFD);
        }
    }

    // Check if the inventory contains a list of partners
    const bool hasPartnerList = BomManager::hasList<Inventory> (iInventory);
    if (hasPartnerList == true) {

        // Browse the partner's inventories
        const InventoryList_T& lPartnerInventoryList =
            BomManager::getList<Inventory> (iInventory);

        for (InventoryList_T::const_iterator itInv =
            lPartnerInventoryList.begin();
            itInv != lPartnerInventoryList.end(); ++itInv) {
            const Inventory* lInv_ptr = *itInv;
            assert (lInv_ptr != NULL);

            // Clone the current partnership inventory
            Inventory& lClonePartnerInventory = cloneInventory (*lInv_ptr,
                                                               ioCloneBomRoot);
            FacBomManager::addToListAndMap (lCloneInventory,
                                           lClonePartnerInventory);
            FacBomManager::linkWithParent (lCloneInventory,
                                         lClonePartnerInventory);
        }
    }

    // Check whether there are O&D date objects
    const bool hasOnDList = BomManager::hasList<OnDDate> (iInventory);
    if (hasOnDList == true){

        //Browse the OnDs
        const OnDDateList_T& lOnDDateList =
            BomManager::getList<OnDDate> (iInventory);

        for (OnDDateList_T::const_iterator itOnD = lOnDDateList.begin();
            itOnD != lOnDDateList.end(); ++itOnD) {
            const OnDDate* lOnDDate_ptr = *itOnD;
            assert (lOnDDate_ptr != NULL);

            // Clone the current O&D date
            OnDDate& lCloneOnDDate = cloneOnDDate (*lOnDDate_ptr);
            FacBomManager::addToListAndMap (lCloneInventory, lCloneOnDDate);
    }
}

```

```

        FacBomManager::linkWithParent (lCloneInventory, lCloneOnDDate);
    }

}

// Check whether there are Flight Period objects
const bool hasFlightPeriodList =
    BomManager::hasList<FlightPeriod> (iInventory);
if (hasFlightPeriodList == true) {

    // Browse the flight-periods
    const FlightPeriodList_T& lFlightPeriodList =
        BomManager::getList<FlightPeriod> (iInventory);
    for (FlightPeriodList_T::const_iterator itFlightPeriod =
        lFlightPeriodList.begin();
        itFlightPeriod != lFlightPeriodList.end(); ++itFlightPeriod) {
        const FlightPeriod* lFlightPeriod_ptr = *itFlightPeriod;
        assert (lFlightPeriod_ptr != NULL);

        // Clone the current flight period
        FlightPeriod& lCloneFlightPeriod = cloneFlightPeriod (*lFlightPeriod_ptr);
        FacBomManager::addToListAndMap (lCloneInventory, lCloneFlightPeriod);
        FacBomManager::linkWithParent (lCloneInventory, lCloneFlightPeriod);
    }
}

// Check whether there is an airline feature object
const AirlineFeature* lAirlineFeature_ptr =
    BomManager::getObjectPtr<AirlineFeature, Inventory> (iInventory,
        iInventory.getAirlineCode());
if (lAirlineFeature_ptr != NULL) {
    // Clone the current airline feature object
    AirlineFeature& lCloneAirlineFeature =
        cloneAirlineFeature (*lAirlineFeature_ptr);
    FacBomManager::setAirlineFeature (lCloneInventory,
        lCloneAirlineFeature);
    FacBomManager::linkWithParent (lCloneInventory, lCloneAirlineFeature);
    // Link the airline feature object with the top of the BOM tree
    FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneAirlineFeature);
}

return lCloneInventory;
}

// /////////////////////////////////
AirlineFeature& CmdCloneBomManager::
cloneAirlineFeature (const AirlineFeature& iAirlineFeature) {

    AirlineFeature& lCloneAirlineFeature =
        FacCloneBom<AirlineFeature>::instance().
        clone (iAirlineFeature);

    return lCloneAirlineFeature;
}

// /////////////////////////////////
OnDDate& CmdCloneBomManager::cloneOnDDate (const OnDDate& iOnDDate) {

    OnDDate& lCloneOnDDate =
        FacCloneBom<OnDDate>::instance().clone (iOnDDate);

    return lCloneOnDDate;
}

// /////////////////////////////////
FlightDate& CmdCloneBomManager::
cloneFlightDate (const FlightDate& iFlightDate) {

    FlightDate& lCloneFlightDate =
        FacCloneBom<FlightDate>::instance().clone (iFlightDate);

    // Check whether there are LegDate objects
    const bool hasLegDateList = BomManager::hasList<LegDate> (iFlightDate);
    if (hasLegDateList == true) {

        // Browse the leg-dates
        const LegDateList_T& lLegDateList =
            BomManager::getList<LegDate> (iFlightDate);
        for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
            itLD != lLegDateList.end(); ++itLD) {
            const LegDate* lLD_ptr = *itLD;
            assert (lLD_ptr != NULL);

            // Clone the current leg-date
            LegDate& lCloneLegDate = cloneLegDate (*lLD_ptr);
            FacBomManager::addToListAndMap (lCloneFlightDate, lCloneLegDate);
            FacBomManager::linkWithParent (lCloneFlightDate, lCloneLegDate);
    }
}

```

```

    }

    // Check whether there are SegmentDate objects
    const bool hasSegmentDateList =
        BomManager::hasList<SegmentDate> (iFlightDate);
    if (hasSegmentDateList == true) {

        // Browse the segment-dates
        const SegmentDateList_T& lSegmentDateList =
            BomManager::getList<SegmentDate> (iFlightDate);
        for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
             itSD != lSegmentDateList.end(); ++itSD) {
            const SegmentDate* lSD_ptr = *itSD;
            assert (lSD_ptr != NULL);

            // Clone the current segment-date
            SegmentDate& lCloneSegmentDate = cloneSegmentDate (*lSD_ptr);
            FacBomManager::addToListAndMap (lCloneFlightDate, lCloneSegmentDate);
            FacBomManager::linkWithParent (lCloneFlightDate, lCloneSegmentDate);

        }
    }

    return lCloneFlightDate;
}

// /////////////////////////////////
LegDate& CmdCloneBomManager::cloneLegDate (const LegDate& iLegDate) {

    LegDate& lCloneLegDate =
        FacCloneBom<LegDate>::instance().clone (iLegDate);

    // Check whether there are LegCabin objects
    const bool hasLegCabinList = BomManager::hasList<LegCabin> (iLegDate);
    if (hasLegCabinList == true) {
        // Browse the leg-cabins
        const LegCabinList_T& lLegCabinList =
            BomManager::getList<LegCabin> (iLegDate);
        for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
             itLC != lLegCabinList.end(); ++itLC) {
            const LegCabin* lLC_ptr = *itLC;
            assert (lLC_ptr != NULL);

            // Clone the current leg-cabin
            LegCabin& lCloneLegCabin = cloneLegCabin (*lLC_ptr);
            FacBomManager::addToListAndMap (lCloneLegDate, lCloneLegCabin);
            FacBomManager::linkWithParent (lCloneLegDate, lCloneLegCabin);

        }
    }

    return lCloneLegDate;
}

// /////////////////////////////////
LegCabin& CmdCloneBomManager::cloneLegCabin (const LegCabin& iLegCabin) {

    LegCabin& lCloneLegCabin =
        FacCloneBom<LegCabin>::instance().clone (iLegCabin);

    // Check whether there are Bucket objects
    const bool hasBucketList = BomManager::hasList<Bucket> (iLegCabin);
    if (hasBucketList == true) {
        // Browse the buckets
        const BucketList_T& lBucketList =
            BomManager::getList<Bucket> (iLegCabin);
        for (BucketList_T::const_iterator itBucket = lBucketList.begin();
             itBucket != lBucketList.end(); ++itBucket) {
            const Bucket* lBucket_ptr = *itBucket;
            assert (lBucket_ptr != NULL);

            // Clone the current bucket
            Bucket& lCloneBucket = cloneBucket (*lBucket_ptr);
            FacBomManager::addToListAndMap (lCloneLegCabin, lCloneBucket);
            FacBomManager::linkWithParent (lCloneLegCabin, lCloneBucket);

        }
    }

    return lCloneLegCabin;
}

// /////////////////////////////////
Bucket& CmdCloneBomManager::cloneBucket (const Bucket& iBucket) {

    Bucket& lCloneBucket =
        FacCloneBom<Bucket>::instance().clone (iBucket);
}

```

```

    return lCloneBucket;
}

// /////////////////////////////////
SegmentDate& CmdCloneBomManager::cloneSegmentDate (const SegmentDate& iSegmentDate) {

    SegmentDate& lCloneSegmentDate =
        FacCloneBom<SegmentDate>::instance().
        clone (iSegmentDate);

    // Check whether there are SegmentCabin objects
    const bool hasSegmentCabinList =
        BomManager::hasList<SegmentCabin> (iSegmentDate);
    if (hasSegmentCabinList == true) {
        // Browse the segment-cabins
        const SegmentCabinList_T& lSegmentCabinList =
            BomManager::getList<SegmentCabin> (iSegmentDate);
        for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
              itSC != lSegmentCabinList.end(); ++itSC) {
            const SegmentCabin* lSC_ptr = *itSC;
            assert (lSC_ptr != NULL);

            // Clone the current segment-cabin
            SegmentCabin& lCloneSegmentCabin = cloneSegmentCabin (*lSC_ptr);
            FacBomManager::addToListAndMap (lCloneSegmentDate, lCloneSegmentCabin
);
            FacBomManager::linkWithParent (lCloneSegmentDate, lCloneSegmentCabin);

            linkBookingClassesWithSegment (lCloneSegmentDate,
                                           lCloneSegmentCabin);

        }
    }
    return lCloneSegmentDate;
}

// /////////////////////////////////
void CmdCloneBomManager::linkBookingClassesWithSegment (SegmentDate& iCloneSegmentDate,
                                                       SegmentCabin& iCloneSegmentCabin) {

    // Browse the fare families to link the booking-classes to the
    // segment-cabin and to the segment-date
    const bool hasFareFamilyList =
        BomManager::hasList<FareFamily> (iCloneSegmentCabin);
    if (hasFareFamilyList == true) {
        const FareFamilyList_T& lCloneFFList =
            BomManager::getList<FareFamily> (iCloneSegmentCabin);
        for (FareFamilyList_T::const_iterator itCloneFF = lCloneFFList.begin();
              itCloneFF != lCloneFFList.end(); ++itCloneFF) {
            const FareFamily* lCloneFF_ptr = *itCloneFF;
            assert (lCloneFF_ptr != NULL);

            // Browse the list of booking classes
            const bool hasBookingClasslist =
                BomManager::hasList<BookingClass> (*lCloneFF_ptr);
            if (hasBookingClasslist == true) {
                const BookingClassList_T& lCloneBCList =
                    BomManager::getList<BookingClass> (*lCloneFF_ptr);
                for (BookingClassList_T::const_iterator itCloneBC =
                     lCloneBCList.begin();
                      itCloneBC != lCloneBCList.end(); ++itCloneBC) {
                    const BookingClass* lCloneBC_ptr = *itCloneBC;
                    assert (lCloneBC_ptr != NULL);

                    // Link the booking-class to the segment-cabin
                    stdair::FacBomManager::addToListAndMap (
                        iCloneSegmentCabin,
                        *lCloneBC_ptr);

                    // Link the booking-class to the segment-date
                    stdair::FacBomManager::addToListAndMap (iCloneSegmentDate
,
                                               *lCloneBC_ptr);
                }
            }
        }
    }
}

// /////////////////////////////////
SegmentCabin& CmdCloneBomManager::cloneSegmentCabin (const SegmentCabin& iSegmentCabin) {

    SegmentCabin& lCloneSegmentCabin =
        FacCloneBom<SegmentCabin>::instance().

```

```

    clone (iSegmentCabin);

    // Check whether there are fare family objects
    const bool hasFareFamilyList =
        BomManager::hasList<FareFamily> (iSegmentCabin);
    if (hasFareFamilyList == true) {
        // Browse the fare families
        const FareFamilyList_T& lFareFamilyList =
            BomManager::getList<FareFamily> (iSegmentCabin);
        for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
             itFF != lFareFamilyList.end(); ++itFF) {
            const FareFamily* lFF_ptr = *itFF;
            assert (lFF_ptr != NULL);

            // Clone the current fare-family
            FareFamily& lCloneFareFamily = cloneFareFamily (*lFF_ptr);
            FacBomManager::addToListAndMap (lCloneSegmentCabin, lCloneFareFamily)
        ;   FacBomManager::linkWithParent (lCloneSegmentCabin, lCloneFareFamily);
        }
    }

    return lCloneSegmentCabin;
}

// /////////////////////////////////
FareFamily& CmdCloneBomManager::
cloneFareFamily (const FareFamily& iFareFamily) {
    FareFamily& lCloneFareFamily =
        FacCloneBom<FareFamily>::instance().clone (iFareFamily);

    // Check whether there are booking classes objects
    const bool hasBookingClassList =
        BomManager::hasList<BookingClass> (iFareFamily);
    if (hasBookingClassList == true) {
        // Browse the list of booking classes
        const BookingClassList_T& lBookingClassList =
            BomManager::getList<BookingClass> (iFareFamily);
        for (BookingClassList_T::const_iterator itBookingClass =
             lBookingClassList.begin();
             itBookingClass != lBookingClassList.end(); ++itBookingClass) {
            const BookingClass* lBC_ptr = *itBookingClass;
            assert (lBC_ptr != NULL);

            // Clone the current booking class
            BookingClass& lCloneBookingClass = cloneBookingClass (*lBC_ptr);
            FacBomManager::addToListAndMap (lCloneFareFamily, lCloneBookingClass)
        ;   FacBomManager::linkWithParent (lCloneFareFamily, lCloneBookingClass);
        }
    }

    return lCloneFareFamily;
}

// /////////////////////////////////
BookingClass& CmdCloneBomManager::
cloneBookingClass (const BookingClass& iBookingClass) {

    BookingClass& lCloneBookingClass =
        FacCloneBom<BookingClass>::instance().
        clone (iBookingClass);

    return lCloneBookingClass;
}

// /////////////////////////////////
AirportPair& CmdCloneBomManager::
cloneAirportPair (const AirportPair& iAirportPair) {

    AirportPair& lCloneAirportPair =
        FacCloneBom<AirportPair>::instance().
        clone (iAirportPair);

    // Check whether there are date-period objects
    const bool hasDatePeriodList =
        BomManager::hasList<DatePeriod> (iAirportPair);
    if (hasDatePeriodList == true) {
        // Browse the date-periods
        const DatePeriodList_T& lDatePeriodList =
            BomManager::getList<DatePeriod> (iAirportPair);
        for (DatePeriodList_T::const_iterator itDatePeriod =
             lDatePeriodList.begin();
             itDatePeriod != lDatePeriodList.end(); ++itDatePeriod) {
            const DatePeriod* lDatePeriod_ptr = *itDatePeriod;
            assert (lDatePeriod_ptr != NULL);
    }
}

```

```

    // Clone the current date-period
    DatePeriod& lCloneDatePeriod = cloneDatePeriod (*lDatePeriod_ptr);
    FacBomManager::addToListAndMap (lCloneAirportPair, lCloneDatePeriod);
    FacBomManager::linkWithParent (lCloneAirportPair, lCloneDatePeriod);
}
}

return lCloneAirportPair;
}

// /////////////////////////////////
DatePeriod& CmdCloneBomManager::
cloneDatePeriod (const DatePeriod& iDatePeriod) {

    DatePeriod& lCloneDatePeriod =
        FacCloneBom<DatePeriod>::instance().clone (iDatePeriod);

    // Check whether there are pos-channel objects
    const bool hasPosChannelList =
        BomManager::hasList<PosChannel> (iDatePeriod);
    if (hasPosChannelList == true) {
        // Browse the pos-channels
        const PosChannelList_T& lPosChannelList =
            BomManager::getList<PosChannel> (iDatePeriod);
        for (PosChannelList_T::const_iterator itPosChannel =
            lPosChannelList.begin();
            itPosChannel != lPosChannelList.end(); ++itPosChannel) {
            const PosChannel* lPosChannel_ptr = *itPosChannel;
            assert (lPosChannel_ptr != NULL);

            // Clone the current pos-channel
            PosChannel& lClonePosChannel = clonePosChannel (*lPosChannel_ptr);
            FacBomManager::addToListAndMap (lCloneDatePeriod, lClonePosChannel);
            FacBomManager::linkWithParent (lCloneDatePeriod, lClonePosChannel);
        }
    }

    return lCloneDatePeriod;
}

// /////////////////////////////////
PosChannel& CmdCloneBomManager::
clonePosChannel (const PosChannel& iPosChannel) {

    PosChannel& lClonePosChannel =
        FacCloneBom<PosChannel>::instance().clone (iPosChannel);

    // Check whether there are time-period objects
    const bool hasTimePeriodList =
        BomManager::hasList<TimePeriod> (iPosChannel);
    if (hasTimePeriodList == true) {
        // Browse the time-periods
        const TimePeriodList_T& lTimePeriodList =
            BomManager::getList<TimePeriod> (iPosChannel);
        for (TimePeriodList_T::const_iterator itTimePeriod =
            lTimePeriodList.begin();
            itTimePeriod != lTimePeriodList.end(); ++itTimePeriod) {
            const TimePeriod* lTimePeriod_ptr = *itTimePeriod;
            assert (lTimePeriod_ptr != NULL);

            // Clone the current time-period
            TimePeriod& lCloneTimePeriod = cloneTimePeriod (*lTimePeriod_ptr);
            FacBomManager::addToListAndMap (lClonePosChannel, lCloneTimePeriod);
            FacBomManager::linkWithParent (lClonePosChannel, lCloneTimePeriod);
        }
    }

    return lClonePosChannel;
}

// /////////////////////////////////
TimePeriod& CmdCloneBomManager::
cloneTimePeriod (const TimePeriod& iTimePeriod) {

    TimePeriod& lCloneTimePeriod =
        FacCloneBom<TimePeriod>::instance().clone (iTimePeriod);

    // Check whether there are fare-feature objects
    const bool hasFareFeaturesList =
        BomManager::hasList<FareFeatures> (iTimePeriod);
    if (hasFareFeaturesList == true) {
        // Browse the fare-features
        const FareFeaturesList_T& lFareFeaturesList =
            BomManager::getList<FareFeatures> (iTimePeriod);
        for (FareFeaturesList_T::const_iterator itFF = lFareFeaturesList.begin();
            itFF != lFareFeaturesList.end(); ++itFF) {

```

```

const FareFeatures* lFF_ptr = *itFF;
assert (lFF_ptr != NULL);

// Clone the current fare-feature
FareFeatures& lCloneFareFeatures =
    cloneFeatures<FareFeatures> (*lFF_ptr);
FacBomManager::addToListAndMap (lCloneTimePeriod, lCloneFareFeatures)
;
FacBomManager::linkWithParent (lCloneTimePeriod, lCloneFareFeatures);
}
}

// Check whether there are yield-feature objects
const bool hasYieldFeaturesList =
    BomManager::hasList<YieldFeatures> (iTimePeriod);
if (hasYieldFeaturesList == true) {
// Browse the yield-features
const YieldFeaturesList_T& lYieldFeaturesList =
    BomManager::getList<YieldFeatures> (iTimePeriod);
for (YieldFeaturesList_T::const_iterator itYF =
     lYieldFeaturesList.begin();
     itYF != lYieldFeaturesList.end(); ++itYF) {
const YieldFeatures* lYF_ptr = *itYF;
assert (lYF_ptr != NULL);

// Clone the current yield-feature
YieldFeatures& lCloneYieldFeatures =
    cloneFeatures<YieldFeatures> (*lYF_ptr);
FacBomManager::addToListAndMap (lCloneTimePeriod, lCloneYieldFeatures)
;
FacBomManager::linkWithParent (lCloneTimePeriod, lCloneYieldFeatures);
}
}

return lCloneTimePeriod;
}

// ///////////////////////////////////////////////////////////////////
template <typename FEATURE_TYPE>
FEATURE_TYPE& CmdCloneBomManager::
cloneFeatures (const FEATURE_TYPE& iFeatures) {

FEATURE_TYPE& lCloneFeatures =
    FacCloneBom<FEATURE_TYPE>::instance().
    clone (iFeatures);

// Check whether there are airline-class list objects
const bool hasAirlineClassListList =
    BomManager::hasList<AirlineClassList> (iFeatures);
if (hasAirlineClassListList == true) {
// Browse the airline-class lists
const AirlineClassListList_T& lAirlineClassList =
    BomManager::getList<AirlineClassList> (iFeatures);
for (AirlineClassListList_T::const_iterator itACList =
     lAirlineClassList.begin();
     itACList != lAirlineClassList.end(); ++itACList) {
const AirlineClassList* lACList_ptr = *itACList;
assert (lACList_ptr != NULL);

// Clone the current airline-class list
AirlineClassList& lCloneAirlineClassList =
    cloneAirlineClassList (*lACList_ptr);
FacBomManager::addToListAndMap (lCloneFeatures,
                               lCloneAirlineClassList);
FacBomManager::linkWithParent (lCloneFeatures,
                               lCloneAirlineClassList);
}
}

return lCloneFeatures;
}

// ///////////////////////////////////////////////////////////////////
AirlineClassList& CmdCloneBomManager::
cloneAirlineClassList (const AirlineClassList& iAirlineClassList) {

AirlineClassList& lCloneAirlineClassList =
    FacCloneBom<AirlineClassList>::instance().
    clone (iAirlineClassList);

return lCloneAirlineClassList;
}

// ///////////////////////////////////////////////////////////////////
FlightPeriod& CmdCloneBomManager::
cloneFlightPeriod (const FlightPeriod& iFlightPeriod) {

```

```

FlightPeriod& lCloneFlightPeriod =
    FacCloneBom<FlightPeriod>::instance() .
    clone (iFlightPeriod);

// Check whether there are airline-class list objects
const bool hasSegmentPeriodList =
    BomManager::hasList<SegmentPeriod> (iFlightPeriod);
if (hasSegmentPeriodList == true) {
    // Browse the airline-class lists
    const SegmentPeriodList_T & lSegmentPeriodList =
        BomManager::getList<SegmentPeriod> (iFlightPeriod);
    for (SegmentPeriodList_T::const_iterator itSegmentPeriod =
        lSegmentPeriodList.begin();
        itSegmentPeriod != lSegmentPeriodList.end(); ++itSegmentPeriod) {
        const SegmentPeriod* lSegmentPeriod_ptr = *itSegmentPeriod;
        assert (lSegmentPeriod_ptr != NULL);

        // Clone the current airline-class list
        SegmentPeriod& lCloneSegmentPeriod =
            cloneSegmentPeriod (*lSegmentPeriod_ptr);
        FacBomManager::addToListAndMap (lCloneFlightPeriod,
                                       lCloneSegmentPeriod);
        FacBomManager::linkWithParent (lCloneFlightPeriod,
                                      lCloneSegmentPeriod);
    }
}

return lCloneFlightPeriod;
}

////////////////////////////////////////////////////////////////////////
SegmentPeriod& CmdCloneBomManager::
cloneSegmentPeriod (const SegmentPeriod& iSegmentPeriod) {

    SegmentPeriod& lCloneSegmentPeriod =
        FacCloneBom<SegmentPeriod>::instance() .
        clone (iSegmentPeriod);

    return lCloneSegmentPeriod;
}
}

```

## 6 C++ Class Storing the StdAir Context

```

/
////////////////////////////////////////////////////////////////////////
// Import section
////////////////////////////////////////////////////////////////////////
// STL
#include <cassert>
#include <sstream>
// Boost
#ifndef BOOST_VERSION
#include <boost/make_shared.hpp>
#else // BOOST_VERSION >= 103900
#include <boost/shared_ptr.hpp>
#endif // BOOST_VERSION >= 103900
// StdAir
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/factory/FacBom.hpp>
#include <stdair/factory/FacCloneBom.hpp>
#include <stdair/service/STDAIR_ServiceContext.hpp>

namespace stdair {

////////////////////////////////////////////////////////////////////////
STDAIR_ServiceContext::STDAIR_ServiceContext ()
: _cloneBomRoot (NULL),
  _persistentBomRoot (NULL),
  _initType (ServiceInitialisationType::NOT_YET_INITIALISED) {
    // Build the BomRoot object
    init();
}

////////////////////////////////////////////////////////////////////////
STDAIR_ServiceContext::
STDAIR_ServiceContext (const STDAIR_ServiceContext& iServiceContext)
: _cloneBomRoot (iServiceContext._cloneBomRoot),
  _persistentBomRoot (iServiceContext._persistentBomRoot),
  _initType (ServiceInitialisationType::NOT_YET_INITIALISED) {

```

```
    assert (false);
}

// STDAIR_ServiceContext::~STDAIR_ServiceContext() {
}

// void STDAIR_ServiceContext::init() {
//   initBomRoot();
//   initConfigHolder();
}

// void STDAIR_ServiceContext::initBomRoot() {
//   _persistentBomRoot = &FacBom<BomRoot>::instance().create();
//   initCloneBomRoot();
}

// void STDAIR_ServiceContext::initCloneBomRoot() {
//   _cloneBomRoot =
//     &FacCloneBom<BomRoot>::instance().clone(*_persistentBomRoot);
}

// void STDAIR_ServiceContext::initConfigHolder() {
//   _configHolderPtr = boost::make_shared<ConfigHolderStruct> ();
}

// const std::string STDAIR_ServiceContext::shortDisplay() const {
std::ostringstream oStr;
oStr << "STDAIR_ServiceContext -- " << _initType
     << " -- DB: " << _dbParams;
return oStr.str();
}

// const std::string STDAIR_ServiceContext::display() const {
std::ostringstream oStr;
oStr << shortDisplay();
return oStr.str();
}

// const std::string STDAIR_ServiceContext::describe() const {
return shortDisplay();
}

// BomRoot& STDAIR_ServiceContext::getPersistentBomRoot() const {
assert (_persistentBomRoot != NULL);
return *_persistentBomRoot;
}

// BomRoot& STDAIR_ServiceContext::getCloneBomRoot() const {
assert (_cloneBomRoot != NULL);
return *_cloneBomRoot;
}

// ConfigHolderStruct& STDAIR_ServiceContext::getConfigHolder() const {
assert (_configHolderPtr != NULL);
return *_configHolderPtr;
}
```

## 7 People

### 7.1 Project Admins (and Developers)

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## 7.3 Contributors

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## 7.4 Distribution Maintainers

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- [Debian](#): Emmanuel Bastien <os at ebastien.name> [\(N\)](#)

### Note

(N) - [Amadeus](#) employees.

## 8 Coding Rules

In the following sections we describe the naming conventions which are used for files, classes, structures, local variables, and global variables.

### 8.1 Default Naming Rules for Variables

Variables names follow Java naming conventions. Examples:

- lNumberOfPassengers
- lSeatAvailability

### 8.2 Default Naming Rules for Functions

Function names follow Java naming conventions. Example:

- int myFunctionName (const int& a, int b)

### 8.3 Default Naming Rules for Classes and Structures

Each new word in a class or structure name should always start with a capital letter and the words should be separated with an under-score. Abbreviations are written with capital letters. Examples:

- MyClassName
- MyStructName

## 8.4 Default Naming Rules for Files

Files are named after the C++ class names.

Source files are named using `.cpp` suffix, whereas header files end with `.hpp` extension. Examples:

- `FlightDate.hpp`
- `SegmentDate.cpp`

## 8.5 Default Functionality of Classes

All classes that are configured by input parameters should include:

- default empty constructor
- one or more additional constructor(s) that takes input parameters and initializes the class instance
- setup function, preferably named '`setup`' or '`set_parameters`'

Explicit destructor functions are not required, unless they are needed. It shall not be possible to use any of the other member functions unless the class has been properly initiated with the input parameters.

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## 9.1 GNU LESSER GENERAL PUBLIC LICENSE

### 9.1.1 Version 2.1, February 1999

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terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
```

```
This library is distributed in the hope that it will be useful,
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Lesser General Public License for more details.
```

```
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License along with this library; if not, write to the Free Software
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```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!

[Source](#)

## 10 Documentation Rules

### 10.1 General Rules

All classes in StdAir should be properly documented with Doxygen comments in include (.hpp) files. Source (.cpp) files should be documented according to a normal standard for well documented C++ code.

An example of how the interface of a class shall be documented in StdAir is shown here:

```
/*
 * \brief Brief description of MyClass here
 *
 * Detailed description of MyClass here. With example code if needed.
 */
class MyClass {
public:
    //! Default constructor
    MyClass(void) { setup_done = false; }

    /*
     * \brief Constructor that initializes the class with parameters
     *
     * Detailed description of the constructor here if needed
     *
     * \param[in] param1 Description of \a param1 here
     * \param[in] param2 Description of \a param2 here
     */
    MyClass(TYPE1 param1, TYPE2 param2) { setup(param1, param2); }
```

```

/*!
 * \brief Setup function for MyClass
 *
 * Detailed description of the setup function here if needed
 *
 * \param[in] param1 Description of \a param1 here
 * \param[in] param2 Description of \a param2 here
 */
void setup(TYPE1 param1, TYPE2 param2);

/*!!
 * \brief Brief description of memberFunction1
 *
 * Detailed description of memberFunction1 here if needed
 *
 * \param[in]      param1 Description of \a param1 here
 * \param[in]      param2 Description of \a param2 here
 * \param[in,out]  param3 Description of \a param3 here
 * \return Description of the return value here
 */
TYPE4 memberFunction1(TYPE1 param1, TYPE2 param2, TYPE3 &param3);

private:

    bool _setupDone;           /*!< Variable that checks if the class is properly
                                initialized with parameters */
    TYPE1 _privateVariable1;   //!!< Short description of _privateVariable1 here
    TYPE2 _privateVariable2;   //!!< Short description of _privateVariable2 here
};


```

## 10.2 File Header

All files should start with the following header, which include Doxygen's \file, \brief and \author tags, \$Date\$ and \$Revisions\$ CVS tags, and a common copyright note:

```

/*!
 * \file
 * \brief Brief description of the file here
 * \author Names of the authors who contributed to this code
 * \date Date
 *
 * Detailed description of the file here if needed.
 *
 * -----
 *
 * StdAir - C++ Standard Airline IT Object Library
 *
 * Copyright (C) 2009-2010 (\see authors file for a list of contributors)
 *
 * \see copyright file for license information
 *
 * -----
 */


```

## 10.3 Grouping Various Parts

All functions must be added to a Doxygen group in order to appear in the documentation. The following code example defines the group 'my\_group':

```

/*!
 * \defgroup my_group Brief description of the group here
 *
 * Detailed description of the group here
 */


```

The following example shows how to document the function myFunction and how to add it to the group my\_group:

```
/*!
 * \brief Brief description of myFunction here
 * \ingroup my_group
 *
 * Detailed description of myFunction here
 *
 * \param[in] param1 Description of \a param1 here
 * \param[in] param2 Description of \a param2 here
 * \return Description of the return value here
 */
TYPE3 myFunction(TYPE1 param1, TYPE2 &param2);
```

## 11 Main features

A short list of the main features of StdAir is given below sorted in different categories. Many more features and functions exist and for these we refer to the reference documentation.

### 11.1 Standard Airline IT Business Object Model (BOM)

- (Airline) Network-related classes:
  - Network, ReachableUniverse
- (Air) Travel-related classes:
  - TravelSolution, OriginDestination,
- (Airline) Inventory-related classes:
  - Inventory, FlightDate, SegmentDate, SegmentCabin, BookingClass, LegDate, LegCabin, Bucket
- (Airline) Schedule-related classes:
  - FlightPeriod, SegmentPeriod, LegPeriod
- (Simulated) Passenger-related demand classes:
  - DemandStream, BookingRequest
- (Air) Price-related classes:
  - YieldStore

### 11.2 Architecture of the StdAir library

- Separate structure and content classes
- `Boost.Fusion`

## 12 Make a Difference

**Do not ask what StdAir can do for you. Ask what you can do for StdAir.**

You can help us to develop the StdAir library. There are always a lot of things you can do:

- Start using StdAir
- Tell your friends about StdAir and help them to get started using it
- If you find a bug, report it to us (on the [dedicated GitHub's Web site](#)). Without your help we can never hope to produce a bug free code.

- Help us to improve the documentation by providing information about documentation bugs
- Answer support requests on the StdAir [issue lists](#) on GitHub. If you know the answer to a question, help others to overcome their StdAir problems.
- Help us to improve our algorithms. If you know of a better way (e.g., that is faster or requires less memory) to implement some of our algorithms, then let us know.
- Help to port StdAir to new platforms. If you manage to compile StdAir on a new platform, then tell how you did it.
- Send your code. If you have a good StdAir compatible code, which you can release under the LGPL, and you think it should be included in StdAir, then send it to the community.
- Become an StdAir developer. Send us (see the [People](#) page) an e-mail and tell what you can do for StdAir.

## 13 Make a new release

### 13.1 Introduction

This document describes briefly the recommended procedure of releasing a new version of StdAir using a Linux development machine and the GitHub project site.

The following steps are required to make a release of the distribution package.

### 13.2 Initialisation

Clone locally the full [Git project](#):

```
$ mkdir -p ~/dev/sim
$ cd ~/dev/sim
$ git clone git@github.com:airsim/stdair.git stdairgit # If SSH is allowed
$ git clone https://github.com/airsim/stdair.git stdairgit # If the firewall does not allow SSH
$ cd stdairgit
$ git checkout trunk
```

### 13.3 Branch creation

Create the branch, on your local clone, corresponding to the new release (say, 1.00.3):

```
cd ~/dev/sim/stdairgit
git checkout trunk
git checkout -b 1.00.3
```

Update the version in the various build system files, replacing 99.99.99 by the correct version number:

```
vi CMakeLists.txt
vi autogen.sh
```

Update the version and add a change-log in the ChangeLog and in the RPM specification files:

```
vi ChangeLog
vi stdair.spec
```

### 13.4 Commit and publish the release branch

Commit the new release:

```
cd ~/dev/sim/stdairgit
git add -A
git commit -m "[Release 1.00.3] Release of version 1.00.3."
git push
```

### 13.5 Update the change-log in the trunk as well

Update the change-log in the ChangeLog and RPM specification files:

```
cd ~/dev/sim/stdairgit
git checkout trunk
vi ChangeLog
vi stdair.spec
```

Commit the change-logs and publish the trunk (main development branch):

```
git commit -m "[Doc] Integrated the change-log of the release 1.00.3."
git push
```

### 13.6 Create distribution packages

Create the distribution packages using the following command:

```
cd ~/dev/sim/stdairgit
git checkout 1.00.3
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/stdair-1.00.3 \
-DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make check && make dist
```

This will configure, compile and check the package. The output packages will be named, for instance, stdair-1.00.3.tar.gz and stdair-1.00.3.tar.bz2.

### 13.7 Generation the RPM packages

Optionally, generate the RPM package (for instance, for [Fedora/RedHat](#)):

```
cd ~/dev/sim/stdairgit
git checkout 1.00.3
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/stdair-99.99.99 \
-DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make dist
```

To perform this step, rpm-build, rpmlint and rpmdevtools have to be available on the system.

```
cp stdair.spec ~/dev/packages/SPECS \
&& cp stdair-1.00.3.tar.bz2 ~/dev/packages/SOURCES
cd ~/dev/packages/SPECS
rpmbuild -ba stdair.spec
rpmlint -i ../SPECS/stdair.spec ../SRPMS/stdair-1.00.3-1.fc15.src.rpm \
..../RPMS/noarch/stdair-* ..../RPMS/i686/stdair-*
```

### 13.8 Update distributed change log

Update the NEWS and ChangeLog files with appropriate information, including what has changed since the previous release. Then commit and push the changes into the [StdAir's Git repository](#).

### 13.9 Create the binary package, including the documentation

Create the binary package, which includes HTML and PDF documentation, using the following command:

```
make package
```

The output binary package will be named, for instance, stdair-1.00.3-Linux.tar.bz2. That package contains both the HTML and PDF documentation. The binary package contains also the executables and shared libraries, as well as C++ header files, but all of those do not interest us for now.

### 13.10 Files on GitHub

GitHub allows to archive/generate [packages \(tar-balls\)](#) corresponding to Git tags.

### 13.11 Upload the documentation to GitHub

In order to update the Web site files:

```
$ export STDAIR_VER=1.00.3
$ cd ~/dev/sim/stdairgit
$ git checkout $STDAIR_VER
$ cd build
$ export INSTALL_BASEDIR=~/dev/deliveries
$ if [ -d /usr/lib64 ]; then LIBSUFFIX=64; fi
$ export LIBSUFFIX_4_CMAKE="-DLIB_SUFFIX=$LIBSUFFIX"
$ rm -rf build && mkdir build && cd build
$ cmake -DCMAKE_INSTALL_PREFIX=${INSTALL_BASEDIR}/stdair-$STDAIR_VER \
    -DCMAKE_BUILD_TYPE:STRING=Debug -DENABLE_TEST:BOOL=ON \
    -DINSTALL_DOC:BOOL=ON -DRUN_GCOV:BOOL=OFF ${LIBSUFFIX_4_CMAKE} ..
$ make check && make install
$ cd ..
$ git checkout gh-pages
$ rsync -av --del --exclude=.git ${INSTALL_BASEDIR}/share/doc/stdair/html/ ./
$ git checkout -- .gitignore README.md CNAME
$ git add .
$ git commit -m "[Doc] Updated the documentation for $STDAIR_VER"
$ git push
$ git branch -d gh-pages
```

## 14 Installation

### 14.1 Table of Contents

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## 14.2 Fedora/RedHat Linux distributions

Note that on **Fedora/RedHat** Linux distributions, RPM packages are available and can be installed with your usual package manager. For instance:

```
yum -y install stdair-devel stdair-doc
```

## 14.3 StdAir Requirements

StdAir should compile without errors or warnings on most GNU/Linux systems, on UNIX systems like Solaris SunOS, and on POSIX based environments for Microsoft Windows like Cygwin or MinGW with MSYS. It can be also built on Microsoft Windows NT/2000/XP/Vista/7 using Microsoft's Visual C++ .NET, but our support for this compiler is limited. For GNU/Linux, SunOS, Cygwin and MinGW we assume that you have at least the following GNU software installed on your computer:

- GNU Autotools:
  - `autoconf`,
  - `automake`,
  - `libtool`,
  - `make`, version 3.72.1 or later (check version with '`make --version`')
- **GCC** - GNU C++ Compiler (`g++`), version 4.3.x or later (check version with '`gcc --version`')
- **Boost** - C++ STL extensions, version 1.35 or later (check version with '`grep "define BOOST_LIB_VERSION" /usr/include/boost/version.hpp`')
- **MySQL** - Database client libraries, version 5.0 or later (check version with '`mysql --version`')
- **SOCI** - C++ database client library wrapper, version 3.0.0 or later (check version with '`soci-config --version`')

Optionally, you might need a few additional programs: **Doxygen**, **LaTeX**, **Dvips** and **Ghostscript**, to generate the HTML and PDF documentation.

We strongly recommend that you use recent stable releases of the GCC, if possible. We do not actively work on supporting older versions of the GCC, and they may therefore (without prior notice) become unsupported in future releases of StdAir.

## 14.4 Basic Installation

Briefly, the shell commands `'./cmake .. && make install'` should configure, build and install this package. The following more-detailed instructions are generic; see the '`README`' file for instructions specific to this package. Some packages provide this '`INSTALL`' file but do not implement all of the features documented below. The lack of an optional feature in a given package is not necessarily a bug. More recommendations for GNU packages can be found in the info page corresponding to "Makefile Conventions: (standards)Makefile Conventions".

The '`cmake`' shell script attempts to guess correct values for various system-dependent variables used during compilation. It uses those values to create a '`Makefile`' in each directory of the package. It may also create one or more '`.h`' files containing system-dependent definitions. Finally, it creates a '`CMakeCache.txt`' cache file that you can refer to in the future to recreate the current configuration, and files '`CMakeFiles`' containing compiler output (useful mainly for debugging '`cmake`').

It can also use an optional file (typically called '`config.cache`' and enabled with '`--cache-file=config.cache`' or simply '`-C`') that saves the results of its tests to speed up reconfiguring. Caching is disabled by default to prevent problems with accidental use of stale cache files.

If you need to do unusual things to compile the package, please try to figure out how '`configure`' could check whether to do them, and mail diffs or instructions to the address given in the '`README`' so they can be considered for the

next release. If you are using the cache, and at some point '`config.cache`' contains results you don't want to keep, you may remove or edit it.

The file '`CMakeLists.txt`' is used to create the '`Makefile`' files.

The simplest way to compile this package is:

1. 'cd' to the directory containing the package's source code and type '`./cmake ..`' to configure the package for your system. Running '`cmake`' is generally fast. While running, it prints some messages telling which features it is checking for.
2. Type '`make`' to compile the package.
3. Optionally, type '`make check`' to run any self-tests that come with the package, generally using the just-built uninstalled binaries.
4. Type '`make install`' to install the programs and any data files and documentation. When installing into a prefix owned by root, it is recommended that the package be configured and built as a regular user, and only the '`make install`' phase executed with root privileges.
5. You can remove the program binaries and object files from the source code directory by typing '`make clean`'. To also remove the files that '`configure`' created (so you can compile the package for a different kind of computer), type '`make distclean`'. There is also a '`make maintainer-clean`' target, but that is intended mainly for the package's developers. If you use it, you may have to get all sorts of other programs in order to regenerate files that came with the distribution.
6. Often, you can also type '`make uninstall`' to remove the installed files again. In practice, not all packages have tested that uninstallation works correctly, even though it is required by the GNU Coding Standards.

## 14.5 Compilers and Options

Some systems require unusual options for compilation or linking that the '`cmake`' script does not know about. Run '`./cmake -help`' for details on some of the pertinent environment variables.

You can give '`cmake`' initial values for configuration parameters by setting variables in the command line or in the environment. Here is an example:

```
./cmake CC=c99 CFLAGS=-g LIBS=-lposix
```

See also

[Defining Variables](#) for more details.

## 14.6 Compiling For Multiple Architectures

You can compile the package for more than one kind of computer at the same time, by placing the object files for each architecture in their own directory. To do this, you can use GNU '`make`'. 'cd' to the directory where you want the object files and executables to go and run the '`configure`' script. '`configure`' automatically checks for the source code in the directory that '`configure`' is in and in '`..`'. This is known as a "VPATH" build.

With a non-GNU '`make`', it is safer to compile the package for one architecture at a time in the source code directory. After you have installed the package

for one architecture, use 'make distclean' before reconfiguring for another architecture.

On Mac OS X 10.5 and later systems, you can create libraries and executables that work on multiple system types-known as "fat" or "universal" binaries-by specifying multiple '-arch' options to the compiler but only a single '-arch' option to the preprocessor. Like this:

```
./configure CC="gcc -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
CXX="g++ -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
CPP="gcc -E" CXXCPP="g++ -E"
```

This is not guaranteed to produce working output in all cases, you may have to build one architecture at a time and combine the results using the 'lipo' tool if you have problems.

## 14.7 Installation Names

By default, 'make install' installs the package's commands under '/usr/local/bin', include files under '/usr/local/include', etc. You can specify an installation prefix other than '/usr/local' by giving 'configure' the option '-prefix=PREFIX', where PREFIX must be an absolute file name.

You can specify separate installation prefixes for architecture-specific files and architecture-independent files. If you pass the option '-exec-prefix=PREFIX' to 'configure', the package uses PREFIX as the prefix for installing programs and libraries. Documentation and other data files still use the regular prefix.

In addition, if you use an unusual directory layout you can give options like '-bindir=DIR' to specify different values for particular kinds of files. Run 'configure -help' for a list of the directories you can set and what kinds of files go in them. In general, the default for these options is expressed in terms of '\${prefix}', so that specifying just '-prefix' will affect all of the other directory specifications that were not explicitly provided.

The most portable way to affect installation locations is to pass the correct locations to 'configure'; however, many packages provide one or both of the following shortcuts of passing variable assignments to the 'make install' command line to change installation locations without having to reconfigure or recompile.

The first method involves providing an override variable for each affected directory. For example, 'make install prefix=/alternate/directory' will choose an alternate location for all directory configuration variables that were expressed in terms of '\${prefix}'. Any directories that were specified during 'configure', but not in terms of '\${prefix}', must each be overridden at install time for the entire installation to be relocated. The approach of makefile variable overrides for each directory variable is required by the GNU Coding Standards, and ideally causes no recompilation. However, some platforms have known limitations with the semantics of shared libraries that end up requiring recompilation when using this method, particularly noticeable in packages that use GNU Libtool.

The second method involves providing the 'DESTDIR' variable. For example, 'make install DESTDIR=/alternate/directory' will prepend '/alternate/directory' before all installation names. The approach of 'DESTDIR' overrides is not required by the GNU Coding Standards, and does not work on platforms that have drive letters. On the other hand, it does better at avoiding recompilation

issues, and works well even when some directory options were not specified in terms of ' `${prefix}`' at 'configure' time.

## 14.8 Optional Features

If the package supports it, you can cause programs to be installed with an extra prefix or suffix on their names by giving 'cmake' the option '`-program-prefix=PREFIX`' or '`-program-suffix=SUFFIX`'.

Some packages pay attention to '`-enable-FEATURE`' options to 'configure', where FEATURE indicates an optional part of the package. They may also pay attention to '`-with-PACKAGE`' options, where PACKAGE is something like '`gnu-as`' or '`x`' (for the X Window System). The 'README' should mention any '`-enable-`' and '`-with-`' options that the package recognizes.

For packages that use the X Window System, 'configure' can usually find the X include and library files automatically, but if it doesn't, you can use the 'configure' options '`-x-includes=DIR`' and '`-x-libraries=DIR`' to specify their locations.

Some packages offer the ability to configure how verbose the execution of 'make' will be. For these packages, running '`./configure -enable-silent-rules`' sets the default to minimal output, which can be overridden with '`make V=1`'; while running '`./configure -disable-silent-rules`' sets the default to verbose, which can be overridden with '`make V=0`'.

## 14.9 Particular systems

On HP-UX, the default C compiler is not ANSI C compatible. If GNU CC is not installed, it is recommended to use the following options in order to use an ANSI C compiler:

```
./configure CC="cc -Ae -D_XOPEN_SOURCE=500"
```

and if that doesn't work, install pre-built binaries of GCC for HP-UX.

On OSF/1 a.k.a. Tru64, some versions of the default C compiler cannot parse its '`<wchar.h>`' header file. The option '`-nodtk`' can be used as a workaround. If GNU CC is not installed, it is therefore recommended to try

```
./configure CC="cc"
```

and if that doesn't work, try

```
./configure CC="cc -nodtk"
```

On Solaris, don't put '`/usr/ucb`' early in your 'PATH'. This directory contains several dysfunctional programs; working variants of these programs are available in '`/usr/bin`'. So, if you need '`/usr/ucb`' in your 'PATH', put it after '`/usr/bin`'.

On Haiku, software installed for all users goes in '`/boot/common`', not '`/usr/local`'. It is recommended to use the following options:

```
./cmake -DCMAKE_INSTALL_PREFIX=/boot/common
```

## 14.10 Specifying the System Type

There may be some features 'configure' cannot figure out automatically, but needs to determine by the type of machine the package will run on. Usually, assuming the package is built to be run on the *same* architectures, 'configure' can figure that out, but if it prints a message saying it cannot guess the machine type, give it the '-build=TYPE' option. TYPE can either be a short name for the system type, such as 'sun4', or a canonical name which has the form CPU-COMPANY-SYSTEM

where SYSTEM can have one of these forms:

- OS
- KERNEL-OS

See the file 'config.sub' for the possible values of each field. If 'config.sub' isn't included in this package, then this package doesn't need to know the machine type.

If you are *building* compiler tools for cross-compiling, you should use the option '-target=TYPE' to select the type of system they will produce code for.

If you want to *use* a cross compiler, that generates code for a platform different from the build platform, you should specify the "host" platform (i.e., that on which the generated programs will eventually be run) with '-host=TYPE'.

## 14.11 Sharing Defaults

If you want to set default values for 'configure' scripts to share, you can create a site shell script called 'config.site' that gives default values for variables like 'CC', 'cache\_file', and 'prefix'. 'configure' looks for 'PREFIX/share/config.site' if it exists, then 'PREFIX/etc/config.site' if it exists. Or, you can set the 'CONFIG\_SITE' environment variable to the location of the site script. A warning: not all 'configure' scripts look for a site script.

## 14.12 Defining Variables

Variables not defined in a site shell script can be set in the environment passed to 'configure'. However, some packages may run configure again during the build, and the customized values of these variables may be lost. In order to avoid this problem, you should set them in the 'configure' command line, using 'VAR=value'. For example:

```
./configure CC=/usr/local2/bin/gcc
```

causes the specified 'gcc' to be used as the C compiler (unless it is overridden in the site shell script).

Unfortunately, this technique does not work for 'CONFIG\_SHELL' due to an Autoconf bug. Until the bug is fixed you can use this workaround:

```
CONFIG_SHELL=/bin/bash /bin/bash ./configure CONFIG_SHELL=/bin/bash
```

## 14.13 'cmake' Invocation

'cmake' recognizes the following options to control how it operates.

- '**-help**', '**-h**' print a summary of all of the options to '**configure**', and exit.
- '**-help=short**', '**-help=recursive**' print a summary of the options unique to this package's '**configure**', and exit. The '**short**' variant lists options used only in the top level, while the '**recursive**' variant lists options also present in any nested packages.
- '**-version**', '**-V**' print the version of Autoconf used to generate the '**configure**' script, and exit.
- '**-cache-file=FILE**' enable the cache: use and save the results of the tests in FILE, traditionally '**config.cache**'. FILE defaults to '**/dev/null**' to disable caching.
- '**-config-cache**', '**-C**' alias for '**-cache-file=config.cache**'.
- '**-quiet**', '**-silent**', '**-q**' do not print messages saying which checks are being made. To suppress all normal output, redirect it to '**/dev/null**' (any error messages will still be shown).
- '**-srcdir=DIR**' look for the package's source code in directory DIR. Usually '**configure**' can determine that directory automatically.
- '**-prefix=DIR**' use DIR as the installation prefix.

See also

[Installation Names](#) for more details, including other options available for fine-tuning the installation locations.

- '**-no-create**', '**-n**' run the configure checks, but stop before creating any output files.

'**cmake**' also accepts some other, not widely useful, options. Run '**cmake -help**' for more details.

The '**cmake**' script produces an ouput like this:

```
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/stdair-0.50.0 \
-DBUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
-- The C compiler identification is GNU
-- The CXX compiler identification is GNU
-- Check for working C compiler: /usr/lib64/ccache/gcc
-- Check for working C compiler: /usr/lib64/ccache/gcc -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working CXX compiler: /usr/lib64/ccache/c++
-- Check for working CXX compiler: /usr/lib64/ccache/c++ -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Requires Git without specifying any version
-- Current Git revision name: e8beb4d11ff9b1af6b3f3e9ff1e92250aee0291a trunk
-- Requires PythonLibs-2.7
-- Found PythonLibs: /usr/lib64/libpython2.7.so (Required is at least version "2.7")
-- Found PythonLibs 2.7
-- Requires Boost-1.41
-- Boost version: 1.46.0
-- Found the following Boost libraries:
--   program_options
--   date_time
--   iostreams
--   serialization
--   filesystem
--   unit_test_framework
--   python
-- Found Boost version: 1.46.0
-- Found BoostWrapper: /usr/include (Required is at least version "1.41")
```

```
-- Requires ZeroMQ-2.0
-- Found ZeroMQ: /usr/lib64/libzmq.so (Required is at least version "2.0")
-- Found ZeroMQ version: 2.1
-- Requires MySQL-5.1
-- Using mysql-config: /usr/bin/mysql_config
-- Found MySQL: /usr/lib64/mysql/libmysqlclient.so (Required is at least version "5.1")
-- Found MySQL version: 5.5.14
-- Requires SOCI-3.0
-- Using soci-config: /usr/bin/soci-config
-- SOCI headers are buried
-- Found SOCI: /usr/lib64/libsoci_core.so (Required is at least version "3.0")
-- Found SOCIMySQL: /usr/lib64/libsoci_mysql.so (Required is at least version "3.0")
-- Found SOCI with MySQL back-end support version: 3.0.0
-- Requires Doxygen-1.7
-- Found Doxygen: /usr/bin/doxygen
-- Found DoxygenWrapper: /usr/bin/doxygen (Required is at least version "1.7")
-- Found Doxygen version: 1.7.4
-- Had to set the linker language for 'stdairlib' to CXX
-- Had to set the linker language for 'stdairuicllib' to CXX
-- Test 'StdAirTest' to be built with 'MPBomRoot.cpp;MPIInventory.cpp;StandardAirlineITTestSuite.cpp'
-- =====
-- -----
-- --- Project Information ---
-- -----
-- PROJECT_NAME ..... : stdair
-- PACKAGE_PRETTY_NAME ..... : StdAir
-- PACKAGE ..... : stdair
-- PACKAGE_NAME ..... : STDAIR
-- PACKAGE_VERSION ..... : 0.50.0
-- GENERIC_LIB_VERSION ..... : 0.50.0
-- GENERIC_LIB_SOVERSION ..... : 99.99
-- 
-- -----
-- --- Build Configuration ---
-- -----
-- Modules to build ..... : stdair
-- Libraries to build/install ..... : stdairlib;stdairuicllib
-- Binaries to build/install ..... : stdair
-- Modules to test ..... : stdair
-- Binaries to test ..... : StdAirTesttst
-- 
-- * Module ..... : stdair
--   + Layers to build ..... : .;basic;bom;factory;dbadaptor;command;service
--   + Dependencies on other layers :
--   + Libraries to build/install .. : stdairlib;stdairuicllib
--   + Executables to build/install : stdair
--   + Tests to perform ..... : StdAirTesttst
-- 
-- BUILD_SHARED_LIBS ..... : ON
-- CMAKE_BUILD_TYPE ..... : Debug
-- * CMAKE_C_FLAGS ..... :
-- * CMAKE_CXX_FLAGS ..... : -O2 -g -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector-strong --param=ssp-buffer-size=4 -fno-strict-aliasing
-- * BUILD_FLAGS ..... :
-- * COMPILE_FLAGS ..... :
-- CMAKE_MODULE_PATH ..... : /home/user/dev/sim/stdair/stdairgithub/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/user/dev/deliveries/stdair-0.50.0
-- 
-- * Doxygen:
--   - DOXYGEN_VERSION ..... : 1.7.4
--   - DOXYGEN_EXECUTABLE ..... : /usr/bin/doxygen
--   - DOXYGEN_DOT_EXECUTABLE ..... : /usr/bin/dot
--   - DOXYGEN_DOT_PATH ..... : /usr/bin
-- 
-- -----
-- --- Installation Configuration ---
-- -----
-- INSTALL_LIB_DIR ..... : /home/user/dev/deliveries/stdair-0.50.0/lib64
-- INSTALL_BIN_DIR ..... : /home/user/dev/deliveries/stdair-0.50.0/bin
-- INSTALL_INCLUDE_DIR ..... : /home/user/dev/deliveries/stdair-0.50.0/include
-- INSTALL_DATA_DIR ..... : /home/user/dev/deliveries/stdair-0.50.0/share
-- INSTALL_SAMPLE_DIR ..... : /home/user/dev/deliveries/stdair-0.50.0/share/stdair/samples
-- INSTALL_DOC ..... : ON
```

```

-- 
-- -----
-- --- Packaging Configuration ---
-- -----
-- CPACK_PACKAGE_CONTACT ..... : Denis Arnaud <denis.arnaud_stdair - at - m4x dot org>
-- CPACK_PACKAGE_VENDOR ..... : Denis Arnaud
-- CPACK_PACKAGE_VERSION ..... : 0.50.0
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/user/dev/sim/stdair/stdairgithub/README
-- CPACK_RESOURCE_FILE_LICENSE .... : /home/user/dev/sim/stdair/stdairgithub/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : stdair-0.50.0
-- 

-- -----
-- --- External libraries ---
-- -----


-- * Python:
-- - PYTHONLIBS_VERSION ..... : 2.7
-- - PYTHON_LIBRARIES ..... : /usr/lib64/libpython2.7.so
-- - PYTHON_INCLUDE_PATH ..... : /usr/include/python2.7
-- - PYTHON_INCLUDE_DIRS ..... : /usr/include/python2.7
-- - PYTHON_DEBUG_LIBRARIES .... :
-- - Python_ADDITIONAL_VERSIONS . :

-- * ZeroMQ:
-- - ZeroMQ_VERSION ..... : 2.1
-- - ZeroMQ_LIBRARIES ..... : /usr/lib64/libzmq.so
-- - ZeroMQ_INCLUDE_DIR ..... : /usr/include

-- * Boost:
-- - Boost_VERSION ..... : 104600
-- - Boost_LIB_VERSION ..... : 1_46
-- - Boost_HUMAN_VERSION ..... : 1.46.0
-- - Boost_INCLUDE_DIRS ..... : /usr/include
-- - Boost required components .. : program_options;date_time;iostreams;serialization;filesystem;unit_test_f
-- - Boost required libraries ... : optimized;/usr/lib64/libboost_iostreams-mt.so;debug;/usr/lib64/libboost_
-- 

-- * MySQL:
-- - MYSQL_VERSION ..... : 5.5.14
-- - MYSQL_INCLUDE_DIR ..... : /usr/include/mysql
-- - MYSQL_LIBRARIES ..... : /usr/lib64/mysql/libmysqlclient.so
-- 

-- * SOCI:
-- - SOCI_VERSION ..... : 3.0.0
-- - SOCI_INCLUDE_DIR ..... : /usr/include/soci
-- - SOCIMYSQL_INCLUDE_DIR ..... : /usr/include/soci
-- - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_core.so
-- - SOCIMYSQL_LIBRARIES ..... : /usr/lib64/libsoci_mysql.so
-- 

-- Change a value with: cmake -D<Variable>=<Value>
-- =====
-- 
-- Configuring done
-- Generating done
-- Build files have been written to: /home/user/dev/sim/stdair/stdairgithub/build

```

It is recommended that you check if your library has been compiled and linked properly and works as expected. To do so, you should execute the testing process 'make check'. As a result, you should obtain a similar report:

```

[ 0%] Built target hdr_cfg_stdair
[ 97%] Built target stdairlib
[100%] Built target StdAirTesttst
Scanning dependencies of target check_stdairtst
Test project /home/user/dev/sim/stdair/stdairgithub/build/test/stdair
    Start 1: StdAirTesttst
1/1 Test #1: StdAirTesttst ..... Passed      0.02 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.27 sec

```

```
[100%] Built target check_stdairtst
Scanning dependencies of target check
[100%] Built target check
```

Check if all the executed tests PASSED. If not, please contact us by filling a [bug-report](#).

Finally, you should install the compiled and linked library, include files and (optionally) HTML and PDF documentation by typing:

```
make install
```

Depending on the PREFIX settings during configuration, you might need the root (administrator) access to perform this step.

Eventually, you might invoke the following command

```
make clean
```

to remove all files created during compilation process, or even

```
cd ~/dev/sim/stdairgit
rm -rf build && mkdir build
cd build
```

to remove everything.

## 15 Linking with StdAir

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- [Introduction](#)
- [Using the pkg-config command](#)
- [Using the stdair-config script](#)
- [M4 macro for the GNU Autotools](#)
- [Using StdAir with dynamic linking](#)

### 15.2 Introduction

There are two convenient methods of linking your programs with the StdAir library. The first one employs the 'pkg-config' command (see <http://pkgconfig.freedesktop.org/>), whereas the second one uses 'stdair-config' script. These methods are shortly described below.

### 15.3 Using the pkg-config command

'pkg-config' is a helper tool used when compiling applications and libraries. It helps you insert the correct compiler and linker options. The syntax of the 'pkg-config' is as follows:

```
pkg-config <options> <library_name>
```

For instance, assuming that you need to compile an StdAir based program 'my\_prog.cpp', you should use the following command:

```
g++ `pkg-config --cflags stdair` -o my_prog my_prog.cpp \
`pkg-config --libs stdair`
```

For more information see the 'pkg-config' man pages.

## 15.4 Using the stdair-config script

StdAir provides a shell script called `stdair-config`, which is installed by default in `'$prefix/bin'` (`'/usr/local/bin'`) directory. It can be used to simplify compilation and linking of StdAir based programs. The usage of this script is quite similar to the usage of the `'pkg-config'` command.

Assuming that you need to compile the program `'my_prog.cpp'` you can now do that with the following command:

```
g++ `stdair-config --cflags` -o my_prog my_prog.cpp `stdair-config --libs`
```

A list of `'stdair-config'` options can be obtained by typing:

```
stdair-config --help
```

If the `'stdair-config'` command is not found by your shell, you should add its location `'$prefix/bin'` to the PATH environment variable, e.g.:

```
export PATH=/usr/local/bin:$PATH
```

## 15.5 M4 macro for the GNU Autotools

A M4 macro file is delivered with StdAir, namely `'stdair.m4'`, which can be found in, e.g., `'/usr/share/aclocal'`. When used by a `'configure'` script, thanks to the `'AM_PATH_STDAIR'` macro (specified in the M4 macro file), the following Makefile variables are then defined:

- `'STDAIR_VERSION'` (e.g., defined to 0.2.0)
- `'STDAIR_CFLAGS'` (e.g., defined to `'-I${prefix}/include'`)
- `'STDAIR_LIBS'` (e.g., defined to `'-L${prefix}/lib -lstdair'`)

## 15.6 Using StdAir with dynamic linking

When using static linking some of the library routines in StdAir are copied into your executable program. This can lead to unnecessary large executables. To avoid having too large executable files you may use dynamic linking instead. Dynamic linking means that the actual linking is performed when the program is executed. This requires that the system is able to locate the shared StdAir library file during your program execution. If you install the StdAir library using a non-standard prefix, the `'LD_LIBRARY_PATH'` environment variable might be used to inform the linker of the dynamic library location, e.g.:

```
export LD_LIBRARY_PATH=<StdAir installation prefix>/lib:$LD_LIBRARY_PATH
```

# 16 Test Rules

This section describes how the functionality of the StdAir library should be verified. In the `'test/stdair'` subdirectory, test source files are provided. All functionality should be tested using these test source files.

## 16.1 The Test Source Files

Each new StdAir module/class should be accompanied with a test source file. The test source file is an implementation in C++ that tests the functionality of a function/class or a group of functions/classes called test suites. The test source file should test relevant parameter settings and input/output relations to guarantee correct functionality of the corresponding classes/functions. The test source files should be maintained using version control and updated whenever new functionality is added to the StdAir library.

The test source file should print relevant data to a standard output that can be used to verify the functionality. All relevant parameter settings should be tested.

The test source file should be placed in the 'test/stdair' subdirectory and should have a name ending with 'TestSuite.cpp'.

## 16.2 The Reference File

Consider a test source file named 'YieldTestSuite.cpp'. A reference file named 'YieldTestSuite.ref' should accompany the test source file. The reference file contains a reference printout of the standard output generated when running the test program. The reference file should be maintained using version control and updated according to the test source file.

## 16.3 Testing StdAir Library

One can compile and execute all test programs from the 'test/stdair' sub-directory by typing:

```
% make check
```

after successful compilation of the StdAir library.

# 17 Users Guide

## 17.1 Table of Contents

- [Introduction](#)
- [Get Started](#)
  - [Get the StdAir library](#)
  - [Build the StdAir project](#)
  - [Build and Run the Tests](#)
  - [Install the StdAir Project \(Binaries, Documentation\)](#)
- [Exploring the Predefined BOM Tree](#)
  - [Airline Distribution BOM Tree](#)
  - [Airline Network BOM Tree](#)
  - [Airline Inventory BOM Tree](#)
- [Extending the BOM Tree](#)

## 17.2 Introduction

The StdAir library contains classes for airline business management. This document does not cover all the aspects of the StdAir library. It does however explain the most important things you need to know in order to start using StdAir.

## 17.3 Get Started

### 17.3.1 Get the StdAir library

### 17.3.2 Build the StdAir project

To build StdAir, go to the top directory (where the StdAir package has been un-packed), and issue the following commands only once:

```
$ export INSTALL_BASEDIR=~/dev/deliveries
$ export STDAIR_VER=99.99.99
$ if [ -d /usr/lib64 ]; then LIBSUFFIX=64; fi
$ export LIBSUFFIX_4_CMAKE="-DLIB_SUFFIX=$LIBSUFFIX"
$ rm -rf build && mkdir build && cd build
$ cmake -DCMAKE_INSTALL_PREFIX=${INSTALL_BASEDIR}/stdair-$STDAIR_VER \
        -DCMAKE_BUILD_TYPE:STRING=Debug -DENABLE_TEST:BOOL=ON \
        -DINSTALL_DOC:BOOL=ON -DRUN_GCOV:BOOL=OFF ${LIBSUFFIX_4_CMAKE} ...
```

Then, everytime you change the source code:

```
$ make check
```

When everything is fine, install StdAir locally:

```
$ make install
```

### 17.3.3 Build and Run the Tests

#### 17.3.4 Install the StdAir Project (Binaries, Documentation)

### 17.4 Exploring the Predefined BOM Tree

StdAir predefines a BOM (Business Object Model) tree specific to the airline IT arena.

#### 17.4.1 Airline Distribution BOM Tree

- `stdair::TravelSolutionStruct`

#### 17.4.2 Airline Network BOM Tree

- `stdair::FlightPeriod`

#### 17.4.3 Airline Inventory BOM Tree

- `stdair::Inventory`
- `stdair::FlightDate`

##### 17.4.3.1 Airline Inventory Marketing BOM Tree

- `stdair::SegmentDate`
- `stdair::SegmentCabin`
- `stdair::FareFamily`
- `stdair::BookingClass`

##### 17.4.3.2 Airline Inventory Operating BOM Tree

- `stdair::LegDate`
- `stdair::LegCabin`
- `stdair::Bucket`

## 17.5 Extending the BOM Tree

# 18 Supported Systems

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- [StdAir 3.10.x](#)
  - [Linux Systems](#)
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    - \* [Gentoo Linux with MKL](#)
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- [StdAir 3.9.1](#)
- [StdAir 3.9.0](#)
- [StdAir 3.8.1](#)

## 18.2 Introduction

This page is intended to provide a list of StdAir supported systems, i.e. the systems on which configuration, installation and testing process of the StdAir library has been sucessful. Results are grouped based on minor release number. Therefore, only the latest tests for bug-fix releases are included. Besides, the information on this page is divided into sections dependent on the operating system.

Where necessary, some extra information is given for each tested configuration, e.g. external libraries installed, configuration commands used, etc.

If you manage to compile, install and test the StdAir library on a system not mentioned below, please let us know, so we could update this database.

## 18.3 StdAir 3.10.x

### 18.3.1 Linux Systems

#### 18.3.1.1 Fedora Core 4 with ATLAS

- **Platform:** Intel Pentium 4

- **Operating System:** Fedora Core 4 (x86)
- **Compiler:** g++ (GCC) 4.0.2 20051125
- **StdAir release:** 3.10.0
- **External Libraries:** From FC4 distribution:
  - fftw3.i386-3.0.1-3
  - fftw3-devel.i386-3.0.1-3
  - atlas-sse2.i386-3.6.0-8.fc4
  - atlas-sse2-devel.i386-3.6.0-8.fc4
  - blas.i386-3.0-35.fc4
  - lapack.i386-3.0-35.fc4

- **Tests Status:** All tests PASSED

- **Comments:** StdAir configured with:

```
% CXXFLAGS="-O3 -pipe -march=pentium4" ./configure
```

- **Date:** March 7, 2006

- **Tester:** Tony Ottosson

### 18.3.1.2 Gentoo Linux with ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler(s):** g++ (GCC) 3.4.5
- **StdAir release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:
  - sci-libs/acml-3.0.0

- **Tests Status:** All tests PASSED

- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ACML
% eselect lapack set ACML
```

StdAir configured with:

```
% export CPPFLAGS="-I/usr/include/acml"
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 18.3.1.3 Gentoo Linux with ATLAS

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **StdAir release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:
  - sci-libs/fftw-3.1
  - sci-libsblas-atlas-3.6.0-r1
  - sci-libslapack-atlas-3.6.0
- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ATLAS
% eselect lapack set ATLAS
```

StdAir configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 18.3.1.4 Gentoo Linux with MKL

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler:** g++ (GCC) 3.4.5
- **StdAir release:** 3.10.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory  
  : /opt/intel/mkl/8.0.1
- **Tests Status:** All tests PASSED
- **Comments:** StdAir configured using the following commands:

```
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/32"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** February 28, 2006
- **Tester:** Adam Piatyszek (ediap)

### 18.3.1.5 Gentoo Linux with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **StdAir release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:

```
- sci-libs/fftw-3.1
- sci-libsblas-reference-19940131-r2
- sci-libs/cblas-reference-20030223
- sci-libs/lapack-reference-3.0-r2
```

- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% blas-config reference
% lapack-config reference
```

StdAir configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

### 18.3.1.6 Red Hat Enterprise Linux with StdAir External

- **Platform:** Intel Pentium 4
- **Operating System:** Red Hat Enterprise Linux AS release 4 (Nahant Update 2)
- **Compiler:** g++ (GCC) 3.4.4 20050721 (Red Hat 3.4.4-2)
- **StdAir release:** 3.10.0
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from StdAir External 2.1.1 package
- **Tests Status:** All tests PASSED
- **Date:** March 7, 2006
- **Tester:** Erik G. Larsson

### 18.3.1.7 SUSE Linux 10.0 with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86\_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **StdAir release:** 3.10.0
- **External Libraries:** BLAS, LAPACK and FFTW libraries installed from OpenSuse 10.0 RPM repository:
  - blas-3.0-926
  - lapack-3.0-926
  - fftw3-3.0.1-114

- fftw3-threads-3.0.1-114
- fftw3-devel-3.0.1-114

- **Tests Status:** All tests PASSED

- **Comments:** StdAir configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% ./configure --with-lapack="/usr/lib64/liblapack.so.3"
```

- **Date:** March 1, 2006

- **Tester:** Adam Piatyszek (ediap)

#### 18.3.1.8 SUSE Linux 10.0 with MKL

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)

- **Operating System:** SUSE Linux 10.0 (x86\_64)

- **Compiler(s):** g++ (GCC) 4.0.2

- **StdAir release:** 3.10.0

- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory ↵  
: /opt/intel/mkl/8.0.1

- **Tests Status:** All tests PASSED

- **Comments:** StdAir configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/em64t"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** March 1, 2006

- **Tester:** Adam Piatyszek (ediap)

#### 18.3.2 Windows Systems

##### 18.3.2.1 Microsoft Windows XP with Cygwin

- **Platform:** AMD Sempron 3000+

- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4

- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)

- **StdAir release:** 3.10.1

- **External Libraries:** Installed from Cygwin's repository:

- fftw-3.0.1-2
- fftw-dev-3.0.1-1
- lapack-3.0-4

- **Tests Status:** All tests PASSED

- **Comments:** Only static library can be built. StdAir configured with:

```
% ./configure
```

- **Date:** March 31, 2006

- **Tester:** Adam Piatyszek (ediap)

### 18.3.2.2 Microsoft Windows XP with Cygwin and ATLAS

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **StdAir release:** 3.10.1
- **External Libraries:** Installed from Cygwin's repository:
  - fftw-3.0.1-2
  - fftw-dev-3.0.1-1

ATLAS BLAS and LAPACK libraries from StdAir External 2.1.1 package configured using:

```
% ./configure --enable-atlas --disable-fftw
```

- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. StdAir configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% ./configure
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

### 18.3.2.3 Microsoft Windows XP with Cygwin and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **StdAir release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. StdAir configured with:

```
% export LDFLAGS="-L/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 18.3.2.4 Microsoft Windows XP with MinGW, MSYS and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **StdAir release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. StdAir configured with:

```
% export LDFLAGS="-L/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 18.3.2.5 Microsoft Windows XP with MinGW, MSYS and StdAir External

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **StdAir release:** 3.10.5
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from StdAir External 2.2.0 package
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. StdAir configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% export CPPFLAGS="-I/usr/local/include"
% export CXXFLAGS="-Wall -O3 -march=athlon-tbird -pipe"
% ./configure --disable-html-doc
```

- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 18.3.2.6 Microsoft Windows XP with MS Visual C++ and Intel MKL

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2
- **Compiler(s):** Microsoft Visual C++ 2005 .NET
- **StdAir release:** 3.10.5
- **External Libraries:** Intel Math Kernel Library (MKL) 8.1 installed manually in the following directory: "C:\Program Files\Intel\MKL\8.1"
- **Tests Status:** Not fully tested. Some StdAir based programs compiled and run with success.
- **Comments:** Only static library can be built. StdAir built by opening the "win32\stdair.vcproj" project file in MSVC++ and executing "Build -> Build Solution" command from menu.
- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

### 18.3.3 Unix Systems

#### 18.3.3.1 SunOS 5.9 with StdAir External

- **Platform:** SUNW, Sun-Blade-100 (SPARC)
- **Operating System:** SunOS 5.9 Generic\_112233-10
- **Compiler(s):** g++ (GCC) 3.4.5
- **StdAir release:** 3.10.2
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from StdAir External 2.1.1 package. The following configuration command has been used:

```
% export CFLAGS="-mcpu=ultrasparc -O2 -pipe -funroll-all-loops"
% ./configure
```

- **Tests Status:** All tests PASSED
- **Comments:** StdAir configured with:
 

```
% export LDFLAGS="-L/usr/local/lib"
% export CPPFLAGS="-I/usr/local/include"
% export CXXFLAGS="-mcpu=ultrasparc -O2 -pipe"
% ./configure --enable-debug
```
- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

## 19 StdAir Supported Systems (Previous Releases)

### 19.1 StdAir 3.9.1

### 19.2 StdAir 3.9.0

### 19.3 StdAir 3.8.1

## 20 Tutorials

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- [Build a Predefined BOM Tree](#)
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## 20.2 Introduction

This page contains some tutorial examples that will help you getting started using StdAir. Most examples show how to construct some simple business objects, i.e., instances of the so-named Business Object Model (BOM).

### 20.2.1 Preparing the StdAir Project for Development

The source code for these examples can be found in the `batches` and `test/stdair` directories. They are compiled along with the rest of the StdAir project. See the User Guide ([Users Guide](#)) for more details on how to build the StdAir project.

## 20.3 Build a Predefined BOM Tree

A few steps:

- [Instanciate the BOM Root Object](#)
- [Instanciate the \(Airline\) Inventory Object](#)
- [Link the Inventory Object with the BOM Root](#)

### 20.3.1 Instanciate the BOM Root Object

First, a BOM root object (i.e., a root for all the classes in the project) is instantiated by the `stdair::STD←AIR_ServiceContext` context object, when the `stdair::STDAIR_Service` is itself instantiated. The corresponding StdAir type (class) is `stdair::BomRoot`.

In the following sample, that object is named `ioBomRoot`, and is given as input/output parameter of the `stdair←::CmdBomManager::buildSampleBom()` method:

```
void CmdBomManager::buildSampleBom (BomRoot& ioBomRoot) {
```

### 20.3.2 Instanciate the (Airline) Inventory Object

An airline inventory object can then be instantiated. Let us give it the "BA" airline code (corresponding to [British Airways](#)) as the object key. That is, an object (let us name it `lBAKey`) of type (class) `stdair::Inventory←Key` has first to be instantiated.

```
const InventoryKey lBAKey (lAirlineCodeBA);
```

Thanks to that key, an airline inventory object, i.e. of type (class) `stdair::Inventory`, can be instantiated. Let us name that airline inventory object `lBAInv`.

```
Inventory& lBAInv = FacBom<Inventory>::instance().create (lBAKey);
```

### 20.3.3 Link the Inventory Object with the BOM Root

Then, both objects have to be linked: the airline inventory object (`stdair::Inventory`) has to be linked with the root of the BOM tree (`stdair::BomRoot`). That operation is as simple as using the `stdair::FacBom←Manager::addToListAndMap()` method:

```
FacBomManager::addToListAndMap (ioBomRoot, lBAInv);
FacBomManager::linkWithParent (ioBomRoot, lBAInv);
```

### 20.3.4 Build Another Airline Inventory

Another airline inventory object, corresponding to the Air France ([Air France](#)) company, is instantiated the same way:

```
const InventoryKey lAFKey (lAirlineCodeAF);
Inventory& lAFInv = FacBom<Inventory>::instance().create (lAFKey);
FacBomManager::addToListAndMap (ioBomRoot, lAFInv);
FacBomManager::linkWithParent (ioBomRoot, lAFInv);
```

See the corresponding full program ([C++ Class Building Sample StdAir BOM Trees](#)) for more details.

### 20.3.5 Dump The BOM Tree Content

From the `BomRoot` (of type `stdair::BomRoot`) object instance, the list of airline inventories (of type `stdair::Inventory`) can then be retrieved...

```
const InventoryList_T& lInventoryList =
    BomManager::getList<Inventory> (iBomRoot);
```

... and browsed:

```
for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
     itInv != lInventoryList.end(); ++itInv, ++invIdx) {
    const Inventory* lInv_ptr = *itInv;
    assert (lInv_ptr != NULL);

    // Retrieve the inventory key (airline code)
    const AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();

    // Display only the requested inventories
    if (iAirlineCode == "all" || iAirlineCode == lAirlineCode) {
        // Get the list of flight-dates for that inventory
        list (oStream, *lInv_ptr, invIdx, iFlightNumber);
    }
}

// /////////////////////////////////
void BomDisplay::list (std::ostream& oStream, const Inventory& iInventory,
                      const unsigned short iInventoryIndex,
                      const FlightNumber_T& iFlightNumber) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Check whether there are FlightDate objects
    if (BomManager::hasMap<FlightDate> (iInventory) == false) {
        return;
    }

    //
    const AirlineCode_T& lAirlineCode = iInventory.getAirlineCode();
    oStream << iInventoryIndex << ". " << lAirlineCode << std::endl;

    // Browse the flight-dates
    unsigned short lCurrentFlightNumber = 0;
    unsigned short flightNumberIdx = 0;
    unsigned short departureDateIdx = 1;
    const FlightDateMap_T& lFlightDateList =
        BomManager::getMap<FlightDate> (iInventory);
    for (FlightDateMap_T::const_iterator itFD = lFlightDateList.begin();
         itFD != lFlightDateList.end(); ++itFD, ++departureDateIdx) {
        const FlightDate* lFD_ptr = itFD->second;
        assert (lFD_ptr != NULL);

        // Retrieve the key of the flight-date
        const FlightNumber_T& lFlightNumber = lFD_ptr->getFlightNumber();
        const Date_T& lFlightDateDate = lFD_ptr->getDepartureDate();

        // Display only the requested flight number
        if (iFlightNumber == 0 || iFlightNumber == lFlightNumber) {
            //
            if (lCurrentFlightNumber != lFlightNumber) {
                lCurrentFlightNumber = lFlightNumber;
                ++flightNumberIdx; departureDateIdx = 1;
```

```

        oStream << " " << iInventoryIndex << "." << flightNumberIdx << ". "
        << lAirlineCode << lFlightNumber << std::endl;
    }

    oStream << " " << iInventoryIndex << "." << flightNumberIdx
    << "." << departureDateIdx << ". "
    << lAirlineCode << lFlightNumber << " / " << lFlightDateDate
    << std::endl;
}
}

// ///////////////////////////////////////////////////////////////////
void BomDisplay::listAirportPairDateRange (std::ostream& oStream,
                                           const BomRoot& iBomRoot) {
    // Save the formatting flags for the given STL output stream
    FlagSaver flagSaver (oStream);

    // Check whether there are AirportPair objects
    if (BomManager::hasList<AirportPair> (iBomRoot) == false) {
        return;
    }

    const AirportPairList_T& lAirportPairList =
        BomManager::getList<AirportPair> (iBomRoot);
    for (AirportPairList_T::const_iterator itAir = lAirportPairList.begin();
         itAir != lAirportPairList.end(); ++itAir) {
        const AirportPair* lAir_ptr = *itAir;
        assert (lAir_ptr != NULL);

        // Check whether there are date-period objects
        assert (BomManager::hasList<DatePeriod> (*lAir_ptr) == true);

        // Browse the date-period objects
        const DatePeriodList_T& lDatePeriodList =
            BomManager::getList<DatePeriod> (*lAir_ptr);

        for (DatePeriodList_T::const_iterator itDP = lDatePeriodList.begin();
             itDP != lDatePeriodList.end(); ++itDP) {
            const DatePeriod* lDP_ptr = *itDP;
            assert (lDP_ptr != NULL);

            // Display the date-period object
            oStream << lAir_ptr->describeKey()
                  << " / " << lDP_ptr->describeKey() << std::endl;
        }
    }
}

// ///////////////////////////////////////////////////////////////////
void BomDisplay::csvDisplay (std::ostream& oStream,

```

See the corresponding full program ([C++ Utility Class Browsing and Dumping the StdAir BOM Tree](#)) for more details.

### 20.3.6 Result of the Tutorial Program

When the `stdair.cpp` program is run (with the `-b` option), the output should look like:

```

00001 [D]../../batches/stdair.cpp:243: Welcome to stdair
00002 [D]../../stdair/command/CmdBomManager.cpp:41: StdAir will build the BOM tree from built-in
     specifications.
00003 [D]../../batches/stdair.cpp:286:
00004 =====
00005 BomRoot: -- ROOT --
00006 =====
00007 ++++++
00008 Inventory: BA
00009 ++++++
00010 ****
00011 FlightDate: BA9, 2011-Jun-10
00012 ****
00013 ****
00014 Leg-Dates:
00015 -----
00016 Flight, Leg, BoardDate, BoardTime, OffDate, OffTime, Date Offset, Time Offset, Elapsed, Distance,
     Capacity,
00017 BA9 2011-Jun-10, LHR-BKK, 2011-Jun-10, 21:45:00, 2011-Jun-11, 15:40:00, 11:05:00, 1, 06:50:00, 9900,
     0,
00018 BA9 2011-Jun-10, BKK-SYD, 2011-Jun-11, 17:05:00, 2011-Jun-12, 15:40:00, 09:05:00, 1, 13:30:00, 8100,
     0,

```

See the corresponding full program ([Command-Line Utility to Demonstrate Typical StdAir Usage](#)) for more details.

## 20.4 Extend the Pre-Defined BOM Tree

Now that we master how to instantiate the pre-defined StdAir classes, let us see how to extend that BOM.

#### **20.4.1 Extend an Airline Inventory Object**

For instance, let us assume that some (IT) provider (e.g., you) would like to have a specific implementation of the `Inventory` object. The corresponding class has just to extend the `stdair::Inventory` class:

```
namespace myprovider {
    class Inventory : public stdair::Inventory {
```

The STL containers have to be defined accordingly too:

```
typedef std::list<Inventory*> InventoryList_T;
```

See the full class definition ([Specific Implementation of an Airline Inventory](#)) and implementation ([Specific Implementation of an Airline Inventory](#)) for more details.

#### 20.4.2 Build the Specific BOM Objects

The BOM root object (`stdair::BomRoot`) is instantiated the classical way:

```
const std::string& lBomRootKeyStr = lPersistentBomRoot.describeKey();
```

Then, the specific implementation of the airline inventory object (`myprovider::Inventory`) can be instantiated the same way as a standard Inventory (`stdair::Inventory`) would be:

```
const stdair::InventoryKey lBAKey (lBAAirlineCode);
myprovider::Inventory& lBAInv =
    stdair::FacBom<myprovider::Inventory>::instance().
        create (lBAKey);
```

Then, the specific implementation of the airline inventory object (`myprovider::Inventory`) is linked to the root of the BOM tree (`stdair::BomRoot`) the same way as the standard Inventory (`stdair::Inventory`) would be:

```
stdair::FacBomManager::addToList (lBomRoot, lBAInv);
```

Another specific airline inventory object is instantiated the same way:

```
const stdair::InventoryKey lAFKey (lAFAirlineCode);
myprovider::Inventory& lAFInv =
    stdair::FacBom<myprovider::Inventory>::instance().
        create (lAFKey);
stdair::FacBomManager::addToList (lBomRoot, lAFInv);
```

From the `BomRoot` (of type `stdair::BomRoot`) object instance, the list of specific airline inventories (of type `stdair::Inventory`) can then be retrieved...

```
const myprovider::InventoryList_T& lInventoryList =
    stdair::BomManager::getList<myprovider::Inventory> (lBomRoot);
```

... and browsed:

```
for (myprovider::InventoryList_T::const_iterator itInv =
    lInventoryList.begin(); itInv != lInventoryList.end();
    ++itInv, ++idx) {
    const myprovider::Inventory* lInv_ptr = *itInv;
    BOOST_REQUIRE (lInv_ptr != NULL);

    BOOST_CHECK_EQUAL (lInventoryKeyArray[idx], lInv_ptr->describeKey());
    BOOST_CHECK_MESSAGE ((lInventoryKeyArray[idx] == lInv_ptr->describeKey(),
        "They inventory key, '" << lInventoryKeyArray[idx]
        << "'", does not match that of the Inventory object: '"'
        << lInv_ptr->describeKey() << "'");
}
```

### 20.4.3 Result of the Tutorial Program

When this program is run, the output should look like:

```
00001 Inventory: BA
00002 Inventory: AF
```

See the corresponding full program ([Command-Line Test to Demonstrate How To Extend StdAir BOM](#)) for more details.

## 21 Command-Line Utility to Demonstrate Typical StdAir Usage

```

// STL
#include <cassert>
#include <iostream>
#include <sstream>
#include <fstream>
#include <string>
// Boost (Extended STL)
#include <boost/date_time posix_time posix_time.hpp>
#include <boost/date_time/gregorian/gregorian.hpp>
#include <boost/program_options.hpp>
#include <boost/tokenizer.hpp>
#include <boost/lexical_cast.hpp>
// StdAir
#include <stdair/stdair_types.hpp>
#include <stdair/bom/BomArchive.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <stdair/config/stdair-paths.hpp>

// ////////////// Constants ///////////
const std::string K_STDAIR_DEFAULT_LOG_FILENAME ("stdair.log");

const std::string K_STDAIR_DEFAULT_INPUT_FILENAME (STDAIR_SAMPLE_DIR
                                                 "/schedule01.csv");

const bool K_STDAIR_DEFAULT_BUILT_IN_INPUT = false;
const bool K_STDAIR_DEFAULT_BUILT_FOR_RMOL = false;
const bool K_STDAIR_DEFAULT_BUILT_FOR_CRS = false;

const int K_STDAIR_EARLY_RETURN_STATUS = 99;

// ////////////// Parsing of Options & Configuration ///////////
// A helper function to simplify the main part.
template<class T> std::ostream& operator<< (std::ostream& os,
                                                const std::vector<T>& v) {
    std::copy (v.begin(), v.end(), std::ostream_iterator<T> (os, " "));
    return os;
}

int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
                      bool& ioIsForRMOL, bool& ioIsForCRS,
                      stdair::Filename_T& ioInputFilename,
                      std::string& ioLogFilename) {
    // Default for the built-in input
    ioIsBuiltin = K_STDAIR_DEFAULT_BUILT_IN_INPUT;

    // Default for the RMOL input
    ioIsForRMOL = K_STDAIR_DEFAULT_BUILT_FOR_RMOL;

    // Default for the CRS input
    ioIsForCRS = K_STDAIR_DEFAULT_BUILT_FOR_CRS;

    // Declare a group of options that will be allowed only on command line
    boost::program_options::options_description generic ("Generic options");
    generic.add_options()
        ("prefix", "print installation prefix")
        ("version,v", "print version string")
        ("help,h", "produce help message");

    // Declare a group of options that will be allowed both on command
    // line and in config file
}
```

```

boost::program_options::options_description config ("Configuration");
config.add_options()
    ("builtin,b",
     "The sample BOM tree can be either built-in or parsed from an input file. That latter must then be
      given with the -i/--input option")
    ("rmol,r",
     "Build a sample BOM tree for RMOL (i.e., a dummy flight-date with a single leg-cabin)")
    ("crs,c",
     "Build a sample BOM tree for CRS")
    ("input,i",
     boost::program_options::value< std::string >(&ioInputFilename)->default_value(
        K_STDAIR_DEFAULT_INPUT_FILENAME),
     "(CVS) input file for the demand distributions")
    ("log,l",
     boost::program_options::value< std::string >(&ioLogFilename)->default_value(
        K_STDAIR_DEFAULT_LOG_FILENAME),
     "Filename for the logs")
;

// Hidden options, will be allowed both on command line and
// in config file, but will not be shown to the user.
boost::program_options::options_description hidden ("Hidden options");
hidden.add_options()
    ("copyright",
     boost::program_options::value< std::vector<std::string> >(),
     "Show the copyright (license)");

boost::program_options::options_description cmdline_options;
cmdline_options.add(generic).add(config).add(hidden);

boost::program_options::options_description config_file_options;
config_file_options.add(config).add(hidden);
boost::program_options::options_description visible ("Allowed options");
visible.add(generic).add(config);

boost::program_options::positional_options_description p;
p.add ("copyright", -1);

boost::program_options::variables_map vm;
boost::program_options::
    store (boost::program_options::command_line_parser (argc, argv).
        options (cmdline_options).positional(p).run(), vm);

std::ifstream ifs ("stdair.cfg");
boost::program_options::store (parse_config_file (ifs, config_file_options),
                             vm);
boost::program_options::notify (vm);

if (vm.count ("help")) {
    std::cout << visible << std::endl;
    return K_STDAIR_EARLY_RETURN_STATUS;
}

if (vm.count ("version")) {
    std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
    return K_STDAIR_EARLY_RETURN_STATUS;
}

if (vm.count ("prefix")) {
    std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
    return K_STDAIR_EARLY_RETURN_STATUS;
}

if (vm.count ("builtin")) {
    ioIsBuiltIn = true;
}

if (vm.count ("rmol")) {
    ioIsForRMOL = true;

    // The RMOL sample tree takes precedence over the default built-in BOM tree
    ioIsBuiltIn = false;
}

if (vm.count ("crs")) {
    ioIsForCRS = true;

    // The RMOL sample tree takes precedence over the default built-in BOM tree
    ioIsBuiltIn = false;
}

const std::string isBuiltInStr = (ioIsBuiltIn == true)?"yes":"no";
std::cout << "The BOM should be built-in? " << isBuiltInStr << std::endl;

const std::string isForRMOLStr = (ioIsForRMOL == true)?"yes":"no";
std::cout << "The BOM should be built-in for RMOL? " << isForRMOLStr
      << std::endl;

```

```

const std::string isForCRSStr = (ioIsForCRS == true)?"yes":"no";
std::cout << "The BOM should be built-in for CRS? " << isForCRSStr
      << std::endl;

if (ioIsBuiltin == false && ioIsForRMOL == false && ioIsForCRS == false) {
    if (vm.count ("input")) {
        ioInputFilename = vm["input"].as< std::string >();
        std::cout << "Input filename is: " << ioInputFilename << std::endl;
    }
}

if (vm.count ("log")) {
    ioLogFilename = vm["log"].as< std::string >();
    std::cout << "Log filename is: " << ioLogFilename << std::endl;
}

return 0;
}

// ////////////////////// M A I N ///////////////////////
int main (int argc, char* argv[]) {

    // State whether the BOM tree should be built-in or parsed from an
    // input file
    bool isBuiltin;

    // State whether a sample BOM tree should be built for RMOL.
    bool isForRMOL;

    // State whether a sample BOM tree should be built for the CRS.
    bool isForCRS;

    // Input file name
    stdair::Filename_T lInputFilename;

    // Output log File
    std::string lLogFilename;

    // Call the command-line option parser
    const int lOptionParserStatus =
        readConfiguration (argc, argv, isBuiltin, isForRMOL, isForCRS,
                           lInputFilename, lLogFilename);

    if (lOptionParserStatus == K_STDAIR_EARLY_RETURN_STATUS) {
        return 0;
    }

    // Set the log parameters
    std::ofstream logOutputFile;
    // Open and clean the log outputfile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
                                           logOutputFile);
    stdair::STDAIR_Service stdairService (lLogParams);

    // DEBUG
    STDAIR_LOG_DEBUG ("Welcome to stdair");

    // Check wether or not a (CSV) input file should be read
    if (isBuiltin == true || isForRMOL == true || isForCRS == true) {

        if (isForRMOL == true) {
            // Build the sample BOM tree for RMOL
            stdairService.buildDummyInventory (300);

        } else if (isForCRS == true) {
            //
            stdair::TravelSolutionList_T lTravelSolutionList;
            stdairService.buildSampleTravelSolutions (lTravelSolutionList);

            // Build the sample BOM tree for CRS
            const stdair::BookingRequestStruct& lBookingRequest =
                stdairService.buildSampleBookingRequest();

            // DEBUG: Display the travel solution and booking request
            STDAIR_LOG_DEBUG ("Booking request: " << lBookingRequest.
display());

            const std::string& lCSVDump =

```

```

    stdairService.csvDisplay (lTravelSolutionList);
    STDAIR_LOG_DEBUG (lCSVDump);

} else {
    assert (isBuiltin == true);

    // Build a sample BOM tree
    stdairService.buildSampleBom();
}

} else {
    // Read the input file
    //stdairService.readFromInputFile (lInputFilename);

    // DEBUG
    STDAIR_LOG_DEBUG ("StdAir will parse " << lInputFilename
                      << " and build the corresponding BOM tree.");
}

// DEBUG: Display the whole persistent BOM tree
const std::string& lCSVDump = stdairService.csvDisplay ();
STDAIR_LOG_DEBUG (lCSVDump);

// Close the Log outputFile
logOutputFile.close();

/*
Note: as that program is not intended to be run on a server in
production, it is better not to catch the exceptions. When it
happens (that an exception is thrown), that way we get the
call stack.
*/
return 0;
}

```

## 22 Specific Implementation of a BOM Root

```

/
// /////////////////////////////////
// Import section
// /////////////////////////////////
// STL
#include <cassert>
// StdAir Test
#include <test/stdair/MPBomRoot.hpp>

namespace myprovider {

// /////////////////////////////////
BomRoot::BomRoot (const Key_T& iKey) : stdair::BomRoot (iKey) {
}

// /////////////////////////////////
BomRoot::~BomRoot () {
}

}

```

## 23 Specific Implementation of a BOM Root

```

/
// /////////////////////////////////
// Import section
// /////////////////////////////////
// STL
#include <string>
// StdAir
#include <stdair/bom/BomRoot.hpp>

namespace myprovider {

class BomRoot : public stdair::BomRoot {
public:
    // /////////////////// Display support methods //////////////////
    std::string toString() const { return describeKey(); }
}

```

```

    const std::string describeKey() const { return std::string (""); }

public:
    BomRoot (const Key_T&);
    ~BomRoot ();
    BomRoot ();
    BomRoot (const BomRoot&);

};

}

```

## 24 Specific Implementation of an Airline Inventory

```

/
// //////////////////////////////////////////////////////////////////
// Import section
// //////////////////////////////////////////////////////////////////
// STL
#include <cassert>
// StdAir
#include <stdair/stdair_inventory_types.hpp>
// StdAir Test
#include <test/stdair/MPInventory.hpp>

namespace myprovider {

// //////////////////////////////////////////////////////////////////
Inventory::Inventory (const Key_T& iKey) : stdair::Inventory (iKey) {

// //////////////////////////////////////////////////////////////////
Inventory::~Inventory () {

// //////////////////////////////////////////////////////////////////
std::string Inventory::toString() const {
    std::ostringstream oStr;
    oStr << _key.toString();
    return oStr.str();
}

// //////////////////////////////////////////////////////////////////
const std::string Inventory::describeKey() const {
    return _key.toString();
}

}

```

## 25 Specific Implementation of an Airline Inventory

```

/
// //////////////////////////////////////////////////////////////////
// Import section
// //////////////////////////////////////////////////////////////////
// STL
#include <list>
// StdAir
#include <stdair/bom/Inventory.hpp>

namespace myprovider {

class Inventory : public stdair::Inventory {
public:
    // ////////////////////////////////////////////////////////////////// Display support methods //////////////
    std::string toString() const;

    const std::string describeKey() const;

public:
    Inventory (const Key_T&);
    ~Inventory ();
    Inventory ();
    Inventory (const Inventory&);

};

// ////////////////////////////////////////////////////////////////// Type definitions //////////////
typedef std::list<Inventory*> InventoryList_T;

```

```
}
```

## 26 Command-Line Test to Demonstrate How To Extend StdAir BOM

```

/
// /////////////////////////////////
// Import section
// /////////////////////////////////
// STL
#include <iostream>
#include <fstream>
#include <string>
// Boost MPL
#include <boost/mpl/push_back.hpp>
#include <boost/mpl/vector.hpp>
#include <boost/mpl/at.hpp>
#include <boost/mpl/assert.hpp>
#include <boost/type_traits/is_same.hpp>
// Boost Unit Test Framework (UTF)
#define BOOST_TEST_DYN_LINK
#define BOOST_TEST_MAIN
#define BOOST_TEST_MODULE StdAirTest
#if BOOST_VERSION >= 103900
#include <boost/test/unit_test.hpp>
#else // BOOST_VERSION >= 103900
#include <boost/test/test_tools.hpp>
#include <boost/test/results_reporter.hpp>
#include <boost/test/unit_test_suite.hpp>
#include <boost/test/output_test_stream.hpp>
#include <boost/test/unit_test_log.hpp>
#include <boost/test/framework.hpp>
#include <boost/test/detail/unit_test_parameters.hpp>
#endif // BOOST_VERSION >= 103900
// Boost Serialisation
#include <boost/archive/text_oarchive.hpp>
#include <boost/archive/text_iarchive.hpp>
// StdAir
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <stdair/basic/float_utils.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/factory/FacBom.hpp>
#include <stdair/factory/FacBomManager.hpp>
// StdAir Test Suite
#include <test/stdair/StdairTestLib.hpp>
#include <test/stdair/MPIInventory.hpp>

namespace boost_utf = boost::unit_test;

#if BOOST_VERSION >= 103900

// (Boost) Unit Test XML Report
std::ofstream utfReportStream ("StandardAirlineITTestSuite_utfresults.xml");

struct UnitTestConfig {
    UnitTestConfig() {
        boost_utf::unit_test_log.set_stream (utfReportStream);
        boost_utf::unit_test_log.set_format (boost_utf::XML);
        boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
        // boost_utf::unit_test_log.set_threshold_level (boost_utf::log_successful_tests);
    }
    ~UnitTestConfig() {
    }
};

// ////////////////// Main: Unit Test Suite //////////////////
// Set the UTF configuration (re-direct the output to a specific file)
BOOST_GLOBAL_FIXTURE (UnitTestConfig);

// Start the test suite
BOOST_AUTO_TEST_SUITE (master_test_suite)

BOOST_AUTO_TEST_CASE (float_comparison_test) {
    float a = 0.2f;
    a = 5*a;
    const float b = 1.0f;
}

```

```

// Test the Boost way
BOOST_CHECK_MESSAGE (a == b, "The two floats (" << a << " and " << b
                     << ") should be equal, but are not");
BOOST_CHECK_CLOSE (a, b, 0.0001);

// Test the Google way
const FloatingPoint<float> lhs (a), rhs (b);
BOOST_CHECK_MESSAGE (lhs.AlmostEquals (rhs),
                     "The two floats (" << a << " and " << b
                     << ") should be equal, but are not");
}

BOOST_AUTO_TEST_CASE (mpl_structure_test) {
    const stdair::ClassCode_T lBookingClassCodeA ("A");
    const stdair_test::BookingClass lA (lBookingClassCodeA);
    const stdair_test::Cabin lCabin (lA);

    BOOST_CHECK_EQUAL (lCabin.toString(), lBookingClassCodeA);
    BOOST_CHECK_MESSAGE (lCabin.toString() == lBookingClassCodeA,
                         "The cabin key, '" << lCabin.toString()
                         << "' is not equal to '" << lBookingClassCodeA << "'");
}

// MPL
typedef boost::mpl::vector<stdair_test::BookingClass> MPL_BookingClass;
typedef boost::mpl::push_back<MPL_BookingClass,
                           stdair_test::Cabin>::type types;

if (boost::is_same<stdair_test::BookingClass,
                   stdair_test::Cabin::child>::value == false) {
    BOOST_ERROR ("The two types must be equal, but are not");
}

if (boost::is_same<boost::mpl::at_c<types, 1>::type,
                   stdair_test::Cabin>::value == false) {
    BOOST_ERROR ("The type must be stdair_test::Cabin, but is not");
}
}

BOOST_AUTO_TEST_CASE (stdair_service_initialisation_test) {
    // Output log File
    const std::string lLogFilename ("StandardAirlineITTestSuite_init.log");

    // Set the log parameters
    std::ofstream logOutputFile;

    // Open and clean the log outputfile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    // Initialise the stdair BOM
    const stdair::BomLogParams lLogParams (stdair::LOG::DEBUG,
                                           logOutputFile);
    stdair::STDPAIR_Service stdairService (lLogParams);

    // Retrieve (a reference on) the top of the persistent BOM tree
    stdair::BomRoot& lPersistentBomRoot = stdairService.getPersistentBomRoot();

    // Retrieve the BomRoot key, and compare it to the expected one
    const std::string& lBomRootKeyStr = lPersistentBomRoot.describeKey();
    const std::string lBomRootString (" -- ROOT -- ");

    // DEBUG
    STDPAIR_LOG_DEBUG ("The BOM root key is '" << lBomRootKeyStr
                      << "'. It should be equal to '" << lBomRootString << "'");

    BOOST_CHECK_EQUAL (lBomRootKeyStr, lBomRootString);
    BOOST_CHECK_MESSAGE (lBomRootKeyStr == lBomRootString,
                         "The BOM root key, '" << lBomRootKeyStr
                         << "'", should be equal to '" << lBomRootString
                         << "'", but is not.");

    // Build a sample BOM tree
    stdairService.buildSampleBom();

    // DEBUG: Display the whole BOM tree
    const std::string& lCSVDump = stdairService.csvDisplay ();
    STDPAIR_LOG_DEBUG (lCSVDump);

    // Close the Log outputFile
    logOutputFile.close();
}

BOOST_AUTO_TEST_CASE (bom_structure_instantiation_test) {
    // Step 0.0: initialisation
    // Create the root of a Bom tree (i.e., a BomRoot object)
    stdair::BomRoot& lBomRoot =

```

```

stdair::FacBom<stdair::BomRoot>::instance() .
    create();

// Step 0.1: Inventory level
// Create an Inventory (BA)
const stdair::AirlineCode_T lBAAirlineCode ("BA");
const stdair::InventoryKey lBAKey (lBAAirlineCode);
myprovider::Inventory& lBAInv =
    stdair::FacBom<myprovider::Inventory>::instance() .
        create (lBAKey);
stdair::FacBomManager::addToList (lBomRoot, lBAInv);

BOOST_CHECK_EQUAL (lBAInv.describeKey(), lBAAirlineCode);
BOOST_CHECK_MESSAGE (lBAInv.describeKey() == lBAAirlineCode,
    "The inventory key, '" << lBAInv.describeKey()
    << "', should be equal to '" << lBAAirlineCode
    << "', but is not");

// Create an Inventory for AF
const stdair::AirlineCode_T lAAFAirlineCode ("AF");
const stdair::InventoryKey lAFKey (lAAFAirlineCode);
myprovider::Inventory& lAFInv =
    stdair::FacBom<myprovider::Inventory>::instance() .
        create (lAFKey);
stdair::FacBomManager::addToList (lBomRoot, lAFInv);

BOOST_CHECK_EQUAL (lAFInv.describeKey(), lAAFAirlineCode);
BOOST_CHECK_MESSAGE (lAFInv.describeKey() == lAAFAirlineCode,
    "The inventory key, '" << lAFInv.describeKey()
    << "', should be equal to '" << lAAFAirlineCode
    << "', but is not");

// Browse the inventories
const myprovider::InventoryList_T& lInventoryList =
    stdair::BomManager::getList<myprovider::Inventory> (lBomRoot);
const std::string lInventoryKeyArray[2] = {lBAAirlineCode, lAAFAirlineCode};
short idx = 0;
for (myprovider::InventoryList_T::const_iterator itInv =
    lInventoryList.begin(); itInv != lInventoryList.end();
    ++itInv, ++idx) {
    const myprovider::Inventory* lInv_ptr = *itInv;
    BOOST_REQUIRE (lInv_ptr != NULL);

    BOOST_CHECK_EQUAL (lInventoryKeyArray[idx], lInv_ptr->describeKey());
    BOOST_CHECK_MESSAGE (lInventoryKeyArray[idx] == lInv_ptr->describeKey(),
        "They inventory key, '" << lInventoryKeyArray[idx]
        << "', does not match that of the Inventory object: '" 
        << lInv_ptr->describeKey() << "'");
}
}

BOOST_AUTO_TEST_CASE (bom_structure_serialisation_test) {

    // Backup (thanks to Boost.Serialisation) file
    const std::string lBackupFilename = "StandardAirlineITTestSuite_serial.txt";

    // Output log File
    const std::string lLogFilename ("StandardAirlineITTestSuite_serial.log");

    // Set the log parameters
    std::ofstream logOutputFile;

    // Open and clean the log outputfile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    // Initialise the stdair BOM
    const stdair::BosLogParams lLogParams (stdair::LOG::DEBUG,
        logOutputFile);
    stdair::STDAIR_Service stdairService (lLogParams);

    // Build a sample BOM tree
    stdairService.buildSampleBom();

    // Retrieve (a reference on) the top of the persistent BOM tree
    stdair::BomRoot& lPersistentBomRoot = stdairService.getPersistentBomRoot();

    // DEBUG: Display the whole BOM tree
    const std::string& lCSVDump = stdairService.csvDisplay ();
    STDAIR_LOG_DEBUG (lCSVDump);

    // Clone the persistent BOM
    stdairService.clonePersistentBom ();

    // Retrieve the BomRoot key, and compare it to the expected one
    const std::string lBAInvKeyStr ("BA");
    stdair::Inventory* lBAInv_ptr =

```

```

lPersistentBomRoot.getInventory (lBAInvKeyStr);

// DEBUG
STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the '"
<< lBAInvKeyStr << "' key.");

BOOST_REQUIRE_MESSAGE (lBAInv_ptr != NULL,
                      "An Inventory object should exist with the key, '"
<< lBAInvKeyStr << "'.");

// create and open a character archive for output
std::ofstream ofs (lBackupFilename.c_str());

// save data to archive
{
    boost::archive::text_oarchive oa (ofs);
    // write class instance to archive
    oa << lPersistentBomRoot;
    // archive and stream closed when destructors are called
}

// ... some time later restore the class instance to its orginal state
stdair::BomRoot& lRestoredBomRoot =
    stdair::FacBom<stdair::BomRoot>::instance().
        create();

// create and open an archive for input
std::ifstream ifs (lBackupFilename.c_str());
boost::archive::text_iarchive ia(ifs);
// read class state from archive
ia >> lRestoredBomRoot;
// archive and stream closed when destructors are called

// DEBUG: Display the whole restored BOM tree
const std::string& lRestoredCSVDump =
    stdairService.csvDisplay(lRestoredBomRoot);
STDAIR_LOG_DEBUG (lRestoredCSVDump);

// Retrieve the BomRoot key, and compare it to the expected one
const std::string& lBomRootKeyStr = lRestoredBomRoot.describeKey();
const std::string lBomRootString (" -- ROOT -- ");

// DEBUG
STDAIR_LOG_DEBUG ("The BOM root key is '" << lBomRootKeyStr
                  << "'. It should be equal to '" << lBomRootString << "'");

BOOST_CHECK_EQUAL (lBomRootKeyStr, lBomRootString);
BOOST_CHECK_MESSAGE (lBomRootKeyStr == lBomRootString,
                     "The BOM root key, '" << lBomRootKeyStr
                     << "', should be equal to '" << lBomRootString
                     << "', but is not.");

// Retrieve the Inventory
stdair::Inventory* lRestoredBAInv_ptr =
    lRestoredBomRoot.getInventory (lBAInvKeyStr);

// DEBUG
STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the '"
<< lBAInvKeyStr << "' key in the restored BOM root.");

BOOST_CHECK_MESSAGE (lRestoredBAInv_ptr != NULL,
                     "An Inventory object should exist with the key, '"
<< lBAInvKeyStr << "' in the restored BOM root.");

// Close the Log outputFile
logOutputFile.close();
}

BOOST_AUTO_TEST_CASE (bom_structure_clone_test) {

    // Output log File
    const std::string lLogFilename ("StandardAirlineITTestSuite_clone.log");

    // Set the log parameters
    std::ofstream logOutputFile;

    // Open and clean the log outputFile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    // Initialise the stdair BOM
    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
                                           logOutputFile);
    stdair::STDAIR_Service stdairService (lLogParams);

    // Build a sample BOM tree
}

```

```

stdairService.buildSampleBom();

// Retrieve (a constant reference on) the top of the persistent BOM tree
const stdair::BomRoot& lPersistentBomRoot =
    stdairService.getPersistentBomRoot();

// DEBUG: Display the whole persistent BOM tree
const std::string& lCSVDump = stdairService.csvDisplay ();
STDAIR_LOG_DEBUG ("Display the persistent BOM tree.");
STDAIR_LOG_DEBUG (lCSVDump);

// Clone the persistent BOM
stdairService.clonePersistentBom ();

// Retrieve (a reference on) the top of the clone BOM tree
stdair::BomRoot& lCloneBomRoot = stdairService.getBomRoot ();

// DEBUG: Display the clone BOM tree after the clone process.
const std::string& lAfterCloneCSVDump =
    stdairService.csvDisplay(lCloneBomRoot);
STDAIR_LOG_DEBUG ("Display the clone BOM tree after the clone process.");
STDAIR_LOG_DEBUG (lAfterCloneCSVDump);

// Retrieve the clone BomRoot key, and compare it to the persistent BomRoot
// key.
const std::string& lCloneBomRootKeyStr = lCloneBomRoot.describeKey ();
const std::string& lPersistentBomRootKeyStr =
    lPersistentBomRoot.describeKey ();

// DEBUG
STDAIR_LOG_DEBUG ("The clone BOM root key is '" << lCloneBomRootKeyStr
                  << "'. It should be equal to ''"
                  << lPersistentBomRootKeyStr << "'");

BOOST_CHECK_EQUAL (lCloneBomRootKeyStr, lPersistentBomRootKeyStr);
BOOST_CHECK_MESSAGE (lCloneBomRootKeyStr == lPersistentBomRootKeyStr,
                     "The clone BOM root key, '" << lCloneBomRootKeyStr
                     << "', should be equal to '" << lPersistentBomRootKeyStr
                     << "', but is not.");

// Retrieve the BA inventory in the clone BOM root
const std::string lBAInvKeyStr ("BA");
stdair::Inventory* lCloneBAInv_ptr =
    lCloneBomRoot.getInventory (lBAInvKeyStr);

// DEBUG
STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the ''"
                  << lBAInvKeyStr << "' key in the clone BOM root.");

BOOST_CHECK_MESSAGE (lCloneBAInv_ptr != NULL,
                     "An Inventory object should exist with the key, '" <<
                     lBAInvKeyStr << "' in the clone BOM root.");

// Close the Log outputFile
logOutputFile.close();
}

// End the test suite
BOOST_AUTO_TEST_SUITE_END()

#endif // BOOST_VERSION >= 103900
boost_utsf::test_suite* init_unit_test_suite (int, char* [])
{
    boost_utsf::test_suite* test = BOOST_TEST_SUITE ("Unit test example 1");
    return test;
}
#endif // BOOST_VERSION >= 103900

```

27 Namespace Index

## 27.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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## 28 Hierarchical Index

### 28.1 Class Hierarchy

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std::basic_string< Char >::const_reverse_iterator	
std::unordered_multimap< K, T >::const_reverse_iterator	
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std::list< ClassYieldMap_T >	
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std::valarray< T >	
std::vector< T >	

```
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std::vector< BidPrice_T >
std::vector< bool >
std::vector< ClassList_String_T >
std::vector< DictionaryKey_T >
std::vector< double >
std::vector< MeanStdDevPair_T >
std::vector< ServiceAbstract * >
std::weak_ptr< T >
BOM *
bool
char
char *
char const *
const Date_T
const DateTime_T
const DayDuration_T
const DTD_T
const Duration_T
const NbOfSeats_T
const PriceValue_T
const size_t
const WTP_T
date
date_duration
date_period
DBSession_T *
double
EN_DemandGenerationMethod
EN_EventType
EN_EventType
EN_EventType
EN_ForecastingMethod
EN_JSonCommand
EN_LogLevel
EN_LogLevel
EN_OptimisationMethod
EN_PartnershipTechnique
EN_PassengerChoiceModel
EN_PassengerType
EN_PreOptimisationMethod
EN_SampleType
EN_ServiceInitialisationType
EN_UnconstrainingMethod
int
K
Keymap
MeanStdDevPair_T
minstd_rand
multi_array< double, 2 >
pt2Func *
ptime
RawType
rl_completion_func_t *
shared_ptr< BookingRequestStruct >
shared_ptr< BreakPointStruct >
shared_ptr< CancellationStruct >
shared_ptr< ConfigHolderStruct >
```

```

shared_ptr< OptimisationNotificationStruct >
shared_ptr< RMEventStruct >
shared_ptr< SnapshotStruct >
short
static const Bits
static const char
static const size_t
T
time_duration
type_info *
unsigned short
vector< T >
WTPDemandPair_T
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## 31 Namespace Documentation

### 31.1 boost Namespace Reference

Forward declarations.

#### Namespaces

- [serialization](#)

#### 31.1.1 Detailed Description

Forward declarations.

### 31.2 boost::serialization Namespace Reference

#### 31.3 bpt Namespace Reference

##### Typedefs

- `typedef char ptree`

##### 31.3.1 Typedef Documentation

###### 31.3.1.1 `typedef char bpt::ptree`

Definition at line 22 of file [BomINIImport.cpp](#).

### 31.4 soci Namespace Reference

##### Classes

- struct [type\\_conversion< stdair::AirlineStruct >](#)

### 31.5 stdair Namespace Reference

Handle on the StdAir library context.

## Namespaces

- [LOG](#)

## Classes

- class [AirlineClassList](#)

*Class representing the actual attributes for a segment-features.*
- struct [AirlineClassListKey](#)

*Key of airport-pair.*
- class [AirlineFeature](#)

*Class representing various configuration parameters (e.g., revenue management methods such EMSRb or Monte-Carlo) for a given airline for the simulation.*
- struct [AirlineFeatureKey](#)
- struct [AirlineStruct](#)
- class [AirportPair](#)

*Class representing the actual attributes for an airport-pair.*
- struct [AirportPairKey](#)

*Key of airport-pair.*
- struct [BasChronometer](#)
- struct [BasDBParams](#)

*Structure holding the parameters for connection to a database.*
- struct [BasFileMgr](#)
- struct [BasLogParams](#)

*Structure holding parameters for logging.*
- class [BomAbstract](#)

*Base class for the Business Object Model (BOM) layer.*
- class [BomArchive](#)

*Utility class to archive/restore BOM objects with Boost serialisation.*
- class [BomDisplay](#)

*Utility class to display StdAir objects with a pretty format.*
- class [BomHolder](#)

*Class representing the holder of BOM object containers (list and map).*
- struct [BomHolderKey](#)
- struct [BomID](#)

*Class wrapper of bom ID (e.g. pointer to object).*
- class [BomINIImport](#)

*Utility class to import StdAir objects in a INI format.*
- class [BomJSONExport](#)

*Utility class to export StdAir objects in a JSON format.*
- class [BomJSONImport](#)

*Utility class to import StdAir objects in a JSON format.*
- class [BomKeyManager](#)

*Utility class to extract key structures from strings.*
- class [BomManager](#)

*Utility class for StdAir-based objects.*
- class [BomRetriever](#)

*Utility class to retrieve StdAir objects.*
- class [BomRoot](#)

*Class representing the actual attributes for the Bom root.*
- struct [BomRootKey](#)

- *Key of the BOM structure root.*
  - class [BookingClass](#)
  - struct [BookingClassKey](#)
  - class [BookingClassListEmptyInNestingStructException](#)
  - struct [BookingRequestStruct](#)
- *Structure holding the elements of a booking request.*
  - struct [BreakPointStruct](#)
  - class [Bucket](#)
- *Class representing the actual attributes for an airline booking class.*
  - struct [BucketKey](#)
- *Key of booking-class.*
  - struct [CancellationStruct](#)
- *Structure holding the elements of a travel solution.*
  - class [CmdAbstract](#)
  - class [CmdBomManager](#)
  - class [CmdBomSerialiser](#)
  - class [CmdCloneBomManager](#)
  - class [CodeConversionException](#)
  - class [CodeDuplicationException](#)
  - struct [ConfigHolderStruct](#)
  - class [ConfigINIFile](#)
  - struct [ContinuousAttributeLite](#)
- *Class modeling the distribution of values that can be taken by a continuous attribute.*
  - struct [date\\_time\\_element](#)
  - class [DatePeriod](#)
- *Class representing the actual attributes for a fare date-period.*
  - struct [DatePeriodKey](#)
- *Key of date-period.*
  - class [DbaAbstract](#)
  - class [DBManagerForAirlines](#)
  - class [DBSessionManager](#)
  - struct [DefaultDCPList](#)
  - struct [DefaultDtdFratMap](#)
  - struct [DefaultDtdProbMap](#)
  - struct [DefaultMap](#)
  - struct [DemandGenerationMethod](#)
- *Enumeration of demand (booking request) generation methods.*
  - class [DictionaryManager](#)
- *Class wrapper of dictionary business methods.*
  - class [DocumentNotFoundException](#)
  - struct [DoWStruct](#)
  - class [EventException](#)
  - struct [EventStruct](#)
  - struct [EventType](#)
  - class [FacAbstract](#)
  - class [FacBom](#)
- *Base class for Factory layer.*
  - class [FacBomManager](#)
- *Utility class for linking StdAir-based objects.*
  - class [FacCloneBom](#)
- *Base class for Factory layer.*
  - class [FacServiceAbstract](#)
  - class [FacSTDAIRServiceContext](#)

- class [FacSupervisor](#)
  - class [FareFamily](#)

*Class representing the actual attributes for a family fare.*
  - struct [FareFamilyKey](#)

*Key of a given fare family, made of a fare family code.*
  - class [FareFeatures](#)

*Class representing the actual attributes for a fare date-period.*
  - struct [FareFeaturesKey](#)

*Key of date-period.*
  - struct [FareOptionStruct](#)

*Structure holding the elements of a fare option.*
  - struct [FFDisutilityCurveHolderStruct](#)
  - class [FFDisutilityFilePath](#)
  - class [FileNotFoundException](#)
  - class [FlightDate](#)

*Class representing the actual attributes for an airline flight-date.*
  - struct [FlightDateKey](#)

*Key of a given flight-date, made of a flight number and a departure date.*
  - class [FlightPeriod](#)
  - struct [FlightPeriodKey](#)
  - struct [ForecastingMethod](#)
  - struct [FRAT5CurveHolderStruct](#)
  - class [FRAT5FilePath](#)
  - class [InputFilePath](#)
  - class [Inventory](#)

*Class representing the actual attributes for an airline inventory.*
  - struct [InventoryKey](#)

*Key of a given inventory, made of the airline code.*
  - struct [JSonCommand](#)

*Enumeration of json commands.*
  - class [JSONString](#)

*JSON-formatted string.*
  - struct [KeyAbstract](#)

*Base class for the keys of Business Object Model (BOM) layer.*
  - class [KeyDuplicationException](#)
  - class [KeyNotFoundException](#)
  - class [LegCabin](#)

*Class representing the actual attributes for an airline leg-cabin.*
  - struct [LegCabinKey](#)

*Key of a given leg-cabin, made of a cabin code (only).*
  - class [LegDate](#)
  - struct [LegDateKey](#)
  - class [Logger](#)
  - class [MemoryAllocationException](#)
  - class [NestingNode](#)
  - struct [NestingNodeKey](#)

*Key of a given policy, made of a policy code.*
  - struct [NestingStructureKey](#)

*Key of a given policy, made of a policy code.*
  - class [NonInitialisedContainerException](#)
  - class [NonInitialisedDBSessionManagerException](#)

- class [NonInitialisedLogServiceException](#)
- class [NonInitialisedRelationShipException](#)
- class [NonInitialisedServiceException](#)
- class [ObjectCreationgDuplicationException](#)
- class [ObjectLinkingException](#)
- class [ObjectNotFoundException](#)
- class [ODFilePath](#)
- class [OnDDate](#)

*Class representing the actual attributes for an airline flight-date.*
- struct [OnDDateKey](#)

*Key of a given O&D-date, made of a list of OnD strings. a OnD string contains the airline code, the flight number, the date and the segment (origin and destination).*
- struct [OptimisationMethod](#)
- struct [OptimisationNotificationStruct](#)
- struct [ParsedKey](#)
- class [ParserException](#)
- class [ParsignFileFailedException](#)
- struct [PartnershipTechnique](#)

*Enumeration of partnership techniques.*
- struct [PassengerChoiceModel](#)
- struct [PassengerType](#)
- struct [PeriodStruct](#)
- class [Policy](#)
- struct [PolicyKey](#)

*Key of a given policy, made of a policy code.*
- class [PosChannel](#)

*Class representing the actual attributes for a fare point of sale.*
- struct [PosChannelKey](#)

*Key of point of sale and channel.*
- struct [PreOptimisationMethod](#)
- struct [ProgressStatus](#)
- struct [ProgressStatusSet](#)
- struct [RandomGeneration](#)

*Class holding a random generator.*
- struct [RMEventStruct](#)
- class [RootException](#)

*Root of the stdair exceptions.*
- class [RootFilePath](#)

*Root of the input and output files.*
- struct [SampleType](#)

*Enumeration of BOM sample types.*
- class [ScheduleFilePath](#)
- class [SegmentCabin](#)

*Class representing the actual attributes for an airline segment-cabin.*
- struct [SegmentCabinKey](#)

*Key of a given segment-cabin, made of a cabin code (only).*
- class [SegmentDate](#)

*Class representing the actual attributes for an airline segment-date.*
- struct [SegmentDateKey](#)

*Key of a given segment-date, made of an origin and a destination airports.*
- class [SegmentPeriod](#)
- struct [SegmentPeriodKey](#)

- class [SegmentSnapshotTable](#)  
*Class representing the actual attributes for an airline segment data tables.*
- struct [SegmentSnapshotTableKey](#)  
*Key of a given guillotine block, made of a guillotine number.*
- class [SerialisationException](#)
- class [ServiceAbstract](#)
- struct [ServiceInitialisationType](#)  
*Enumeration of service initialisation types.*
- class [SimpleNestingStructException](#)
- class [SimpleNestingStructure](#)
- struct [SnapshotStruct](#)
- class [SQLDatabaseConnectionImpossibleException](#)
- class [SQLDatabaseException](#)
- class [STDAIR\\_Service](#)  
*Interface for the STDAIR Services.*
- class [STDAIR\\_ServiceContext](#)  
*Class holding the context of the Stdair services.*
- struct [StructAbstract](#)  
*Base class for the light structures.*
- class [TimePeriod](#)  
*Class representing the actual attributes for a fare time-period.*
- struct [TimePeriodKey](#)  
*Key of time-period.*
- struct [TravelSolutionStruct](#)  
*Structure holding the elements of a travel solution.*
- struct [UnconstrainingMethod](#)
- struct [VirtualClassStruct](#)
- class [YieldFeatures](#)  
*Class representing the actual attributes for a yield date-period.*
- struct [YieldFeaturesKey](#)  
*Key of date-period.*
- class [YieldRange](#)
- class [YieldStore](#)
- struct [YieldStoreKey](#)

## Typedefs

- typedef [date\\_time\\_element< 0, 23 > hour\\_t](#)
- typedef [date\\_time\\_element< 0, 59 > minute\\_t](#)
- typedef [date\\_time\\_element< 0, 59 > second\\_t](#)
- typedef [date\\_time\\_element< 1900, 2100 > year\\_t](#)
- typedef [date\\_time\\_element< 1, 12 > month\\_t](#)
- typedef [date\\_time\\_element< 1, 31 > day\\_t](#)
- typedef [std::istreambuf\\_iterator< char > base\\_iterator\\_t](#)
- typedef [boost::spirit::multi\\_pass< base\\_iterator\\_t > iterator\\_t](#)
- typedef [boost::spirit::qi::int\\_parser< unsigned int, 10, 1, 1 > int1\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< int, 10, 2, 2 > uint2\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< int, 10, 4, 4 > uint4\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< int, 10, 1, 4 > uint1\\_4\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< hour\\_t, 10, 2, 2 > hour\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< minute\\_t, 10, 2, 2 > minute\\_p\\_t](#)
- typedef [boost::spirit::qi::uint\\_parser< second\\_t, 10, 2, 2 > second\\_p\\_t](#)

- typedef boost::spirit::qi::uint\_parser< `year_t`, 10, 4, 4 > `year_p_t`
- typedef boost::spirit::qi::uint\_parser< `month_t`, 10, 2, 2 > `month_p_t`
- typedef boost::spirit::qi::uint\_parser< `day_t`, 10, 2, 2 > `day_p_t`
- typedef unsigned short `DictionaryKey_T`
- typedef std::list< `AirlineClassList` \* > `AirlineClassListList_T`
- typedef std::map< const `MapKey_T`, `AirlineClassList` \* > `AirlineClassListMap_T`
- typedef std::pair< `MapKey_T`, `AirlineClassList` \* > `AirlineClassListWithKey_T`
- typedef std::list< `AirlineClassListWithKey_T` > `AirlineClassListDetailedList_T`
- typedef std::list< `AirlineFeature` \* > `AirlineFeatureList_T`
- typedef std::map< const `MapKey_T`, `AirlineFeature` \* > `AirlineFeatureMap_T`
- typedef std::list< `AirportPair` \* > `AirportPairList_T`
- typedef std::map< const `MapKey_T`, `AirportPair` \* > `AirportPairMap_T`
- typedef std::pair< `MapKey_T`, `AirportPair` \* > `AirportPairWithKey_T`
- typedef std::list< `AirportPairWithKey_T` > `AirportPairDetailedList_T`
- typedef std::map< const std::type\_info \*, `BomAbstract` \* > `HolderMap_T`
- typedef struct `BomID`< `BookingClass` > `BookingClassID_T`
- typedef std::list< `BookingClassID_T` > `BookingClassIDList_T`
- typedef boost::tokenizer< boost::char\_separator< char > > `Tokeniser_T`
- typedef std::list< `BookingClass` \* > `BookingClassList_T`
- typedef std::map< const `MapKey_T`, `BookingClass` \* > `BookingClassMap_T`
- typedef boost::shared\_ptr< `BookingRequestStruct` > `BookingRequestPtr_T`
- typedef std::string `DemandGeneratorKey_T`
- typedef boost::shared\_ptr< `BreakPointStruct` > `BreakPointPtr_T`
- typedef std::list< `BreakPointStruct` > `BreakPointList_T`
- typedef std::list< `Bucket` \* > `BucketList_T`
- typedef std::map< const `MapKey_T`, `Bucket` \* > `BucketMap_T`
- typedef boost::shared\_ptr< `CancellationStruct` > `CancellationPtr_T`
- typedef boost::shared\_ptr< `ConfigHolderStruct` > `ConfigHolderPtr_T`
- typedef std::list< `DatePeriod` \* > `DatePeriodList_T`
- typedef std::map< const `MapKey_T`, `DatePeriod` \* > `DatePeriodMap_T`
- typedef std::pair< `MapKey_T`, `DatePeriod` \* > `DatePeriodWithKey_T`
- typedef std::list< `DatePeriodWithKey_T` > `DatePeriodDetailedList_T`
- typedef std::pair< const `LongDuration_T`, `EventStruct` > `EventListElement_T`
- typedef std::map< const `LongDuration_T`, `EventStruct` > `EventList_T`
- typedef std::list< `FareFamily` \* > `FareFamilyList_T`
- typedef std::map< const `MapKey_T`, `FareFamily` \* > `FareFamilyMap_T`
- typedef std::list< `FareFeatures` \* > `FareFeaturesList_T`
- typedef std::map< const `MapKey_T`, `FareFeatures` \* > `FareFeaturesMap_T`
- typedef std::pair< `MapKey_T`, `FareFeatures` \* > `FareFeaturesWithKey_T`
- typedef std::list< `FareFeaturesWithKey_T` > `FareFeaturesDetailedList_T`
- typedef std::list< `FareOptionStruct` > `FareOptionList_T`
- typedef std::map< const std::string, `FFDisutilityCurve_T` > `FFDisutilityCurveHolder_T`
- typedef std::list< `FlightDate` \* > `FlightDateList_T`
- typedef std::map< const `MapKey_T`, `FlightDate` \* > `FlightDateMap_T`
- typedef std::list< `FlightPeriod` \* > `FlightPeriodList_T`
- typedef std::map< const `MapKey_T`, `FlightPeriod` \* > `FlightPeriodMap_T`
- typedef std::map< const std::string, `FRAT5Curve_T` > `FRAT5CurveHolder_T`
- typedef std::list< `Inventory` \* > `InventoryList_T`
- typedef std::map< const `MapKey_T`, `Inventory` \* > `InventoryMap_T`
- typedef std::string `MapKey_T`
- typedef std::list< std::string > `KeyList_T`
- typedef std::list< `LegCabin` \* > `LegCabinList_T`
- typedef std::map< const `MapKey_T`, `LegCabin` \* > `LegCabinMap_T`
- typedef std::list< `LegDate` \* > `LegDateList_T`
- typedef std::map< const `MapKey_T`, `LegDate` \* > `LegDateMap_T`

- `typedef std::list< NestingNode * > NestingNodeList_T`
- `typedef std::map< const MapKey_T, NestingNode * > NestingNodeMap_T`
- `typedef std::list< OnDDate * > OnDDateList_T`
- `typedef std::map< const MapKey_T, OnDDate * > OnDDateMap_T`
- `typedef std::pair< std::string, YieldDemandPair_T > StringDemandStructPair_T`
- `typedef std::map< std::string, YieldDemandPair_T > StringDemandStructMap_T`
- `typedef std::map< std::string, CabinClassPairList_T > StringCabinClassPairListMap_T`
- `typedef std::pair< std::string, CabinClassPairList_T > StringCabinClassPair_T`
- `typedef std::map< CabinCode_T, WTPDemandPair_T > CabinForecastMap_T`
- `typedef std::pair< CabinCode_T, WTPDemandPair_T > CabinForecastPair_T`
- `typedef boost::shared_ptr< OptimisationNotificationStruct > OptimisationNotificationPtr_T`
- `typedef std::list< Policy * > PolicyList_T`
- `typedef std::map< const MapKey_T, Policy * > PolicyMap_T`
- `typedef std::list< PosChannel * > PosChannelList_T`
- `typedef std::map< const MapKey_T, PosChannel * > PosChannelMap_T`
- `typedef std::pair< MapKey_T, PosChannel * > PosChannelWithKey_T`
- `typedef std::list< PosChannelWithKey_T > PosChannelDetailedList_T`
- `typedef boost::shared_ptr< RMEventStruct > RMEventPtr_T`
- `typedef std::list< RMEventStruct > RMEventList_T`
- `typedef std::list< SegmentCabin * > SegmentCabinList_T`
- `typedef std::map< const MapKey_T, SegmentCabin * > SegmentCabinMap_T`
- `typedef std::list< std::string > RoutingLegKeyList_T`
- `typedef std::list< SegmentDate * > SegmentDateList_T`
- `typedef std::map< const MapKey_T, SegmentDate * > SegmentDateMap_T`
- `typedef std::list< SegmentPeriod * > SegmentPeriodList_T`
- `typedef std::map< const MapKey_T, SegmentPeriod * > SegmentPeriodMap_T`
- `typedef std::pair< MapKey_T, SegmentPeriod * > SegmentPeriodWithKey_T`
- `typedef std::list< SegmentPeriodWithKey_T > SegmentPeriodDetailedList_T`
- `typedef std::list< SegmentSnapshotTable * > SegmentSnapshotTableList_T`
- `typedef std::map< const MapKey_T, SegmentSnapshotTable * > SegmentSnapshotTableMap_T`
- `typedef std::map< const SegmentCabin *, SegmentDataID_T > SegmentCabinIndexMap_T`
- `typedef std::map< const MapKey_T, ClassIndex_T > ClassIndexMap_T`
- `typedef std::list< SimpleNestingStructure * > SimpleNestingStructureList_T`
- `typedef std::map< const MapKey_T, SimpleNestingStructure * > SimpleNestingStructureMap_T`
- `typedef boost::shared_ptr< SnapshotStruct > SnapshotPtr_T`
- `typedef std::list< TimePeriod * > TimePeriodList_T`
- `typedef std::map< const MapKey_T, TimePeriod * > TimePeriodMap_T`
- `typedef std::pair< MapKey_T, TimePeriod * > TimePeriodWithKey_T`
- `typedef std::list< TimePeriodWithKey_T > TimePeriodDetailedList_T`
- `typedef std::list< TravelSolutionStruct > TravelSolutionList_T`
- `typedef KeyList_T SegmentPath_T`
- `typedef std::list< SegmentPath_T > SegmentPathList_T`
- `typedef std::map< const ClassCode_T, Availability_T > ClassAvailabilityMap_T`
- `typedef std::list< ClassAvailabilityMap_T > ClassAvailabilityMapHolder_T`
- `typedef std::map< const ClassCode_T, BookingClassID_T > ClassObjectIDMap_T`
- `typedef std::list< ClassObjectIDMap_T > ClassObjectIDMapHolder_T`
- `typedef std::map< const ClassCode_T, YieldValue_T > ClassYieldMap_T`
- `typedef std::list< ClassYieldMap_T > ClassYieldMapHolder_T`
- `typedef std::list< BidPriceVector_T > BidPriceVectorHolder_T`
- `typedef std::map< const ClassCode_T, const BidPriceVector_T * > ClassBpvMap_T`
- `typedef std::list< ClassBpvMap_T > ClassBpvMapHolder_T`
- `typedef std::list< VirtualClassStruct > VirtualClassList_T`
- `typedef std::map< const YieldLevel_T, VirtualClassStruct > VirtualClassMap_T`
- `typedef std::list< YieldFeatures * > YieldFeaturesList_T`
- `typedef std::map< const MapKey_T, YieldFeatures * > YieldFeaturesMap_T`

- `typedef std::pair< MapKey_T, YieldFeatures * > YieldFeaturesWithKey_T`
- `typedef std::list< YieldFeaturesWithKey_T > YieldFeaturesDetailedList_T`
- `typedef std::list< YieldStore * > YieldStoreList_T`
- `typedef std::map< const MapKey_T, YieldStore * > YieldStoreMap_T`
- `typedef std::string LocationCode_T`
- `typedef unsigned long int Distance_T`
- `typedef LocationCode_T AirportCode_T`
- `typedef LocationCode_T CityCode_T`
- `typedef std::string KeyDescription_T`
- `typedef std::string AirlineCode_T`
- `typedef unsigned short FlightNumber_T`
- `typedef unsigned short TableID_T`
- `typedef std::string CabinCode_T`
- `typedef std::string FamilyCode_T`
- `typedef std::string PolicyCode_T`
- `typedef std::string NestingStructureCode_T`
- `typedef std::string NestingNodeCode_T`
- `typedef std::string ClassCode_T`
- `typedef unsigned long Identity_T`
- `typedef std::string TripType_T`
- `typedef double MonetaryValue_T`
- `typedef double RealNumber_T`
- `typedef double Percentage_T`
- `typedef double PriceValue_T`
- `typedef double YieldValue_T`
- `typedef std::string PriceCurrency_T`
- `typedef double Revenue_T`
- `typedef double Multiplier_T`
- `typedef double NbOfSeats_T`
- `typedef unsigned int Count_T`
- `typedef short PartySize_T`
- `typedef double NbOfRequests_T`
- `typedef NbOfRequests_T NbOfBookings_T`
- `typedef NbOfRequests_T NbOfCancellations_T`
- `typedef unsigned short NbOfTravelSolutions_T`
- `typedef std::string ClassList_String_T`
- `typedef unsigned short NbOfSegments_T`
- `typedef unsigned short NbOfAirlines_T`
- `typedef double Availability_T`
- `typedef double Fare_T`
- `typedef bool Flag_T`
- `typedef unsigned int UnsignedIndex_T`
- `typedef unsigned int NbOfClasses_T`
- `typedef unsigned int NbOfFareFamilies_T`
- `typedef std::string Filename_T`
- `typedef std::string FileAddress_T`
- `typedef float ProgressPercentage_T`
- `typedef boost::posix_time::time_duration Duration_T`
- `typedef boost::gregorian::date Date_T`
- `typedef boost::posix_time::time_duration Time_T`
- `typedef boost::posix_time::ptime DateTime_T`
- `typedef boost::gregorian::date_period DatePeriod_T`
- `typedef std::string DOW_String_T`
- `typedef boost::gregorian::date_duration DateOffset_T`
- `typedef int DayDuration_T`

- typedef bool SaturdayStay\_T
- typedef long int IntDuration\_T
- typedef long long int LongDuration\_T
- typedef float FloatDuration\_T
- typedef soci::session DBSession\_T
- typedef soci::statement DBRequestStatement\_T
- typedef std::string DBConnectionName\_T
- typedef bool ChangeFees\_T
- typedef bool NonRefundable\_T
- typedef double SaturdayStayRatio\_T
- typedef double ChangeFeesRatio\_T
- typedef double NonRefundableRatio\_T
- typedef double Disutility\_T
- typedef std::string PassengerType\_T
- typedef std::string DistributionPatternId\_T
- typedef std::string CancellationRateCurveld\_T
- typedef std::string AirlinePreferenceId\_T
- typedef std::pair< Percentage\_T, Percentage\_T > CancellationNoShowRatePair\_T
- typedef std::string CharacteristicsPatternId\_T
- typedef std::string CharacteristicsIndex\_T
- typedef double WTP\_T
- typedef boost::tuples::tuple< double, WTP\_T > CharacteristicsWTP\_tuple\_T
- typedef std::pair< WTP\_T, MeanStdDevPair\_T > WTPDemandPair\_T
- typedef NbOfRequests\_T NbOfNoShows\_T
- typedef double MatchingIndicator\_T
- typedef std::string DemandStreamKeyStr\_T
- typedef std::string ChannelLabel\_T
- typedef std::string FrequentFlyer\_T
- typedef std::string RequestStatus\_T
- typedef std::map< Identity\_T, Identity\_T > BookingTSIDMap\_T
- typedef std::pair< CabinCode\_T, ClassCode\_T > CabinClassPair\_T
- typedef std::list< CabinClassPair\_T > CabinClassPairList\_T
- typedef double ProportionFactor\_T
- typedef std::list< ProportionFactor\_T > ProportionFactorList\_T
- typedef std::string OnDString\_T
- typedef std::list< OnDString\_T > OnDStringList\_T
- typedef std::string EventName\_T
- typedef double NbOfEvents\_T
- typedef std::string EventGeneratorKey\_T
- typedef double NbOfFareRules\_T
- typedef std::string NetworkID\_T
- typedef std::vector< AirlineCode\_T > AirlineCodeList\_T
- typedef std::vector< ClassList\_String\_T > ClassList\_StringList\_T
- typedef std::vector< ClassCode\_T > ClassCodeList\_T
- typedef unsigned short SubclassCode\_T
- typedef std::string FlightPathCode\_T
- typedef std::map< CabinCode\_T, ClassList\_String\_T > CabinBookingClassMap\_T
- typedef std::string CurveKey\_T
- typedef double CabinCapacity\_T
- typedef double NbOfFlightDates\_T
- typedef double CommittedSpace\_T
- typedef double UPR\_T
- typedef double BookingLimit\_T
- typedef double AuthorizationLevel\_T
- typedef double CapacityAdjustment\_T

- typedef double `BlockSpace_T`
- typedef bool `AvailabilityStatus_T`
- typedef std::vector< `Availability_T` > `BucketAvailabilities_T`
- typedef double `NbOfYields_T`
- typedef double `NbOfInventoryControlRules_T`
- typedef bool `CensorshipFlag_T`
- typedef short `DTD_T`
- typedef short `DCP_T`
- typedef std::list< `DCP_T` > `DCPList_T`
- typedef std::map< `DTD_T`, `RealNumber_T` > `DTDFratMap_T`
- typedef std::map< `FloatDuration_T`, float > `DTDProbMap_T`
- typedef std::vector< `CensorshipFlag_T` > `CensorshipFlagList_T`
- typedef double `BookingRatio_T`
- typedef double `Yield_T`
- typedef unsigned int `YieldLevel_T`
- typedef std::map< `YieldLevel_T`, `MeanStdDevPair_T` > `YieldLevelDemandMap_T`
- typedef std::pair< `Yield_T`, `MeanStdDevPair_T` > `YieldDemandPair_T`
- typedef double `BidPrice_T`
- typedef std::vector< `BidPrice_T` > `BidPriceVector_T`
- typedef unsigned int `SeatIndex_T`
- typedef std::string `ControlMode_T`
- typedef double `OverbookingRate_T`
- typedef double `ProtectionLevel_T`
- typedef std::vector< double > `EmsrValueList_T`
- typedef std::vector< double > `BookingLimitVector_T`
- typedef std::vector< double > `ProtectionLevelVector_T`
- typedef boost::multi\_array< double, 2 > `SnapshotBlock_T`
- typedef `SnapshotBlock_T`::index\_range `SnapshotBlockRange_T`
- typedef `SnapshotBlock_T`::array\_view< 1 >::type `SegmentCabinDTDSnapshotView_T`
- typedef `SnapshotBlock_T`::array\_view< 2 >::type `SegmentCabinDTDRangeSnapshotView_T`
- typedef `SnapshotBlock_T`::const\_array\_view< 1 >::type `ConstSegmentCabinDTDSnapshotView_T`
- typedef `SnapshotBlock_T`::const\_array\_view< 2 >::type `ConstSegmentCabinDTDRangeSnapshotView_T`
- typedef unsigned short `SegmentDataID_T`
- typedef unsigned short `LegDataID_T`
- typedef unsigned short `ClassIndex_T`
- typedef unsigned int `ReplicationNumber_T`
- typedef unsigned long int `ExponentialSeed_T`
- typedef unsigned long int `UniformSeed_T`
- typedef unsigned long int `RandomSeed_T`
- typedef boost::minstd\_rand `BaseGenerator_T`
- typedef boost::uniform\_real `UniformDistribution_T`
- typedef boost::variate\_generator< `BaseGenerator_T` &, `UniformDistribution_T` > `UniformGenerator_T`
- typedef boost::normal\_distribution `NormalDistribution_T`
- typedef boost::variate\_generator< `BaseGenerator_T` &, `NormalDistribution_T` > `NormalGenerator_T`
- typedef boost::exponential\_distribution `ExponentialDistribution_T`
- typedef boost::variate\_generator< `BaseGenerator_T` &, `ExponentialDistribution_T` > `ExponentialGenerator_T`
- typedef double `MeanValue_T`
- typedef double `StdDevValue_T`
- typedef std::pair< `MeanValue_T`, `StdDevValue_T` > `MeanStdDevPair_T`
- typedef std::vector< `MeanStdDevPair_T` > `MeanStdDevPairVector_T`
- typedef float `Probability_T`
- typedef std::string `ForecasterMode_T`
- typedef short `HistoricalDataLimit_T`
- typedef std::string `OptimizerMode_T`

- `typedef NbOfBookings_T PolicyDemand_T`
- `typedef std::vector< double > GeneratedDemandVector_T`
- `typedef std::vector< GeneratedDemandVector_T > GeneratedDemandVectorHolder_T`
- `typedef double SellupProbability_T`
- `typedef std::vector< NbOfRequests_T > UncDemVector_T`
- `typedef std::vector< NbOfBookings_T > BookingVector_T`
- `typedef double FRAT5_T`
- `typedef std::map< const DTD_T, FRAT5_T > FRAT5Curve_T`
- `typedef std::map< const DTD_T, double > FFDisutilityCurve_T`
- `typedef std::map< const DTD_T, double > SellUpCurve_T`
- `typedef std::map< const DTD_T, double > DispatchingCurve_T`
- `typedef std::map< BookingClass *, SellUpCurve_T > BookingClassSellUpCurveMap_T`
- `typedef std::map< BookingClass *, DispatchingCurve_T > BookingClassDispatchingCurveMap_T`
- `typedef std::map< const Yield_T, double > YieldDemandMap_T`
- `typedef unsigned int NbOfSamples_T`
- `typedef boost::shared_ptr< STDAIR_Service > STDAIR_ServicePtr_T`

## Functions

- `const std::string DEFAULT_BOM_ROOT_KEY (" -- ROOT -- ")`
- `const double DEFAULT_EPSILON_VALUE (0.0001)`
- `const unsigned int DEFAULT_FLIGHT_SPEED (900)`
- `const NbOfFlightDates_T DEFAULT_NB_OF_FLIGHTDATES (0.0)`
- `const Duration_T NULL_BOOST_TIME_DURATION (-1,-1,-1)`
- `const Duration_T DEFAULT_NULL_DURATION (0, 0, 0)`
- `const unsigned int DEFAULT_NB_OF_DAYS_IN_A_YEAR (365)`
- `const unsigned int DEFAULT_NUMBER_OF_SUBDIVISIONS (1000)`
- `const DayDuration_T DEFAULT_DAY_DURATION (0)`
- `const DatePeriod_T BOOST_DEFAULT_DATE_PERIOD (Date_T(2007, 1, 1), Date_T(2007, 1, 1))`
- `const DOW_String_T DEFAULT_DOW_STRING ("0000000")`
- `const DateOffset_T DEFAULT_DATE_OFFSET (0)`
- `const Date_T DEFAULT_DATE (2010, boost::gregorian::Jan, 1)`
- `const DateTime_T DEFAULT_DATETIME (DEFAULT_DATE, NULL_BOOST_TIME_DURATION)`
- `const Duration_T DEFAULT_EPSILON_DURATION (0, 0, 0, 1)`
- `const Count_T SECONDS_IN_ONE_DAY (86400)`
- `const Count_T MILLISECONDS_IN_ONE_SECOND (1000)`
- `const RandomSeed_T DEFAULT_RANDOM_SEED (120765987)`
- `const AirportCode_T AIRPORT_LHR ("LHR")`
- `const AirportCode_T AIRPORT_SYD ("SYD")`
- `const CityCode_T POS_LHR ("LHR")`
- `const Date_T DATE_20110115 (2011, boost::gregorian::Jan, 15)`
- `const Date_T DATE_20111231 (2011, boost::gregorian::Dec, 31)`
- `const DayDuration_T NO_ADVANCE_PURCHASE (0)`
- `const SaturdayStay_T SATURDAY_STAY (true)`
- `const SaturdayStay_T NO_SATURDAY_STAY (false)`
- `const ChangeFees_T CHANGE_FEES (true)`
- `const ChangeFees_T NO_CHANGE_FEES (false)`
- `const NonRefundable_T NON_REFUNDABLE (true)`
- `const NonRefundable_T NO_NON_REFUNDABLE (false)`
- `const SaturdayStay_T DEFAULT_BOM_TREE_SATURDAY_STAY (true)`
- `const ChangeFees_T DEFAULT_BOM_TREE_CHANGE_FEES (true)`
- `const NonRefundable_T DEFAULT_BOM_TREE_NON_REFUNDABLE (true)`
- `const DayDuration_T NO_STAY_DURATION (0)`
- `const AirlineCode_T AIRLINE_CODE_BA ("BA")`

- const `CabinCode_T CABIN_Y ("Y")`
- const `ClassCode_T CLASS_CODE_Y ("Y")`
- const `ClassCode_T CLASS_CODE_Q ("Q")`
- const `AirportCode_T AIRPORT_SIN ("SIN")`
- const `AirportCode_T AIRPORT_BKK ("BKK")`
- const `CityCode_T POS_SIN ("SIN")`
- const `CabinCode_T CABIN_ECO ("Eco")`
- const `FrequentFlyer_T FREQUENT_FLYER_MEMBER ("M")`
- const `FamilyCode_T DEFAULT_FAMILY_CODE ("0")`
- const `PolicyCode_T DEFAULT_POLICY_CODE ("0")`
- const `NestingStructureCode_T DEFAULT_NESTING_STRUCTURE_CODE ("DEFAULT")`
- const `NestingStructureCode_T DISPLAY_NESTING_STRUCTURE_CODE ("Display Nesting")`
- const `NestingStructureCode_T YIELD_BASED_NESTING_STRUCTURE_CODE ("Yield-Based Nesting")`
- const `NestingNodeCode_T DEFAULT_NESTING_NODE_CODE ("0")`
- const `NbOfAirlines_T DEFAULT_NBOFAIRLINES (0)`
- const `FlightPathCode_T DEFAULT_FLIGHTPATH_CODE ("")`
- const `Distance_T DEFAULT_DISTANCE_VALUE (0)`
- const `ClassCode_T DEFAULT_CLOSED_CLASS_CODE ("CC")`
- const `NbOfBookings_T DEFAULT_CLASS_NB_OF_BOOKINGS (0)`
- const `NbOfBookings_T DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS (0)`
- const `NbOfBookings_T DEFAULT_CLASS_UNCONSTRAINED_DEMAND (0)`
- const `NbOfBookings_T DEFAULT_CLASS_REMAINING_DEMAND_MEAN (0)`
- const `NbOfBookings_T DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION (0)`
- const `NbOfCancellations_T DEFAULT_CLASS_NB_OF_CANCELLATIONS (0)`
- const `NbOfNoShows_T DEFAULT_CLASS_NB_OF_NOSHOWS (0)`
- const `CabinCapacity_T DEFAULT_CABIN_CAPACITY (100.0)`
- const `CommittedSpace_T DEFAULT_COMMITED_SPACE (0.0)`
- const `BlockSpace_T DEFAULT_BLOCK_SPACE (0.0)`
- const `Availability_T DEFAULT_NULL_AVAILABILITY (0.0)`
- const `Availability_T DEFAULT_AVAILABILITY (9.0)`
- const `Availability_T MAXIMAL_AVAILABILITY (9999.0)`
- const `CensorshipFlag_T DEFAULT_CLASS_CENSORSHIPFLAG (false)`
- const `BookingLimit_T DEFAULT_CLASS_BOOKING_LIMIT (9999.0)`
- const `AuthorizationLevel_T DEFAULT_CLASS_AUTHORIZATION_LEVEL (9999.0)`
- const `AuthorizationLevel_T DEFAULT_CLASS_MAX_AUTHORIZATION_LEVEL (9999.0)`
- const `AuthorizationLevel_T DEFAULT_CLASS_MIN_AUTHORIZATION_LEVEL (0.0)`
- const `OverbookingRate_T DEFAULT_CLASS_OVERBOOKING_RATE (0.0)`
- const `BookingRatio_T DEFAULT_OND_BOOKING_RATE (0.0)`
- const `Fare_T DEFAULT_FARE_VALUE (0.0)`
- const `Yield_T DEFAULT_CLASS_YIELD_VALUE (0.0)`
- const `Revenue_T DEFAULT_REVENUE_VALUE (0.0)`
- const `Percentage_T DEFAULT_LOAD_FACTOR_VALUE (100.0)`
- const `Yield_T DEFAULT_YIELD_VALUE (0.0)`
- const `Yield_T DEFAULT_YIELD_MAX_VALUE (std::numeric_limits< double >::max())`
- const `NbOfBookings_T DEFAULT_YIELD_NB_OF_BOOKINGS (0.0)`
- const `Identity_T DEFAULT_BOOKING_NUMBER (0)`
- const `NbOfCancellations_T DEFAULT_YIELD_NB_OF_CANCELLATIONS (0.0)`
- const `NbOfNoShows_T DEFAULT_YIELD_NB_OF_NOSHOWS (0.0)`
- const `Availability_T DEFAULT_YIELD_AVAILABILITY (0.0)`
- const `CensorshipFlag_T DEFAULT_YIELD_CENSORSHIPFLAG (false)`
- const `BookingLimit_T DEFAULT_YIELD_BOOKING_LIMIT (0.0)`
- const `OverbookingRate_T DEFAULT_YIELD_OVERBOOKING_RATE (0.0)`
- const `Fare_T DEFAULT_OND_FARE_VALUE (0.0)`
- const `Count_T DEFAULT_PROGRESS_STATUS (0)`
- const `Percentage_T MAXIMUM_PROGRESS_STATUS (100)`

- const `Date_T DEFAULT_EVENT_OLEDEST_DATE` (2008, boost::gregorian::Jan, 1)
- const `DateTime_T DEFAULT_EVENT_OLEDEST_DATETIME` (`DEFAULT_EVENT_OLEDEST_DATE`, `NUL_BOOST_TIME_DURATION`)
- const `PartySize_T DEFAULT_PARTY_SIZE` (1)
- const `DayDuration_T DEFAULT_STAY_DURATION` (7)
- const `WTP_T DEFAULT_WTP` (1000.0)
- const `Date_T DEFAULT_PREFERRED_DEPARTURE_DATE` (`DEFAULT_DEPARTURE_DATE`)
- const `Duration_T DEFAULT_PREFERRED_DEPARTURE_TIME` (8, 0, 0)
- const `DateOffset_T DEFAULT_ADVANCE_PURCHASE` (22)
- const `Date_T DEFAULT_REQUEST_DATE` (`DEFAULT_PREFERRED_DEPARTURE_DATE-DEFAULT_ADVANCE_PURCHASE`)
- const `Duration_T DEFAULT_REQUEST_TIME` (8, 0, 0)
- const `DateTime_T DEFAULT_REQUEST_DATE_TIME` (`DEFAULT_REQUEST_DATE`, `DEFAULT_REQUEST_TIME`)
- const `CabinCode_T DEFAULT_PREFERRED_CABIN` ("M")
- const `CityCode_T DEFAULT_POS` ("ALL")
- const `ChannelLabel_T DEFAULT_CHANNEL` ("DC")
- const `ChannelLabel_T CHANNEL_DN` ("DN")
- const `ChannelLabel_T CHANNEL_IN` ("IN")
- const `TripType_T TRIP_TYPE_ONE WAY` ("OW")
- const `TripType_T TRIP_TYPE_ROUND_TRIP` ("RT")
- const `TripType_T TRIP_TYPE_INBOUND` ("RI")
- const `TripType_T TRIP_TYPE_OUTBOUND` ("RO")
- const `FrequentFlyer_T DEFAULT_FF_TIER` ("N")
- const `PriceValue_T DEFAULT_VALUE_OF_TIME` (100.0)
- const `IntDuration_T HOUR_CONVERTED_IN_SECONDS` (3600)
- const `Duration_T DEFAULT_MINIMAL_CONNECTION_TIME` (0, 30, 0)
- const `Duration_T DEFAULT_MAXIMAL_CONNECTION_TIME` (24, 0, 0)
- const `MatchingIndicator_T DEFAULT_MATCHING_INDICATOR` (0.0)
- const `PriceCurrency_T DEFAULT_CURRENCY` ("EUR")
- const `AvailabilityStatus_T DEFAULT_AVAILABILITY_STATUS` (false)
- const `AirlineCode_T DEFAULT_AIRLINE_CODE` ("XX")
- const `AirlineCode_T DEFAULT_NULL_AIRLINE_CODE` ("")
- const `FlightNumber_T DEFAULT_FLIGHT_NUMBER` (9999)
- const `FlightNumber_T DEFAULT_FLIGHT_NUMBER_FF` (255)
- const `TableID_T DEFAULT_TABLE_ID` (9999)
- const `Date_T DEFAULT_DEPARTURE_DATE` (1900, boost::gregorian::Jan, 1)
- const `AirportCode_T DEFAULT_AIRPORT_CODE` ("XXX")
- const `AirportCode_T DEFAULT_NULL_AIRPORT_CODE` ("")
- const `AirportCode_T DEFAULT_ORIGIN` ("XXX")
- const `AirportCode_T DEFAULT_DESTINATION` ("YYY")
- const `CabinCode_T DEFAULT_CABIN_CODE` ("X")
- const `FamilyCode_T DEFAULT_FARE_FAMILY_CODE` ("EcoSaver")
- const `FamilyCode_T DEFAULT_NULL_FARE_FAMILY_CODE` ("NoFF")
- const `ClassCode_T DEFAULT_CLASS_CODE` ("X")
- const `ClassCode_T DEFAULT_NULL_CLASS_CODE` ("")
- const `BidPrice_T DEFAULT_BID_PRICE` (0.0)
- const unsigned short `MAXIMAL_NUMBER_OF_LEGS_IN_FLIGHT` (7)
- const unsigned short `MAXIMAL_NUMBER_OF_SEGMENTS_IN_OND` (3)
- const `SeatIndex_T DEFAULT_SEAT_INDEX` (1)
- const `NbOfSeats_T DEFAULT_NULL_BOOKING_NUMBER` (0)
- const `CapacityAdjustment_T DEFAULT_NULL_CAPACITY_ADJUSTMENT` (0)
- const `UPR_T DEFAULT_NULL_UPR` (0)
- const std::string `DEFAULT_FARE_FAMILY_VALUE_TYPE` ("FF")
- const std::string `DEFAULT_SEGMENT_CABIN_VALUE_TYPE` ("SC")

- const std::string **DEFAULT\_KEY\_FLD\_DELIMITER** (";")
- const std::string **DEFAULT\_KEY\_SUB\_FLD\_DELIMITER** (",")
- const boost::char\_separator< char > **DEFAULT\_KEY\_TOKEN\_DELIMITER** ("; ")
- template<int MIN, int MAX>  
**date\_time\_element**< MIN, MAX > **operator\*** (const **date\_time\_element**< MIN, MAX > &o1, const **date\_time\_element**< MIN, MAX > &o2)
- template<int MIN, int MAX>  
**date\_time\_element**< MIN, MAX > **operator+** (const **date\_time\_element**< MIN, MAX > &o1, const **date\_time\_element**< MIN, MAX > &o2)
- template void **AirlineClassListKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **AirlineClassListKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **BomRootKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **BomRootKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- void **intDisplay** (std::ostream &oStream, const int &iInt)
- template void **BucketKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **BucketKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **FareFamilyKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **FareFamilyKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **FlightDateKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **FlightDateKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **InventoryKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **InventoryKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **NestingNodeKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **NestingNodeKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **NestingStructureKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **NestingStructureKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **OnDDateKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **OnDDateKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- const boost::char\_separator< char > **TokeniserDashSeparator** (" -")
- const boost::char\_separator< char > **TokeniserTimeSeparator** (":")
- template void **PolicyKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **PolicyKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **SegmentCabinKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **SegmentCabinKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **SegmentDateKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **SegmentDateKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **SegmentSnapshotTableKey::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **SegmentSnapshotTableKey::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template<class Archive , class BOM\_OBJECT1 , class BOM\_OBJECT2 >  
void **serialiseHelper** (BOM\_OBJECT1 &ioObject1, Archive &ioArchive, const unsigned int iFileVersion)
- template void **BomRoot::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **BomRoot::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **Inventory::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **Inventory::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **FlightDate::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **FlightDate::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **SegmentDate::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **SegmentDate::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)
- template void **SegmentCabin::serialize**< ba::text\_oarchive > (ba::text\_oarchive &, unsigned int)
- template void **SegmentCabin::serialize**< ba::text\_iarchive > (ba::text\_iarchive &, unsigned int)

## Variables

- const std::string DOW\_STR []
- const UnconstrainingMethod DEFAULT\_UNCONSTRAINING\_METHOD ('E')
- const PartnershipTechnique DEFAULT\_PARTNERSHIP\_TECHNIQUE ('N')
- const ForecastingMethod DEFAULT\_FORECASTING\_METHOD ('Q')
- const PreOptimisationMethod DEFAULT\_PREOPTIMISATION\_METHOD ('N')
- const OptimisationMethod DEFAULT\_OPTIMISATION\_METHOD ('M')
- const CensorshipFlagList\_T DEFAULT\_CLASS\_CENSORSHIPFLAG\_LIST
- const Date\_T DEFAULT\_DICO\_STUDIED\_DATE
- const AirlineCodeList\_T DEFAULT\_AIRLINE\_CODE\_LIST
- const ClassList\_StringList\_T DEFAULT\_CLASS\_CODE\_LIST
- const BidPriceVector\_T DEFAULT\_BID\_PRICE\_VECTOR = std::vector<BidPrice\_T>()
- const int DEFAULT\_MAX\_DTD = 365
- const DCPList\_T DEFAULT\_DCP\_LIST = DefaultDCPList::init()
- const FRAT5Curve\_T FRAT5\_CURVE\_A
- const FRAT5Curve\_T FRAT5\_CURVE\_B
- const FRAT5Curve\_T FRAT5\_CURVE\_C
- const FRAT5Curve\_T FRAT5\_CURVE\_D
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_A
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_B
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_C
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_D
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_E
- const FFDisutilityCurve\_T FF\_DISUTILITY\_CURVE\_F
- const DTDFratMap\_T DEFAULT\_DTD\_FRAT5COEF\_MAP
- const DTDPProbMap\_T DEFAULT\_DTD\_PROB\_MAP
- const OnDStringList\_T DEFAULT\_OND\_STRING\_LIST
- const std::string DISPLAY\_LEVEL\_STRING\_ARRAY [51]
- const std::string DEFAULT\_KEY\_FLD\_DELIMITER
- const std::string DEFAULT\_KEY\_SUB\_FLD\_DELIMITER
- const boost::char\_separator< char > DEFAULT\_KEY\_TOKEN\_DELIMITER
- const Distance\_T DEFAULT\_DISTANCE\_VALUE
- const ClassCode\_T DEFAULT\_CLOSED\_CLASS\_CODE
- const NbOfBookings\_T DEFAULT\_CLASS\_NB\_OF\_BOOKINGS
- const NbOfBookings\_T DEFAULT\_CLASS\_TOTAL\_NB\_OF\_BOOKINGS
- const NbOfBookings\_T DEFAULT\_CLASS\_UNCONSTRAINED\_DEMAND
- const NbOfBookings\_T DEFAULT\_CLASS\_REMAINING\_DEMAND\_MEAN
- const NbOfBookings\_T DEFAULT\_CLASS\_REMAINING\_DEMAND\_STANDARD\_DEVIATION
- const NbOfCancellations\_T DEFAULT\_CLASS\_NB\_OF\_CANCELLATIONS
- const NbOfNoShows\_T DEFAULT\_CLASS\_NB\_OF\_NOSHOWS
- const CabinCapacity\_T DEFAULT\_CABIN\_CAPACITY
- const CommittedSpace\_T DEFAULT\_COMMITED\_SPACE
- const BlockSpace\_T DEFAULT\_BLOCK\_SPACE
- const Availability\_T DEFAULT\_NULL\_AVAILABILITY
- const Availability\_T DEFAULT\_AVAILABILITY
- const CensorshipFlag\_T DEFAULT\_CLASS\_CENSORSHIPFLAG
- const BookingLimit\_T DEFAULT\_CLASS\_BOOKING\_LIMIT
- const AuthorizationLevel\_T DEFAULT\_CLASS\_AUTHORIZATION\_LEVEL
- const AuthorizationLevel\_T DEFAULT\_CLASS\_MAX\_AUTHORIZATION\_LEVEL
- const AuthorizationLevel\_T DEFAULT\_CLASS\_MIN\_AUTHORIZATION\_LEVEL
- const OverbookingRate\_T DEFAULT\_CLASS\_OVERBOOKING\_RATE
- const Fare\_T DEFAULT\_FARE\_VALUE
- const Revenue\_T DEFAULT\_REVENUE\_VALUE
- const PriceCurrency\_T DEFAULT\_CURRENCY

- const Percentage\_T DEFAULT\_LOAD\_FACTOR\_VALUE
- const DayDuration\_T DEFAULT\_DAY\_DURATION
- const double DEFAULT\_EPSILON\_VALUE
- const AirportCode\_T AIRPORT\_LHR
- const AirportCode\_T AIRPORT\_SYD
- const CityCode\_T POS\_LHR
- const DayDuration\_T NO\_ADVANCE\_PURCHASE
- const SaturdayStay\_T SATURDAY\_STAY
- const SaturdayStay\_T NO\_SATURDAY\_STAY
- const ChangeFees\_T CHANGE\_FEES
- const ChangeFees\_T NO\_CHANGE\_FEES
- const NonRefundable\_T NON\_REFUNDABLE
- const NonRefundable\_T NO\_NON\_REFUNDABLE
- const DayDuration\_T NO\_STAY\_DURATION
- const CabinCode\_T CABIN\_Y
- const AirlineCode\_T AIRLINE\_CODE\_BA
- const ClassCode\_T CLASS\_CODE\_Y
- const ClassCode\_T CLASS\_CODE\_Q
- const AirportCode\_T AIRPORT\_SIN
- const AirportCode\_T AIRPORT\_BKK
- const CityCode\_T POS\_SIN
- const CabinCode\_T CABIN\_ECO
- const FrequentFlyer\_T FREQUENT\_FLYER\_MEMBER
- const Count\_T DEFAULT\_PROGRESS\_STATUS
- const Date\_T DEFAULT\_EVENT\_OLDEST\_DATE
- const DateTime\_T DEFAULT\_EVENT\_OLDEST\_DATETIME
- const Percentage\_T MAXIMUM\_PROGRESS\_STATUS
- const std::string DEFAULT\_BOM\_ROOT\_KEY
- const NbOfFlightDates\_T DEFAULT\_NB\_OF\_FLIGHTDATES
- const unsigned int DEFAULT\_FLIGHT\_SPEED
- const BookingRatio\_T DEFAULT\_OND\_BOOKING\_RATE
- const Count\_T SECONDS\_IN\_ONE\_DAY
- const Count\_T MILLISECONDS\_IN\_ONE\_SECOND
- const Date\_T DEFAULT\_DATE
- const DateTime\_T DEFAULT\_DATETIME
- const Duration\_T DEFAULT\_EPSILON\_DURATION
- const RandomSeed\_T DEFAULT\_RANDOM\_SEED
- const Duration\_T NULL\_BOOST\_TIME\_DURATION
- const Duration\_T DEFAULT\_NULL\_DURATION
- const Fare\_T DEFAULT\_CLASS\_FARE\_VALUE
- const NbOfAirlines\_T DEFAULT\_NBOFAIRLINES
- const unsigned int DEFAULT\_NB\_OF\_DAYS\_IN\_A\_YEAR
- const ChannelLabel\_T DEFAULT\_CHANNEL
- const unsigned int DEFAULT\_NUMBER\_OF\_SUBDIVISIONS
- const AirlineCode\_T DEFAULT\_AIRLINE\_CODE
- const AirlineCode\_T DEFAULT\_NULL\_AIRLINE\_CODE
- const FlightNumber\_T DEFAULT\_FLIGHT\_NUMBER
- const FlightNumber\_T DEFAULT\_FLIGHT\_NUMBER\_FF
- const TableID\_T DEFAULT\_TABLE\_ID
- const Date\_T DEFAULT\_DEPARTURE\_DATE
- const AirportCode\_T DEFAULT\_AIRPORT\_CODE
- const AirportCode\_T DEFAULT\_NULL\_AIRPORT\_CODE
- const AirportCode\_T DEFAULT\_ORIGIN
- const AirportCode\_T DEFAULT\_DESTINATION
- const CabinCode\_T DEFAULT\_CABIN\_CODE

- const FamilyCode\_T DEFAULT\_FARE\_FAMILY\_CODE
- const FamilyCode\_T DEFAULT\_NULL\_FARE\_FAMILY\_CODE
- const PolicyCode\_T DEFAULT\_POLICY\_CODE
- const NestingStructureCode\_T DEFAULT\_NESTING\_STRUCTURE\_CODE
- const NestingStructureCode\_T DISPLAY\_NESTING\_STRUCTURE\_CODE
- const NestingStructureCode\_T YIELD\_BASED\_NESTING\_STRUCTURE\_CODE
- const NestingNodeCode\_T DEFAULT\_NESTING\_NODE\_CODE
- const ClassCode\_T DEFAULT\_CLASS\_CODE
- const ClassCode\_T DEFAULT\_NULL\_CLASS\_CODE
- const BidPrice\_T DEFAULT\_BID\_PRICE
- const unsigned short MAXIMAL\_NUMBER\_OF\_LEGS\_IN\_FLIGHT
- const unsigned short MAXIMAL\_NUMBER\_OF\_SEGMENTS\_IN\_OND
- const Availability\_T MAXIMAL\_AVAILABILITY
- const SeatIndex\_T DEFAULT\_SEAT\_INDEX
- const NbOfSeats\_T DEFAULT\_NULL\_BOOKING\_NUMBER
- const CapacityAdjustment\_T DEFAULT\_NULL\_CAPACITY\_ADJUSTMENT
- const UPR\_T DEFAULT\_NULL\_UPR
- const std::string DEFAULT\_FARE\_FAMILY\_VALUE\_TYPE
- const std::string DEFAULT\_SEGMENT\_CABIN\_VALUE\_TYPE
- const DatePeriod\_T BOOST\_DEFAULT\_DATE\_PERIOD
- const DOW\_String\_T DEFAULT\_DOW\_STRING
- const DateOffset\_T DEFAULT\_DATE\_OFFSET
- const PartySize\_T DEFAULT\_PARTY\_SIZE
- const DayDuration\_T DEFAULT\_STAY\_DURATION
- const WTP\_T DEFAULT\_WTP
- const CityCode\_T DEFAULT\_POS
- const Date\_T DEFAULT\_PREFERRED\_DEPARTURE\_DATE
- const Duration\_T DEFAULT\_PREFERRED\_DEPARTURE\_TIME
- const DateOffset\_T DEFAULT\_ADVANCE\_PURCHASE
- const Date\_T DEFAULT\_REQUEST\_DATE
- const Duration\_T DEFAULT\_REQUEST\_TIME
- const DateTime\_T DEFAULT\_REQUEST\_DATE\_TIME
- const CabinCode\_T DEFAULT\_PREFERRED\_CABIN
- const ChannelLabel\_T CHANNEL\_DN
- const ChannelLabel\_T CHANNEL\_IN
- const TripType\_T TRIP\_TYPE\_ONE WAY
- const TripType\_T TRIP\_TYPE\_ROUND\_TRIP
- const TripType\_T TRIP\_TYPE\_INBOUND
- const TripType\_T TRIP\_TYPE\_OUTBOUND
- const FrequentFlyer\_T DEFAULT\_FF\_TIER
- const PriceValue\_T DEFAULT\_VALUE\_OF\_TIME
- const IntDuration\_T HOUR\_CONVERTED\_IN\_SECONDS
- const Duration\_T DEFAULT\_MINIMAL\_CONNECTION\_TIME
- const Duration\_T DEFAULT\_MAXIMAL\_CONNECTION\_TIME
- const FlightPathCode\_T DEFAULT\_FLIGHTPATH\_CODE
- const Availability\_T DEFAULT\_CLASS\_AVAILABILITY
- const AvailabilityStatus\_T DEFAULT\_AVAILABILITY\_STATUS
- const unsigned short DEFAULT\_NUMBER\_OF\_REQUIRED\_SEATS
- const MatchingIndicator\_T DEFAULT\_MATCHING\_INDICATOR
- const AirlineCode\_T DEFAULT\_DICO\_STUDIED\_AIRLINE
- const Yield\_T DEFAULT\_YIELD\_VALUE
- const Yield\_T DEFAULT\_YIELD\_MAX\_VALUE

### 31.5.1 Detailed Description

Handle on the StdAir library context.

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#### Date

20/01/2010 StdAir aims at providing a clean API, and the corresponding C++ implementation, for the basis of Airline IT Business Object Model (BOM), that is, to be used by several other Open Source projects, such as RMOL and OpenTREP.

Install the StdAir library for Airline IT Standard C++ fundaments.

### 31.5.2 Typedef Documentation

#### 31.5.2.1 `typedef date_time_element<0, 23> stdair::hour_t`

Type definitions for the date and time elements.

Definition at line [61](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.2 `typedef date_time_element<0, 59> stdair::minute_t`

Definition at line [62](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.3 `typedef date_time_element<0, 59> stdair::second_t`

Definition at line [63](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.4 `typedef date_time_element<1900, 2100> stdair::year_t`

Definition at line [64](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.5 `typedef date_time_element<1, 12> stdair::month_t`

Definition at line [65](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.6 `typedef date_time_element<1, 31> stdair::day_t`

Definition at line [66](#) of file [BasParserHelperTypes.hpp](#).

#### 31.5.2.7 `typedef std::istreambuf_iterator<char> stdair::base_iterator_t`

Definition at line [26](#) of file [BasParserTypes.hpp](#).

#### 31.5.2.8 `typedef boost::spirit::multi_pass<base_iterator_t> stdair::iterator_t`

Definition at line [27](#) of file [BasParserTypes.hpp](#).

#### 31.5.2.9 `typedef boost::spirit::qi::int_parser<unsigned int, 10, 1, 1> stdair::int1_p_t`

1-digit-integer parser

Definition at line [35](#) of file [BasParserTypes.hpp](#).

#### 31.5.2.10 `typedef boost::spirit::qi::uint_parser<int, 10, 2, 2> stdair::uint2_p_t`

2-digit-integer parser

Definition at line [38](#) of file [BasParserTypes.hpp](#).

31.5.2.11 **typedef boost::spirit::qi::uint\_parser<int, 10, 4, 4> stdair::uint4\_p\_t**

4-digit-integer parser

Definition at line 41 of file [BasParserTypes.hpp](#).

31.5.2.12 **typedef boost::spirit::qi::uint\_parser<int, 10, 1, 4> stdair::uint1\_4\_p\_t**

Up-to-4-digit-integer parser

Definition at line 44 of file [BasParserTypes.hpp](#).

31.5.2.13 **typedef boost::spirit::qi::uint\_parser<hour\_t, 10, 2, 2> stdair::hour\_p\_t**

Date & time element parsers.

Definition at line 47 of file [BasParserTypes.hpp](#).

31.5.2.14 **typedef boost::spirit::qi::uint\_parser<minute\_t, 10, 2, 2> stdair::minute\_p\_t**

Definition at line 48 of file [BasParserTypes.hpp](#).

31.5.2.15 **typedef boost::spirit::qi::uint\_parser<second\_t, 10, 2, 2> stdair::second\_p\_t**

Definition at line 49 of file [BasParserTypes.hpp](#).

31.5.2.16 **typedef boost::spirit::qi::uint\_parser<year\_t, 10, 4, 4> stdair::year\_p\_t**

Definition at line 50 of file [BasParserTypes.hpp](#).

31.5.2.17 **typedef boost::spirit::qi::uint\_parser<month\_t, 10, 2, 2> stdair::month\_p\_t**

Definition at line 51 of file [BasParserTypes.hpp](#).

31.5.2.18 **typedef boost::spirit::qi::uint\_parser<day\_t, 10, 2, 2> stdair::day\_p\_t**

Definition at line 52 of file [BasParserTypes.hpp](#).

31.5.2.19 **typedef unsigned short stdair::DictionaryKey\_T**

Dictionary key.

Definition at line 17 of file [DictionaryManager.hpp](#).

31.5.2.20 **typedef std::list<AirlineClassList\*> stdair::AirlineClassListList\_T**

Define the segment-features list.

Definition at line 17 of file [AirlineClassListTypes.hpp](#).

31.5.2.21 **typedef std::map<const MapKey\_T, AirlineClassList\*> stdair::AirlineClassListMap\_T**

Define the segment-features map.

Definition at line 23 of file [AirlineClassListTypes.hpp](#).

31.5.2.22 **typedef std::pair<MapKey\_T, AirlineClassList\*> stdair::AirlineClassListWithKey\_T**

Define the list of pair<MapKey\_T, AirlineCodeList>.

Definition at line 26 of file [AirlineClassListTypes.hpp](#).

31.5.2.23 **typedef std::list<AirlineClassListWithKey\_T> stdair::AirlineClassListDetailedList\_T**

Definition at line 27 of file [AirlineClassListTypes.hpp](#).

31.5.2.24 `typedef std::list<AirlineFeature*> stdair::AirlineFeatureList_T`

Define the airline feature list.

Definition at line 17 of file [AirlineFeatureTypes.hpp](#).

31.5.2.25 `typedef std::map<const MapKey_T, AirlineFeature*> stdair::AirlineFeatureMap_T`

Define the airline feature map.

Definition at line 23 of file [AirlineFeatureTypes.hpp](#).

31.5.2.26 `typedef std::list<AirportPair*> stdair::AirportPairList_T`

Define the airport-pair list.

Definition at line 17 of file [AirportPairTypes.hpp](#).

31.5.2.27 `typedef std::map<const MapKey_T, AirportPair*> stdair::AirportPairMap_T`

Define the airport-pair map.

Definition at line 23 of file [AirportPairTypes.hpp](#).

31.5.2.28 `typedef std::pair<MapKey_T, AirportPair*> stdair::AirportPairWithKey_T`

Define the list of pair<MapKey\_T, AirportPair>.

Definition at line 26 of file [AirportPairTypes.hpp](#).

31.5.2.29 `typedef std::list<AirportPairWithKey_T> stdair::AirportPairDetailedList_T`

Definition at line 27 of file [AirportPairTypes.hpp](#).

31.5.2.30 `typedef std::map<const std::type_info*, BomAbstract*> stdair::HolderMap_T`

Definition at line 63 of file [BomAbstract.hpp](#).

31.5.2.31 `typedef struct BomID< BookingClass > stdair::BookingClassID_T`

Define the booking class ID.

Definition at line 21 of file [BomIDTypes.hpp](#).

31.5.2.32 `typedef std::list<BookingClassID_T> stdair::BookingClassIDList_T`

Define the list of booking class ID's.

Definition at line 24 of file [BomIDTypes.hpp](#).

31.5.2.33 `typedef boost::tokenizer< boost::char_separator< char > > stdair::Tokeniser_T`

Boost Tokeniser.

Definition at line 28 of file [BomKeyManager.cpp](#).

31.5.2.34 `typedef std::list<BookingClass*> stdair::BookingClassList_T`

Define the booking class list.

Definition at line 17 of file [BookingClassTypes.hpp](#).

31.5.2.35 `typedef std::map<const MapKey_T, BookingClass*> stdair::BookingClassMap_T`

Define the booking class map.

Definition at line 23 of file [BookingClassTypes.hpp](#).

**31.5.2.36 `typedef boost::shared_ptr<BookingRequestStruct> stdair::BookingRequestPtr_T`**

Define the smart pointer to a booking request.

Definition at line [14](#) of file [BookingRequestTypes.hpp](#).

**31.5.2.37 `typedef std::string stdair::DemandGeneratorKey_T`**

Define the hash key for the demand generator.

Definition at line [21](#) of file [BookingRequestTypes.hpp](#).

**31.5.2.38 `typedef boost::shared_ptr<BreakPointStruct> stdair::BreakPointPtr_T`**

Define the smart pointer to a Break Point event .

Definition at line [16](#) of file [BreakPointTypes.hpp](#).

**31.5.2.39 `typedef std::list<BreakPointStruct> stdair::BreakPointList_T`**

Define the list of Break Points.

Definition at line [23](#) of file [BreakPointTypes.hpp](#).

**31.5.2.40 `typedef std::list<Bucket*> stdair::BucketList_T`**

Define the bucket list.

Definition at line [17](#) of file [BucketTypes.hpp](#).

**31.5.2.41 `typedef std::map<const MapKey_T, Bucket*> stdair::BucketMap_T`**

Define the bucket map.

Definition at line [23](#) of file [BucketTypes.hpp](#).

**31.5.2.42 `typedef boost::shared_ptr<CancellationStruct> stdair::CancellationPtr_T`**

Define the smart pointer to a cancellation .

Definition at line [14](#) of file [CancellationTypes.hpp](#).

**31.5.2.43 `typedef boost::shared_ptr<ConfigHolderStruct> stdair::ConfigHolderPtr_T`**

Define the smart pointer to a Config Holder structure.

Definition at line [16](#) of file [ConfigHolderTypes.hpp](#).

**31.5.2.44 `typedef std::list<DatePeriod*> stdair::DatePeriodList_T`**

Define the date-period list.

Definition at line [17](#) of file [DatePeriodTypes.hpp](#).

**31.5.2.45 `typedef std::map<const MapKey_T, DatePeriod*> stdair::DatePeriodMap_T`**

Define the date-period map.

Definition at line [23](#) of file [DatePeriodTypes.hpp](#).

**31.5.2.46 `typedef std::pair<MapKey_T, DatePeriod*> stdair::DatePeriodWithKey_T`**

Define the list of pair<MapKey\_T, DatePeriod>.

Definition at line [26](#) of file [DatePeriodTypes.hpp](#).

31.5.2.47 `typedef std::list<DatePeriodWithKey_T> stdair::DatePeriodDetailedList_T`

Definition at line 27 of file [DatePeriodTypes.hpp](#).

31.5.2.48 `typedef std::pair<const LongDuration_T, EventStruct> stdair::EventListElement_T`

Define an element of a event list.

Definition at line 22 of file [EventTypes.hpp](#).

31.5.2.49 `typedef std::map<const LongDuration_T, EventStruct> stdair::EventList_T`

Define a list of events.

Definition at line 32 of file [EventTypes.hpp](#).

31.5.2.50 `typedef std::list<FareFamily*> stdair::FareFamilyList_T`

Define the fare family list.

Definition at line 17 of file [FareFamilyTypes.hpp](#).

31.5.2.51 `typedef std::map<const MapKey_T, FareFamily*> stdair::FareFamilyMap_T`

Define the fare family map.

Definition at line 23 of file [FareFamilyTypes.hpp](#).

31.5.2.52 `typedef std::list<FareFeatures*> stdair::FareFeaturesList_T`

Define the date-period list.

Definition at line 17 of file [FareFeaturesTypes.hpp](#).

31.5.2.53 `typedef std::map<const MapKey_T, FareFeatures*> stdair::FareFeaturesMap_T`

Define the date-period map.

Definition at line 23 of file [FareFeaturesTypes.hpp](#).

31.5.2.54 `typedef std::pair<MapKey_T, FareFeatures*> stdair::FareFeaturesWithKey_T`

Define the list of pair<MapKey\_T, FareFeatures>.

Definition at line 26 of file [FareFeaturesTypes.hpp](#).

31.5.2.55 `typedef std::list<FareFeaturesWithKey_T> stdair::FareFeaturesDetailedList_T`

Definition at line 27 of file [FareFeaturesTypes.hpp](#).

31.5.2.56 `typedef std::list<FareOptionStruct> stdair::FareOptionList_T`

Define the booking class list.

Definition at line 18 of file [FareOptionTypes.hpp](#).

31.5.2.57 `typedef std::map<const std::string, FFDisutilityCurve_T> stdair::FFDisutilityCurveHolder_T`

Definition at line 16 of file [FFDisutilityCurveHolderStruct.hpp](#).

31.5.2.58 `typedef std::list<FlightDate*> stdair::FlightDateList_T`

Define the flight-date list.

Definition at line 17 of file [FlightDateTypes.hpp](#).

31.5.2.59 `typedef std::map<const MapKey_T, FlightDate*> stdair::FlightDateMap_T`

Define the flight-date map.

Definition at line 24 of file [FlightDateTypes.hpp](#).

31.5.2.60 `typedef std::list<FlightPeriod*> stdair::FlightPeriodList_T`

Define the flight-period list.

Definition at line 17 of file [FlightPeriodTypes.hpp](#).

31.5.2.61 `typedef std::map<const MapKey_T, FlightPeriod*> stdair::FlightPeriodMap_T`

Define the flight-period map.

Definition at line 23 of file [FlightPeriodTypes.hpp](#).

31.5.2.62 `typedef std::map<const std::string, FRAT5Curve_T> stdair::FRAT5CurveHolder_T`

Definition at line 16 of file [FRAT5CurveHolderStruct.hpp](#).

31.5.2.63 `typedef std::list<Inventory*> stdair::InventoryList_T`

Define the [Inventory](#) list.

Definition at line 17 of file [InventoryTypes.hpp](#).

31.5.2.64 `typedef std::map<const MapKey_T, Inventory*> stdair::InventoryMap_T`

Define the [Inventory](#) map.

Definition at line 23 of file [InventoryTypes.hpp](#).

31.5.2.65 `typedef std::string stdair::MapKey_T`

Key of a STL map.

Definition at line 15 of file [key\\_types.hpp](#).

31.5.2.66 `typedef std::list<std::string> stdair::KeyList_T`

List of keys.

Definition at line 18 of file [key\\_types.hpp](#).

31.5.2.67 `typedef std::list<LegCabin*> stdair::LegCabinList_T`

Define the leg-cabin list.

Definition at line 17 of file [LegCabinTypes.hpp](#).

31.5.2.68 `typedef std::map<const MapKey_T, LegCabin*> stdair::LegCabinMap_T`

Define the leg-cabin map.

Definition at line 23 of file [LegCabinTypes.hpp](#).

31.5.2.69 `typedef std::list<LegDate*> stdair::LegDateList_T`

Define the leg-date list.

Definition at line 17 of file [LegDateTypes.hpp](#).

31.5.2.70 `typedef std::map<const MapKey_T, LegDate*> stdair::LegDateMap_T`

Define the leg-date map.

Definition at line 23 of file [LegDateTypes.hpp](#).

**31.5.2.71 `typedef std::list<NestingNode*> stdair::NestingNodeList_T`**

Define the fare family list.

Definition at line 17 of file [NestingNodeTypes.hpp](#).

**31.5.2.72 `typedef std::map<const MapKey_T, NestingNode*> stdair::NestingNodeMap_T`**

Define the fare family map.

Definition at line 23 of file [NestingNodeTypes.hpp](#).

**31.5.2.73 `typedef std::list<OnDDate*> stdair::OnDDateList_T`**

Define the O&D date list.

Definition at line 19 of file [OnDDateTypes.hpp](#).

**31.5.2.74 `typedef std::map<const MapKey_T, OnDDate*> stdair::OnDDateMap_T`**

Define the OnD date map.

Definition at line 25 of file [OnDDateTypes.hpp](#).

**31.5.2.75 `typedef std::pair<std::string, YieldDemandPair_T> stdair::StringDemandStructPair_T`**

Define the yield mean and standard deviation for a certain cabin/class path. This map is mandatory when using the default BOM tree. This map can be empty if yields are charged otherwise (input file, ...)

Definition at line 32 of file [OnDDateTypes.hpp](#).

**31.5.2.76 `typedef std::map<std::string, YieldDemandPair_T> stdair::StringDemandStructMap_T`**

Definition at line 33 of file [OnDDateTypes.hpp](#).

**31.5.2.77 `typedef std::map<std::string, CabinClassPairList_T> stdair::StringCabinClassPairListMap_T`**

Define the string matching a (cabin,class) path. (i.e, the string is "Y:M;" for a one leg O&D with the cabin Y and the class M; the string is "Y:M;Y:Y;" for a two legs O&D with the cabin Y and the class M for the first leg, and the cabin Y and the class Y for the second leg).

Definition at line 41 of file [OnDDateTypes.hpp](#).

**31.5.2.78 `typedef std::pair<std::string, CabinClassPairList_T> stdair::StringCabinClassPair_T`**

Definition at line 42 of file [OnDDateTypes.hpp](#).

**31.5.2.79 `typedef std::map<CabinCode_T, WTPDemandPair_T> stdair::CabinForecastMap_T`**

Define the WTP mean and standard deviation for a certain cabin code. This information is needed to forecast O&D demand per cabin.

Definition at line 48 of file [OnDDateTypes.hpp](#).

**31.5.2.80 `typedef std::pair<CabinCode_T, WTPDemandPair_T> stdair::CabinForecastPair_T`**

Definition at line 49 of file [OnDDateTypes.hpp](#).

**31.5.2.81 `typedef boost::shared_ptr<OptimisationNotificationStruct> stdair::OptimisationNotificationPtr_T`**

Define the smart pointer to a optimisation notification.

Definition at line 14 of file [OptimisationNotificationTypes.hpp](#).

**31.5.2.82 `typedef std::list<Policy*> stdair::PolicyList_T`**

Define the fare family list.

Definition at line [17](#) of file [PolicyTypes.hpp](#).

**31.5.2.83 `typedef std::map<const MapKey_T, Policy*> stdair::PolicyMap_T`**

Define the fare family map.

Definition at line [23](#) of file [PolicyTypes.hpp](#).

**31.5.2.84 `typedef std::list<PosChannel*> stdair::PosChannelList_T`**

Define the fare-point\_of\_sale list.

Definition at line [17](#) of file [PosChannelTypes.hpp](#).

**31.5.2.85 `typedef std::map<const MapKey_T, PosChannel*> stdair::PosChannelMap_T`**

Define the fare-point\_of\_sale map.

Definition at line [23](#) of file [PosChannelTypes.hpp](#).

**31.5.2.86 `typedef std::pair<MapKey_T, PosChannel*> stdair::PosChannelWithKey_T`**

Define the list of pair<MapKey\_T, PosChannel>.

Definition at line [26](#) of file [PosChannelTypes.hpp](#).

**31.5.2.87 `typedef std::list<PosChannelWithKey_T> stdair::PosChannelDetailedList_T`**

Definition at line [27](#) of file [PosChannelTypes.hpp](#).

**31.5.2.88 `typedef boost::shared_ptr<RMEventStruct> stdair::RMEventPtr_T`**

Define the smart pointer to a RM event .

Definition at line [16](#) of file [RMEventTypes.hpp](#).

**31.5.2.89 `typedef std::list<RMEventStruct> stdair::RMEventList_T`**

Define the list of RM events.

Definition at line [23](#) of file [RMEventTypes.hpp](#).

**31.5.2.90 `typedef std::list<SegmentCabin*> stdair::SegmentCabinList_T`**

Define the segment-cabin list.

Definition at line [17](#) of file [SegmentCabinTypes.hpp](#).

**31.5.2.91 `typedef std::map<const MapKey_T, SegmentCabin*> stdair::SegmentCabinMap_T`**

Define the segment-cabin map.

Definition at line [23](#) of file [SegmentCabinTypes.hpp](#).

**31.5.2.92 `typedef std::list<std::string> stdair::RoutingLegKeyList_T`**

Definition at line [27](#) of file [SegmentDate.hpp](#).

**31.5.2.93 `typedef std::list<SegmentDate*> stdair::SegmentDateList_T`**

Define the segment-date list.

Definition at line [17](#) of file [SegmentDateTypes.hpp](#).

31.5.2.94 `typedef std::map<const MapKey_T, SegmentDate*> stdair::SegmentDateMap_T`

Define the segment-date map.

Definition at line 23 of file [SegmentDateTypes.hpp](#).

31.5.2.95 `typedef std::list<SegmentPeriod*> stdair::SegmentPeriodList_T`

Define the segment-period list.

Definition at line 17 of file [SegmentPeriodTypes.hpp](#).

31.5.2.96 `typedef std::map<const MapKey_T, SegmentPeriod*> stdair::SegmentPeriodMap_T`

Define the segment-period map.

Definition at line 23 of file [SegmentPeriodTypes.hpp](#).

31.5.2.97 `typedef std::pair<MapKey_T, SegmentPeriod*> stdair::SegmentPeriodWithKey_T`

Define the list of pair<MapKey\_T, SegmentPeriod>.

Definition at line 26 of file [SegmentPeriodTypes.hpp](#).

31.5.2.98 `typedef std::list<SegmentPeriodWithKey_T> stdair::SegmentPeriodDetailedList_T`

Definition at line 27 of file [SegmentPeriodTypes.hpp](#).

31.5.2.99 `typedef std::list<SegmentSnapshotTable*> stdair::SegmentSnapshotTableList_T`

Define the guillotine-block list.

Definition at line 20 of file [SegmentSnapshotTableTypes.hpp](#).

31.5.2.100 `typedef std::map<const MapKey_T, SegmentSnapshotTable*> stdair::SegmentSnapshotTableMap_T`

Define the guillotine-block map.

Definition at line 27 of file [SegmentSnapshotTableTypes.hpp](#).

31.5.2.101 `typedef std::map<const SegmentCabin*, SegmentDataID_T> stdair::SegmentCabinIndexMap_T`

Define the map between the segment-cabins and the segment data ID.

Definition at line 30 of file [SegmentSnapshotTableTypes.hpp](#).

31.5.2.102 `typedef std::map<const MapKey_T, ClassIndex_T> stdair::ClassIndexMap_T`

Define the map between the class and their index.

Definition at line 33 of file [SegmentSnapshotTableTypes.hpp](#).

31.5.2.103 `typedef std::list<SimpleNestingStructure*> stdair::SimpleNestingStructureList_T`

Define the fare family list.

Definition at line 17 of file [SimpleNestingStructureTypes.hpp](#).

31.5.2.104 `typedef std::map<const MapKey_T, SimpleNestingStructure*> stdair::SimpleNestingStructureMap_T`

Define the fare family map.

Definition at line 23 of file [SimpleNestingStructureTypes.hpp](#).

**31.5.2.105 `typedef boost::shared_ptr<SnapshotStruct> stdair::SnapshotPtr_T`**

Define the smart pointer to a snapshot .

Definition at line [14](#) of file [SnapshotTypes.hpp](#).

**31.5.2.106 `typedef std::list<TimePeriod*> stdair::TimePeriodList_T`**

Define the time-period list.

Definition at line [17](#) of file [TimePeriodTypes.hpp](#).

**31.5.2.107 `typedef std::map<const MapKey_T, TimePeriod*> stdair::TimePeriodMap_T`**

Define the time-period map.

Definition at line [23](#) of file [TimePeriodTypes.hpp](#).

**31.5.2.108 `typedef std::pair<MapKey_T, TimePeriod*> stdair::TimePeriodWithKey_T`**

Define the list of pair<MapKey\_T, TimePeriod>.

Definition at line [26](#) of file [TimePeriodTypes.hpp](#).

**31.5.2.109 `typedef std::list<TimePeriodWithKey_T> stdair::TimePeriodDetailedList_T`**

Definition at line [27](#) of file [TimePeriodTypes.hpp](#).

**31.5.2.110 `typedef std::list<TravelSolutionStruct> stdair::TravelSolutionList_T`**

Define the booking class list.

Definition at line [20](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.111 `typedef KeyList_T stdair::SegmentPath_T`**

Define the segment path key.

Definition at line [26](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.112 `typedef std::list<SegmentPath_T> stdair::SegmentPathList_T`**

Define the list of segment paths.

Definition at line [29](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.113 `typedef std::map<const ClassCode_T, Availability_T> stdair::ClassAvailabilityMap_T`**

Define booking class - availability map.

Definition at line [32](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.114 `typedef std::list<ClassAvailabilityMap_T> stdair::ClassAvailabilityMapHolder_T`**

Define list of booking class - availability maps.

Definition at line [35](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.115 `typedef std::map<const ClassCode_T, BookingClassID_T> stdair::ClassObjectIDMap_T`**

Define booking class - object ID map.

Definition at line [38](#) of file [TravelSolutionTypes.hpp](#).

**31.5.2.116 `typedef std::list<ClassObjectIDMap_T> stdair::ClassObjectIDMapHolder_T`**

Define list of boking class - object ID maps.

Definition at line 41 of file [TravelSolutionTypes.hpp](#).

31.5.2.117 `typedef std::map<const ClassCode_T, YieldValue_T> stdair::ClassYieldMap_T`

Define booking class - yield map.

Definition at line 44 of file [TravelSolutionTypes.hpp](#).

31.5.2.118 `typedef std::list<ClassYieldMap_T> stdair::ClassYieldMapHolder_T`

Define list of booking class - yield maps.

Definition at line 47 of file [TravelSolutionTypes.hpp](#).

31.5.2.119 `typedef std::list<BidPriceVector_T> stdair::BidPriceVectorHolder_T`

Define list of bid price vectors.

Definition at line 50 of file [TravelSolutionTypes.hpp](#).

31.5.2.120 `typedef std::map<const ClassCode_T, const BidPriceVector_T*> stdair::ClassBpvMap_T`

Define booking class - bid price reference map.

Definition at line 53 of file [TravelSolutionTypes.hpp](#).

31.5.2.121 `typedef std::list<ClassBpvMap_T> stdair::ClassBpvMapHolder_T`

Define list of booking class - bid price reference maps.

Definition at line 56 of file [TravelSolutionTypes.hpp](#).

31.5.2.122 `typedef std::list<VirtualClassStruct> stdair::VirtualClassList_T`

Define the booking class list.

Definition at line 17 of file [VirtualClassTypes.hpp](#).

31.5.2.123 `typedef std::map<const YieldLevel_T, VirtualClassStruct> stdair::VirtualClassMap_T`

Define the booking class map.

Definition at line 23 of file [VirtualClassTypes.hpp](#).

31.5.2.124 `typedef std::list<YieldFeatures*> stdair::YieldFeaturesList_T`

Define the date-period list.

Definition at line 17 of file [YieldFeaturesTypes.hpp](#).

31.5.2.125 `typedef std::map<const MapKey_T, YieldFeatures*> stdair::YieldFeaturesMap_T`

Define the date-period map.

Definition at line 23 of file [YieldFeaturesTypes.hpp](#).

31.5.2.126 `typedef std::pair<MapKey_T, YieldFeatures*> stdair::YieldFeaturesWithKey_T`

Define the list of pair<MapKey\_T, YieldFeatures>.

Definition at line 26 of file [YieldFeaturesTypes.hpp](#).

31.5.2.127 `typedef std::list<YieldFeaturesWithKey_T> stdair::YieldFeaturesDetailedList_T`

Definition at line 27 of file [YieldFeaturesTypes.hpp](#).

**31.5.2.128 `typedef std::list<YieldStore*> stdair::YieldStoreList_T`**

Define the [Inventory](#) list.

Definition at line [17](#) of file [YieldStoreTypes.hpp](#).

**31.5.2.129 `typedef std::map<const MapKey_T, YieldStore*> stdair::YieldStoreMap_T`**

Define the [Inventory](#) map.

Definition at line [23](#) of file [YieldStoreTypes.hpp](#).

**31.5.2.130 `typedef std::string stdair::LocationCode_T`**

Location code (3-letter-code, e.g., LON).

Definition at line [16](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.131 `typedef unsigned long int stdair::Distance_T`**

Define a distance (kilometers).

Definition at line [19](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.132 `typedef LocationCode_T stdair::AirportCode_T`**

Define the Airport Code type (3-letter-code, e.g., LHR).

Definition at line [22](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.133 `typedef LocationCode_T stdair::CityCode_T`**

City code

Definition at line [25](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.134 `typedef std::string stdair::KeyDescription_T`**

Define the key description.

Definition at line [28](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.135 `typedef std::string stdair::AirlineCode_T`**

Define the Airline Code type (2-letter-code, e.g., BA).

Definition at line [31](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.136 `typedef unsigned short stdair::FlightNumber_T`**

Define the type for flight numbers.

Definition at line [34](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.137 `typedef unsigned short stdair::TableID_T`**

Define the type for data table numbers.

Definition at line [37](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.138 `typedef std::string stdair::CabinCode_T`**

Define the cabin code (class of service, e.g., first, business, economy).

Definition at line [41](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.139 `typedef std::string stdair::FamilyCode_T`**

Define the code of the fare family (e.g., 1, 2, 3, etc.).

Definition at line [44](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.140 `typedef std::string stdair::PolicyCode_T`**

Define the code of the policy (e.g., 1, 2, 3, etc.).

Definition at line [47](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.141 `typedef std::string stdair::NestingStructureCode_T`**

Define the code of the nesting structure (e.g., "default").

Definition at line [50](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.142 `typedef std::string stdair::NestingNodeCode_T`**

Define the code of the nesting node (e.g., 1, 2, 3, etc).

Definition at line [53](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.143 `typedef std::string stdair::ClassCode_T`**

Define the booking class code (product segment class, e.g., H, B, K, etc.).

Definition at line [57](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.144 `typedef unsigned long stdair::Identity_T`**

Define a identity number.

Definition at line [60](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.145 `typedef std::string stdair::TripType_T`**

Type of trip type (RO=outbound of round-trip, RI=inbound of round-trip, OW=one way).

Definition at line [64](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.146 `typedef double stdair::MonetaryValue_T`**

Monetary value

Definition at line [67](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.147 `typedef double stdair::RealNumber_T`**

Real number

Definition at line [70](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.148 `typedef double stdair::Percentage_T`**

Define a percentage value (between 0 and 100%).

Definition at line [73](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.149 `typedef double stdair::PriceValue_T`**

Define a price value (e.g., 1000.0 Euros).

Definition at line [76](#) of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.150 `typedef double stdair::YieldValue_T`**

Define a yield value (e.g., 1000.0 Euros).

Definition at line [79](#) of file `stdair_basic_types.hpp`.

**31.5.2.151 `typedef std::string stdair::PriceCurrency_T`**

Define a price currency (e.g., EUR for Euros).

Definition at line [82](#) of file `stdair_basic_types.hpp`.

**31.5.2.152 `typedef double stdair::Revenue_T`**

Define an amount of revenue.

Define the revenue of a policy

Definition at line [85](#) of file `stdair_basic_types.hpp`.

**31.5.2.153 `typedef double stdair::Multiplier_T`**

Define the name of a multiplier.

Definition at line [88](#) of file `stdair_basic_types.hpp`.

**31.5.2.154 `typedef double stdair::NbOfSeats_T`**

Define the number of seats (it can be non integer, because the overbooking can be applied at booking class or PNR level).

Definition at line [92](#) of file `stdair_basic_types.hpp`.

**31.5.2.155 `typedef unsigned int stdair::Count_T`**

Count

Definition at line [95](#) of file `stdair_basic_types.hpp`.

**31.5.2.156 `typedef short stdair::PartySize_T`**

Number of passengers (in a group) for a booking.

Definition at line [98](#) of file `stdair_basic_types.hpp`.

**31.5.2.157 `typedef double stdair::NbOfRequests_T`**

Define a number of requests.

Definition at line [101](#) of file `stdair_basic_types.hpp`.

**31.5.2.158 `typedef NbOfRequests_T stdair::NbOfBookings_T`**

Define a number of bookings.

Definition at line [104](#) of file `stdair_basic_types.hpp`.

**31.5.2.159 `typedef NbOfRequests_T stdair::NbOfCancellations_T`**

Define a number of cancellations.

Define a number of cancellations (travellers).

Definition at line [107](#) of file `stdair_basic_types.hpp`.

**31.5.2.160 `typedef unsigned short stdair::NbOfTravelSolutions_T`**

Define a number of travel solutions (in a travel solution block).

Definition at line 111 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.161 `typedef std::string stdair::ClassList_String_T`**

Define the list of class codes as a string.

Definition at line 114 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.162 `typedef unsigned short stdair::NbOfSegments_T`**

Define a number of segment-dates (in a path).

Definition at line 117 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.163 `typedef unsigned short stdair::NbOfAirlines_T`**

Define a number of airlines (in a path).

Definition at line 120 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.164 `typedef double stdair::Availability_T`**

Define an availability.

Definition at line 123 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.165 `typedef double stdair::Fare_T`**

Define the price of a travel solution.

Definition at line 126 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.166 `typedef bool stdair::Flag_T`**

Define the censorship flag.

Definition at line 129 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.167 `typedef unsigned int stdair::UnsignedIndex_T`**

Define the unsigned index type.

Definition at line 132 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.168 `typedef unsigned int stdair::NbOfClasses_T`**

Define the number of booking classes.

Definition at line 135 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.169 `typedef unsigned int stdair::NbOfFareFamilies_T`**

Define the number of fare families.

Definition at line 138 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.170 `typedef std::string stdair::Filename_T`**

File or directory name.

It may contain paths, relative or absolute (e.g., /foo/bar or C:).

Definition at line 144 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.171 `typedef std::string stdair::FileAddress_T`**

Define the file address type (e.g. "a\_directory/a\_filename").

NOTE: That type should be deprecated.

Definition at line 148 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.172 `typedef float stdair::ProgressPercentage_T`**

Progress status (usually, a percentage expressed as a floating point number).

Definition at line 152 of file [stdair\\_basic\\_types.hpp](#).

**31.5.2.173 `typedef boost::posix_time::time_duration stdair::Duration_T`**

Define the type for durations (e.g., elapsed in-flight time).

Definition at line 17 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.174 `typedef boost::gregorian::date stdair::Date_T`**

Define the type for date (e.g., departure date of a flight).

Definition at line 20 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.175 `typedef boost::posix_time::time_duration stdair::Time_T`**

Time

Definition at line 23 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.176 `typedef boost::posix_time::ptime stdair::DateTime_T`**

Define an accurate time (date+time).

Definition at line 26 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.177 `typedef boost::gregorian::date_period stdair::DatePeriod_T`**

Define the Period (e.g., period during which flights depart).

Definition at line 29 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.178 `typedef std::string stdair::DOW_String_T`**

Define the Day-Of-the-Week as a string.

Definition at line 32 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.179 `typedef boost::gregorian::date_duration stdair::DateOffset_T`**

Define the Date Offset (e.g., -1 ).

Definition at line 35 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.180 `typedef int stdair::DayDuration_T`**

Define a duration in number of days.

Definition at line 38 of file [stdair\\_date\\_time\\_types.hpp](#).

**31.5.2.181 `typedef bool stdair::SaturdayStay_T`**

Define the Saturday stay status of a travel.

Define the saturday stay of a tickets.

Definition at line 41 of file [stdair\\_date\\_time\\_types.hpp](#).

#### 31.5.2.182 `typedef long int stdair::IntDuration_T`

Time duration in (integer) number of seconds

Definition at line 44 of file [stdair\\_date\\_time\\_types.hpp](#).

#### 31.5.2.183 `typedef long long int stdair::LongDuration_T`

Time duration in (unsigned long long integer) number of milliseconds

Definition at line 47 of file [stdair\\_date\\_time\\_types.hpp](#).

#### 31.5.2.184 `typedef float stdair::FloatDuration_T`

Duration in (float) number of time units

Definition at line 50 of file [stdair\\_date\\_time\\_types.hpp](#).

#### 31.5.2.185 `typedef soci::session stdair::DBSession_T`

Database session handler.

Definition at line 20 of file [stdair\\_db.hpp](#).

#### 31.5.2.186 `typedef soci::statement stdair::DBRequestStatement_T`

Database request statement handler.

Definition at line 23 of file [stdair\\_db.hpp](#).

#### 31.5.2.187 `typedef std::string stdair::DBConnectionName_T`

Define the name of an database connection.

Definition at line 26 of file [stdair\\_db.hpp](#).

#### 31.5.2.188 `typedef bool stdair::ChangeFees_T`

Define the availability option allowing the ticket change.

Definition at line 29 of file [stdair\\_demand\\_types.hpp](#).

#### 31.5.2.189 `typedef bool stdair::NonRefundable_T`

Define the refundable availability of a tickets.

Definition at line 32 of file [stdair\\_demand\\_types.hpp](#).

#### 31.5.2.190 `typedef double stdair::SaturdayStayRatio_T`

Define the average ratio (between 0 and 100 percent) of demand with a saturday stay status equal to TRUE.

Definition at line 39 of file [stdair\\_demand\\_types.hpp](#).

#### 31.5.2.191 `typedef double stdair::ChangeFeesRatio_T`

Define the average ratio of demand with change fee availability.

Definition at line 43 of file [stdair\\_demand\\_types.hpp](#).

#### 31.5.2.192 `typedef double stdair::NonRefundableRatio_T`

Define the average ratio of demand with non-refundable availability.

Definition at line 47 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.193 `typedef double stdair::Disutility_T`**

Define the disutility of restriction.

Definition at line [50](#) of file `stdair_demand_types.hpp`.

**31.5.2.194 `typedef std::string stdair::PassengerType_T`**

Define the passenger characteristics, leisure or business for instance (1-letter-code, e.g., L or B).

Definition at line [54](#) of file `stdair_demand_types.hpp`.

**31.5.2.195 `typedef std::string stdair::DistributionPatternId_T`**

Define the identifier of a distribution pattern (e.g., 1).

Definition at line [57](#) of file `stdair_demand_types.hpp`.

**31.5.2.196 `typedef std::string stdair::CancellationRateCurveld_T`**

Define the identifier of a cancellation rate curve (e.g., C1).

Definition at line [60](#) of file `stdair_demand_types.hpp`.

**31.5.2.197 `typedef std::string stdair::AirlinePreferenceId_T`**

Define the identifier of an airline preference set list (e.g., AP1).

Definition at line [63](#) of file `stdair_demand_types.hpp`.

**31.5.2.198 `typedef std::pair<Percentage_T, Percentage_T> stdair::CancellationNoShowRatePair_T`**

Define a cancellation & and no-show rate pair.

Definition at line [66](#) of file `stdair_demand_types.hpp`.

**31.5.2.199 `typedef std::string stdair::CharacteristicsPatternId_T`**

Define the identifier of a demand characteristics pattern (e.g. Ch12); for a customer choice model

Definition at line [70](#) of file `stdair_demand_types.hpp`.

**31.5.2.200 `typedef std::string stdair::CharacteristicsIndex_T`**

Define characteristics component index (e.g. W for WTP)

Definition at line [73](#) of file `stdair_demand_types.hpp`.

**31.5.2.201 `typedef double stdair::WTP_T`**

Define a Willingness-To-Pay (WTP) (e.g., 1000.0 Euros).

Definition at line [76](#) of file `stdair_demand_types.hpp`.

**31.5.2.202 `typedef boost::tuples::tuple<double, WTP_T> stdair::CharacteristicsWTP_tuple_T`**

Define the name of a WTP-component of characteristics pattern.

Definition at line [79](#) of file `stdair_demand_types.hpp`.

**31.5.2.203 `typedef std::pair<WTP_T, MeanStdDevPair_T> stdair::WTPDemandPair_T`**

Define the <WTP, demand> pair type.

Definition at line [82](#) of file `stdair_demand_types.hpp`.

**31.5.2.204 `typedef NbOfRequests_T stdair::NbOfNoShows_T`**

Define a number of no-shows.

Definition at line 88 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.205 `typedef double stdair::MatchingIndicator_T`**

Define a indicator of demand to class matching.

Definition at line 91 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.206 `typedef std::string stdair::DemandStreamKeyStr_T`**

Type definition for the hashed key of the DemandStreamKey object.

Definition at line 94 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.207 `typedef std::string stdair::ChannelLabel_T`**

Type of booking channel (D=direct, I=indirect, N=oNline, F=oFfline).

Definition at line 97 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.208 `typedef std::string stdair::FrequentFlyer_T`**

Type of frequent flyer (P=Platinum, G=Gold, S=Silver, M=Member, N=None).

Definition at line 100 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.209 `typedef std::string stdair::RequestStatus_T`**

Define the Request status for booking (1-letter-code, e.g., B: booked, C: cancelled, R: Rejected).

Definition at line 104 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.210 `typedef std::map<Identity_T, Identity_T> stdair::BookingTSIDMap_T`**

Define a map between a BookingID and a TravelSolutionID.

Definition at line 107 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.211 `typedef std::pair<CabinCode_T, ClassCode_T> stdair::CabinClassPair_T`**

Define a pair (cabin code, class code) e.g., (economy, K).

Definition at line 110 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.212 `typedef std::list<CabinClassPair_T> stdair::CabinClassPairList_T`**

Define a list of pair (cabin code, class code).

Definition at line 113 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.213 `typedef double stdair::ProportionFactor_T`**

Define the forecast booking requests proportion.

Definition at line 116 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.214 `typedef std::list<ProportionFactor_T> stdair::ProportionFactorList_T`**

Define the list of forecast booking requests proportions.

Definition at line 119 of file [stdair\\_demand\\_types.hpp](#).

**31.5.2.215 `typedef std::string stdair::OnDString_T`**

Define the O&D string key (e.g. "SQ;11,2010-Feb-08;SIN,BKK").

Definition at line [122](#) of file `stdair_demand_types.hpp`.

**31.5.2.216 `typedef std::list<OnDString_T> stdair::OnDStringList_T`**

Define the list of O&D string key.

Definition at line [125](#) of file `stdair_demand_types.hpp`.

**31.5.2.217 `typedef std::string stdair::EventName_T`**

Define the name of an event.

Definition at line [14](#) of file `stdair_event_types.hpp`.

**31.5.2.218 `typedef double stdair::NbOfEvents_T`**

Define a number of events.

Definition at line [17](#) of file `stdair_event_types.hpp`.

**31.5.2.219 `typedef std::string stdair::EventGeneratorKey_T`**

Define a key string of an event generator.

Definition at line [20](#) of file `stdair_event_types.hpp`.

**31.5.2.220 `typedef double stdair::NbOfFareRules_T`**

Define a number of fare rules.

Definition at line [12](#) of file `stdair_fare_types.hpp`.

**31.5.2.221 `typedef std::string stdair::NetworkID_T`**

Define the type for network ID.

Definition at line [23](#) of file `stdair_inventory_types.hpp`.

**31.5.2.222 `typedef std::vector<AirlineCode_T> stdair::AirlineCodeList_T`**

Define a list of airline code.

Definition at line [26](#) of file `stdair_inventory_types.hpp`.

**31.5.2.223 `typedef std::vector<ClassList_String_T> stdair::ClassList_StringList_T`**

Define the list of list of class codes as a string.

Definition at line [29](#) of file `stdair_inventory_types.hpp`.

**31.5.2.224 `typedef std::vector<ClassCode_T> stdair::ClassCodeList_T`**

Define a list of class code.

Definition at line [32](#) of file `stdair_inventory_types.hpp`.

**31.5.2.225 `typedef unsigned short stdair::SubclassCode_T`**

Define the sub-class code (e.g., 0, 1, 2, etc.). The subclass is a sub-structure for the booking class, allowing to have specific rules for some criteria like POS.

Definition at line [37](#) of file `stdair_inventory_types.hpp`.

**31.5.2.226 `typedef std::string stdair::FlightPathCode_T`**

Define the flight path code (code made by a suite of flight numbers).

Definition at line [40](#) of file `stdair_inventory_types.hpp`.

**31.5.2.227 `typedef std::map<CabinCode_T, ClassList_String_T> stdair::CabinBookingClassMap_T`**

Map between the cabin codes and the booking class codes within each cabin.

Definition at line [44](#) of file `stdair_inventory_types.hpp`.

**31.5.2.228 `typedef std::string stdair::CurveKey_T`**

Curve key for FRAT5 or FF Disutility.

Definition at line [47](#) of file `stdair_inventory_types.hpp`.

**31.5.2.229 `typedef double stdair::CabinCapacity_T`**

Define the cabin capacity (resource, e.g., 200 seats).

The capacity is expressed as a double to cope with overbooking.

Definition at line [51](#) of file `stdair_inventory_types.hpp`.

**31.5.2.230 `typedef double stdair::NbOfFlightDates_T`**

Define a number of flight dates.

Definition at line [54](#) of file `stdair_inventory_types.hpp`.

**31.5.2.231 `typedef double stdair::CommittedSpace_T`**

Define the committed space of a cabin.

Definition at line [57](#) of file `stdair_inventory_types.hpp`.

**31.5.2.232 `typedef double stdair::UPR_T`**

Define the unsold protection (UPR).

Definition at line [60](#) of file `stdair_inventory_types.hpp`.

**31.5.2.233 `typedef double stdair::BookingLimit_T`**

Define the value of the booking limit.

Define the Booking Limit.

It is a double, as it allows for overbooking.

Definition at line [63](#) of file `stdair_inventory_types.hpp`.

**31.5.2.234 `typedef double stdair::AuthorizationLevel_T`**

Define the value of the authorization level.

Definition at line [66](#) of file `stdair_inventory_types.hpp`.

**31.5.2.235 `typedef double stdair::CapacityAdjustment_T`**

Define the value of the adjustment for cabin capacity.

Definition at line [69](#) of file `stdair_inventory_types.hpp`.

**31.5.2.236 `typedef double stdair::BlockSpace_T`**

Define the number of seat which could not be used for the booking.

Definition at line 72 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.237 `typedef bool stdair::AvailabilityStatus_T`

Define an availability status (AVS).

Definition at line 75 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.238 `typedef std::vector<Availability_T> stdair::BucketAvailabilities_T`

Define a list of availabilities.

Definition at line 78 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.239 `typedef double stdair::NbOfYields_T`

Define a number of yields.

Definition at line 81 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.240 `typedef double stdair::NbOfInventoryControlRules_T`

Define a number of InventoryControlRules.

Definition at line 84 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.241 `typedef bool stdair::CensorshipFlag_T`

Define availability of booking limit.

Definition at line 87 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.242 `typedef short stdair::DTD_T`

Define the type of day-to-departure.

Definition at line 90 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.243 `typedef short stdair::DCP_T`

Define the type of data collection point.

Definition at line 93 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.244 `typedef std::list<DCP_T> stdair::DCPList_T`

Define the type of data collection point list.

Definition at line 96 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.245 `typedef std::map<DTD_T, RealNumber_T> stdair::DTDfRatMap_T`

Define the DTD (days to departure) frat5 coef map.

Definition at line 99 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.246 `typedef std::map<FloatDuration_T, float> stdair::DTDProbMap_T`

Define the DTD (days to departure) probability map.

Definition at line 102 of file [stdair\\_inventory\\_types.hpp](#).

### 31.5.2.247 `typedef std::vector<CensorshipFlag_T> stdair::CensorshipFlagList_T`

Define the list of censorship flags (une list per booking class, one censorship flag per DCP).

Definition at line 106 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.248 `typedef double stdair::BookingRatio_T`**

Define the bookingRatio (for instance OnD bookings over whole class bookings).

Definition at line 110 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.249 `typedef double stdair::Yield_T`**

Define the yield of a virtual class.

Definition at line 113 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.250 `typedef unsigned int stdair::YieldLevel_T`**

Define the yield level (yield as an integer).

Definition at line 116 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.251 `typedef std::map<YieldLevel_T, MeanStdDevPair_T> stdair::YieldLevelDemandMap_T`**

Define the <YieldLevel, demand> demand map.

Definition at line 119 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.252 `typedef std::pair<Yield_T, MeanStdDevPair_T> stdair::YieldDemandPair_T`**

Define the <Yield, demand> pair type.

Definition at line 122 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.253 `typedef double stdair::BidPrice_T`**

Define the Bid-Price.

Definition at line 125 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.254 `typedef std::vector<BidPrice_T> stdair::BidPriceVector_T`**

Define a Bid-Price Vector.

Definition at line 128 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.255 `typedef unsigned int stdair::SeatIndex_T`**

Define the current index of a Bid-Price Vector (for a given [LegCabin](#)).

Definition at line 131 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.256 `typedef std::string stdair::ControlMode_T`**

Mode of inventory control.

Definition at line 134 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.257 `typedef double stdair::OverbookingRate_T`**

Define the rate of overbooking

Definition at line 137 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.258 `typedef double stdair::ProtectionLevel_T`**

Define the Protection Level.

It is a double, as it allows for overbooking.

Definition at line 145 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.259 `typedef std::vector<double> stdair::EmsrValueList_T`**

Define the list of EMSR values for the EMSR algorithm.

Definition at line 148 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.260 `typedef std::vector<double> stdair::BookingLimitVector_T`**

Define the vector of booking limits.

It is a vector of double.

Definition at line 152 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.261 `typedef std::vector<double> stdair::ProtectionLevelVector_T`**

Define the vector of protection levels.

It is a vector of double.

Definition at line 156 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.262 `typedef boost::multi_array<double, 2> stdair::SnapshotBlock_T`**

Define a snapshot block.

Definition at line 159 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.263 `typedef SnapshotBlock_T::index_range stdair::SnapshotBlockRange_T`**

Define a range for array view.

Definition at line 162 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.264 `typedef SnapshotBlock_T::array_view<1>::type stdair::SegmentCabinDTDSnapshotView_T`**

Define a view for a given DTD.

Definition at line 165 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.265 `typedef SnapshotBlock_T::array_view<2>::type stdair::SegmentCabinDTDRangeSnapshotView_T`**

Define a view for a given range of DTD.

Definition at line 168 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.266 `typedef SnapshotBlock_T::const_array_view<1>::type stdair::ConstSegmentCabinDTDSnapshotView_T`**

Define a const view for a given DTD.

Definition at line 171 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.267 `typedef SnapshotBlock_T::const_array_view<2>::type stdair::ConstSegmentCabinDTDRangeSnapshotView_T`**

Define a const view for a given range of DTD.

Definition at line 174 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.268 `typedef unsigned short stdair::SegmentDataID_T`**

Define the segment ID within a snapshot data table.

Definition at line 177 of file [stdair\\_inventory\\_types.hpp](#).

**31.5.2.269 `typedef unsigned short stdair::LegDataID_T`**

Define the leg ID within a snapshot data table.

Definition at line 180 of file [stdair\\_inventory\\_types.hpp](#).

#### 31.5.2.270 `typedef unsigned short stdair::ClassIndex_T`

Define the index type of a class within a snapshot block of a leg/segment.

Definition at line 184 of file [stdair\\_inventory\\_types.hpp](#).

#### 31.5.2.271 `typedef unsigned int stdair::ReplicationNumber_T`

Define the replication number.

Definition at line 24 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.272 `typedef unsigned long int stdair::ExponentialSeed_T`

Define the seed type of an Exponential function.

Definition at line 29 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.273 `typedef unsigned long int stdair::UniformSeed_T`

Define the seed type of an Uniform function.

Definition at line 34 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.274 `typedef unsigned long int stdair::RandomSeed_T`

Seed for the random generation, so that it can be reproductible.

Definition at line 39 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.275 `typedef boost::minstd_rand stdair::BaseGenerator_T`

Random number generator.

Definition at line 44 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.276 `typedef boost::uniform_real stdair::UniformDistribution_T`

Uniform distribution of real numbers (by default, double).

Definition at line 49 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.277 `typedef boost::variate_generator<BaseGenerator_T&, UniformDistribution_T> stdair::UniformGenerator_T`

Uniform random generator.

Definition at line 55 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.278 `typedef boost::normal_distribution stdair::NormalDistribution_T`

Normal distribution of real numbers (by default, double).

Definition at line 60 of file [stdair\\_maths\\_types.hpp](#).

#### 31.5.2.279 `typedef boost::variate_generator<BaseGenerator_T&, NormalDistribution_T> stdair::NormalGenerator_T`

Nornal random generator.

Definition at line 66 of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.280   **typedef boost::exponential\_distribution stdair::ExponentialDistribution\_T****

Type definiton for the exponential distribution (characteristics).

Definition at line [69](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.281   **typedef boost::variate\_generator<BaseGenerator\_T&, ExponentialDistribution\_T> stdair::ExponentialGenerator\_T****

Type definition for the exponential distribution random generator.

Definition at line [74](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.282   **typedef double stdair::MeanValue\_T****

Define a mean value (e.g., 20.2).

Definition at line [79](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.283   **typedef double stdair::StdDevValue\_T****

Define a standard deviation value (e.g., 1.5).

Definition at line [84](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.284   **typedef std::pair<MeanValue\_T, StdDevValue\_T> stdair::MeanStdDevPair\_T****

Define a couple (mean, standart deviation) (e.g., (20.2,1.5)).

Definition at line [89](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.285   **typedef std::vector<MeanStdDevPair\_T> stdair::MeanStdDevPairVector\_T****

Define a vector of couple (mean, standart deviation)

Definition at line [94](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.286   **typedef float stdair::Probability\_T****

Probability.

Definition at line [99](#) of file [stdair\\_maths\\_types.hpp](#).

**31.5.2.287   **typedef std::string stdair::ForecasterMode\_T****

Mode of the forecaster.

Definition at line [17](#) of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.288   **typedef short stdair::HistoricalDataLimit\_T****

Limit of similar flight-dates used in the forecaster.

Definition at line [24](#) of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.289   **typedef std::string stdair::OptimizerMode\_T****

Mode of the forecaster.

Definition at line [27](#) of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.290   **typedef NbOfBookings\_T stdair::PolicyDemand\_T****

Define the demand for a policy.

Definition at line [30](#) of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.291 `typedef std::vector<double> stdair::GeneratedDemandVector_T`**

Define the vector of generated demand (for MC integration use).  
It is a vector of double.

Definition at line 34 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.292 `typedef std::vector<GeneratedDemandVector_T> stdair::GeneratedDemandVectorHolder_T`**

Define the holder of the generated demand vectors.

Definition at line 37 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.293 `typedef double stdair::SellupProbability_T`**

Define the sellup probability.

Definition at line 40 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.294 `typedef std::vector<NbOfRequests_T> stdair::UncDemVector_T`**

Define the vector of historical unconstrained demand.

Definition at line 43 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.295 `typedef std::vector<NbOfBookings_T> stdair::BookingVector_T`**

Define the vector of historical bookings.

Definition at line 46 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.296 `typedef double stdair::FRAT5_T`**

Define the FRAT5 coefficient.

Definition at line 49 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.297 `typedef std::map<const DTD_T, FRAT5_T> stdair::FRAT5Curve_T`**

Define the FRAT5 curve.

Definition at line 52 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.298 `typedef std::map<const DTD_T, double> stdair::FFDisutilityCurve_T`**

Define the fare family disutility curve.

Definition at line 55 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.299 `typedef std::map<const DTD_T, double> stdair::SellUpCurve_T`**

Define the sell-up factor curve.

Definition at line 58 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.300 `typedef std::map<const DTD_T, double> stdair::DispatchingCurve_T`**

Define the dispatching factor curve.

Definition at line 61 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.301 `typedef std::map<BookingClass*, SellUpCurve_T> stdair::BookingClassSellUpCurveMap_T`**

Define the map between class and sell-up factor curve.

Definition at line 64 of file [stdair\\_rm\\_types.hpp](#).

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**31.5.2.302 `typedef std::map<BookingClass*, DispatchingCurve_T> stdair::BookingClassDispatchingCurveMap_T`**

Define the map between class and dispatching factor curve.

Definition at line 67 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.303 `typedef std::map<const Yield_T, double> stdair::YieldDemandMap_T`**

Define the map between the yield of a class and the demand forecast of this class within a policy.

Definition at line 71 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.304 `typedef unsigned int stdair::NbOfSamples_T`**

Define the number of samples for the generated demand of booking class

Definition at line 77 of file [stdair\\_rm\\_types.hpp](#).

**31.5.2.305 `typedef boost::shared_ptr<STDAIR_Service> stdair::STDAIR_ServicePtr_T`**

Pointer on the STDAIR Service handler.

Definition at line 13 of file [stdair\\_service\\_types.hpp](#).

### 31.5.3 Function Documentation

**31.5.3.1 `const std::string stdair::DEFAULT_BOM_ROOT_KEY( " -- ROOT -- " )`**

Default value for the BOM tree root key (" -- ROOT -- ").

**31.5.3.2 `const double stdair::DEFAULT_EPSILON_VALUE( 0.0001 )`**

Default very small value.

**31.5.3.3 `const unsigned int stdair::DEFAULT_FLIGHT_SPEED( 900 )`**

Default flight speed (number of kilometers per hour).

**31.5.3.4 `const NbOfFlightDates_T stdair::DEFAULT_NB_OF_FLIGHTDATES( 0.0 )`**

Default number of generated flight dates.

**31.5.3.5 `const Duration_T stdair::NULL_BOOST_TIME_DURATION( -1, -1, -1 )`**

Null time duration (in boost::time\_duration unit).

**31.5.3.6 `const Duration_T stdair::DEFAULT_NULL_DURATION( 0, 0, 0 )`**

Default null duration (in boost::time\_duration unit).

**31.5.3.7 `const unsigned int stdair::DEFAULT_NB_OF_DAYS_IN_A_YEAR( 365 )`**

Default number of days in a year.

**31.5.3.8 `const unsigned int stdair::DEFAULT_NUMBER_OF_SUBDIVISIONS( 1000 )`**

Higher value per thousand

**31.5.3.9 `const DayDuration_T stdair::DEFAULT_DAY_DURATION( 0 )`**

Default number of duration days.

31.5.3.10 `const DatePeriod_T stdair::BOOST_DEFAULT_DATE_PERIOD( Date_T(2007, 1, 1), Date_T(2007, 1, 1) )`

Default date period (0-length, i.e., it lasts one day).

31.5.3.11 `const DOW_String_T stdair::DEFAULT_DOW_STRING( "0000000" )`

Default DOW String (e.g., "0000000").

31.5.3.12 `const DateOffset_T stdair::DEFAULT_DATE_OFFSET( 0 )`

Default Date Offset (e.g., 0).

31.5.3.13 `const Date_T stdair::DEFAULT_DATE( 2010, boost::gregorian::Jan, 1 )`

Default date for the General.

31.5.3.14 `const DateTime_T stdair::DEFAULT_DATETIME( DEFAULT_DATE, NULL_BOOST_TIME_DURATION )`

Default date-time.

31.5.3.15 `const Duration_T stdair::DEFAULT_EPSILON_DURATION( 0, 0, 0, 1 )`

Default epsilon duration (1 nanosecond).

31.5.3.16 `const Count_T stdair::SECONDS_IN_ONE_DAY( 86400 )`

Number of seconds in one day.

31.5.3.17 `const Count_T stdair::MILLISECONDS_IN_ONE_SECOND( 1000 )`

Number of milliseconds in one second

31.5.3.18 `const RandomSeed_T stdair::DEFAULT_RANDOM_SEED( 120765987 )`

Default random seed.

31.5.3.19 `const AirportCode_T stdair::AIRPORT_LHR( "LHR" )`

Default origin airport (e.g., "LHR").

31.5.3.20 `const AirportCode_T stdair::AIRPORT_SYD( "SYD" )`

Default destination airport (e.g., "SYD").

31.5.3.21 `const CityCode_T stdair::POS_LHR( "LHR" )`

London city code (e.g., "LHR").

31.5.3.22 `const Date_T stdair::DATE_20110115( 2011, boost::gregorian::Jan, 15 )`

Date.

31.5.3.23 `const Date_T stdair::DATE_20111231( 2011, boost::gregorian::Dec, 31 )`

31.5.3.24 `const DayDuration_T stdair::NO_ADVANCE_PURCHASE( 0 )`

Advance purchase 0 day.

31.5.3.25 `const SaturdayStay_T stdair::SATURDAY_STAY( true )`

Default saturdayStay value (true).

31.5.3.26 const SaturdayStay\_T stdair::NO\_SATURDAY\_STAY ( false )

Default saturdayStay value (false).

31.5.3.27 const ChangeFees\_T stdair::CHANGE\_FEES ( true )

Default change fees value (true).

31.5.3.28 const ChangeFees\_T stdair::NO\_CHANGE\_FEES ( false )

Default change fees value (false).

31.5.3.29 const NonRefundable\_T stdair::NON\_REFUNDABLE ( true )

Default non refundable value (true).

31.5.3.30 const NonRefundable\_T stdair::NO\_NON\_REFUNDABLE ( false )

Default refundable value (false).

31.5.3.31 const SaturdayStay\_T stdair::DEFAULT\_BOM\_TREE\_SATURDAY\_STAY ( true )

Default saturdayStay value (true).

31.5.3.32 const ChangeFees\_T stdair::DEFAULT\_BOM\_TREE\_CHANGE\_FEES ( true )

Default change fees value (true).

31.5.3.33 const NonRefundable\_T stdair::DEFAULT\_BOM\_TREE\_NON\_REFUNDABLE ( true )

Default non refundable value (true).

31.5.3.34 const DayDuration\_T stdair::NO\_STAY\_DURATION ( 0 )

Stay duration 0 day.

31.5.3.35 const AirlineCode\_T stdair::AIRLINE\_CODE\_BA ( "BA" )

Airline code "BA".

31.5.3.36 const CabinCode\_T stdair::CABIN\_Y ( "Y" )

Cabin 'Y'.

31.5.3.37 const ClassCode\_T stdair::CLASS\_CODE\_Y ( "Y" )

Class code 'Y'.

31.5.3.38 const ClassCode\_T stdair::CLASS\_CODE\_Q ( "Q" )

Class code 'Q'.

31.5.3.39 const AirportCode\_T stdair::AIRPORT\_SIN ( "SIN" )

Singapour airport (e.g., "SIN").

31.5.3.40 const AirportCode\_T stdair::AIRPORT\_BKK ( "BKK" )

Bangkok airport (e.g., "BKK").

31.5.3.41 `const CityCode_T stdair::POS_SIN( "SIN" )`

Singapour city code (e.g., "SIN").

31.5.3.42 `const CabinCode_T stdair::CABIN_ECO( "Eco" )`

Economic cabin (e.g., "Eco").

31.5.3.43 `const FrequentFlyer_T stdair::FREQUENT_FLYER_MEMBER( "M" )`

Frequent flyer tier (e.g., "M" meaning member).

31.5.3.44 `const FamilyCode_T stdair::DEFAULT_FAMILY_CODE( "0" )`

Default family code value ("0").

31.5.3.45 `const PolicyCode_T stdair::DEFAULT_POLICY_CODE( "0" )`

Default policy code value ("0").

31.5.3.46 `const NestingStructureCode_T stdair::DEFAULT_NESTING_STRUCTURE_CODE( "DEFAULT" )`

Default Nesting Structure Code ("DEFAULT").

31.5.3.47 `const NestingStructureCode_T stdair::DISPLAY_NESTING_STRUCTURE_CODE( "Display Nesting" )`

Display Nesting Structure Code ("Display Nesting").

31.5.3.48 `const NestingStructureCode_T stdair::YIELD_BASED_NESTING_STRUCTURE_CODE( "Yield-Based Nesting" )`

Display Nesting Structure Code ("Yield-Based Nesting").

31.5.3.49 `const NestingNodeCode_T stdair::DEFAULT_NESTING_NODE_CODE( "0" )`

Default Nesting Node Code ("0").

31.5.3.50 `const NbOfAirlines_T stdair::DEFAULT_NBOFAIRLINES( 0 )`

Default number of airlines.

31.5.3.51 `const FlightPathCode_T stdair::DEFAULT_FLIGHTPATH_CODE( "" )`

Default flight-path code value ("").

31.5.3.52 `const Distance_T stdair::DEFAULT_DISTANCE_VALUE( 0 )`

Default distance value (kilometers).

31.5.3.53 `const ClassCode_T stdair::DEFAULT_CLOSED_CLASS_CODE( "CC" )`

Default closed class code.

31.5.3.54 `const NbOfBookings_T stdair::DEFAULT_CLASS_NB_OF_BOOKINGS( 0 )`

Default number of bookings (with counted cancellation) for [BookingClass](#).

31.5.3.55 `const NbOfBookings_T stdair::DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS( 0 )`

Default number of booking (without cancellation) demands for [BookingClass](#).

31.5.3.56 `const NbOfBookings_T stdair::DEFAULT_CLASS_UNCONSTRAINED_DEMAND( 0 )`

Default unconstrained demand for [BookingClass](#).

31.5.3.57 `const NbOfBookings_T stdair::DEFAULT_CLASS_REMAINING_DEMAND_MEAN( 0 )`

Default remaining future demand mean for [BookingClass](#).

31.5.3.58 `const NbOfBookings_T stdair::DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION( 0 )`

Default remaining future demand standard deviation for [BookingClass](#).

31.5.3.59 `const NbOfCancellations_T stdair::DEFAULT_CLASS_NB_OF_CANCELLATIONS( 0 )`

Default number of cancellations for [BookingClass](#).

31.5.3.60 `const NbOfNoShows_T stdair::DEFAULT_CLASS_NB_OF_NOSHOWS( 0 )`

Default number of no-shows for [BookingClass](#).

31.5.3.61 `const CabinCapacity_T stdair::DEFAULT_CABIN_CAPACITY( 100. 0 )`

Default cabin capacity for Leg cabins.

31.5.3.62 `const CommittedSpace_T stdair::DEFAULT_COMMITED_SPACE( 0. 0 )`

Default committed space value for Leg cabins.

31.5.3.63 `const BlockSpace_T stdair::DEFAULT_BLOCK_SPACE( 0. 0 )`

Default committed space value for Leg cabins.

31.5.3.64 `const Availability_T stdair::DEFAULT_NULL_AVAILABILITY( 0. 0 )`

Default null availability (0.0).

31.5.3.65 `const Availability_T stdair::DEFAULT_AVAILABILITY( 9. 0 )`

Default availability (9.0).

31.5.3.66 `const Availability_T stdair::MAXIMAL_AVAILABILITY( 9999. 0 )`

Maximal offered capacity in a cabin.

31.5.3.67 `const CensorshipFlag_T stdair::DEFAULT_CLASS_CENSORSHIPFLAG( false )`

Default boolean for censorship flag given the status of availability for [BookingClass](#).

31.5.3.68 `const BookingLimit_T stdair::DEFAULT_CLASS_BOOKING_LIMIT( 9999. 0 )`

Default booking limit value for [BookingClass](#).

31.5.3.69 `const AuthorizationLevel_T stdair::DEFAULT_CLASS_AUTHORIZATION_LEVEL( 9999. 0 )`

Default authorization level for [BookingClass](#).

31.5.3.70 `const AuthorizationLevel_T stdair::DEFAULT_CLASS_MAX_AUTHORIZATION_LEVEL( 9999. 0 )`

Default MAX value of authorization level for [BookingClass](#).

31.5.3.71 `const AuthorizationLevel_T stdair::DEFAULT_CLASS_MIN_AUTHORIZATION_LEVEL ( 0.0 )`

Default MIN value of authorization level for [BookingClass](#).

31.5.3.72 `const OverbookingRate_T stdair::DEFAULT_CLASS_OVERBOOKING_RATE ( 0.0 )`

Default over-booking rate for [BookingClass](#).

31.5.3.73 `const BookingRatio_T stdair::DEFAULT_OND_BOOKING_RATE ( 0.0 )`

Default booking rate for OnD bookings over overall class bookings.

31.5.3.74 `const Fare_T stdair::DEFAULT_FARE_VALUE ( 0.0 )`

Default Fare value.

31.5.3.75 `const Yield_T stdair::DEFAULT_CLASS_YIELD_VALUE ( 0.0 )`

Default yield value for a virtual class.

31.5.3.76 `const Revenue_T stdair::DEFAULT_REVENUE_VALUE ( 0.0 )`

Default Revenue value.

31.5.3.77 `const Percentage_T stdair::DEFAULT_LOAD_FACTOR_VALUE ( 100.0 )`

Default load factor value (100%).

31.5.3.78 `const Yield_T stdair::DEFAULT_YIELD_VALUE ( 0.0 )`

Default yield value.

31.5.3.79 `const Yield_T stdair::DEFAULT_YIELD_MAX_VALUE ( std::numeric_limits< double >::max() )`

Default yield max value.

31.5.3.80 `const NbOfBookings_T stdair::DEFAULT_YIELD_NB_OF_BOOKINGS ( 0.0 )`

Default number of bookings for [YieldRangeStruct\\_T](#).

31.5.3.81 `const Identity_T stdair::DEFAULT_BOOKING_NUMBER ( 0 )`

Default booking number.

31.5.3.82 `const NbOfCancellations_T stdair::DEFAULT_YIELD_NB_OF_CANCELLATIONS ( 0.0 )`

Default cancellation number for [YieldRangeStruct\\_T](#).

31.5.3.83 `const NbOfNoShows_T stdair::DEFAULT_YIELD_NB_OF_NOSHOWS ( 0.0 )`

Default no-shows number for [YieldRangeStruct\\_T](#).

31.5.3.84 `const Availability_T stdair::DEFAULT_YIELD_AVAILABILITY ( 0.0 )`

Default availability for [YieldRangeStruct\\_T](#).

31.5.3.85 `const CensorshipFlag_T stdair::DEFAULT_YIELD_CENSORSHIPFLAG ( false )`

Default boolean for booking limit availability for [YieldRangeStruct\\_T](#).

31.5.3.86 `const BookingLimit_T stdair::DEFAULT_YIELD_BOOKING_LIMIT( 0.0 )`

Default booking limit value for YieldRangeStruct\_T.

31.5.3.87 `const OverbookingRate_T stdair::DEFAULT_YIELD_OVERBOOKING_RATE( 0.0 )`

Default over-booking rate for YieldRangeStruct\_T.

31.5.3.88 `const Fare_T stdair::DEFAULT_OND_FARE_VALUE( 0.0 )`

Default value of Fare.

31.5.3.89 `const Count_T stdair::DEFAULT_PROGRESS_STATUS( 0 )`

Default progress status.

31.5.3.90 `const Percentage_T stdair::MAXIMUM_PROGRESS_STATUS( 100 )`

Maximum progress status.

31.5.3.91 `const Date_T stdair::DEFAULT_EVENT_OLEDEST_DATE( 2008, boost::gregorian::Jan, 1 )`

Default reference (oldest) date for the events. No event can occur before that date.

31.5.3.92 `const DateTime_T stdair::DEFAULT_EVENT_OLEDEST_DATETIME( DEFAULT_EVENT_OLEDEST_DATE, NULL_BOOST_TIME_DURATION )`

Default reference (oldest) date-time for the events. No event can occur before that date-time.

31.5.3.93 `const PartySize_T stdair::DEFAULT_PARTY_SIZE( 1 )`

Default party size in a request.

31.5.3.94 `const DayDuration_T stdair::DEFAULT_STAY_DURATION( 7 )`

Default duration for a stay.

31.5.3.95 `const WTP_T stdair::DEFAULT_WTP( 1000.0 )`

Default Willingness-to-Pay (WTP, as expressed as a monetary unit).

31.5.3.96 `const Date_T stdair::DEFAULT_PREFERRED_DEPARTURE_DATE( DEFAULT_DEPARTURE_DATE )`

Default departure date.

31.5.3.97 `const Duration_T stdair::DEFAULT_PREFERRED_DEPARTURE_TIME( 8, 0, 0 )`

Default preferred departure time (08:00).

31.5.3.98 `const DateOffset_T stdair::DEFAULT_ADVANCE_PURCHASE( 22 )`

Default advance purchase.

31.5.3.99 `const Date_T stdair::DEFAULT_REQUEST_DATE( DEFAULT_PREFERRED_DEPARTURE_DATE-DEFAULT_ADVANCE_PURCHASE )`

Default request date.

31.5.3.100 `const Duration_T stdair::DEFAULT_REQUEST_TIME( 8, 0, 0 )`

Default preferred departure time (08:00).

---

```
31.5.3.101 const DateTime_T stdair::DEFAULT_REQUEST_DATE_TIME( DEFAULT_REQUEST_DATE,
    DEFAULT_REQUEST_TIME )
```

Default request date-time.

```
31.5.3.102 const CabinCode_T stdair::DEFAULT_PREFERRED_CABIN( "M" )
```

Default preferred cabin.

```
31.5.3.103 const CityCode_T stdair::DEFAULT_POS( "ALL" )
```

Default point-of-sale.

```
31.5.3.104 const ChannelLabel_T stdair::DEFAULT_CHANNEL( "DC" )
```

Default channel (e.g., "DC" meaning Different Channels).

```
31.5.3.105 const ChannelLabel_T stdair::CHANNEL_DN( "DN" )
```

DN channel (e.g., direct on-line).

```
31.5.3.106 const ChannelLabel_T stdair::CHANNEL_IN( "IN" )
```

IN channel (e.g., indirect on-line).

```
31.5.3.107 const TripType_T stdair::TRIP_TYPE_ONE_WAY( "OW" )
```

Trip type one-way (e.g., "OW").

```
31.5.3.108 const TripType_T stdair::TRIP_TYPE_ROUND_TRIP( "RT" )
```

Trip type round-trip (e.g., "RT").

```
31.5.3.109 const TripType_T stdair::TRIP_TYPE_INBOUND( "RI" )
```

Trip type inbound (e.g., "RI").

```
31.5.3.110 const TripType_T stdair::TRIP_TYPE_OUTBOUND( "RO" )
```

Trip type outbound (e.g., "RO").

```
31.5.3.111 const FrequentFlyer_T stdair::DEFAULT_FF_TIER( "N" )
```

Default frequent flyer tier (non member).

```
31.5.3.112 const PriceValue_T stdair::DEFAULT_VALUE_OF_TIME( 100.0 )
```

Default value of time (expressed as a monetary unit per hour).

```
31.5.3.113 const IntDuration_T stdair::HOUR_CONVERTED_IN_SECONDS( 3600 )
```

Number of second in one hour

```
31.5.3.114 const Duration_T stdair::DEFAULT_MINIMAL_CONNECTION_TIME( 0, 30, 0 )
```

Default Minimal connection time.

```
31.5.3.115 const Duration_T stdair::DEFAULT_MAXIMAL_CONNECTION_TIME( 24, 0, 0 )
```

Default maximal connection time.

31.5.3.116 const MatchingIndicator\_T stdair::DEFAULT\_MATCHING\_INDICATOR ( 0.0 )

Default Matching Indicator value.

31.5.3.117 const PriceCurrency\_T stdair::DEFAULT\_CURRENCY ( "EUR" )

Default currency (euro).

31.5.3.118 const AvailabilityStatus\_T stdair::DEFAULT\_AVAILABILITY\_STATUS ( false )

Default availability status for a travel solution.

31.5.3.119 const AirlineCode\_T stdair::DEFAULT\_AIRLINE\_CODE ( "XX" )

Default airline code value ("XX").

31.5.3.120 const AirlineCode\_T stdair::DEFAULT\_NULL\_AIRLINE\_CODE ( "" )

Default airline code value ("").

31.5.3.121 const FlightNumber\_T stdair::DEFAULT\_FLIGHT\_NUMBER ( 9999 )

Default flight number (9999).

31.5.3.122 const FlightNumber\_T stdair::DEFAULT\_FLIGHT\_NUMBER\_FF ( 255 )

Default flight number for fare families (255).

31.5.3.123 const TableID\_T stdair::DEFAULT\_TABLE\_ID ( 9999 )

Default data table number (9999).

31.5.3.124 const Date\_T stdair::DEFAULT\_DEPARTURE\_DATE ( 1900, boost::gregorian::Jan, 1 )

Default flight departure date (01/01/1900).

31.5.3.125 const AirportCode\_T stdair::DEFAULT\_AIRPORT\_CODE ( "XXX" )

Default airport code value ("XXX").

31.5.3.126 const AirportCode\_T stdair::DEFAULT\_NULL\_AIRPORT\_CODE ( "" )

Default airport code value ("").

31.5.3.127 const AirportCode\_T stdair::DEFAULT\_ORIGIN ( "XXX" )

Default Origin.

31.5.3.128 const AirportCode\_T stdair::DEFAULT\_DESTINATION ( "YYY" )

Default destination.

31.5.3.129 const CabinCode\_T stdair::DEFAULT\_CABIN\_CODE ( "X" )

Default cabin code.

31.5.3.130 const FamilyCode\_T stdair::DEFAULT\_FARE\_FAMILY\_CODE ( "EcoSaver" )

Default fare family Code.

31.5.3.131 const FamilyCode\_T stdair::DEFAULT\_NULL\_FARE\_FAMILY\_CODE( "NoFF" )

Default null fare family Code ("NoFF").

31.5.3.132 const ClassCode\_T stdair::DEFAULT\_CLASS\_CODE( "X" )

Default class code value ("X").

31.5.3.133 const ClassCode\_T stdair::DEFAULT\_NULL\_CLASS\_CODE( "" )

Default null class code value ("").

31.5.3.134 const BidPrice\_T stdair::DEFAULT\_BID\_PRICE( 0.0 )

Default Bid-Price.

31.5.3.135 const unsigned short stdair::MAXIMAL\_NUMBER\_OF\_LEGS\_IN\_FLIGHT( 7 )

Maximal number of legs linked to a single flight-date.

Note that the number of derived segments is  $n*(n+1)/2$  if  $n$  is the number of legs.

31.5.3.136 const unsigned short stdair::MAXIMAL\_NUMBER\_OF\_SEGMENTS\_IN\_OND( 3 )

Maximal number of segments linked to a single O&D (Origin & Destination).

31.5.3.137 const SeatIndex\_T stdair::DEFAULT\_SEAT\_INDEX( 1 )

Default seat index (for a bucket and/or Bid-Price Vector slot).

31.5.3.138 const NbOfSeats\_T stdair::DEFAULT\_NULL\_BOOKING\_NUMBER( 0 )

Default number of bookings.

31.5.3.139 const CapacityAdjustment\_T stdair::DEFAULT\_NULL\_CAPACITY\_ADJUSTMENT( 0 )

Default capacity adjustment of the cabin.

31.5.3.140 const UPR\_T stdair::DEFAULT\_NULL\_UPR( 0 )

Default unsold Protection (UPR).

31.5.3.141 const std::string stdair::DEFAULT\_FARE\_FAMILY\_VALUE\_TYPE( "FF" )

Default value type (within a guillotine block) for fare family.

31.5.3.142 const std::string stdair::DEFAULT\_SEGMENT\_CABIN\_VALUE\_TYPE( "SC" )

Default value type (within a guillotine block) for segment-cabin.

31.5.3.143 const std::string stdair::DEFAULT\_KEY\_FLD\_DELIMITER( ";" )

Default delimiter for string display (e.g delimiter for inventory key and flight-date key).

31.5.3.144 const std::string stdair::DEFAULT\_KEY\_SUB\_FLD\_DELIMITER( " , " )

Default sub delimiter for string display (e.g delimiter for flight number and departure date of a flight-date key).

31.5.3.145 const boost::char\_separator<char> stdair::DEFAULT\_KEY\_TOKEN\_DELIMITER( "; , " )

Default token for decoding a full string display.

---

31.5.3.146 template<int MIN, int MAX> date\_time\_element<MIN, MAX> stdair::operator\* ( const date\_time\_element<MIN, MAX > & o1, const date\_time\_element<MIN, MAX > & o2 ) [inline]

Operator\* overload.

Definition at line 47 of file [BasParserHelperTypes.hpp](#).

References [stdair::date\\_time\\_element< MIN, MAX >::\\_value](#).

31.5.3.147 template<int MIN, int MAX> date\_time\_element<MIN, MAX> stdair::operator+ ( const date\_time\_element<MIN, MAX > & o1, const date\_time\_element<MIN, MAX > & o2 ) [inline]

Operator+ overload.

Definition at line 55 of file [BasParserHelperTypes.hpp](#).

References [stdair::date\\_time\\_element< MIN, MAX >::\\_value](#).

31.5.3.148 template void stdair::AirlineClassListKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.149 template void stdair::AirlineClassListKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.150 template void stdair::BomRootKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.151 template void stdair::BomRootKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.152 void stdair::intDisplay ( std::ostream & oStream, const int & iInt )

Definition at line 159 of file [BookingRequestStruct.cpp](#).

31.5.3.153 template void stdair::BucketKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.154 template void stdair::BucketKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.155 template void stdair::FareFamilyKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.156 template void stdair::FareFamilyKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.157 template void stdair::FlightDateKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.158 template void stdair::FlightDateKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.159 template void stdair::InventoryKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.160 template void stdair::InventoryKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.161 template void stdair::NestingNodeKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.162 template void stdair::NestingNodeKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.163 template void stdair::NestingStructureKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.164 template void stdair::NestingStructureKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.165 template void stdair::OnDDateKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.166 template void stdair::OnDDateKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.167 const boost::char\_separator<char> stdair::TokeniserDashSeparator ( "-" )

Dash delimiter for the tokenisation process.

Referenced by [stdair::ParsedKey::getFlightDateKey\(\)](#).

31.5.3.168 const boost::char\_separator<char> stdair::TokeniserTimeSeparator ( ":" )

Time delimiter for the tokenisation process.

Referenced by [stdair::ParsedKey::getBoardingTime\(\)](#).

31.5.3.169 template void stdair::PolicyKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.170 template void stdair::PolicyKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.171 template void stdair::SegmentCabinKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.172 template void stdair::SegmentCabinKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.173 template void stdair::SegmentDateKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.174 template void stdair::SegmentDateKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.175 template void stdair::SegmentSnapshotTableKey::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.176 template void stdair::SegmentSnapshotTableKey::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.177 template<class Archive , class BOM\_OBJECT1 , class BOM\_OBJECT2 > void stdair::serialiseHelper ( BOM\_OBJECT1 & ioObject1, Archive & ioArchive, const unsigned int iFileVersion )

Definition at line 34 of file [CmdBomSerialiser.cpp](#).

References [stdair::BomHolder< BOM >::\\_bomList](#), [stdair::BomHolder< BOM >::\\_bomMap](#), and [stdair::FacBomManager::linkWithParent\(\)](#).

31.5.3.178 template void stdair::BomRoot::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.179 template void stdair::BomRoot::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.180 template void stdair::Inventory::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.181 template void stdair::Inventory::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.182 template void stdair::FlightDate::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.183 template void stdair::FlightDate::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.184 template void stdair::SegmentDate::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.185 template void stdair::SegmentDate::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

31.5.3.186 template void stdair::SegmentCabin::serialize< ba::text\_oarchive > ( ba::text\_oarchive & , unsigned int )

31.5.3.187 template void stdair::SegmentCabin::serialize< ba::text\_iarchive > ( ba::text\_iarchive & , unsigned int )

### 31.5.4 Variable Documentation

### 31.5.4.1 const std::string stdair::DOW\_STR

#### Initial value:

```
= {"Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"}
```

Day names (in English).

Representation of Dow-Of-the-Week

Definition at line 53 of file [BasConst.cpp](#).

Referenced by [stdair::DoWStruct::describe\(\)](#).

### 31.5.4.2 const UnconstrainingMethod stdair::DEFAULT\_UNCONSTRAINING\_METHOD

Default Unconstraining Method (By Expectation-Maximisation).

Default Unconstraining Method (By Time Frame).

Definition at line 140 of file [BasConst\\_Inventory.hpp](#).

### 31.5.4.3 const PartnershipTechnique stdair::DEFAULT\_PARTNERSHIP\_TECHNIQUE

Default Partnership Technique (None).

Definition at line 149 of file [BasConst\\_Inventory.hpp](#).

### 31.5.4.4 const ForecastingMethod stdair::DEFAULT\_FORECASTING\_METHOD

Default Forecasting Method (Q Forecasting).

Definition at line 137 of file [BasConst\\_Inventory.hpp](#).

### 31.5.4.5 const PreOptimisationMethod stdair::DEFAULT\_PREOPTIMISATION\_METHOD

Default Pre-Optimisation Method (NONE).

Definition at line 143 of file [BasConst\\_Inventory.hpp](#).

### 31.5.4.6 const OptimisationMethod stdair::DEFAULT\_OPTIMISATION\_METHOD

Default Optimisation Method (Leg Based Monte Carlo).

Default Optimisation Method (Leg Based EMSRb).

Definition at line 146 of file [BasConst\\_Inventory.hpp](#).

### 31.5.4.7 const CensorshipFlagList\_T stdair::DEFAULT\_CLASS\_CENSORSHIPFLAG\_LIST

#### Initial value:

```
= std::vector<CensorshipFlag_T>()
```

Default list of censorship flag given the status of availability for [BookingClass](#).

Definition at line 253 of file [BasConst.cpp](#).

### 31.5.4.8 const Date\_T stdair::DEFAULT\_DICO\_STUDIED\_DATE

Default DICO studied date.

Definition at line 426 of file [BasConst.cpp](#).

### 31.5.4.9 const AirlineCodeList\_T stdair::DEFAULT\_AIRLINE\_CODE\_LIST

Default airline code list value (empty vector).

Definition at line 436 of file [BasConst.cpp](#).

#### 31.5.4.10 const ClassList\_StringList\_T stdair::DEFAULT\_CLASS\_CODE\_LIST

Default class code list value (empty vector).

Definition at line 478 of file [BasConst.cpp](#).

#### 31.5.4.11 const BidPriceVector\_T stdair::DEFAULT\_BID\_PRICE\_VECTOR = std::vector<BidPrice\_T>()

Default Bid-Price Vector.

Default Bid-Price Vector (empty vector).

Definition at line 484 of file [BasConst.cpp](#).

#### 31.5.4.12 const int stdair::DEFAULT\_MAX\_DTD = 365

Default value for max day-to-departure (365).

Definition at line 514 of file [BasConst.cpp](#).

Referenced by [stdair::SegmentSnapshotTable::initSnapshotBlocks\(\)](#).

#### 31.5.4.13 const DCPList\_T stdair::DEFAULT\_DCP\_LIST = DefaultDCPList::init()

Default data collection point list.

Definition at line 517 of file [BasConst.cpp](#).

#### 31.5.4.14 const FRAT5Curve\_T stdair::FRAT5\_CURVE\_A

##### Initial value:

```
=  
    DefaultMap::createFRAT5CurveA()
```

FRAT5 curve A for forecasting and optimisation.

FRAT5 curves for forecasting and optimisation.

Definition at line 531 of file [BasConst.cpp](#).

#### 31.5.4.15 const FRAT5Curve\_T stdair::FRAT5\_CURVE\_B

##### Initial value:

```
=  
    DefaultMap::createFRAT5CurveB()
```

FRAT5 curve B for forecasting and optimisation.

Definition at line 545 of file [BasConst.cpp](#).

#### 31.5.4.16 const FRAT5Curve\_T stdair::FRAT5\_CURVE\_C

##### Initial value:

```
=  
    DefaultMap::createFRAT5CurveC()
```

FRAT5 curve C for forecasting and optimisation.

Definition at line 559 of file [BasConst.cpp](#).

### 31.5.4.17 const FRAT5Curve\_T stdair::FRAT5\_CURVE\_D

**Initial value:**

```
=  
DefaultMap::createFRAT5CurveD()
```

FRAT5 curve D for forecasting and optimisation.

Definition at line 573 of file [BasConst.cpp](#).

### 31.5.4.18 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_A

**Initial value:**

```
=  
DefaultMap::createFFDisutilityCurveA()
```

Disutility curve A for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Disutility curves for fare families.

Definition at line 591 of file [BasConst.cpp](#).

### 31.5.4.19 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_B

**Initial value:**

```
=  
DefaultMap::createFFDisutilityCurveB()
```

Disutility curve B for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Definition at line 609 of file [BasConst.cpp](#).

### 31.5.4.20 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_C

**Initial value:**

```
=  
DefaultMap::createFFDisutilityCurveC()
```

Disutility curve C for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Definition at line 627 of file [BasConst.cpp](#).

### 31.5.4.21 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_D

**Initial value:**

```
=  
DefaultMap::createFFDisutilityCurveD()
```

Disutility curve D for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Definition at line 645 of file [BasConst.cpp](#).

## 31.5.4.22 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_E

**Initial value:**

```
=
DefaultMap::createFFDisutilityCurveE()
```

Disutility curve E for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Definition at line 663 of file [BasConst.cpp](#).

## 31.5.4.23 const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_F

**Initial value:**

```
=
DefaultMap::createFFDisutilityCurveF()
```

Disutility curve F for forecasting and optimisation. The lower the value (disutility), the higher the demand sells up to higher fare families.

Definition at line 681 of file [BasConst.cpp](#).

## 31.5.4.24 const DTDFratMap\_T stdair::DEFAULT\_DTD\_FRAT5COEF\_MAP

**Initial value:**

```
=
DefaultDtdFratMap::init()
```

Default frat5 coef map for demand to come forecaster.

Default frat5 coef map.

Definition at line 695 of file [BasConst.cpp](#).

## 31.5.4.25 const DTDProbMap\_T stdair::DEFAULT\_DTD\_PROB\_MAP

**Initial value:**

```
=
DefaultDtdProbMap::init()
```

Default arrival pattern map.

Definition at line 712 of file [BasConst.cpp](#).

## 31.5.4.26 const OnDStringList\_T stdair::DEFAULT\_OND\_STRING\_LIST

Default list of full keys.

Definition at line 736 of file [BasConst.cpp](#).

## 31.5.4.27 const std::string stdair::DISPLAY\_LEVEL\_STRING\_ARRAY

Array with the indentation spaces needed for all the BOM hierachical levels.

Definition at line 742 of file [BasConst.cpp](#).

## 31.5.4.28 const std::string stdair::DEFAULT\_KEY\_FLD\_DELIMITER

Default delimiter for string display (e.g delimiter for inventory key and flight-date key). Typically set to ':'.

Referenced by [stdair::LegDate::describeRoutingKey\(\)](#), [stdair::LegCabin::getFullerKey\(\)](#), [stdair::SegmentCabin::getFullerKey\(\)](#), and [stdair::ParsedKey::toString\(\)](#).

---

**31.5.4.29 const std::string stdair::DEFAULT\_KEY\_SUB\_FLD\_DELIMITER**

Default sub delimiter for string display (e.g delimiter for flight number and departure date of a flight-date key). Typically set to ','.

Referenced by [stdair::BomRetriever::retrieveFullKeyFromSegmentDate\(\)](#), [stdair::ParsedKey::toString\(\)](#), [stdair::AirportPairKey::toString\(\)](#), [stdair::PosChannelKey::toString\(\)](#), [stdair::SegmentDateKey::toString\(\)](#), [stdair::AirlineClassListKey::toString\(\)](#), and [stdair::FlightDateKey::toString\(\)](#).

**31.5.4.30 const boost::char\_separator<char> stdair::DEFAULT\_KEY\_TOKEN\_DELIMITER**

Default token for decoding a full string display.

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#).

**31.5.4.31 const Distance\_T stdair::DEFAULT\_DISTANCE\_VALUE**

Default distance value, in kilometers (0).

Default distance value (kilometers).

Definition at line [30](#) of file [BasConst\\_General.hpp](#).

**31.5.4.32 const ClassCode\_T stdair::DEFAULT\_CLOSED\_CLASS\_CODE**

Default closed class code ("CC").

**31.5.4.33 const NbOfBookings\_T stdair::DEFAULT\_CLASS\_NB\_OF\_BOOKINGS**

Default number of bookings (with counted cancellation) for [BookingClass](#) (0).

Default number of bookings for [BookingClass](#).

Default number of bookings (0).

Definition at line [27](#) of file [BasConst\\_General.hpp](#).

**31.5.4.34 const NbOfBookings\_T stdair::DEFAULT\_CLASS\_TOTAL\_NB\_OF\_BOOKINGS**

Default number of bookings (without cancellation) for [BookingClass](#) (0).

**31.5.4.35 const NbOfBookings\_T stdair::DEFAULT\_CLASS\_UNCONSTRAINED\_DEMAND**

Default unconstrained demand for [BookingClass](#) (0).

**31.5.4.36 const NbOfBookings\_T stdair::DEFAULT\_CLASS\_REMAINING\_DEMAND\_MEAN**

Default remaining future demand mean for [BookingClass](#) (0).

**31.5.4.37 const NbOfBookings\_T stdair::DEFAULT\_CLASS\_REMAINING\_DEMAND\_STANDARD\_DEVIATION**

Default remaining future demand standard deviation for [BookingClass](#) (0).

**31.5.4.38 const NbOfCancellations\_T stdair::DEFAULT\_CLASS\_NB\_OF\_CANCELLATIONS**

Default number of cancellations for [BookingClass](#) (0).

**31.5.4.39 const NbOfNoShows\_T stdair::DEFAULT\_CLASS\_NB\_OF\_NOSHOWS**

Default number of no-shows for [BookingClass](#) (0).

**31.5.4.40 const CabinCapacity\_T stdair::DEFAULT\_CABIN\_CAPACITY**

Default cabin capacity for Leg cabins (0.0).

Default cabin capacity for Leg cabins.

Definition at line 21 of file [BasConst\\_General.hpp](#).

31.5.4.41 **const CommittedSpace\_T stdair::DEFAULT\_COMMITED\_SPACE**

Default commited space value for Leg cabins (0.0).

31.5.4.42 **const BlockSpace\_T stdair::DEFAULT\_BLOCK\_SPACE**

Default commited space value for Leg cabins (0.0).

31.5.4.43 **const Availability\_T stdair::DEFAULT\_NULL\_AVAILABILITY**

Default null availability (0.0).

31.5.4.44 **const Availability\_T stdair::DEFAULT\_AVAILABILITY**

Default availability (9.0).

31.5.4.45 **const CensorshipFlag\_T stdair::DEFAULT\_CLASS\_CENSORSHIPFLAG**

Default boolean for censorship flag given the status of availability for [BookingClass](#).

31.5.4.46 **const BookingLimit\_T stdair::DEFAULT\_CLASS\_BOOKING\_LIMIT**

Default booking limit value for [BookingClass](#).

31.5.4.47 **const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_AUTHORIZATION\_LEVEL**

Default authorization level for [BookingClass](#).

31.5.4.48 **const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_MAX\_AUTHORIZATION\_LEVEL**

Default MAX value of authorization level for [BookingClass](#).

31.5.4.49 **const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_MIN\_AUTHORIZATION\_LEVEL**

Default MIN value of authorization level for [BookingClass](#).

31.5.4.50 **const OverbookingRate\_T stdair::DEFAULT\_CLASS\_OVERBOOKING\_RATE**

Default over-booking rate for [BookingClass](#).

31.5.4.51 **const Fare\_T stdair::DEFAULT\_FARE\_VALUE**

Default fare.

Default value of Fare.

Definition at line 36 of file [BasConst\\_General.hpp](#).

31.5.4.52 **const Revenue\_T stdair::DEFAULT\_REVENUE\_VALUE**

Default revenue value for [BookingClass](#).

Default revenue value.

Definition at line 42 of file [BasConst\\_General.hpp](#).

31.5.4.53 **const PriceCurrency\_T stdair::DEFAULT\_CURRENCY**

Default currency (euro).

Definition at line 39 of file [BasConst\\_General.hpp](#).

**31.5.4.54 const Percentage\_T stdair::DEFAULT\_LOAD\_FACTOR\_VALUE**

Default load factor value (100%).

**31.5.4.55 const DayDuration\_T stdair::DEFAULT\_DAY\_DURATION**

Default number of duration days (0).

Default Duration in days (e.g., 0).

Definition at line [26](#) of file [BasConst\\_Period\\_BOM.hpp](#).

**31.5.4.56 const double stdair::DEFAULT\_EPSILON\_VALUE**

Default epsilon value between customer requirements and a fare rule.

Default epsilon value (1e-4).

Definition at line [18](#) of file [BasConst\\_General.hpp](#).

**31.5.4.57 const AirportCode\_T stdair::AIRPORT\_LHR**

London Heathrow airport (e.g., "LHR").

**31.5.4.58 const AirportCode\_T stdair::AIRPORT\_SYD**

Sydney airport (e.g., "SYD").

**31.5.4.59 const CityCode\_T stdair::POS\_LHR**

London city code (e.g., "LHR").

**31.5.4.60 const DayDuration\_T stdair::NO\_ADVANCE\_PURCHASE**

Advance purchase 0 day.

**31.5.4.61 const SaturdayStay\_T stdair::SATURDAY\_STAY**

Default saturdayStay value (true).

**31.5.4.62 const SaturdayStay\_T stdair::NO\_SATURDAY\_STAY**

Default saturdayStay value (false).

**31.5.4.63 const ChangeFees\_T stdair::CHANGE\_FEES**

Default change fees value (true).

**31.5.4.64 const ChangeFees\_T stdair::NO\_CHANGE\_FEES**

Default change fees value (false).

**31.5.4.65 const NonRefundable\_T stdair::NON\_REFUNDABLE**

Default non refundable value (true).

**31.5.4.66 const NonRefundable\_T stdair::NO\_NON\_REFUNDABLE**

Default refundable value (false).

**31.5.4.67 const DayDuration\_T stdair::NO\_STAY\_DURATION**

Stay duration 0 day.

31.5.4.68 const CabinCode\_T stdair::CABIN\_Y

Cabin 'Y'.

31.5.4.69 const AirlineCode\_T stdair::AIRLINE\_CODE\_BA

Airline code "BA".

31.5.4.70 const ClassCode\_T stdair::CLASS\_CODE\_Y

Class code 'Y'.

31.5.4.71 const ClassCode\_T stdair::CLASS\_CODE\_Q

Class code 'Q'.

31.5.4.72 const AirportCode\_T stdair::AIRPORT\_SIN

Singapour airport (e.g., "SIN").

31.5.4.73 const AirportCode\_T stdair::AIRPORT\_BKK

Bangkok airport (e.g., "BKK").

31.5.4.74 const CityCode\_T stdair::POS\_SIN

Singapour city code (e.g., "SIN").

31.5.4.75 const CabinCode\_T stdair::CABIN\_ECO

Economic cabin (e.g., "Eco").

31.5.4.76 const FrequentFlyer\_T stdair::FREQUENT\_FLYER\_MEMBER

Frequent flyer tier (e.g., "M" meaning member).

31.5.4.77 const Count\_T stdair::DEFAULT\_PROGRESS\_STATUS

Default progress status.

Referenced by [stdair::ProgressStatus::reset\(\)](#).

31.5.4.78 const Date\_T stdair::DEFAULT\_EVENT\_OLDEST\_DATE

Default reference (oldest) date for the events. No event can occur before that date.

31.5.4.79 const DateTime\_T stdair::DEFAULT\_EVENT\_OLDEST\_DATETIME

Default reference (oldest) date-time for the events. No event can occur before that date-time.

Referenced by [stdair::EventStruct::describe\(\)](#), [stdair::EventStruct::EventStruct\(\)](#), and [stdair::EventStruct::get<EventTime>\(\)](#).

31.5.4.80 const Percentage\_T stdair::MAXIMUM\_PROGRESS\_STATUS

Maximum progress status.

Referenced by [stdair::ProgressStatus::progress\(\)](#).

31.5.4.81 const std::string stdair::DEFAULT\_BOM\_ROOT\_KEY

Default value for the BOM tree root key (" -- ROOT -- ").

**31.5.4.82 const NbOfFlightDates\_T stdair::DEFAULT\_NB\_OF\_FLIGHTDATES**

Default number of generated flight dates (0).

**31.5.4.83 const unsigned int stdair::DEFAULT\_FLIGHT\_SPEED**

Default flight speed (number of kilometers per hour).

**31.5.4.84 const BookingRatio\_T stdair::DEFAULT\_OND\_BOOKING\_RATE**

Default booking rate for OnD bookings over overall class bookings.

**31.5.4.85 const Count\_T stdair::SECONDS\_IN\_ONE\_DAY**

Number of seconds in one day (86400).

**31.5.4.86 const Count\_T stdair::MILLISECONDS\_IN\_ONE\_SECOND**

Number of milliseconds in one second (1000).

**31.5.4.87 const Date\_T stdair::DEFAULT\_DATE**

Default date for the General (1-Jan-2010).

**31.5.4.88 const DateTime\_T stdair::DEFAULT\_DATETIME**

Default date-time (1-Jan-2010).

**31.5.4.89 const Duration\_T stdair::DEFAULT\_EPSILON\_DURATION**

Default epsilon duration (1 nanosecond).

**31.5.4.90 const RandomSeed\_T stdair::DEFAULT\_RANDOM\_SEED**

Default random seed (120765987).

Referenced by [stdair::BookingClass::generateDemandSamples\(\)](#).

**31.5.4.91 const Duration\_T stdair::NULL\_BOOST\_TIME\_DURATION**

Null time duration (in boost::time\_duration unit).

Definition at line [23](#) of file [BasConst\\_TravelSolution.hpp](#).

**31.5.4.92 const Duration\_T stdair::DEFAULT\_NULL\_DURATION**

Default null duration (in boost::time\_duration unit).

**31.5.4.93 const Fare\_T stdair::DEFAULT\_CLASS\_FARE\_VALUE**

Default value of Availability.

**31.5.4.94 const NbOfAirlines\_T stdair::DEFAULT\_NBOFAIRLINES**

Default number of airlines (0).

**31.5.4.95 const unsigned int stdair::DEFAULT\_NB\_OF\_DAYS\_IN\_A\_YEAR**

Default number of days in a year (365).

**31.5.4.96 const ChannelLabel\_T stdair::DEFAULT\_CHANNEL**

Default channel.

Default channel (e.g., direct on-line).

Definition at line 48 of file [BasConst\\_Request.hpp](#).

#### 31.5.4.97 const unsigned int stdair::DEFAULT\_NUMBER\_OF\_SUBDIVISIONS

Higher value per thousand

Referenced by [stdair::DictionaryManager::keyToValue\(\)](#), and [stdair::DictionaryManager::valueToKey\(\)](#).

#### 31.5.4.98 const AirlineCode\_T stdair::DEFAULT\_AIRLINE\_CODE

Default airline code value ("XX").

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.99 const AirlineCode\_T stdair::DEFAULT\_NULL\_AIRLINE\_CODE

Default airline code value ("").

#### 31.5.4.100 const FlightNumber\_T stdair::DEFAULT\_FLIGHT\_NUMBER

Default flight number (9999).

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.101 const FlightNumber\_T stdair::DEFAULT\_FLIGHT\_NUMBER\_FF

Default flight number for fare families (255).

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.102 const TableID\_T stdair::DEFAULT\_TABLE\_ID

Default data table ID (9999).

#### 31.5.4.103 const Date\_T stdair::DEFAULT\_DEPARTURE\_DATE

Default flight departure date (01/01/1900).

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.104 const AirportCode\_T stdair::DEFAULT\_AIRPORT\_CODE

Default airport code value ("XXX").

#### 31.5.4.105 const AirportCode\_T stdair::DEFAULT\_NULL\_AIRPORT\_CODE

Default airport code value ("").

#### 31.5.4.106 const AirportCode\_T stdair::DEFAULT\_ORIGIN

Default Origin ("XXX").

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.107 const AirportCode\_T stdair::DEFAULT\_DESTINATION

Default Destination ("XXX").

Referenced by [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.108 const CabinCode\_T stdair::DEFAULT\_CABIN\_CODE

Default Cabin Code ("X").

Referenced by [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#).

#### 31.5.4.109 const FamilyCode\_T stdair::DEFAULT\_FAIR\_FAMILY\_CODE

Default Fair Family Code ("EcoSaver").

#### 31.5.4.110 const FamilyCode\_T stdair::DEFAULT\_NULL\_FAIR\_FAMILY\_CODE

Default null fare family Code ("NoFF").

#### 31.5.4.111 const PolicyCode\_T stdair::DEFAULT\_POLICY\_CODE

Default Policy Code ("0").

#### 31.5.4.112 const NestingStructureCode\_T stdair::DEFAULT\_NESTING\_STRUCTURE\_CODE

Default Nesting Structure Code ("DEFAULT").

#### 31.5.4.113 const NestingStructureCode\_T stdair::DISPLAY\_NESTING\_STRUCTURE\_CODE

Display Nesting Structure Code ("Display Nesting").

#### 31.5.4.114 const NestingStructureCode\_T stdair::YIELD\_BASED\_NESTING\_STRUCTURE\_CODE

Display Nesting Structure Code ("Yield-Based Nesting").

Referenced by [stdair::FacBomManager::resetYieldBasedNestingStructure\(\)](#).

#### 31.5.4.115 const NestingNodeCode\_T stdair::DEFAULT\_NESTING\_NODE\_CODE

Default Nesting Node Code ("0").

#### 31.5.4.116 const ClassCode\_T stdair::DEFAULT\_CLASS\_CODE

Default class code value ("X").

#### 31.5.4.117 const ClassCode\_T stdair::DEFAULT\_NULL\_CLASS\_CODE

Default null class code value ("").

#### 31.5.4.118 const BidPrice\_T stdair::DEFAULT\_BID\_PRICE

Default Bid-Price (0.0).

#### 31.5.4.119 const unsigned short stdair::MAXIMAL\_NUMBER\_OF\_LEGS\_IN\_FLIGHT

Maximal number of legs linked to a single flight-date (e.g., 7).

Note that the number of derived segments is  $n*(n+1)/2$  if n is the number of legs.

#### 31.5.4.120 const unsigned short stdair::MAXIMAL\_NUMBER\_OF\_SEGMENTS\_IN\_OD

Maximal number of segments linked to a single O&D (Origin & Destination)(e.g., 3).

#### 31.5.4.121 const Availability\_T stdair::MAXIMAL\_AVAILABILITY

Maximal offered capacity in a cabin.

**31.5.4.122 const SeatIndex\_T stdair::DEFAULT\_SEAT\_INDEX**

Default seat index (for a bucket and/or Bid-Price Vector slot)(e.g., 1).

**31.5.4.123 const NbOfSeats\_T stdair::DEFAULT\_NULL\_BOOKING\_NUMBER**

Default number of bookings.

**31.5.4.124 const CapacityAdjustment\_T stdair::DEFAULT\_NULL\_CAPACITY\_ADJUSTMENT**

Default capacity adjustment of the cabin.

**31.5.4.125 const UPR\_T stdair::DEFAULT\_NULL\_UPR**

Default unsold Protection (UPR).

**31.5.4.126 const std::string stdair::DEFAULT\_FARE\_FAMILY\_VALUE\_TYPE**

Default value type (within a guillotine block) for fare family.

**31.5.4.127 const std::string stdair::DEFAULT\_SEGMENT\_CABIN\_VALUE\_TYPE**

Default value type (within a guillotine block) for segment-cabin.

**31.5.4.128 const DatePeriod\_T stdair::BOOST\_DEFAULT\_DATE\_PERIOD**

Default date period (0-length, i.e., it lasts one day).

**31.5.4.129 const DOW\_String\_T stdair::DEFAULT\_DOW\_STRING**

Default DOW String (e.g., "1111100").

Referenced by [stdair::DoWStruct::intersection\(\)](#), and [stdair::DoWStruct::shift\(\)](#).

**31.5.4.130 const DateOffset\_T stdair::DEFAULT\_DATE\_OFFSET**

Default Date Offset (e.g., 0).

**31.5.4.131 const PartySize\_T stdair::DEFAULT\_PARTY\_SIZE**

Default party size in a request (e.g., 1).

**31.5.4.132 const DayDuration\_T stdair::DEFAULT\_STAY\_DURATION**

Default duration for a stay (e.g., 7 days).

**31.5.4.133 const WTP\_T stdair::DEFAULT\_WTP**

Default Willingness-to-Pay (WTP, as expressed as a monetary unit).

**31.5.4.134 const CityCode\_T stdair::DEFAULT\_POS**

Default Point-Of-Sale (POS, e.g., "WORLD").

**31.5.4.135 const Date\_T stdair::DEFAULT\_PREFERRED\_DEPARTURE\_DATE**

Default departure date (e.g., 01-Jan-2011).

**31.5.4.136 const Duration\_T stdair::DEFAULT\_PREFERRED\_DEPARTURE\_TIME**

Default preferred departure time (e.g., 08:00).

31.5.4.137 `const DateOffset_T stdair::DEFAULT_ADVANCE_PURCHASE`

Default advance purchase (e.g., 22 days).

31.5.4.138 `const Date_T stdair::DEFAULT_REQUEST_DATE`

Default request date (e.g., 10-Jan-2011).

31.5.4.139 `const Duration_T stdair::DEFAULT_REQUEST_TIME`

Default preferred departure time (e.g., 08:00).

31.5.4.140 `const DateTime_T stdair::DEFAULT_REQUEST_DATE_TIME`

Default request date-time (e.g., 08:00).

31.5.4.141 `const CabinCode_T stdair::DEFAULT_PREFERRED_CABIN`

Default preferred cabin (e.g., 'M').

31.5.4.142 `const ChannelLabel_T stdair::CHANNEL_DN`

DN channel (e.g., direct on-line).

31.5.4.143 `const ChannelLabel_T stdair::CHANNEL_IN`

IN channel (e.g., indirect on-line).

31.5.4.144 `const TripType_T stdair::TRIP_TYPE_ONE WAY`

Trip type one-way (e.g., "OW").

Referenced by [stdair::BookingRequestStruct::display\(\)](#).

31.5.4.145 `const TripType_T stdair::TRIP_TYPE_ROUND TRIP`

Trip type round-trip (e.g., "RT").

Referenced by [stdair::YieldFeatures::isTripTypeValid\(\)](#), and [stdair::FareFeatures::isTripTypeValid\(\)](#).

31.5.4.146 `const TripType_T stdair::TRIP_TYPE_INBOUND`

Trip type inbound (e.g., "RI").

Referenced by [stdair::YieldFeatures::isTripTypeValid\(\)](#), and [stdair::FareFeatures::isTripTypeValid\(\)](#).

31.5.4.147 `const TripType_T stdair::TRIP_TYPE_OUTBOUND`

Trip type outbound (e.g., "RO").

Referenced by [stdair::YieldFeatures::isTripTypeValid\(\)](#), and [stdair::FareFeatures::isTripTypeValid\(\)](#).

31.5.4.148 `const FrequentFlyer_T stdair::DEFAULT_FF_TIER`

Default frequent flyer tier (e.g., non member).

31.5.4.149 `const PriceValue_T stdair::DEFAULT_VALUE_OF_TIME`

Default value of time (expressed as a monetary unit per hour).

31.5.4.150 `const IntDuration_T stdair::HOUR_CONVERTED_IN_SECONDS`

Number of second in one hour

31.5.4.151 const Duration\_T stdair::DEFAULT\_MINIMAL\_CONNECTION\_TIME

Default Minimal connection time.

31.5.4.152 const Duration\_T stdair::DEFAULT\_MAXIMAL\_CONNECTION\_TIME

Default maximal connection time.

31.5.4.153 const FlightPathCode\_T stdair::DEFAULT\_FLIGHTPATH\_CODE

Default flightPathCode value ("").

31.5.4.154 const Availability\_T stdair::DEFAULT\_CLASS\_AVAILABILITY

Default value of Availability.

31.5.4.155 const AvailabilityStatus\_T stdair::DEFAULT\_AVAILABILITY\_STATUS

Default availability status for a travel solution.

31.5.4.156 const unsigned short stdair::DEFAULT\_NUMBER\_OF\_REQUIRED\_SEATS

Default nember of required seats by the demand.

31.5.4.157 const MatchingIndicator\_T stdair::DEFAULT\_MATCHING\_INDICATOR

Default Matching Indicator value between customer requirements and a fare rule.

31.5.4.158 const AirlineCode\_T stdair::DEFAULT\_DICO\_STUDIED\_AIRLINE

Default DICO studied airline.

31.5.4.159 const Yield\_T stdair::DEFAULT\_YIELD\_VALUE

Default yield value.

31.5.4.160 const Yield\_T stdair::DEFAULT\_YIELD\_MAX\_VALUE

Default yield max value.

## 31.6 stdair::LOG Namespace Reference

### Enumerations

- enum EN\_LogLevel {  
    CRITICAL = 0, ERROR, NOTIFICATION, WARNING,  
    DEBUG, VERBOSE, LAST\_VALUE }

### Variables

- static const std::string \_logLevels [LAST\_VALUE]

#### 31.6.1 Detailed Description

Level of logs.

#### 31.6.2 Enumeration Type Documentation

### 31.6.2.1 enum stdair::LOG::EN\_LogLevel

Enumerator

***CRITICAL***  
***ERROR***  
***NOTIFICATION***  
***WARNING***  
***DEBUG***  
***VERBOSE***  
***LAST\_VALUE***

Definition at line 18 of file [stdair\\_log.hpp](#).

### 31.6.3 Variable Documentation

#### 31.6.3.1 const std::string stdair::LOG::\_logLevels[***LAST\_VALUE***] [static]

**Initial value:**

```
=
 {"C", "E", "N", "W", "D", "V"}
```

Definition at line 28 of file [stdair\\_log.hpp](#).

Referenced by [stdair::Logger::log\(\)](#), [stdair::BasLogParams::toShortString\(\)](#), and [stdair::BasLogParams::toString\(\)](#).

## 31.7 stdair\_test Namespace Reference

### Classes

- struct [BookingClass](#)
- struct [Cabin](#)

### 31.7.1 Detailed Description

Namespace gathering classes and structures for test purposes

## 31.8 swift Namespace Reference

The wrapper namespace.

### Classes

- class [SKeymap](#)  
*The readline keymap wrapper.*
- class [SReadline](#)  
*The readline library wrapper.*

### 31.8.1 Detailed Description

The wrapper namespace.

The namespace is also used for other library elements.

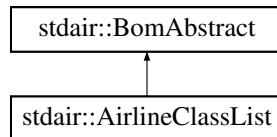
## 32 Class Documentation

### 32.1 stdair::AirlineClassList Class Reference

Class representing the actual attributes for a segment-features.

```
#include <stdair/bom/AirlineClassList.hpp>
```

Inheritance diagram for stdair::AirlineClassList:



#### Public Types

- `typedef AirlineClassListKey Key_T`

#### Public Member Functions

- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const AirlineCodeList_T & getAirlineCodeList () const`
- `const ClassList_StringList_T & getClassCodeList () const`
- `const HolderMap_T & getHolderMap () const`
- `const stdair::Yield_T & getYield () const`
- `const stdair::Fare_T & getFare () const`
- `void setYield (const Yield_T &iYield)`
- `void setFare (const Fare_T &iFare)`
- `void toStream (std::ostream &iOut) const`
- `void fromStream (std::istream &iIn)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `template<class Archive> void serialize (Archive &ar, const unsigned int iFileVersion)`

#### Protected Member Functions

- `AirlineClassList (const Key_T &)`
- `virtual ~AirlineClassList ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`
- `Yield_T _yield`
- `Fare_T _fare`

## Friends

- template<typename BOM >  
class [FacBom](#)
- template<typename BOM >  
class [FacCloneBom](#)
- class [FacBomManager](#)
- class [boost::serialization::access](#)

### 32.1.1 Detailed Description

Class representing the actual attributes for a segment-features.

Definition at line [27](#) of file [AirlineClassList.hpp](#).

### 32.1.2 Member Typedef Documentation

#### 32.1.2.1 `typedef AirlineClassListKey stdair::AirlineClassList::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [38](#) of file [AirlineClassList.hpp](#).

### 32.1.3 Constructor & Destructor Documentation

#### 32.1.3.1 `stdair::AirlineClassList::AirlineClassList ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line [34](#) of file [AirlineClassList.cpp](#).

#### 32.1.3.2 `stdair::AirlineClassList::~AirlineClassList ( ) [protected], [virtual]`

Destructor.

Definition at line [39](#) of file [AirlineClassList.cpp](#).

### 32.1.4 Member Function Documentation

#### 32.1.4.1 `const Key_T& stdair::AirlineClassList::getKey ( ) const [inline]`

Get the airline class list key.

Definition at line [44](#) of file [AirlineClassList.hpp](#).

References [\\_key](#).

#### 32.1.4.2 `BomAbstract* const stdair::AirlineClassList::getParent ( ) const [inline]`

Get the parent object.

Definition at line [49](#) of file [AirlineClassList.hpp](#).

References [\\_parent](#).

#### 32.1.4.3 `const AirlineCodeList_T& stdair::AirlineClassList::getAirlineCodeList ( ) const [inline]`

Get the airline code list (part of the primary key).

Definition at line [54](#) of file [AirlineClassList.hpp](#).

References [\\_key](#), and [stdair::AirlineClassListKey::getAirlineCodeList\(\)](#).

**32.1.4.4 const ClassList\_StringList\_T& stdair::AirlineClassList::getClassCodeList( ) const [inline]**

Get the class code list (part of the primary key).

Definition at line 59 of file [AirlineClassList.hpp](#).

References [\\_key](#), and [stdair::AirlineClassListKey::getClassCodeList\(\)](#).

**32.1.4.5 const HolderMap\_T& stdair::AirlineClassList::getHolderMap( ) const [inline]**

Get the map of children holders.

Definition at line 64 of file [AirlineClassList.hpp](#).

References [\\_holderMap](#).

**32.1.4.6 const stdair::Yield\_T& stdair::AirlineClassList:: getYield( ) const [inline]**

Get the yield.

Definition at line 69 of file [AirlineClassList.hpp](#).

References [\\_yield](#).

**32.1.4.7 const stdair::Fare\_T& stdair::AirlineClassList::getFare( ) const [inline]**

Get the fare.

Definition at line 74 of file [AirlineClassList.hpp](#).

References [\\_fare](#).

**32.1.4.8 void stdair::AirlineClassList::setYield( const Yield\_T & iYield ) [inline]**

Definition at line 80 of file [AirlineClassList.hpp](#).

References [\\_yield](#).

**32.1.4.9 void stdair::AirlineClassList::setFare( const Fare\_T & iFare ) [inline]**

Definition at line 84 of file [AirlineClassList.hpp](#).

References [\\_fare](#).

**32.1.4.10 void stdair::AirlineClassList::toStream( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 95 of file [AirlineClassList.hpp](#).

References [toString\(\)](#).

**32.1.4.11 void stdair::AirlineClassList::fromStream( std::istream & ioIn ) [inline], [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 104 of file [AirlineClassList.hpp](#).

### 32.1.4.12 std::string stdair::AirlineClassList::toString( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [43](#) of file [AirlineClassList.cpp](#).

References [\\_fare](#), [\\_yield](#), and [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

### 32.1.4.13 const std::string stdair::AirlineClassList::describeKey( ) const [inline]

Get a string describing the key.

Definition at line [115](#) of file [AirlineClassList.hpp](#).

References [\\_key](#), and [stdair::AirlineClassListKey::toString\(\)](#).

Referenced by [toString\(\)](#).

### 32.1.4.14 template<class Archive> void stdair::AirlineClassList::serialize( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line [65](#) of file [AirlineClassList.cpp](#).

References [\\_fare](#), [\\_key](#), and [\\_yield](#).

## 32.1.5 Friends And Related Function Documentation

### 32.1.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line [28](#) of file [AirlineClassList.hpp](#).

### 32.1.5.2 template<typename BOM> friend class FacCloneBom [friend]

Definition at line [29](#) of file [AirlineClassList.hpp](#).

### 32.1.5.3 friend class FacBomManager [friend]

Definition at line [30](#) of file [AirlineClassList.hpp](#).

### 32.1.5.4 friend class boost::serialization::access [friend]

Definition at line [31](#) of file [AirlineClassList.hpp](#).

## 32.1.6 Member Data Documentation

### 32.1.6.1 Key\_T stdair::AirlineClassList::\_key [protected]

Primary key (flight number and departure date).

Definition at line [165](#) of file [AirlineClassList.hpp](#).

Referenced by [describeKey\(\)](#), [getAirlineCodeList\(\)](#), [getClassCodeList\(\)](#), [getKey\(\)](#), and [serialize\(\)](#).

### 32.1.6.2 BomAbstract\* stdair::AirlineClassList::\_parent [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line [170](#) of file [AirlineClassList.hpp](#).

Referenced by [getParent\(\)](#).

### 32.1.6.3 HolderMap\_T stdair::AirlineClassList::\_holderMap [protected]

Map holding the children ([SegmentDate](#) and [LegDate](#) objects).

Definition at line 175 of file [AirlineClassList.hpp](#).

Referenced by [getHolderMap\(\)](#).

### 32.1.6.4 Yield\_T stdair::AirlineClassList::\_yield [protected]

Definition at line 180 of file [AirlineClassList.hpp](#).

Referenced by  [getYield\(\)](#),  [serialize\(\)](#),  [setYield\(\)](#), and  [toString\(\)](#).

### 32.1.6.5 Fare\_T stdair::AirlineClassList::\_fare [protected]

Definition at line 185 of file [AirlineClassList.hpp](#).

Referenced by  [getFare\(\)](#),  [serialize\(\)](#),  [setFare\(\)](#), and  [toString\(\)](#).

The documentation for this class was generated from the following files:

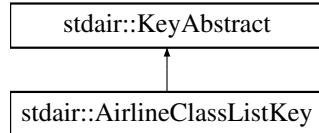
- stdair/bom/[AirlineClassList.hpp](#)
- stdair/bom/[AirlineClassList.cpp](#)

## 32.2 stdair::AirlineClassListKey Struct Reference

Key of airport-pair.

```
#include <stdair/bom/AirlineClassListKey.hpp>
```

Inheritance diagram for stdair::AirlineClassListKey:



### Public Member Functions

- [AirlineClassListKey](#) (const [AirlineCodeList\\_T](#) &, const [ClassList\\_StringList\\_T](#) &)
- [AirlineClassListKey](#) (const [AirlineClassListKey](#) &)
- [~AirlineClassListKey](#) ()
- const [AirlineCodeList\\_T](#) & [getAirlineCodeList](#) () const
- const [ClassList\\_StringList\\_T](#) & [getClassCodeList](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &iOlN)
- const std::string [toString](#) () const
- template<class Archive>
 void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

### Friends

- class [boost::serialization::access](#)

### 32.2.1 Detailed Description

Key of airport-pair.

Definition at line 25 of file [AirlineClassListKey.hpp](#).

### 32.2.2 Constructor & Destructor Documentation

**32.2.2.1 stdair::AirlineClassListKey::AirlineClassListKey ( const AirlineCodeList\_T & iAirlineCodeList, const ClassList\_StringList\_T & iClassCodeList )**

Constructor.

Definition at line 24 of file [AirlineClassListKey.cpp](#).

**32.2.2.2 stdair::AirlineClassListKey::AirlineClassListKey ( const AirlineClassListKey & iKey )**

Copy constructor.

Definition at line 30 of file [AirlineClassListKey.cpp](#).

**32.2.2.3 stdair::AirlineClassListKey::~AirlineClassListKey ( )**

Destructor.

Definition at line 36 of file [AirlineClassListKey.cpp](#).

### 32.2.3 Member Function Documentation

**32.2.3.1 const AirlineCodeList\_T& stdair::AirlineClassListKey::getAirlineCodeList ( ) const [inline]**

Get the airline code list.

Definition at line 56 of file [AirlineClassListKey.hpp](#).

Referenced by [stdair::AirlineClassList::getAirlineCodeList\(\)](#).

**32.2.3.2 const ClassList\_StringList\_T& stdair::AirlineClassListKey::getClassCodeList ( ) const [inline]**

Get the class code list.

Definition at line 61 of file [AirlineClassListKey.hpp](#).

Referenced by [stdair::AirlineClassList::getClassCodeList\(\)](#).

**32.2.3.3 void stdair::AirlineClassListKey::toStream ( std::ostream & ioOut ) const [virtual]**

Dump a Business Object Key into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 40 of file [AirlineClassListKey.cpp](#).

References [toString\(\)](#).

**32.2.3.4 void stdair::AirlineClassListKey::fromStream ( std::istream & ioIn ) [virtual]**

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [45](#) of file [AirlineClassListKey.cpp](#).

**32.2.3.5 const std::string stdair::AirlineClassListKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [49](#) of file [AirlineClassListKey.cpp](#).

References [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::AirlineClassList::describeKey\(\)](#), and [toStream\(\)](#).

**32.2.3.6 template<class Archive> void stdair::AirlineClassListKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line [86](#) of file [AirlineClassListKey.cpp](#).

**32.2.4 Friends And Related Function Documentation****32.2.4.1 friend class boost::serialization::access [friend]**

Definition at line [26](#) of file [AirlineClassListKey.hpp](#).

The documentation for this struct was generated from the following files:

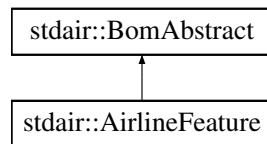
- [stdair/bom/AirlineClassListKey.hpp](#)
- [stdair/bom/AirlineClassListKey.cpp](#)

**32.3 stdair::AirlineFeature Class Reference**

Class representing various configuration parameters (e.g., revenue management methods such EMSRb or Monte-Carlo) for a given airline for the simulation.

```
#include <stdair/bom/AirlineFeature.hpp>
```

Inheritance diagram for stdair::AirlineFeature:

**Public Types**

- [typedef AirlineFeatureKey Key\\_T](#)

## Public Member Functions

- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &ioln)
- std::string `toString` () const
- const std::string `describeKey` () const
- const `Key_T` & `getKey` () const
- `BomAbstract` \*const `getParent` () const
- const `HolderMap_T` & `getHolderMap` () const
- `ForecastingMethod::EN_ForecastingMethod` `getForecastingMethod` () const
- `UnconstrainingMethod::EN_UnconstrainingMethod` `getUnconstrainingMethod` () const
- `PartnershipTechnique::EN_PartnershipTechnique` `getPartnershipTechnique` () const
- `PreOptimisationMethod::EN_PreOptimisationMethod` `getPreOptimisationMethod` () const
- `OptimisationMethod::EN_OptimisationMethod` `getOptimisationMethod` () const
- void `init` (const `ForecastingMethod` &, const `UnconstrainingMethod` &, const `PreOptimisationMethod` &, const `OptimisationMethod` &, const `HistoricalDataLimit_T` &, const `ControlMode_T` &, const `PartnershipTechnique` &)
- void `setForecastingMethod` (const `ForecastingMethod` &iForecastingMethod)
- void `setUnconstrainingMethod` (const `UnconstrainingMethod` &iUnconstrainingMethod)
- void `setPartnershipTechnique` (const `PartnershipTechnique` &iPartnershipTechnique)
- void `setPreOptimisationMethod` (const `PreOptimisationMethod` &iPreOptimisationMethod)
- void `setOptimisationMethod` (const `OptimisationMethod` &iOptimisationMethod)

## Protected Member Functions

- `AirlineFeature` (const `Key_T` &)
- virtual ~`AirlineFeature` ()

## Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `ForecastingMethod _forecastingMethod`
- `HistoricalDataLimit_T _historicalDataLimit`
- `ControlMode_T _controlMode`
- `UnconstrainingMethod _unconstrainingMethod`
- `PreOptimisationMethod _preOptimisationMethod`
- `OptimisationMethod _optimisationMethod`
- `PartnershipTechnique _partnershipTechnique`

## Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.3.1 Detailed Description

Class representing various configuration parameters (e.g., revenue management methods such EMSRb or Monte-Carlo) for a given airline for the simulation.

Definition at line 25 of file `AirlineFeature.hpp`.

### 32.3.2 Member Typedef Documentation

#### 32.3.2.1 `typedef AirlineFeatureKey stdair::AirlineFeature::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 35 of file [AirlineFeature.hpp](#).

### 32.3.3 Constructor & Destructor Documentation

#### 32.3.3.1 `stdair::AirlineFeature::AirlineFeature ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 14 of file [AirlineFeature.cpp](#).

#### 32.3.3.2 `stdair::AirlineFeature::~AirlineFeature ( ) [protected], [virtual]`

Destructor.

Definition at line 34 of file [AirlineFeature.cpp](#).

### 32.3.4 Member Function Documentation

#### 32.3.4.1 `void stdair::AirlineFeature::toStream ( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 44 of file [AirlineFeature.hpp](#).

References [toString\(\)](#).

#### 32.3.4.2 `void stdair::AirlineFeature::fromStream ( std::istream & ioIn ) [inline], [virtual]`

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 53 of file [AirlineFeature.hpp](#).

#### 32.3.4.3 `std::string stdair::AirlineFeature::toString ( ) const [virtual]`

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 55 of file [AirlineFeature.cpp](#).

References [\\_forecastingMethod](#), [\\_historicalDataLimit](#), [\\_optimisationMethod](#), [\\_partnershipTechnique](#), [\\_preOptimisationMethod](#), [\\_unconstrainingMethod](#), and [describeKey\(\)](#).

Referenced by [toString\(\)](#).

#### 32.3.4.4 `const std::string stdair::AirlineFeature::describeKey ( ) const [inline]`

Get a string describing the key.

Definition at line 64 of file [AirlineFeature.hpp](#).

References [\\_key](#), and [stdair::AirlineFeatureKey::toString\(\)](#).

Referenced by [toString\(\)](#).

#### 32.3.4.5 const Key\_T& stdair::AirlineFeature::getKey ( ) const [inline]

Get the airline feature primary key (airline code).

Definition at line 73 of file [AirlineFeature.hpp](#).

References [\\_key](#).

#### 32.3.4.6 BomAbstract\* const stdair::AirlineFeature::getParent ( ) const [inline]

Get a reference on the parent object instance.

Definition at line 80 of file [AirlineFeature.hpp](#).

References [\\_parent](#).

#### 32.3.4.7 const HolderMap\_T& stdair::AirlineFeature::getHolderMap ( ) const [inline]

Get a reference on the children holder.

Definition at line 87 of file [AirlineFeature.hpp](#).

References [\\_holderMap](#).

#### 32.3.4.8 ForecastingMethod::EN\_ForecastingMethod stdair::AirlineFeature::getForecastingMethod ( ) const [inline]

Get the forecasting method.

Definition at line 94 of file [AirlineFeature.hpp](#).

References [\\_forecastingMethod](#), and [stdair::ForecastingMethod::getMethod\(\)](#).

Referenced by [stdair::Inventory::getForecastingMethod\(\)](#).

#### 32.3.4.9 UnconstrainingMethod::EN\_UnconstrainingMethod stdair::AirlineFeature::getUnconstrainingMethod ( ) const [inline]

Get the unconstraining method.

Definition at line 101 of file [AirlineFeature.hpp](#).

References [\\_unconstrainingMethod](#), and [stdair::UnconstrainingMethod::getMethod\(\)](#).

Referenced by [stdair::Inventory::getUnconstrainingMethod\(\)](#).

#### 32.3.4.10 PartnershipTechnique::EN\_PartnershipTechnique stdair::AirlineFeature::getPartnershipTechnique ( ) const [inline]

Get the partnership technique.

Definition at line 108 of file [AirlineFeature.hpp](#).

References [\\_partnershipTechnique](#), and [stdair::PartnershipTechnique::getTechnique\(\)](#).

Referenced by [stdair::Inventory::getPartnershipTechnique\(\)](#).

#### 32.3.4.11 PreOptimisationMethod::EN\_PreOptimisationMethod stdair::AirlineFeature::getPreOptimisationMethod ( ) const [inline]

Get the pre-optimisation method.

Definition at line 115 of file [AirlineFeature.hpp](#).

References [\\_preOptimisationMethod](#), and [stdair::PreOptimisationMethod::getMethod\(\)](#).

Referenced by [stdair::Inventory::getPreOptimisationMethod\(\)](#).

### 32.3.4.12 OptimisationMethod::EN\_OptimisationMethod stdair::AirlineFeature::getOptimisationMethod ( ) const [inline]

Get the optimisation method.

Definition at line 122 of file [AirlineFeature.hpp](#).

References [\\_optimisationMethod](#), and [stdair::OptimisationMethod::getMethod\(\)](#).

Referenced by [stdair::Inventory::getOptimisationMethod\(\)](#).

### 32.3.4.13 void stdair::AirlineFeature::init ( const ForecastingMethod & iForecastingMethod, const UnconstrainingMethod & iUnconstrainingMethod, const PreOptimisationMethod & iPreOptimisationMethod, const OptimisationMethod & iOptimisationMethod, const HistoricalDataLimit\_T & iHistoricalDataLimit, const ControlMode\_T & iControlMode, const PartnershipTechnique & iPartnershipTechnique )

Initialization method.

#### Parameters

<i>const</i>	<a href="#">ForecastingMethod</a> & Forecasting method.
<i>const</i>	<a href="#">UnconstrainingMethod</a> & Unconstraining method.
<i>const</i>	<a href="#">PreOptimisationMethod</a> & Pre-optimisation method.
<i>const</i>	<a href="#">OptimisationMethod</a> & Optimisation method.
<i>const</i>	<a href="#">HistoricalDataLimit_T</a> & Historical Data Limit
<i>const</i>	<a href="#">ControlMode_T</a> & Control Mode
<i>const</i>	<a href="#">PartnershipTechnique</a> & Partnership method.

Definition at line 38 of file [AirlineFeature.cpp](#).

References [\\_controlMode](#), [\\_forecastingMethod](#), [\\_historicalDataLimit](#), [\\_optimisationMethod](#), [\\_partnershipTechnique](#), [\\_preOptimisationMethod](#), and [\\_unconstrainingMethod](#).

### 32.3.4.14 void stdair::AirlineFeature::setForecastingMethod ( const ForecastingMethod & iForecastingMethod ) [inline]

Set the forecasting method.

Definition at line 150 of file [AirlineFeature.hpp](#).

References [\\_forecastingMethod](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.3.4.15 void stdair::AirlineFeature::setUnconstrainingMethod ( const UnconstrainingMethod & iUnconstrainingMethod ) [inline]

Set the unconstraining method.

Definition at line 157 of file [AirlineFeature.hpp](#).

References [\\_unconstrainingMethod](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.3.4.16 void stdair::AirlineFeature::setPartnershipTechnique ( const PartnershipTechnique & iPartnershipTechnique ) [inline]

Set the partnership technique.

Definition at line 164 of file [AirlineFeature.hpp](#).

References [\\_partnershipTechnique](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

**32.3.4.17 void stdair::AirlineFeature::setPreOptimisationMethod ( const PreOptimisationMethod & iPreOptimisationMethod ) [inline]**

Set the pre-optimisation method.

Definition at line [171](#) of file [AirlineFeature.hpp](#).

References [\\_preOptimisationMethod](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

**32.3.4.18 void stdair::AirlineFeature::setOptimisationMethod ( const OptimisationMethod & iOptimisationMethod ) [inline]**

Set the optimisation method.

Definition at line [178](#) of file [AirlineFeature.hpp](#).

References [\\_optimisationMethod](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.3.5 Friends And Related Function Documentation

**32.3.5.1 template<typename BOM > friend class FacBom [friend]**

Definition at line [26](#) of file [AirlineFeature.hpp](#).

**32.3.5.2 template<typename BOM > friend class FacCloneBom [friend]**

Definition at line [27](#) of file [AirlineFeature.hpp](#).

**32.3.5.3 friend class FacBomManager [friend]**

Definition at line [28](#) of file [AirlineFeature.hpp](#).

### 32.3.6 Member Data Documentation

**32.3.6.1 Key\_T stdair::AirlineFeature::\_key [protected]**

Primary key (date period).

Definition at line [209](#) of file [AirlineFeature.hpp](#).

Referenced by [describeKey\(\)](#), and [getKey\(\)](#).

**32.3.6.2 BomAbstract\* stdair::AirlineFeature::\_parent [protected]**

Pointer on the parent class.

Definition at line [214](#) of file [AirlineFeature.hpp](#).

Referenced by [getParent\(\)](#).

**32.3.6.3 HolderMap\_T stdair::AirlineFeature::\_holderMap [protected]**

Map holding the children.

Definition at line [219](#) of file [AirlineFeature.hpp](#).

Referenced by [getHolderMap\(\)](#).

**32.3.6.4 ForecastingMethod stdair::AirlineFeature::\_forecastingMethod [protected]**

The type of forecaster.

Definition at line 224 of file [AirlineFeature.hpp](#).

Referenced by [getForecastingMethod\(\)](#), [init\(\)](#), [setForecastingMethod\(\)](#), and [toString\(\)](#).

**32.3.6.5 HistoricalDataLimit\_T stdair::AirlineFeature::\_historicalDataLimit [protected]**

The size of the moving average window.

Definition at line 229 of file [AirlineFeature.hpp](#).

Referenced by [init\(\)](#), and [toString\(\)](#).

**32.3.6.6 ControlMode\_T stdair::AirlineFeature::\_controlMode [protected]**

The type of inventory control.

Definition at line 234 of file [AirlineFeature.hpp](#).

Referenced by [init\(\)](#).

**32.3.6.7 UnconstrainingMethod stdair::AirlineFeature::\_unconstrainingMethod [protected]**

The type of unconstraining method.

Definition at line 239 of file [AirlineFeature.hpp](#).

Referenced by [getUnconstrainingMethod\(\)](#), [init\(\)](#), [setUnconstrainingMethod\(\)](#), and [toString\(\)](#).

**32.3.6.8 PreOptimisationMethod stdair::AirlineFeature::\_preOptimisationMethod [protected]**

The type of pre-optimisation method.

Definition at line 244 of file [AirlineFeature.hpp](#).

Referenced by [getPreOptimisationMethod\(\)](#), [init\(\)](#), [setPreOptimisationMethod\(\)](#), and [toString\(\)](#).

**32.3.6.9 OptimisationMethod stdair::AirlineFeature::\_optimisationMethod [protected]**

The type of optimisation method.

Definition at line 249 of file [AirlineFeature.hpp](#).

Referenced by [getOptimisationMethod\(\)](#), [init\(\)](#), [setOptimisationMethod\(\)](#), and [toString\(\)](#).

**32.3.6.10 PartnershipTechnique stdair::AirlineFeature::\_partnershipTechnique [protected]**

The type of partnership technique.

Definition at line 254 of file [AirlineFeature.hpp](#).

Referenced by [getPartnershipTechnique\(\)](#), [init\(\)](#), [setPartnershipTechnique\(\)](#), and [toString\(\)](#).

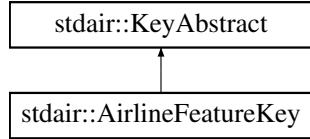
The documentation for this class was generated from the following files:

- stdair/bom/[AirlineFeature.hpp](#)
- stdair/bom/[AirlineFeature.cpp](#)

## 32.4 stdair::AirlineFeatureKey Struct Reference

```
#include <stdair/bom/AirlineFeatureKey.hpp>
```

Inheritance diagram for stdair::AirlineFeatureKey:



## Public Member Functions

- `AirlineFeatureKey (const AirlineCode_T &iAirlineCode)`
- `~AirlineFeatureKey ()`
- `const AirlineCode_T & getAirlineCode () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string toString () const`

### 32.4.1 Detailed Description

Key of [AirlineFeature](#).

Definition at line 15 of file [AirlineFeatureKey.hpp](#).

### 32.4.2 Constructor & Destructor Documentation

#### 32.4.2.1 stdair::AirlineFeatureKey::AirlineFeatureKey ( const AirlineCode\_T & iAirlineCode )

Constructor.

Definition at line 12 of file [AirlineFeatureKey.cpp](#).

#### 32.4.2.2 stdair::AirlineFeatureKey::~AirlineFeatureKey ( )

Destructor.

Definition at line 17 of file [AirlineFeatureKey.cpp](#).

### 32.4.3 Member Function Documentation

#### 32.4.3.1 const AirlineCode\_T& stdair::AirlineFeatureKey::getAirlineCode ( ) const [inline]

Get the airline code.

Definition at line 27 of file [AirlineFeatureKey.hpp](#).

#### 32.4.3.2 void stdair::AirlineFeatureKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 21 of file [AirlineFeatureKey.cpp](#).

References [toString\(\)](#).

#### 32.4.3.3 void stdair::AirlineFeatureKey::fromStream ( std::istream & ioln ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 26 of file [AirlineFeatureKey.cpp](#).

#### 32.4.3.4 const std::string stdair::AirlineFeatureKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 30 of file [AirlineFeatureKey.cpp](#).

Referenced by [stdair::AirlineFeature::describeKey\(\)](#), and [toStream\(\)](#).

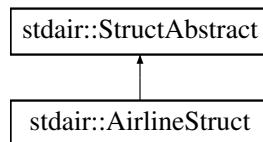
The documentation for this struct was generated from the following files:

- [stdair/bom/AirlineFeatureKey.hpp](#)
- [stdair/bom/AirlineFeatureKey.cpp](#)

## 32.5 stdair::AirlineStruct Struct Reference

```
#include <stdair/bom/AirlineStruct.hpp>
```

Inheritance diagram for stdair::AirlineStruct:



### Public Member Functions

- const [AirlineCode\\_T](#) & [getAirlineCode](#) () const
- const std::string & [getAirlineName](#) () const
- void [setAirlineCode](#) (const [AirlineCode\\_T](#) &iAirlineCode)
- void [setAirlineName](#) (const std::string &iAirlineName)
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [describe](#) () const
- [AirlineStruct](#) (const [AirlineCode\\_T](#) &, const std::string &iAirlineName)
- [AirlineStruct](#) ()
- [AirlineStruct](#) (const [AirlineStruct](#) &)
- [~AirlineStruct](#) ()

### 32.5.1 Detailed Description

Structure holding parameters describing an airline.

Definition at line 18 of file [AirlineStruct.hpp](#).

### 32.5.2 Constructor & Destructor Documentation

**32.5.2.1 stdair::AirlineStruct::AirlineStruct ( const AirlineCode\_T & iAirlineCode, const std::string & iAirlineName )**

Main constructor.

Definition at line 24 of file [AirlineStruct.cpp](#).

**32.5.2.2 stdair::AirlineStruct::AirlineStruct ( )**

Default constructor.

Definition at line 15 of file [AirlineStruct.cpp](#).

**32.5.2.3 stdair::AirlineStruct::AirlineStruct ( const AirlineStruct & iAirlineStruct )**

Default copy constructor.

Definition at line 19 of file [AirlineStruct.cpp](#).

**32.5.2.4 stdair::AirlineStruct::~AirlineStruct ( )**

Destructor.

Definition at line 30 of file [AirlineStruct.cpp](#).

### 32.5.3 Member Function Documentation

**32.5.3.1 const AirlineCode\_T& stdair::AirlineStruct::getAirlineCode ( ) const [inline]**

Get the airline code.

Definition at line 22 of file [AirlineStruct.hpp](#).

Referenced by [soci::type\\_conversion< stdair::AirlineStruct >::to\\_base\(\)](#), and [stdair::DBManagerForAirlines::updateAirlineInDB\(\)](#).

**32.5.3.2 const std::string& stdair::AirlineStruct::getAirlineName ( ) const [inline]**

Get the airline name.

Definition at line 27 of file [AirlineStruct.hpp](#).

Referenced by [soci::type\\_conversion< stdair::AirlineStruct >::to\\_base\(\)](#), and [stdair::DBManagerForAirlines::updateAirlineInDB\(\)](#).

**32.5.3.3 void stdair::AirlineStruct::setAirlineCode ( const AirlineCode\_T & iAirlineCode ) [inline]**

Set the airline code.

Definition at line 33 of file [AirlineStruct.hpp](#).

Referenced by [soci::type\\_conversion< stdair::AirlineStruct >::from\\_base\(\)](#).

**32.5.3.4 void stdair::AirlineStruct::setAirlineName ( const std::string & iAirlineName ) [inline]**

Set the airline name.

Definition at line 38 of file [AirlineStruct.hpp](#).

Referenced by [soci::type\\_conversion< stdair::AirlineStruct >::from\\_base\(\)](#).

**32.5.3.5 void stdair::AirlineStruct::toStream ( std::ostream & ioOut ) const**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 34 of file [AirlineStruct.cpp](#).

References [describe\(\)](#).

32.5.3.6 void stdair::AirlineStruct::fromStream ( std::istream & *ioIn* ) [virtual]

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 39 of file [AirlineStruct.cpp](#).

## 32.5.3.7 const std::string stdair::AirlineStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 43 of file [AirlineStruct.cpp](#).

Referenced by [toStream\(\)](#).

The documentation for this struct was generated from the following files:

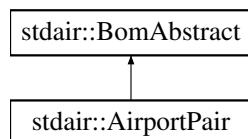
- stdair/bom/[AirlineStruct.hpp](#)
- stdair/bom/[AirlineStruct.cpp](#)

**32.6 stdair::AirportPair Class Reference**

Class representing the actual attributes for an airport-pair.

```
#include <stdair/bom/AirportPair.hpp>
```

Inheritance diagram for stdair::AirportPair:

**Public Types**

- [typedef AirportPairKey Key\\_T](#)

**Public Member Functions**

- void [toStream](#) (std::ostream &*ioOut*) const
- void [fromStream](#) (std::istream &*ioIn*)
- std::string [toString](#) () const
- const std::string [describeKey](#) () const
- const [Key\\_T & getKey](#) () const
- const [AirportCode\\_T & getBoardingPoint](#) () const

- const `AirportCode_T & getOffPoint () const`
- `BomAbstract *const getParent () const`
- const `HolderMap_T & getHolderMap () const`

#### Protected Member Functions

- `AirportPair (const Key_T &)`
- virtual `~AirportPair ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`

#### Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.6.1 Detailed Description

Class representing the actual attributes for an airport-pair.

Definition at line [18](#) of file `AirportPair.hpp`.

### 32.6.2 Member Typedef Documentation

#### 32.6.2.1 `typedef AirportPairKey stdair::AirportPair::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [28](#) of file `AirportPair.hpp`.

### 32.6.3 Constructor & Destructor Documentation

#### 32.6.3.1 `stdair::AirportPair::AirportPair ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line [27](#) of file `AirportPair.cpp`.

#### 32.6.3.2 `stdair::AirportPair::~AirportPair ( ) [protected], [virtual]`

Destructor.

Definition at line [32](#) of file `AirportPair.cpp`.

### 32.6.4 Member Function Documentation

#### 32.6.4.1 `void stdair::AirportPair::toStream ( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [37](#) of file [AirportPair.hpp](#).

References [toString\(\)](#).

**32.6.4.2 void stdair::AirportPair::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [46](#) of file [AirportPair.hpp](#).

**32.6.4.3 std::string stdair::AirportPair::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [36](#) of file [AirportPair.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.6.4.4 const std::string stdair::AirportPair::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line [57](#) of file [AirportPair.hpp](#).

References [\\_key](#), and [stdair::AirportPairKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.6.4.5 const Key\_T& stdair::AirportPair::getKey ( ) const [inline]**

Get the primary key (origin airport, destination airport).

Definition at line [66](#) of file [AirportPair.hpp](#).

References [\\_key](#).

**32.6.4.6 const AirportCode\_T& stdair::AirportPair::getBoardingPoint ( ) const [inline]**

Get the origin airport.

Definition at line [73](#) of file [AirportPair.hpp](#).

References [\\_key](#), and [stdair::AirportPairKey::getBoardingPoint\(\)](#).

**32.6.4.7 const AirportCode\_T& stdair::AirportPair::getOffPoint ( ) const [inline]**

Get the destination airport.

Definition at line [80](#) of file [AirportPair.hpp](#).

References [\\_key](#), and [stdair::AirportPairKey::getOffPoint\(\)](#).

### 32.6.4.8 **BomAbstract\* const stdair::AirportPair::getParent( ) const** [inline]

Get a reference on the parent object instance.

Definition at line 87 of file [AirportPair.hpp](#).

References [\\_parent](#).

### 32.6.4.9 **const HolderMap\_T& stdair::AirportPair::getHolderMap( ) const** [inline]

Get a reference on the children holder.

Definition at line 94 of file [AirportPair.hpp](#).

References [\\_holderMap](#).

## 32.6.5 Friends And Related Function Documentation

### 32.6.5.1 **template<typename BOM> friend class FacBom** [friend]

Definition at line 19 of file [AirportPair.hpp](#).

### 32.6.5.2 **template<typename BOM> friend class FacCloneBom** [friend]

Definition at line 20 of file [AirportPair.hpp](#).

### 32.6.5.3 **friend class FacBomManager** [friend]

Definition at line 21 of file [AirportPair.hpp](#).

## 32.6.6 Member Data Documentation

### 32.6.6.1 **Key\_T stdair::AirportPair::\_key** [protected]

Primary key (flight number and departure date).

Definition at line 124 of file [AirportPair.hpp](#).

Referenced by [describeKey\(\)](#), [getBoardingPoint\(\)](#), [getKey\(\)](#), and [getOffPoint\(\)](#).

### 32.6.6.2 **BomAbstract\* stdair::AirportPair::\_parent** [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line 129 of file [AirportPair.hpp](#).

Referenced by [getParent\(\)](#).

### 32.6.6.3 **HolderMap\_T stdair::AirportPair::\_holderMap** [protected]

Map holding the children.

Definition at line 134 of file [AirportPair.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

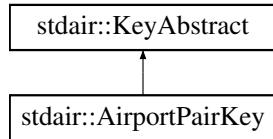
- stdair/bom/[AirportPair.hpp](#)
- stdair/bom/[AirportPair.cpp](#)

## 32.7 stdair::AirportPairKey Struct Reference

Key of airport-pair.

```
#include <stdair/bom/AirportPairKey.hpp>
```

Inheritance diagram for stdair::AirportPairKey:



### Public Member Functions

- [AirportPairKey \(const stdair::AirportCode\\_T &, const stdair::AirportCode\\_T &\)](#)
- [AirportPairKey \(const AirportPairKey &\)](#)
- [~AirportPairKey \(\)](#)
- [const stdair::AirportCode\\_T & getBoardingPoint \(\) const](#)
- [const stdair::AirportCode\\_T & getOffPoint \(\) const](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [void fromStream \(std::istream &ioln\)](#)
- [const std::string toString \(\) const](#)

#### 32.7.1 Detailed Description

Key of airport-pair.

Definition at line 16 of file [AirportPairKey.hpp](#).

#### 32.7.2 Constructor & Destructor Documentation

##### 32.7.2.1 stdair::AirportPairKey::AirportPairKey ( const stdair::AirportCode\_T & iBoardingPoint, const stdair::AirportCode\_T & iOffPoint )

Main constructor.

Definition at line 22 of file [AirportPairKey.cpp](#).

##### 32.7.2.2 stdair::AirportPairKey::AirportPairKey ( const AirportPairKey & iKey )

Copy constructor.

Definition at line 28 of file [AirportPairKey.cpp](#).

##### 32.7.2.3 stdair::AirportPairKey::~AirportPairKey ( )

Destructor.

Definition at line 34 of file [AirportPairKey.cpp](#).

#### 32.7.3 Member Function Documentation

##### 32.7.3.1 const stdair::AirportCode\_T& stdair::AirportPairKey::getBoardingPoint ( ) const [inline]

Get the boarding point.

Definition at line 36 of file [AirportPairKey.hpp](#).

Referenced by [stdair::AirportPair::getBoardingPoint\(\)](#).

### 32.7.3.2 const stdair::AirportCode\_T& stdair::AirportPairKey::getOffPoint( ) const [inline]

Get the arrival point.

Definition at line 43 of file [AirportPairKey.hpp](#).

Referenced by [stdair::AirportPair::getOffPoint\(\)](#).

### 32.7.3.3 void stdair::AirportPairKey::toStream( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 38 of file [AirportPairKey.cpp](#).

References [toString\(\)](#).

### 32.7.3.4 void stdair::AirportPairKey::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 43 of file [AirportPairKey.cpp](#).

### 32.7.3.5 const std::string stdair::AirportPairKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 47 of file [AirportPairKey.cpp](#).

References [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::AirportPair::describeKey\(\)](#), [stdair::BomRetriever::retrieveAirportPairFromKeySet\(\)](#), and [to<-Stream\(\)](#).

The documentation for this struct was generated from the following files:

- stdair/bom/[AirportPairKey.hpp](#)
- stdair/bom/[AirportPairKey.cpp](#)

## 32.8 stdair::BasChronometer Struct Reference

```
#include <stdair/basic/BasChronometer.hpp>
```

#### Public Member Functions

- [BasChronometer\(\)](#)
- void [start\(\)](#)
- std::string [getStart\(\)](#) const
- double [elapsed\(\)](#) const

### 32.8.1 Detailed Description

Structure allowing measuring the time elapsed between two events.

Definition at line 14 of file [BasChronometer.hpp](#).

### 32.8.2 Constructor & Destructor Documentation

#### 32.8.2.1 stdair::BasChronometer::BasChronometer( )

Constructor.

Definition at line 12 of file [BasChronometer.cpp](#).

### 32.8.3 Member Function Documentation

#### 32.8.3.1 void stdair::BasChronometer::start( )

Start the chronometer from the local time

The elapsed time given is the one elapsed since the start is launched.

Definition at line 16 of file [BasChronometer.cpp](#).

#### 32.8.3.2 std::string stdair::BasChronometer::getStart( ) const [inline]

Get the start time.

Definition at line 24 of file [BasChronometer.hpp](#).

#### 32.8.3.3 double stdair::BasChronometer::elapsed( ) const

Return the time elapsed since the structure has been instanciated.

That elapsed time is expressed in seconds.

Definition at line 26 of file [BasChronometer.cpp](#).

The documentation for this struct was generated from the following files:

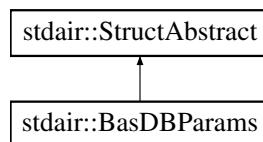
- stdair/basic/[BasChronometer.hpp](#)
- stdair/basic/[BasChronometer.cpp](#)

## 32.9 stdair::BasDBParams Struct Reference

Structure holding the parameters for connection to a database.

```
#include <stdair/basic/BasDBParams.hpp>
```

Inheritance diagram for stdair::BasDBParams:



### Public Member Functions

- const std::string & [getUser\(\)](#) const
- const std::string & [getPassword\(\)](#) const

- `const std::string & getHost () const`
- `const std::string & getPort () const`
- `const std::string & getDBName () const`
- `void setUser (const std::string &iUser)`
- `void setPassword (const std::string &iPasswd)`
- `void setHost (const std::string &iHost)`
- `void setPort (const std::string &iPort)`
- `void setDBName (const std::string &iDBName)`
- `bool check () const`
- `const std::string describe () const`
- `std::string toShortString () const`
- `std::string toString () const`
- `BasDBParams (const std::string &iDBUser, const std::string &iDBPasswd, const std::string &iDBHost, const std::string &iDBPort, const std::string &iDBName)`
- `BasDBParams ()`
- `BasDBParams (const BasDBParams &)`
- `~BasDBParams ()`
- `void toStream (std::ostream &ioOut) const`
- `virtual void fromStream (std::istream &iIn)`

### 32.9.1 Detailed Description

Structure holding the parameters for connection to a database.

Definition at line 19 of file [BasDBParams.hpp](#).

### 32.9.2 Constructor & Destructor Documentation

#### 32.9.2.1 `stdair::BasDBParams::BasDBParams ( const std::string & iDBUser, const std::string & iDBPasswd, const std::string & iDBHost, const std::string & iDBPort, const std::string & iDBName )`

Main Constructor.

Definition at line 24 of file [BasDBParams.cpp](#).

#### 32.9.2.2 `stdair::BasDBParams::BasDBParams ( )`

Default Constructor.

Definition at line 13 of file [BasDBParams.cpp](#).

#### 32.9.2.3 `stdair::BasDBParams::BasDBParams ( const BasDBParams & iDBParams )`

Default copy constructor.

Definition at line 17 of file [BasDBParams.cpp](#).

#### 32.9.2.4 `stdair::BasDBParams::~BasDBParams ( )`

Destructor.

Definition at line 34 of file [BasDBParams.cpp](#).

### 32.9.3 Member Function Documentation

#### 32.9.3.1 `const std::string& stdair::BasDBParams::getUser ( ) const [inline]`

Get the database user name.

Definition at line 23 of file [BasDBParams.hpp](#).

32.9.3.2 const std::string& stdair::BasDBParams::getPassword( ) const [inline]

Get the database user password.

Definition at line 28 of file [BasDBParams.hpp](#).

32.9.3.3 const std::string& stdair::BasDBParams::getHost( ) const [inline]

Get the database host name.

Definition at line 33 of file [BasDBParams.hpp](#).

32.9.3.4 const std::string& stdair::BasDBParams::getPort( ) const [inline]

Get the database port number.

Definition at line 38 of file [BasDBParams.hpp](#).

32.9.3.5 const std::string& stdair::BasDBParams::getDBName( ) const [inline]

Get the database name.

Definition at line 43 of file [BasDBParams.hpp](#).

32.9.3.6 void stdair::BasDBParams::setUser( const std::string & iUser ) [inline]

Set the database user name.

Definition at line 50 of file [BasDBParams.hpp](#).

32.9.3.7 void stdair::BasDBParams::setPassword( const std::string & iPasswd ) [inline]

Set the database password.

Definition at line 55 of file [BasDBParams.hpp](#).

32.9.3.8 void stdair::BasDBParams::setHost( const std::string & iHost ) [inline]

Set the database host name.

Definition at line 60 of file [BasDBParams.hpp](#).

32.9.3.9 void stdair::BasDBParams::setPort( const std::string & iPort ) [inline]

Set the database port number.

Definition at line 65 of file [BasDBParams.hpp](#).

32.9.3.10 void stdair::BasDBParams::setDBName( const std::string & iDBName ) [inline]

Set the database name.

Definition at line 70 of file [BasDBParams.hpp](#).

32.9.3.11 bool stdair::BasDBParams::check( ) const

Check that all the parameters are fine.

Definition at line 57 of file [BasDBParams.cpp](#).

32.9.3.12 const std::string stdair::BasDBParams::describe( ) const [virtual]

Get the serialised version of the DBParams structure.

Implements [stdair::StructAbstract](#).

Definition at line 38 of file [BasDBParams.cpp](#).

References [toString\(\)](#).

### 32.9.3.13 std::string stdair::BasDBParams::toShortString( ) const

Get a short display of the DBParams structure.

Definition at line 43 of file [BasDBParams.cpp](#).

### 32.9.3.14 std::string stdair::BasDBParams::toString( ) const

Get the serialised version of the DBParams structure.

Definition at line 50 of file [BasDBParams.cpp](#).

Referenced by [describe\(\)](#).

### 32.9.3.15 void stdair::StructAbstract::toStream( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

### 32.9.3.16 virtual void stdair::StructAbstract::fromStream( std::istream & iIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

The documentation for this struct was generated from the following files:

- [stdair/basic/BasDBParams.hpp](#)
- [stdair/basic/BasDBParams.cpp](#)

## 32.10 stdair::BasFileMgr Struct Reference

```
#include <stdair/basic/BasFileMgr.hpp>
```

### Static Public Member Functions

- static bool [doesExistAndIsReadable](#) (const std::string &iFilepath)

#### 32.10.1 Detailed Description

Helper class for operations on files and on the file-system.

Definition at line 13 of file [BasFileMgr.hpp](#).

### 32.10.2 Member Function Documentation

32.10.2.1 `bool stdair::BasFileMgr::doesExistAndIsReadable ( const std::string & iFilepath ) [static]`

Definition at line 23 of file [BasFileMgr.cpp](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

The documentation for this struct was generated from the following files:

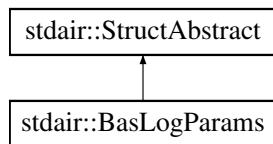
- stdair/basic/[BasFileMgr.hpp](#)
- stdair/basic/[BasFileMgr.cpp](#)

## 32.11 stdair::BasLogParams Struct Reference

Structure holding parameters for logging.

```
#include <stdair/basic/BasLogParams.hpp>
```

Inheritance diagram for stdair::BasLogParams:



### Public Member Functions

- const [LOG::EN\\_LogLevel & getLogLevel \(\) const](#)
- std::ostream & [getLogStream \(\) const](#)
- const bool [getForcedInitialisationFlag \(\) const](#)
- void [setForcedInitialisationFlag \(const bool iForceMultipleInstance\)](#)
- bool [check \(\) const](#)
- const std::string [describe \(\) const](#)
- std::string [toShortString \(\) const](#)
- std::string [toString \(\) const](#)
- [BasLogParams \(const LOG::EN\\_LogLevel iLogLevel, std::ostream &iLogOutputStream, const bool iForceMultipleInstance=false\)](#)
- [BasLogParams \(const BasLogParams &\)](#)
- [~BasLogParams \(\)](#)
- void [toStream \(std::ostream &iOut\) const](#)
- virtual void [fromStream \(std::istream &iIn\)](#)

### Friends

- class [Logger](#)

### 32.11.1 Detailed Description

Structure holding parameters for logging.

Definition at line 19 of file [BasLogParams.hpp](#).

### 32.11.2 Constructor & Destructor Documentation

**32.11.2.1 stdair::BasLogParams::BasLogParams ( const LOG::EN\_LogLevel *iLogLevel*, std::ostream & *ioLogOutputStream*, const bool *iForceMultipleInstance* = false )**

Main Constructor.

#### Parameters

in	const	LOG::EN_LogLevel Level of the log (e.g., DEBUG)
in, out	std::ostream&	(STL) Stream to log into.
in	const	bool Whether or not multiple initialisation should be forced.

Definition at line 27 of file [BasLogParams.cpp](#).

**32.11.2.2 stdair::BasLogParams::BasLogParams ( const BasLogParams & *iLogParams* )**

Copy constructor.

Definition at line 21 of file [BasLogParams.cpp](#).

**32.11.2.3 stdair::BasLogParams::~BasLogParams ( )**

Destructor.

Definition at line 35 of file [BasLogParams.cpp](#).

### 32.11.3 Member Function Documentation

**32.11.3.1 const LOG::EN\_LogLevel& stdair::BasLogParams::getLogLevel ( ) const [inline]**

Get the log level.

Definition at line 26 of file [BasLogParams.hpp](#).

**32.11.3.2 std::ostream& stdair::BasLogParams::getLogStream ( ) const [inline]**

Get the log output stream.

Definition at line 33 of file [BasLogParams.hpp](#).

**32.11.3.3 const bool stdair::BasLogParams::getForcedInitialisationFlag ( ) const [inline]**

State whether or not multiple initialisations are to be forced.

Definition at line 40 of file [BasLogParams.hpp](#).

**32.11.3.4 void stdair::BasLogParams::setForcedInitialisationFlag ( const bool *iForceMultipleInstance* ) [inline]**

State whether or not multiple initialisations are to be forced.

Definition at line 49 of file [BasLogParams.hpp](#).

**32.11.3.5 bool stdair::BasLogParams::check ( ) const**

Check that all the parameters are fine.

**32.11.3.6 const std::string stdair::BasLogParams::describe ( ) const [virtual]**

Get the serialised version of the DBParams structure.

Implements [stdair::StructAbstract](#).

Definition at line 39 of file [BasLogParams.cpp](#).

References [toString\(\)](#).

## 32.11.3.7 std::string stdair::BasLogParams::toShortString( ) const

Get a short display of the LOGParams structure.

Definition at line 44 of file [BasLogParams.cpp](#).

References [stdair::LOG::\\_logLevels](#).

## 32.11.3.8 std::string stdair::BasLogParams::toString( ) const

Get the serialised version of the LOGParams structure.

Definition at line 52 of file [BasLogParams.cpp](#).

References [stdair::LOG::\\_logLevels](#).

Referenced by [describe\(\)](#).

## 32.11.3.9 void stdair::StructAbstract::toStream( std::ostream &amp; ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

## 32.11.3.10 virtual void stdair::StructAbstract::fromStream( std::istream &amp; ioin ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

## 32.11.4 Friends And Related Function Documentation

## 32.11.4.1 friend class Logger [friend]

Definition at line 20 of file [BasLogParams.hpp](#).

The documentation for this struct was generated from the following files:

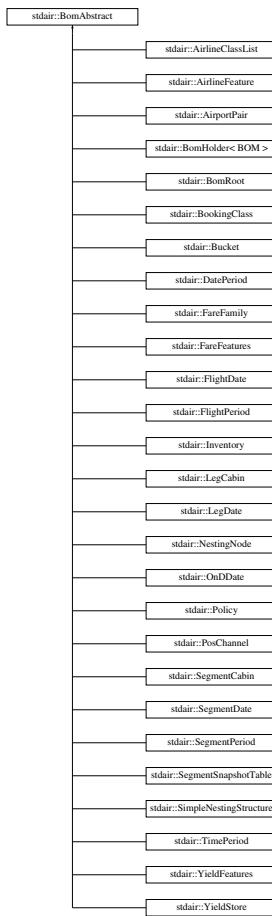
- [stdair/basic/BasLogParams.hpp](#)
- [stdair/basic/BasLogParams.cpp](#)

## 32.12 stdair::BomAbstract Class Reference

Base class for the Business Object Model (BOM) layer.

```
#include <stdair/bom/BomAbstract.hpp>
```

Inheritance diagram for stdair::BomAbstract:



## Public Member Functions

- virtual void [toStream](#) (std::ostream &ioOut) const =0
- virtual void [fromStream](#) (std::istream &ioln)=0
- virtual std::string [toString](#) () const =0
- virtual [~BomAbstract](#) ()

## Protected Member Functions

- [BomAbstract](#) ()
- [BomAbstract](#) (const [BomAbstract](#) &)

### 32.12.1 Detailed Description

Base class for the Business Object Model (BOM) layer.

Definition at line [24](#) of file [BomAbstract.hpp](#).

### 32.12.2 Constructor & Destructor Documentation

#### 32.12.2.1 stdair::BomAbstract::BomAbstract( ) [inline], [protected]

Protected Default Constructor to ensure this class is abstract.

Definition at line [53](#) of file [BomAbstract.hpp](#).

## 32.12.2.2 stdair::BomAbstract::BomAbstract( const BomAbstract &amp; ) [inline], [protected]

Definition at line 54 of file [BomAbstract.hpp](#).

## 32.12.2.3 virtual stdair::BomAbstract::~BomAbstract( ) [inline], [virtual]

Destructor.

Definition at line 59 of file [BomAbstract.hpp](#).

## 32.12.3 Member Function Documentation

## 32.12.3.1 virtual void stdair::BomAbstract::toStream( std::ostream &amp; ioOut ) const [pure virtual]

Dump a Business Object into an output stream.

## Parameters

<i>ostream&amp;</i>	The input/output stream.
---------------------	--------------------------

Implemented in [stdair::LegCabin](#), [stdair::SegmentSnapshotTable](#), [stdair::SegmentDate](#), [stdair::BookingClass](#), [stdair::SegmentCabin](#), [stdair::LegDate](#), [stdair::OnDDate](#), [stdair::FlightDate](#), [stdair::Inventory](#), [stdair::Policy](#), [stdair::BomRoot](#), [stdair::FareFamily](#), [stdair::Bucket](#), [stdair::SegmentPeriod](#), [stdair::AirlineClassList](#), [stdair::NestingNode](#), [stdair::SimpleNestingStructure](#), [stdair::BomHolder< BOM >](#), [stdair::FlightPeriod](#), [stdair::AirlineFeature](#), [stdair::PosChannel](#), [stdair::TimePeriod](#), [stdair::YieldFeatures](#), [stdair::AirportPair](#), [stdair::DatePeriod](#), [stdair::FareFeatures](#), and [stdair::YieldStore](#).

## 32.12.3.2 virtual void stdair::BomAbstract::fromStream( std::istream &amp; ioin ) [pure virtual]

Read a Business Object from an input stream.

## Parameters

<i>istream&amp;</i>	The input stream.
---------------------	-------------------

Implemented in [stdair::LegCabin](#), [stdair::SegmentSnapshotTable](#), [stdair::SegmentDate](#), [stdair::BookingClass](#), [stdair::SegmentCabin](#), [stdair::LegDate](#), [stdair::OnDDate](#), [stdair::FlightDate](#), [stdair::Inventory](#), [stdair::Policy](#), [stdair::BomRoot](#), [stdair::FareFamily](#), [stdair::Bucket](#), [stdair::AirlineClassList](#), [stdair::SegmentPeriod](#), [stdair::NestingNode](#), [stdair::SimpleNestingStructure](#), [stdair::BomHolder< BOM >](#), [stdair::AirlineFeature](#), [stdair::FlightPeriod](#), [stdair::PosChannel](#), [stdair::TimePeriod](#), [stdair::YieldFeatures](#), [stdair::AirportPair](#), [stdair::DatePeriod](#), [stdair::FareFeatures](#), and [stdair::YieldStore](#).

Referenced by [operator>>\(\)](#).

## 32.12.3.3 virtual std::string stdair::BomAbstract::toString( ) const [pure virtual]

Get the serialised version of the Business Object.

## Returns

`std::string` The output string

Implemented in [stdair::LegCabin](#), [stdair::SegmentSnapshotTable](#), [stdair::SegmentDate](#), [stdair::BookingClass](#), [stdair::SegmentCabin](#), [stdair::LegDate](#), [stdair::OnDDate](#), [stdair::FlightDate](#), [stdair::Inventory](#), [stdair::Policy](#), [stdair::BomRoot](#), [stdair::FareFamily](#), [stdair::Bucket](#), [stdair::AirlineClassList](#), [stdair::SegmentPeriod](#), [stdair::NestingNode](#), [stdair::SimpleNestingStructure](#), [stdair::BomHolder< BOM >](#), [stdair::AirlineFeature](#), [stdair::FlightPeriod](#), [stdair::PosChannel](#), [stdair::TimePeriod](#), [stdair::YieldFeatures](#), [stdair::AirportPair](#), [stdair::DatePeriod](#), [stdair::FareFeatures](#), and [stdair::YieldStore](#).

The documentation for this class was generated from the following file:

- [stdair/bom/BomAbstract.hpp](#)

### 32.13 stdair::BomArchive Class Reference

Utility class to archive/restore BOM objects with Boost serialisation.

```
#include <stdair/bom/BomArchive.hpp>
```

#### Static Public Member Functions

- static void [archive](#) (const [BomRoot](#) &)
- static std::string [archive](#) (const [Inventory](#) &)
- static void [restore](#) (const std::string &iArchive, [Inventory](#) &)
- static void [archive](#) (const [FlightDate](#) &)

#### 32.13.1 Detailed Description

Utility class to archive/restore BOM objects with Boost serialisation.

Definition at line 28 of file [BomArchive.hpp](#).

#### 32.13.2 Member Function Documentation

##### 32.13.2.1 void stdair::BomArchive::archive ( const BomRoot & iBomRoot ) [static]

Recursively archive (dump in the underlying STL string) the objects of the BOM tree.

###### Parameters

<i>const</i>	<a href="#">BomRoot</a> & Root of the BOM tree to be archived.
--------------	--

Definition at line 32 of file [BomArchive.cpp](#).

##### 32.13.2.2 std::string stdair::BomArchive::archive ( const Inventory & iInventory ) [static]

Recursively archive (dump in the underlying STL string) the objects of the BOM tree.

###### Parameters

<i>const</i>	<a href="#">Inventory</a> & Root of the BOM tree to be archived.
--------------	--

Definition at line 36 of file [BomArchive.cpp](#).

##### 32.13.2.3 void stdair::BomArchive::restore ( const std::string & iArchive, Inventory & iInventory ) [static]

Recursively restore (from the underlying STL string) the objects of the BOM tree.

###### Parameters

<i>const</i>	std::string& String holding the serialised objects.
<i>Inventory</i> &	Root of the BOM tree to be restored.

Definition at line 44 of file [BomArchive.cpp](#).

##### 32.13.2.4 void stdair::BomArchive::archive ( const FlightDate & iFlightDate ) [static]

Recursively archive (dump in the underlying STL string) the objects of the BOM tree.

###### Parameters

<code>const FlightDate&amp;</code> Root of the BOM tree to be archived.
---

Definition at line 52 of file [BomArchive.cpp](#).

The documentation for this class was generated from the following files:

- stdair/bom/[BomArchive.hpp](#)
- stdair/bom/[BomArchive.cpp](#)

## 32.14 stdair::BomDisplay Class Reference

Utility class to display StdAir objects with a pretty format.

```
#include <stdair/bom/BomDisplay.hpp>
```

### Static Public Member Functions

- static void [list](#) (std::ostream &, const [BomRoot](#) &, const [AirlineCode\\_T](#) &iAirlineCode="all", const [FlightNumber\\_T](#) &iFlightNumber=0)
- static void [list](#) (std::ostream &, const [Inventory](#) &, const unsigned short iInventoryIndex=0, const [FlightNumber\\_T](#) &iFlightNumber=0)
- static void [listAirportPairDateRange](#) (std::ostream &, const [BomRoot](#) &)
- static void [csvDisplay](#) (std::ostream &, const [BomRoot](#) &)
- static void [csvDisplay](#) (std::ostream &, const [Inventory](#) &)
- static void [csvDisplay](#) (std::ostream &, const [OnDDate](#) &)
- static void [csvDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvLegDateDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvSegmentDateDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvLegCabinDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvSegmentCabinDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvFareFamilyDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvBucketDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvBookingClassDisplay](#) (std::ostream &, const [BookingClass](#) &, const std::string &iLeadingString)
- static void [csvBookingClassDisplay](#) (std::ostream &, const [FlightDate](#) &)
- static void [csvDisplay](#) (std::ostream &, const [TravelSolutionList\\_T](#) &)
- static void [csvDisplay](#) (std::ostream &, const [DatePeriodList\\_T](#) &)
- static void [csvSimFQTAirRACDisplay](#) (std::ostream &, const [BomRoot](#) &)
- static void [csvAirportPairDisplay](#) (std::ostream &, const [AirportPair](#) &)
- static void [csvDateDisplay](#) (std::ostream &, const [DatePeriod](#) &)
- static void [csvPosChannelDisplay](#) (std::ostream &, const [PosChannel](#) &)
- static void [csvTimeDisplay](#) (std::ostream &, const [TimePeriod](#) &)
- template<typename FEATURE\_TYPE >  
static void [csvFeatureListDisplay](#) (std::ostream &oStream, const [TimePeriod](#) &)
- template<typename FEATURE\_TYPE >  
static void [csvFeaturesDisplay](#) (std::ostream &oStream, const [FEATURE\\_TYPE](#) &)
- static void [csvAirlineClassDisplay](#) (std::ostream &, const [AirlineClassList](#) &)

### 32.14.1 Detailed Description

Utility class to display StdAir objects with a pretty format.

Definition at line 38 of file [BomDisplay.hpp](#).

### 32.14.2 Member Function Documentation

32.14.2.1 **static void stdair::BomDisplay::list ( std::ostream &, const BomRoot &, const AirlineCode\_T & *iAirlineCode* = "all", const FlightNumber\_T & *iFlightNumber* = 0 ) [static]**

Display (dump in the underlying output log stream) the list of flight-dates contained within the given BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the flight-date keys should be logged/dumped.
<i>const BomRoot&amp;</i>	Root of the BOM tree to be displayed.
<i>const AirlineCode&amp;</i>	Airline for which the flight-dates should be displayed. If set to "all" (default), all the inventories will be displayed.
<i>const FlightNumber_T&amp;</i>	Flight number for which all the departure dates should be displayed. If set to 0 (the default), all the flight numbers will be displayed.

Referenced by [stdair::STDAIR\\_Service::list\(\)](#).

**32.14.2.2 static void stdair::BomDisplay::list ( std::ostream & , const Inventory & , const unsigned short iInventoryIndex = 0 , const FlightNumber\_T & iFlightNumber = 0 ) [static]**

Display (dump in the underlying output log stream) the list of flight-dates contained within the given BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the flight-date keys should be logged/dumped.
<i>const Inventory&amp;</i>	Root of the BOM tree to be displayed.
<i>const unsigned short Index</i>	Index, within the list, of the inventory. It is 0 when that inventory is displayed alone.
<i>const FlightNumber_T&amp;</i>	Flight number for which all the departure dates should be displayed. If set to 0 (the default), all the flight numbers will be displayed.

**32.14.2.3 static void stdair::BomDisplay::listAirportPairDateRange ( std::ostream & , const BomRoot & ) [static]**

Display the list of airports pairs and date ranges (contained within the BOM tree)

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the airport pairs and date ranges are logged/dumped.
<i>const BomRoot&amp;</i>	Root of the BOM tree to be displayed.

Referenced by [stdair::STDAIR\\_Service::listAirportPairDateRange\(\)](#).

**32.14.2.4 static void stdair::BomDisplay::csvDisplay ( std::ostream & , const BomRoot & ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const BomRoot&amp;</i>	Root of the BOM tree to be displayed.

Referenced by [stdair::STDAIR\\_Service::csvDisplay\(\)](#).

**32.14.2.5 static void stdair::BomDisplay::csvDisplay ( std::ostream & , const Inventory & ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given [Inventory](#).

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const Inventory&amp;</i>	Root of the BOM tree to be displayed.

**32.14.2.6 static void stdair::BomDisplay::csvDisplay ( std::ostream & , const OnDDate & ) [static]**

Display the O&D date object information.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">OnDDate</a> & the BOM to be displayed.

**32.14.2.7 static void stdair::BomDisplay::csvDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given [FlightDate](#).

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">FlightDate</a> & Root of the BOM tree to be displayed.

**32.14.2.8 static void stdair::BomDisplay::csvLegDateDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the leg-date level objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">FlightDate</a> & Root of the BOM tree to be displayed.

**32.14.2.9 static void stdair::BomDisplay::csvSegmentDateDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the segment-date level objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">FlightDate</a> & Root of the BOM tree to be displayed.

**32.14.2.10 static void stdair::BomDisplay::csvLegCabinDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the leg-cabin level objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">FlightDate</a> & Root of the BOM tree to be displayed.

**32.14.2.11 static void stdair::BomDisplay::csvSegmentCabinDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the segment-cabin level objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">FlightDate</a> & Root of the BOM tree to be displayed.

**32.14.2.12 static void stdair::BomDisplay::csvFareFamilyDisplay ( std::ostream & , const FlightDate & ) [static]**

Recursively display (dump in the underlying output log stream) the fare families level objects of the BOM tree.

**Parameters**

<code>std::ostream&amp;</code>	Output stream in which the BOM tree should be logged/dumped.
<code>const</code>	<code>FlightDate&amp;</code> Root of the BOM tree to be displayed.

32.14.2.13 static void stdair::BomDisplay::csvBucketDisplay ( `std::ostream &` , `const FlightDate &` ) [static]

Recursively display (dump in the underlying output log stream) the bucket holder level objects of the BOM tree.

## Parameters

<code>std::ostream&amp;</code>	Output stream in which the BOM tree should be logged/dumped.
<code>const</code>	<code>FlightDate&amp;</code> Root of the BOM tree to be displayed.

32.14.2.14 static void stdair::BomDisplay::csvBookingClassDisplay ( `std::ostream &` , `const BookingClass &` , `const std::string &` *iLeadingString* ) [static]

Display (dump in the underlying output log stream) the segment-class, without going recursively deeper in the BOM tree.

## Parameters

<code>std::ostream&amp;</code>	Output stream in which the BOM tree should be logged/dumped.
<code>const</code>	<code>BookingClass&amp;</code> Root of the BOM tree to be displayed.
<code>const</code>	<code>std::string&amp;</code> Leading string to be displayed.

32.14.2.15 static void stdair::BomDisplay::csvBookingClassDisplay ( `std::ostream &` , `const FlightDate &` ) [static]

Recursively display (dump in the underlying output log stream) the segment-class level objects of the BOM tree.

## Parameters

<code>std::ostream&amp;</code>	Output stream in which the BOM tree should be logged/dumped.
<code>const</code>	<code>FlightDate&amp;</code> Root of the BOM tree to be displayed.

32.14.2.16 static void stdair::BomDisplay::csvDisplay ( `std::ostream &` , `const TravelSolutionList_T &` ) [static]

Display (dump in the underlying output log stream) the full list of travel solution structures.

## Parameters

<code>std::ostream&amp;</code>	Output stream in which the list of travel solutions is logged/dumped.
<code>TravelSolutionList_T &amp;</code>	List of travel solutions to display.

32.14.2.17 static void stdair::BomDisplay::csvDisplay ( `std::ostream &` , `const DatePeriodList_T &` ) [static]

Display (dump in the underlying output log stream) the full list of date period fare rule sub bom tree.

## Parameters

<code>std::ostream&amp;</code>	Output stream in which the list of travel solutions is logged/dumped.
<code>DatePeriodList_T &amp;</code>	List of date period to display.

32.14.2.18 static void stdair::BomDisplay::csvSimFQTAirRACDisplay ( `std::ostream &` , `const BomRoot &` ) [static]

Recursively display (dump in the underlying output log stream) the objects of the BOM tree.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">BomRoot&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.19 static void stdair::BomDisplay::csvAirportPairDisplay ( *std::ostream &* , *const AirportPair &* ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given airport pair.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">AirportPair&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.20 static void stdair::BomDisplay::csvDateDisplay ( *std::ostream &* , *const DatePeriod &* ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given date range.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">DatePeriod&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.21 static void stdair::BomDisplay::csvPosChannelDisplay ( *std::ostream &* , *const PosChannel &* ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given point of sale channel.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">PosChannel&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.22 static void stdair::BomDisplay::csvTimeDisplay ( *std::ostream &* , *const TimePeriod &* ) [static]**

Recursively display (dump in the underlying output log stream) the objects of the BOM tree from the level of the given time range.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">TimePeriod&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.23 template<typename FEATURE\_TYPE > static void stdair::BomDisplay::csvFeatureListDisplay ( *std::ostream &* , *oStream* , *const TimePeriod &* ) [static]**

Recursively display (dump in the underlying output log stream) the list of fare/yield features objects of the BOM tree.

## Parameters

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	<a href="#">TimePeriod&amp;</a> Root of the BOM tree to be displayed.

**32.14.2.24 template<typename FEATURE\_TYPE > static void stdair::BomDisplay::csvFeaturesDisplay ( *std::ostream &* , *oStream* , *const FEATURE\_TYPE &* ) [static]**

Recursively display (dump in the underlying output log stream) the fare/yield features objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	FEATURE_TYPE& Root of the BOM tree to be displayed.

32.14.2.25 **static void stdair::BomDisplay::csvAirlineClassDisplay ( std::ostream & , const AirlineClassList & ) [static]**

Recursively display (dump in the underlying output log stream) the airline class objects of the BOM tree.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const</i>	AirlineClassList& Root of the BOM tree to be displayed.

The documentation for this class was generated from the following file:

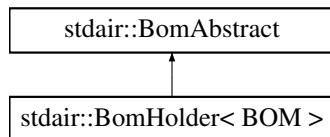
- stdair/bom/BomDisplay.hpp

**32.15 stdair::BomHolder< BOM > Class Template Reference**

Class representing the holder of BOM object containers (list and map).

```
#include <stdair/bom/BomHolder.hpp>
```

Inheritance diagram for stdair::BomHolder< BOM >:

**Public Types**

- **typedef stdair::BomHolderKey Key\_T**
- **typedef std::list< BOM \* > BomList\_T**
- **typedef std::map< const MapKey\_T, BOM \* > BomMap\_T**

**Public Member Functions**

- **void toStream (std::ostream &ioOut) const**
- **void fromStream (std::istream &ioln)**
- **std::string toString () const**
- **const std::string describeKey () const**

**Public Attributes**

- **Key\_T \_key**
- **BomList\_T \_bomList**
- **BomMap\_T \_bomMap**

**Protected Member Functions**

- **BomHolder ()**

- [BomHolder \(const BomHolder &\)](#)
- [BomHolder \(const Key\\_T &iKey\)](#)
- [~BomHolder \(\)](#)

## Friends

- [template<typename> class FacBom](#)
- [class FacBomManager](#)

### 32.15.1 Detailed Description

`template<typename BOM> class stdair::BomHolder< BOM >`

Class representing the holder of BOM object containers (list and map).

Definition at line [24](#) of file [BomHolder.hpp](#).

### 32.15.2 Member Typedef Documentation

`32.15.2.1 template<typename BOM> typedef stdair::BomHolderKey stdair::BomHolder< BOM >::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [34](#) of file [BomHolder.hpp](#).

`32.15.2.2 template<typename BOM> typedef std::list<BOM*> stdair::BomHolder< BOM >::BomList_T`

(STL) list of children.

Definition at line [39](#) of file [BomHolder.hpp](#).

`32.15.2.3 template<typename BOM> typedef std::map<const MapKey_T, BOM*> stdair::BomHolder< BOM >::BomMap_T`

(STL) map of children.

Definition at line [44](#) of file [BomHolder.hpp](#).

### 32.15.3 Constructor & Destructor Documentation

`32.15.3.1 template<typename BOM> stdair::BomHolder< BOM >::BomHolder( ) [protected]`

Constructor.

`32.15.3.2 template<typename BOM> stdair::BomHolder< BOM >::BomHolder( const BomHolder< BOM > & ) [protected]`

Copy constructor.

`32.15.3.3 template<typename BOM> stdair::BomHolder< BOM >::BomHolder( const Key_T & iKey ) [inline], [protected]`

Main constructor.

Definition at line [94](#) of file [BomHolder.hpp](#).

32.15.3.4 template<typename BOM> stdair::BomHolder< BOM >::~BomHolder( ) [inline], [protected]

Destructor.

Definition at line 99 of file [BomHolder.hpp](#).

#### 32.15.4 Member Function Documentation

32.15.4.1 template<typename BOM> void stdair::BomHolder< BOM >::toStream( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 54 of file [BomHolder.hpp](#).

References [stdair::BomHolder< BOM >::toString\(\)](#).

32.15.4.2 template<typename BOM> void stdair::BomHolder< BOM >::fromStream( std::istream & iIn ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 63 of file [BomHolder.hpp](#).

32.15.4.3 template<typename BOM> std::string stdair::BomHolder< BOM >::toString( ) const [inline], [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 69 of file [BomHolder.hpp](#).

Referenced by [stdair::BomHolder< BOM >::toStream\(\)](#).

32.15.4.4 template<typename BOM> const std::string stdair::BomHolder< BOM >::describeKey( ) const [inline]

Get a string describing the key.

Definition at line 76 of file [BomHolder.hpp](#).

#### 32.15.5 Friends And Related Function Documentation

32.15.5.1 template<typename BOM> template<typename > friend class **FacBom** [friend]

Friend classes.

Definition at line 26 of file [BomHolder.hpp](#).

### 32.15.5.2 template<typename BOM> friend class FacBomManager [friend]

Definition at line 27 of file [BomHolder.hpp](#).

### 32.15.6 Member Data Documentation

#### 32.15.6.1 template<typename BOM> Key\_T stdair::BomHolder< BOM >::\_key

Key.

Definition at line 99 of file [BomHolder.hpp](#).

#### 32.15.6.2 template<typename BOM> BomList\_T stdair::BomHolder< BOM >::\_bomList

(STL) list of children.

Definition at line 111 of file [BomHolder.hpp](#).

Referenced by [stdair::FacBomManager::cloneHolder\(\)](#), [stdair::BomManager::getList\(\)](#), [stdair::BomManager::hasList\(\)](#), [stdair::FacBomManager::resetYieldBasedNestingStructure\(\)](#), and [stdair::serialiseHelper\(\)](#).

#### 32.15.6.3 template<typename BOM> BomMap\_T stdair::BomHolder< BOM >::\_bomMap

(STL) map of children.

Definition at line 116 of file [BomHolder.hpp](#).

Referenced by [stdair::FacBomManager::cloneHolder\(\)](#), [stdair::BomManager::getMap\(\)](#), [stdair::BomManager::getObjectPtr\(\)](#), [stdair::BomManager::hasMap\(\)](#), and [stdair::serialiseHelper\(\)](#).

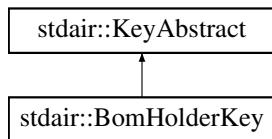
The documentation for this class was generated from the following file:

- [stdair/bom/BomHolder.hpp](#)

### 32.16 stdair::BomHolderKey Struct Reference

```
#include <stdair/bom/BomHolderKey.hpp>
```

Inheritance diagram for stdair::BomHolderKey:



#### Public Member Functions

- [BomHolderKey \(\)](#)
- [~BomHolderKey \(\)](#)
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString \(\)](#) const
- const std::string [describe \(\)](#) const

#### 32.16.1 Detailed Description

Key of the BOM structure holder.

Definition at line 12 of file [BomHolderKey.hpp](#).

### 32.16.2 Constructor & Destructor Documentation

#### 32.16.2.1 stdair::BomHolderKey::BomHolderKey( )

Constructor.

Definition at line 13 of file [BomHolderKey.cpp](#).

#### 32.16.2.2 stdair::BomHolderKey::~BomHolderKey( )

Destructor.

Definition at line 17 of file [BomHolderKey.cpp](#).

### 32.16.3 Member Function Documentation

#### 32.16.3.1 void stdair::BomHolderKey::toStream( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 21 of file [BomHolderKey.cpp](#).

References [toString\(\)](#).

#### 32.16.3.2 void stdair::BomHolderKey::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

##### Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 26 of file [BomHolderKey.cpp](#).

#### 32.16.3.3 const std::string stdair::BomHolderKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 30 of file [BomHolderKey.cpp](#).

Referenced by [toString\(\)](#).

#### 32.16.3.4 const std::string stdair::BomHolderKey::describe( ) const

Display of the key.

The documentation for this struct was generated from the following files:

- stdair/bom/[BomHolderKey.hpp](#)
- stdair/bom/[BomHolderKey.cpp](#)

### 32.17 stdair::BomID< BOM > Struct Template Reference

Class wrapper of bom ID (e.g. pointer to object).

```
#include <stdair/bom/BomID.hpp>
```

#### Public Member Functions

- BOM & [getObject \(\) const](#)
- [BomID \(BOM &iBOM\)](#)
- [BomID \(const BomID &\)](#)
- [~BomID \(\)](#)

#### 32.17.1 Detailed Description

```
template<typename BOM>struct stdair::BomID< BOM >
```

Class wrapper of bom ID (e.g. pointer to object).

Definition at line [17](#) of file [BomID.hpp](#).

#### 32.17.2 Constructor & Destructor Documentation

##### 32.17.2.1 template<typename BOM > stdair::BomID< BOM >::BomID ( BOM & iBOM )

Main constructor.

Definition at line [58](#) of file [BomID.hpp](#).

##### 32.17.2.2 template<typename BOM > stdair::BomID< BOM >::BomID ( const BomID< BOM > & iBomID )

Copy constructor.

Definition at line [61](#) of file [BomID.hpp](#).

##### 32.17.2.3 template<typename BOM > stdair::BomID< BOM >::~BomID ( )

Destructor.

Definition at line [65](#) of file [BomID.hpp](#).

#### 32.17.3 Member Function Documentation

##### 32.17.3.1 template<typename BOM > BOM & stdair::BomID< BOM >::getObject ( ) const

Retrieve the object.

Definition at line [68](#) of file [BomID.hpp](#).

Referenced by [stdair::CancellationStruct::describe\(\)](#), and [stdair::CancellationStruct::display\(\)](#).

The documentation for this struct was generated from the following file:

- stdair/bom/[BomID.hpp](#)

### 32.18 stdair::BomINIImport Class Reference

Utility class to import StdAir objects in a INI format.

```
#include <stdair/bom/BomINIImport.hpp>
```

### Static Public Member Functions

- static void [importINIConfig \(ConfigHolderStruct &, const ConfigINIFile &\)](#)

#### 32.18.1 Detailed Description

Utility class to import StdAir objects in a INI format.

Definition at line 21 of file [BomINIImport.hpp](#).

#### 32.18.2 Member Function Documentation

##### 32.18.2.1 void stdair::BomINIImport::importINIConfig ( ConfigHolderStruct & iConfigHolder, const ConfigINIFile & iConfigINIFile ) [static]

Extract a boost property tree from an INI config file.

###### Parameters

<i>ConfigHolder</i> <i>Struct&amp;</i>	Holder of the configuration tree.
<i>const</i>	<a href="#">ConfigINIFile&amp;</a> INI config file.

Definition at line 29 of file [BomINIImport.cpp](#).

References [stdair::ConfigHolderStruct::add\(\)](#), [stdair::BasFileMgr::doesExistAndIsReadable\(\)](#), [stdair::RootFile::Path::name\(\)](#), and [STDAIR\\_LOG\\_DEBUG](#).

Referenced by [stdair::STDAIR\\_Service::importINIConfig\(\)](#).

The documentation for this class was generated from the following files:

- stdair/bom/[BomINIImport.hpp](#)
- stdair/bom/[BomINIImport.cpp](#)

## 32.19 stdair::BomJSONExport Class Reference

Utility class to export StdAir objects in a JSON format.

```
#include <stdair/bom/BomJSONExport.hpp>
```

### Static Public Member Functions

- static void [jsonExportFlightDateList \(std::ostream &, const BomRoot &, const AirlineCode\\_T &iAirline, Code="all", const FlightNumber\\_T &iFlightNumber=0\)](#)
- static void [jsonExportFlightDateObjects \(std::ostream &, const FlightDate &\)](#)
- static void [jsonExportBookingRequestObject \(std::ostream &, const EventStruct &\)](#)
- static void [jsonExportBreakPointObject \(std::ostream &, const EventStruct &\)](#)

#### 32.19.1 Detailed Description

Utility class to export StdAir objects in a JSON format.

Definition at line 42 of file [BomJSONExport.hpp](#).

### 32.19.2 Member Function Documentation

32.19.2.1 `void stdair::BomJSONExport::jsonExportFlightDateList ( std::ostream & oStream, const BomRoot & iBomRoot, const AirlineCode_T & iAirlineCode = "all", const FlightNumber_T & iFlightNumber = 0 ) [static]`

Export (dump in the underlying output log stream and in JSON format) a list of flight date objects.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the flight date objects should be logged/dumped.
<i>const BomRoot&amp;</i>	Root of the BOM tree containing flight-dates to be exported.
<i>const AirlineCode&amp;</i>	Airline for which the flight-dates should be displayed. If set to "all" (default), all the inventories will be displayed.
<i>const FlightNumber_T&amp;</i>	Flight number for which all the departure dates should be displayed. If set to 0 (the default), all the flight numbers will be displayed.

Definition at line 35 of file [BomJSONExport.cpp](#).

References [stdair::Inventory::getAirlineCode\(\)](#), [stdair::FlightDate::getDepartureDate\(\)](#), and [stdair::FlightDate::getFlightNumber\(\)](#).

Referenced by [stdair::STDAIR\\_Service::jsonExportFlightDateList\(\)](#).

**32.19.2.2 void stdair::BomJSONExport::jsonExportFlightDateObjects ( std::ostream & oStream, const FlightDate & iFlightDate ) [static]**

Recursively export (dump in the underlying output log stream and in JSON format) the objects of the BOM tree using the given [FlightDate](#) as root.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the BOM tree should be logged/dumped.
<i>const FlightDate&amp;</i>	Root of the BOM tree to be exported.

Definition at line 163 of file [BomJSONExport.cpp](#).

References [stdair::FlightDate::getAirlineCode\(\)](#), [stdair::FlightDate::getDepartureDate\(\)](#), and [stdair::FlightDate::getFlightNumber\(\)](#).

Referenced by [stdair::STDAIR\\_Service::jsonExportFlightDateObjects\(\)](#).

**32.19.2.3 void stdair::BomJSONExport::jsonExportBookingRequestObject ( std::ostream & oStream, const EventStruct & iEventStruct ) [static]**

Export (dump in the underlying output log stream and in JSON format) the booking request object contained in the event structure.

**Parameters**

<i>std::ostream&amp;</i>	Output stream in which the events should be logged/dumped.
<i>const EventStruct&amp;</i>	Booking request to be stored in JSON-ified format.

Definition at line 660 of file [BomJSONExport.cpp](#).

References [stdair::EventType::BKG\\_REQ](#), [stdair::BookingRequestStruct::getBookingChannel\(\)](#), [stdair::EventStruct::getBookingRequest\(\)](#), [stdair::BookingRequestStruct::getDestination\(\)](#), [stdair::EventStruct::getEventType\(\)](#), [stdair::EventType::getLabel\(\)](#), [stdair::BookingRequestStruct::getOrigin\(\)](#), [stdair::BookingRequestStruct::getPartySize\(\)](#), [stdair::BookingRequestStruct::getPOS\(\)](#), [stdair::BookingRequestStruct::getPreferredDepartureDate\(\)](#), [stdair::BookingRequestStruct::getPreferredCabin\(\)](#), [stdair::BookingRequestStruct::getPreferredDepartureTime\(\)](#), [stdair::BookingRequestStruct::getRequestDateTime\(\)](#), [stdair::BookingRequestStruct::getStayDuration\(\)](#), and [stdair::BookingRequestStruct::getWTP\(\)](#).

Referenced by [stdair::STDAIR\\_Service::jsonExportEventObject\(\)](#).

**32.19.2.4 void stdair::BomJSONExport::jsonExportBreakPointObject ( std::ostream & oStream, const EventStruct & iEventStruct ) [static]**

Export (dump in the underlying output log stream and in JSON format) the break point object contained in the event structure.

### Parameters

<code>std::ostream&amp;</code>	Output stream in which the events should be logged/dumped.
<code>const</code>	<code>EventStruct&amp;</code> Break point to be stored in JSON-ified format.

Definition at line 749 of file [BomJSONExport.cpp](#).

References `stdair::EventType::BRK_PT`, `stdair::EventStruct::getBreakPoint()`, `stdair::BreakPointStruct::getBreakPointTime()`, `stdair::EventStruct::getEventType()`, and `stdair::EventType::getLabel()`.

Referenced by `stdair::STDAIR_Service::jsonExportEventObject()`.

The documentation for this class was generated from the following files:

- `stdair/bom/BomJSONExport.hpp`
- `stdair/bom/BomJSONExport.cpp`

## 32.20 stdair::BomJSONImport Class Reference

Utility class to import StdAir objects in a JSON format.

```
#include <stdair/bom/BomJSONImport.hpp>
```

### Static Public Member Functions

- static bool `jsonImportCommand` (const `JSONString` &, `JSonCommand::EN_JSONCommand` &)
- static bool `jsonImportInventoryKey` (const `JSONString` &, `AirlineCode_T` &)
- static bool `jsonImportFlightDate` (const `JSONString` &, `Date_T` &)
- static bool `jsonImportFlightNumber` (const `JSONString` &, `FlightNumber_T` &)
- static bool `jsonImportBreakPoints` (const `JSONString` &, `BreakPointList_T` &)
- static bool `jsonImportEventType` (const `JSONString` &, `EventType::EN_EventType` &)
- static bool `jsonImportConfig` (const `JSONString` &, `ConfigHolderStruct` &)

### 32.20.1 Detailed Description

Utility class to import StdAir objects in a JSON format.

Definition at line 26 of file [BomJSONImport.hpp](#).

### 32.20.2 Member Function Documentation

#### 32.20.2.1 bool stdair::BomJSONImport::jsonImportCommand ( const JSONString & iBomJSONStr, JSonCommand::EN\_JSONCommand & ioEnumJSonCommand ) [static]

Extract the JSON command from a given JSON-formatted string.

### Parameters

<code>const</code>	<code>JSONString&amp;</code> JSON-formatted string.
<code>JSonCommand::EN_JSONCommand &amp; ioEnumJSonCommand</code>	JSON command extracted from the given string.

### Returns

`bool` State whether the extracting has been successful.

Definition at line 32 of file [BomJSONImport.cpp](#).

References `stdair::JSonCommand::getCommand()`, and `stdair::JSONString::getString()`.

32.20.2.2 bool stdair::BomJSONImport::jsonImportInventoryKey ( const JSONString & *iBomJSONStr*, AirlineCode\_T & *ioAirlineCode* ) [static]

Extract the airline code from a given JSON-formatted string.

#### Parameters

<i>const</i>	JSONString& JSON-formatted string.
<i>AirlineCode_T&amp;</i>	Airline code extracted from the given string.

#### Returns

bool State whether the extracting has been successful.

Definition at line 98 of file [BomJSONImport.cpp](#).

References [stdair::JSONString::getString\(\)](#).

32.20.2.3 bool stdair::BomJSONImport::jsonImportFlightDate ( const JSONString & *iBomJSONStr*, Date\_T & *ioDepartureDate* ) [static]

Extract the [FlightDate](#) from a given JSON-formatted string.

#### Parameters

<i>const</i>	JSONString& JSON-formatted string.
<i>Date_T&amp;</i>	Departure date extracted from the given string.

#### Returns

bool State whether the extracting has been successful.

Definition at line 133 of file [BomJSONImport.cpp](#).

References [stdair::JSONString::getString\(\)](#).

32.20.2.4 bool stdair::BomJSONImport::jsonImportFlightNumber ( const JSONString & *iBomJSONStr*, FlightNumber\_T & *ioFlightNumber* ) [static]

Extract the FlightNumber from a given JSON-formatted string.

#### Parameters

<i>const</i>	JSONString& JSON-formatted string.
<i>FlightNumber_&lt;→ T&amp;</i>	Flight number extracted from the given string.

#### Returns

bool State whether the extracting has been successful.

Definition at line 167 of file [BomJSONImport.cpp](#).

References [stdair::JSONString::getString\(\)](#).

32.20.2.5 bool stdair::BomJSONImport::jsonImportBreakPoints ( const JSONString & *iBomJSONStr*, BreakPointList\_T & *oBreakPointList* ) [static]

Extract the break points from a given JSON-formatted string.

**Parameters**

<i>const</i>	<a href="#">JSONString</a> & JSON-formatted string.
<i>BreakPointList</i> <i>_T&amp;</i>	List of breaking points extracted from the given string.

**Returns**

bool State whether the extracting has been successful.

Definition at line 203 of file [BomJSONImport.cpp](#).

References [stdair::JSONString::getString\(\)](#).

**32.20.2.6** `bool stdair::BomJSONImport::jsonImportEventType ( const JSONString & iBomJSONStr,  
EventType::EN_EventType & ioEventType ) [static]`

Extract the event type from a given JSON-formatted string.

**Parameters**

<i>const</i>	<a href="#">JSONString</a> & JSON-formatted string.
<i>Event<b>Type</b>::EN_EventType&amp;</i>	Event type extracted from the given string.

**Returns**

bool State whether the extracting has been successful.

Definition at line 253 of file [BomJSONImport.cpp](#).

References [stdair::JSONString::getString\(\)](#).

**32.20.2.7** `bool stdair::BomJSONImport::jsonImportConfig ( const JSONString & iBomJSONStr, ConfigHolderStruct &  
iConfigHolderStruct ) [static]`

Extract the configuration ptree from the given JSON-formatted string and add it to the configuration holder

**Parameters**

<i>const</i>	<a href="#">JSONString</a> & JSON-formatted string.
<i>ConfigHolderStruct&amp;</i>	Configuration holder.

**Returns**

bool State whether the extracting has been successful.

Definition at line 296 of file [BomJSONImport.cpp](#).

References [stdair::ConfigHolderStruct::add\(\)](#), and [stdair::JSONString::getString\(\)](#).

Referenced by [stdair::STDAIR\\_Service::jsonImportConfiguration\(\)](#).

The documentation for this class was generated from the following files:

- stdair/bom/[BomJSONImport.hpp](#)
- stdair/bom/[BomJSONImport.cpp](#)

## 32.21 stdair::BomKeyManager Class Reference

Utility class to extract key structures from strings.

```
#include <stdair/bom/BomKeyManager.hpp>
```

## Static Public Member Functions

- static [ParsedKey extractKeys](#) (const std::string &*iFullKeyStr*)
- static [InventoryKey extractInventoryKey](#) (const std::string &*iFullKeyStr*)
- static [FlightDateKey extractFlightDateKey](#) (const std::string &*iFullKeyStr*)
- static [SegmentDateKey extractSegmentDateKey](#) (const std::string &*iFullKeyStr*)
- static [LegDateKey extractLegDateKey](#) (const std::string &*iFullKeyStr*)

### 32.21.1 Detailed Description

Utility class to extract key structures from strings.

Definition at line 29 of file [BomKeyManager.hpp](#).

### 32.21.2 Member Function Documentation

#### 32.21.2.1 ParsedKey stdair::BomKeyManager::extractKeys ( const std::string & *iFullKeyStr* ) [static]

Build a [ParsedKey](#) structure from a full key string which includes an inventory key, flight-date key elements, segment-date key elements.

Definition at line 31 of file [BomKeyManager.cpp](#).

References [stdair::ParsedKey::\\_airlineCode](#), [stdair::ParsedKey::\\_boardingPoint](#), [stdair::ParsedKey::\\_boardingTime](#), [stdair::ParsedKey::\\_departureDate](#), [stdair::ParsedKey::\\_flightNumber](#), [stdair::ParsedKey::\\_fullKey](#), [stdair::ParsedKey::\\_offPoint](#), and [stdair::DEFAULT\\_KEY\\_TOKEN\\_DELIMITER](#).

Referenced by [stdair::TravelSolutionStruct::describe\(\)](#), [stdair::TravelSolutionStruct::describeSegmentPath\(\)](#), [stdair::TravelSolutionStruct::display\(\)](#), [extractFlightDateKey\(\)](#), [extractInventoryKey\(\)](#), [extractLegDateKey\(\)](#), [extractSegmentDateKey\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

#### 32.21.2.2 InventoryKey stdair::BomKeyManager::extractInventoryKey ( const std::string & *iFullKeyStr* ) [static]

Build a [InventoryKey](#) structure from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the XxxKey structures.

##### Parameters

<i>const</i>	std::string& The full key string.
--------------	-----------------------------------

##### Returns

[InventoryKey](#) The just built [InventoryKey](#) structure.

Definition at line 79 of file [BomKeyManager.cpp](#).

References [extractKeys\(\)](#), and [stdair::ParsedKey::getInventoryKey\(\)](#).

Referenced by [stdair::BomRetriever::retrieveInventoryFromLongKey\(\)](#), and [stdair::BomRetriever::retrievePartnerSegmentDateFromLongKey\(\)](#).

#### 32.21.2.3 FlightDateKey stdair::BomKeyManager::extractFlightDateKey ( const std::string & *iFullKeyStr* ) [static]

Build a [FlightDateKey](#) structure from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the XxxKey structures.

**Parameters**

<i>const</i>	<code>std::string&amp;</code> The full key string.
--------------	--

**Returns**

[FlightDateKey](#) The just built [FlightDateKey](#) structure.

Definition at line 87 of file [BomKeyManager.cpp](#).

References [extractKeys\(\)](#), and [stdair::ParsedKey::getFlightDateKey\(\)](#).

Referenced by [stdair::OnDDateKey::getDate\(\)](#), and [stdair::BomRetriever::retrieveFlightDateFromLongKey\(\)](#).

**32.21.2.4 SegmentDateKey stdair::BomKeyManager::extractSegmentDateKey ( const std::string & iFullKeyStr ) [static]**

Build a [SegmentDateKey](#) structure from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the XxxKey structures.

**Parameters**

<i>const</i>	<code>std::string&amp;</code> The full key string.
--------------	--

**Returns**

[SegmentDateKey](#) The just built [SegmentDateKey](#) structure.

Definition at line 95 of file [BomKeyManager.cpp](#).

References [extractKeys\(\)](#), and [stdair::ParsedKey::getSegmentKey\(\)](#).

Referenced by [stdair::OnDDateKey::getDestination\(\)](#), [stdair::OnDDateKey::getOrigin\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

**32.21.2.5 LegDateKey stdair::BomKeyManager::extractLegDateKey ( const std::string & iFullKeyStr ) [static]**

Build a [LegDateKey](#) structure from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the XxxKey structures.

**Parameters**

<i>const</i>	<code>std::string&amp;</code> The full key string.
--------------	--

**Returns**

[LegDateKey](#) The just built [LegDateKey](#) structure.

Definition at line 103 of file [BomKeyManager.cpp](#).

References [extractKeys\(\)](#), and [stdair::ParsedKey::getLegKey\(\)](#).

Referenced by [stdair::BomRetriever::retrieveOperatingLegDateFromLongKey\(\)](#).

The documentation for this class was generated from the following files:

- stdair/bom/[BomKeyManager.hpp](#)
- stdair/bom/[BomKeyManager.cpp](#)

## 32.22 stdair::BomManager Class Reference

Utility class for StdAir-based objects.

```
#include <stdair/bom/BomManager.hpp>
```

### Public Member Functions

- template<typename OBJECT2 , typename OBJECT1 >  
const **BomHolder< OBJECT2 >::BomList\_T** & **getList** (const OBJECT1 &iObject1)
- template<typename OBJECT2 , typename OBJECT1 >  
const **BomHolder< OBJECT2 >::BomMap\_T** & **getMap** (const OBJECT1 &iObject1)
- template<>  
bool **hasList** (const **SegmentDate** &ioSegmentDate)
- template<>  
const **BomHolder< SegmentDate >::BomList\_T** & **getList** (const **SegmentDate** &ioSegmentDate)
- template<>  
bool **hasMap** (const **SegmentDate** &ioSegmentDate)
- template<>  
bool **hasList** (const **Inventory** &iInventory)
- template<>  
bool **hasMap** (const **Inventory** &iInventory)
- template<>  
**AirlineFeature** \* **getObjectPtr** (const **Inventory** &iInventory, const **MapKey\_T** &iKey)
- template<>  
**AirlineFeature** & **getObject** (const **Inventory** &iInventory, const **MapKey\_T** &iKey)

### Static Public Member Functions

- template<typename OBJECT2 , typename OBJECT1 >  
static const **BomHolder< OBJECT2 >::BomList\_T** & **getList** (const OBJECT1 &)
- template<typename OBJECT2 , typename OBJECT1 >  
static const **BomHolder< OBJECT2 >::BomMap\_T** & **getMap** (const OBJECT1 &)
- template<typename OBJECT2 , typename OBJECT1 >  
static bool **hasList** (const OBJECT1 &)
- template<typename OBJECT2 , typename OBJECT1 >  
static bool **hasMap** (const OBJECT1 &)
- template<typename PARENT , typename CHILD >  
static PARENT \* **getParentPtr** (const CHILD &)
- template<typename PARENT , typename CHILD >  
static PARENT & **getParent** (const CHILD &)
- template<typename OBJECT2 , typename OBJECT1 >  
static OBJECT2 \* **getObjectPtr** (const OBJECT1 &, const **MapKey\_T** &)
- template<typename OBJECT2 , typename OBJECT1 >  
static OBJECT2 & **getObject** (const OBJECT1 &, const **MapKey\_T** &)

### Friends

- class **FacBomManager**

#### 32.22.1 Detailed Description

Utility class for StdAir-based objects.

Most of those methods work for objects specified and instantiated outside StdAir, as long as those objects inherit from StdAir objects.

Definition at line 34 of file **BomManager.hpp**.

### 32.22.2 Member Function Documentation

32.22.2.1 `template<typename OBJECT2 , typename OBJECT1 > static const BomHolder<OBJECT2>::BomList_T& stdair::BomManager::getList ( const OBJECT1 & ) [static]`

Get the container (STL list) of OBJECT2 objects within the OBJECT1 object.

32.22.2.2 `template<typename OBJECT2 , typename OBJECT1 > static const BomHolder<OBJECT2>::BomMap_T& stdair::BomManager::getMap ( const OBJECT1 & ) [static]`

Get the container (STL map) of OBJECT2 objects within the OBJECT1 object.

32.22.2.3 `template<typename OBJECT2 , typename OBJECT1 > bool stdair::BomManager::hasList ( const OBJECT1 & iObject1 ) [static]`

Check if the list of object2 has been initialised.

Definition at line 181 of file [BomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomList](#).

32.22.2.4 `template<typename OBJECT2 , typename OBJECT1 > bool stdair::BomManager::hasMap ( const OBJECT1 & iObject1 ) [static]`

Check if the map of object2 has been initialised.

Definition at line 201 of file [BomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomMap](#).

32.22.2.5 `template<typename PARENT , typename CHILD > PARENT * stdair::BomManager::getParentPtr ( const CHILD & iChild ) [static]`

Get the PARENT of the given CHILD.

If the types do not match, NULL is returned.

Definition at line 220 of file [BomManager.hpp](#).

32.22.2.6 `template<typename PARENT , typename CHILD > PARENT & stdair::BomManager::getParent ( const CHILD & iChild ) [static]`

Get the PARENT of the given CHILD.

Definition at line 230 of file [BomManager.hpp](#).

32.22.2.7 `template<typename OBJECT2 , typename OBJECT1 > OBJECT2 * stdair::BomManager::getObjectPtr ( const OBJECT1 & iObject1, const MapKey_T & iKey ) [static]`

Get the OBJECT2 pointer corresponding to the given string key.

If such a OBJECT2 does not exist, return NULL.

Definition at line 241 of file [BomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomMap](#).

32.22.2.8 `template<typename OBJECT2 , typename OBJECT1 > OBJECT2 & stdair::BomManager::getObject ( const OBJECT1 & iObject1, const MapKey_T & iKey ) [static]`

Get the OBJECT2 corresponding to the given string key.

Definition at line 283 of file [BomManager.hpp](#).

References [STDAIR\\_LOG\\_ERROR](#).

32.22.2.9 template<typename OBJECT2 , typename OBJECT1 > const BomHolder<OBJECT2>::BomList\_T& stdair::BomManager::getList ( const OBJECT1 & *iObject1* )

Definition at line 140 of file [BomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomList](#).

32.22.2.10 template<typename OBJECT2 , typename OBJECT1 > const BomHolder<OBJECT2>::BomMap\_T& stdair::BomManager::getMap ( const OBJECT1 & *iObject1* )

Definition at line 159 of file [BomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomMap](#).

32.22.2.11 template<> bool stdair::BomManager::hasList ( const SegmentDate & *ioSegmentDate* ) [inline]

Definition at line 329 of file [BomManager.hpp](#).

32.22.2.12 template<> const BomHolder<SegmentDate>::BomList\_T& stdair::BomManager::getList ( const SegmentDate & *ioSegmentDate* ) [inline]

Definition at line 345 of file [BomManager.hpp](#).

32.22.2.13 template<> bool stdair::BomManager::hasMap ( const SegmentDate & *ioSegmentDate* ) [inline]

Definition at line 358 of file [BomManager.hpp](#).

32.22.2.14 template<> bool stdair::BomManager::hasList ( const Inventory & *ioInventory* ) [inline]

Definition at line 375 of file [BomManager.hpp](#).

32.22.2.15 template<> bool stdair::BomManager::hasMap ( const Inventory & *ioInventory* ) [inline]

Definition at line 385 of file [BomManager.hpp](#).

32.22.2.16 template<> AirlineFeature\* stdair::BomManager::getObjectPtr ( const Inventory & *iInventory*, const MapKey\_T & *iKey* ) [inline]

Definition at line 395 of file [BomManager.hpp](#).

References [stdair::Inventory::getAirlineFeature\(\)](#).

32.22.2.17 template<> AirlineFeature& stdair::BomManager::getObject ( const Inventory & *iInventory*, const MapKey\_T & *iKey* ) [inline]

Definition at line 406 of file [BomManager.hpp](#).

### 32.22.3 Friends And Related Function Documentation

32.22.3.1 friend class **FacBomManager** [friend]

Definition at line 35 of file [BomManager.hpp](#).

The documentation for this class was generated from the following file:

- stdair/bom/[BomManager.hpp](#)

## 32.23 stdair::BomRetriever Class Reference

Utility class to retrieve StdAir objects.

```
#include <stdair/bom/BomRetriever.hpp>
```

## Static Public Member Functions

- static `Inventory * retrieveInventoryFromLongKey (const BomRoot &, const std::string &iFullKeyStr)`
- static `Inventory * retrieveInventoryFromLongKey (const Inventory &, const std::string &iFullKeyStr)`
- static `Inventory * retrieveInventoryFromKey (const BomRoot &, const InventoryKey &)`
- static `Inventory * retrieveInventoryFromKey (const BomRoot &, const AirlineCode_T &)`
- static `AirlineFeature * retrieveAirlineFeatureFromKey (const BomRoot &, const AirlineCode_T &)`
- static `FlightDate * retrieveFlightDateFromLongKey (const BomRoot &, const std::string &iFullKeyStr)`
- static `FlightDate * retrieveFlightDateFromKeySet (const BomRoot &, const AirlineCode_T &, const Flight↔ Number_T &, const Date_T &iFlightDateDate)`
- static `FlightDate * retrieveFlightDateFromLongKey (const Inventory &, const std::string &iFullKeyStr)`
- static `FlightDate * retrieveFlightDateFromKey (const Inventory &, const FlightDateKey &)`
- static `FlightDate * retrieveFlightDateFromKey (const Inventory &, const FlightNumber_T &, const Date_T &iFlightDateDate)`
- static `LegDate * retrieveOperatingLegDateFromLongKey (const FlightDate &, const std::string &iFullKeyStr)`
- static `SegmentDate * retrievePartnerSegmentDateFromLongKey (const Inventory &, const std::string &i↔ FullKeyStr)`
- static `SegmentDate * retrieveSegmentDateFromLongKey (const BomRoot &, const std::string &iFullKeyStr)`
- static `SegmentDate * retrieveSegmentDateFromLongKey (const Inventory &, const std::string &iFullKeyStr)`
- static `SegmentDate * retrieveSegmentDateFromLongKey (const FlightDate &, const std::string &iFullKeyStr)`
- static `SegmentDate * retrieveSegmentDateFromKey (const FlightDate &, const SegmentDateKey &)`
- static `SegmentDate * retrieveSegmentDateFromKey (const FlightDate &, const AirportCode_T &iOrigin, const AirportCode_T &iDestination)`
- static `BookingClass * retrieveBookingClassFromLongKey (const Inventory &, const std::string &iFullKeyStr, const ClassCode_T &)`
- static `AirportPair * retrieveAirportPairFromKeySet (const BomRoot &, const stdair::AirportCode_T &, const stdair::AirportCode_T &)`
- static void `retrieveDatePeriodListFromKey (const AirportPair &, const stdair::Date_T &, stdair::DatePeriod↔ List_T &)`
- static void `retrieveDatePeriodListFromKeySet (const BomRoot &, const stdair::AirportCode_T &, const stdair::AirportCode_T &, const stdair::Date_T &, stdair::DatePeriodList_T &)`
- static `stdair::LegCabin & retrieveDummyLegCabin (stdair::BomRoot &, const bool isForFareFamilies=false)`
- static `stdair::SegmentCabin & retrieveDummySegmentCabin (stdair::BomRoot &, const bool isForFare↔ Families=false)`
- static std::string `retrieveFullKeyFromSegmentDate (const SegmentDate &)`

### 32.23.1 Detailed Description

Utility class to retrieve StdAir objects.

Definition at line 36 of file `BomRetriever.hpp`.

### 32.23.2 Member Function Documentation

#### 32.23.2.1 `Inventory * stdair::BomRetriever::retrieveInventoryFromLongKey ( const BomRoot & iBomRoot, const std::string & iFullKeyStr ) [static]`

Retrieve an `Inventory` object from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the `XxxKey` structures.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

[Inventory\\*](#) The just retrieved [Inventory](#) object.

Definition at line 31 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractInventoryKey\(\)](#), and [stdair::BomRoot::getInventory\(\)](#).

Referenced by [retrieveFlightDateFromLongKey\(\)](#), and [retrievePartnerSegmentDateFromLongKey\(\)](#).

### 32.23.2.2 [Inventory \\* stdair::BomRetriever::retrieveInventoryFromLongKey \( const Inventory & iInventory, const std::string & iFullKeyStr \) \[static\]](#)

Retrieve an [Inventory](#) object from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">Inventory&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

[Inventory\\*](#) The just retrieved [Inventory](#) object.

Definition at line 46 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractInventoryKey\(\)](#), and [stdair::InventoryKey::getAirlineCode\(\)](#).

### 32.23.2.3 [Inventory \\* stdair::BomRetriever::retrieveInventoryFromKey \( const BomRoot & iBomRoot, const InventoryKey & iKey \) \[static\]](#)

Retrieve an [Inventory](#) object from an [InventoryKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	<a href="#">InventoryKey&amp;</a> The key.

**Returns**

[Inventory\\*](#) The just retrieved [Inventory](#) object.

Definition at line 63 of file [BomRetriever.cpp](#).

References [stdair::BomRoot::getInventory\(\)](#).

Referenced by [retrieveAirlineFeatureFromKey\(\)](#), [retrieveDummyLegCabin\(\)](#), [retrieveDummySegmentCabin\(\)](#), and [retrieveFlightDateFromKeySet\(\)](#).

### 32.23.2.4 [Inventory \\* stdair::BomRetriever::retrieveInventoryFromKey \( const BomRoot & iBomRoot, const AirlineCode\\_T & iAirlineCode \) \[static\]](#)

Retrieve an [Inventory](#) object from an [InventoryKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	AirlineCode_T& The key.

**Returns**

[Inventory\\*](#) The just retrieved [Inventory](#) object.

Definition at line 75 of file [BomRetriever.cpp](#).

References [stdair::BomRoot::getInventory\(\)](#).

**32.23.2.5** **AirlineFeature \* stdair::BomRetriever::retrieveAirlineFeatureFromKey ( const BomRoot & iBomRoot, const AirlineCode\_T & iAirlineCode ) [static]**

Retrieve an Airline Feature object from an airline code.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	AirlineCode_T& The key.

**Returns**

[AirlineFeature\\*](#) The just retrieved Airline Feature object.

Definition at line 88 of file [BomRetriever.cpp](#).

References [retrieveInventoryFromKey\(\)](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

**32.23.2.6** **FlightDate \* stdair::BomRetriever::retrieveFlightDateFromLongKey ( const BomRoot & iBomRoot, const std::string & iFullKeyStr ) [static]**

Retrieve a [FlightDate](#) object from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

[FlightDate\\*](#) The just retrieved [FlightDate](#) object.

Definition at line 109 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractFlightDateKey\(\)](#), [stdair::Inventory::getFlightDate\(\)](#), and [retrieve←InventoryFromLongKey\(\)](#).

Referenced by [retrieveSegmentDateFromLongKey\(\)](#).

**32.23.2.7** **FlightDate \* stdair::BomRetriever::retrieveFlightDateFromKeySet ( const BomRoot & iBomRoot, const AirlineCode\_T & iAirlineCode, const FlightNumber\_T & iFlightNumber, const Date\_T & iFlightDateDate ) [static]**

Retrieve a [FlightDate](#) object from a set of keys.

**Parameters**

<i>const</i>	<a href="#">BomRoot</a> & The root of the BOM tree.
<i>const</i>	<a href="#">AirlineCode_T</a> & The key.
<i>const</i>	<a href="#">FlightNumber_T</a> & Part of the key.
<i>const</i>	<a href="#">Date_T</a> & Part of the key.

**Returns**

[FlightDate](#)\* The just retrieved [FlightDate](#) object.

Definition at line 132 of file [BomRetriever.cpp](#).

References [retrieveFlightDateFromKey\(\)](#), and [retrieveInventoryFromKey\(\)](#).

Referenced by [stdair::STDAIR\\_Service::check\(\)](#), [stdair::STDAIR\\_Service::csvDisplay\(\)](#), and [stdair::STDAIR\\_Service::jsonExportFlightDateObjects\(\)](#).

**32.23.2.8** [FlightDate](#) \* stdair::BomRetriever::retrieveFlightDateFromLongKey ( *const Inventory* & *iInventory*, *const std::string* & *iFullKeyStr* ) [static]

Retrieve a [FlightDate](#) object from a (full) key string.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">Inventory</a> & The root of the BOM tree.
<i>const</i>	<i>std::string</i> & The full key string.

**Returns**

[FlightDate](#)\* The just retrieved [FlightDate](#) object.

Definition at line 155 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractFlightDateKey\(\)](#), and [stdair::Inventory::getFlightDate\(\)](#).

**32.23.2.9** [FlightDate](#) \* stdair::BomRetriever::retrieveFlightDateFromKey ( *const Inventory* & *iInventory*, *const FlightDateKey* & *iKey* ) [static]

Retrieve a [FlightDate](#) object from an [FlightDateKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">Inventory</a> & The root of the BOM tree.
<i>const</i>	<a href="#">FlightDateKey</a> & The key.

**Returns**

[FlightDate](#)\* The just retrieved [FlightDate](#) object.

Definition at line 170 of file [BomRetriever.cpp](#).

References [stdair::Inventory::getFlightDate\(\)](#).

Referenced by [retrieveDummyLegCabin\(\)](#), [retrieveDummySegmentCabin\(\)](#), [retrieveFlightDateFromKeySet\(\)](#), and [retrieveSegmentDateFromLongKey\(\)](#).

**32.23.2.10** [FlightDate](#) \* stdair::BomRetriever::retrieveFlightDateFromKey ( *const Inventory* & *iInventory*, *const FlightNumber\_T* & *iFlightNumber*, *const Date\_T* & *iFlightDateDate* ) [static]

Retrieve a [FlightDate](#) object from an [FlightDateKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">Inventory</a> & The root of the BOM tree.
<i>const</i>	FlightNumber_T& Part of the key.
<i>const</i>	Date_T& Part of the key.

**Returns**

FlightDate\* The just retrieved [FlightDate](#) object.

Definition at line 182 of file [BomRetriever.cpp](#).

References [stdair::Inventory::getFlightDate\(\)](#).

**32.23.2.11 LegDate \* stdair::BomRetriever::retrieveOperatingLegDateFromLongKey ( const FlightDate & iFlightDate, const std::string & iFullKeyStr ) [static]**

Retrieve a [LegDate](#) object from an [FlightDate](#) structure.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">FlightDate</a> & The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

LegDate\* The just retrieved [LegDate](#) object.

Definition at line 266 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractLegDateKey\(\)](#), and [stdair::FlightDate::getLegDate\(\)](#).

**32.23.2.12 SegmentDate \* stdair::BomRetriever::retrievePartnerSegmentDateFromLongKey ( const Inventory & iInventory, const std::string & iFullKeyStr ) [static]**

Retrieve a partner [SegmentDate](#) object from an [Inventory](#) structure.

The full key string gathers airline code, flight number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">Inventory</a> & The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

SegmentDate\* The just retrieved [SegmentDate](#) object.

Definition at line 281 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractInventoryKey\(\)](#), [stdair::InventoryKey::getAirlineCode\(\)](#), [retrieve<-InventoryFromLongKey\(\)](#), and [retrieveSegmentDateFromLongKey\(\)](#).

**32.23.2.13 SegmentDate \* stdair::BomRetriever::retrieveSegmentDateFromLongKey ( const BomRoot & iBomRoot, const std::string & iFullKeyStr ) [static]**

Retrieve a [SegmentDate](#) object from a (full) key string.

The full key string gathers airline code, segment number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

SegmentDate\* The just retrieved [SegmentDate](#) object.

Definition at line 196 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractSegmentDateKey\(\)](#), [stdair::FlightDate::getSegmentDate\(\)](#), and [retrieveFlightDateFromLongKey\(\)](#).

Referenced by [retrieveBookingClassFromLongKey\(\)](#), and [retrievePartnerSegmentDateFromLongKey\(\)](#).

### 32.23.2.14 SegmentDate \* stdair::BomRetriever::retrieveSegmentDateFromLongKey ( const Inventory & iInventory, const std::string & iFullKeyStr ) [static]

Retrieve a [SegmentDate](#) object from a (full) key string.

The full key string gathers airline code, segment number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">Inventory&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

SegmentDate\* The just retrieved [SegmentDate](#) object.

Definition at line 219 of file [BomRetriever.cpp](#).

References [stdair::ParsedKey::\\_airlineCode](#), [stdair::BomKeyManager::extractKeys\(\)](#), [stdair::Inventory::getAirlineCode\(\)](#), [stdair::ParsedKey::getFlightDateKey\(\)](#), [stdair::ParsedKey::getSegmentKey\(\)](#), [retrieveFlightDateFromKey\(\)](#), [retrieveSegmentDateFromKey\(\)](#), [STDAIR\\_LOG\\_DEBUG](#), [stdair::SegmentDateKey::toString\(\)](#), and [stdair::FlightDateKey::toString\(\)](#).

### 32.23.2.15 SegmentDate \* stdair::BomRetriever::retrieveSegmentDateFromLongKey ( const FlightDate & iFlightDate, const std::string & iFullKeyStr ) [static]

Retrieve a [SegmentDate](#) object from a (full) key string.

The full key string gathers airline code, segment number, origin and destination, cabin and booking class. It corresponds to the output generated by the [toString\(\)](#) methods of the XxxKey structures.

**Parameters**

<i>const</i>	<a href="#">FlightDate&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& The full key string.

**Returns**

SegmentDate\* The just retrieved [SegmentDate](#) object.

Definition at line 251 of file [BomRetriever.cpp](#).

References [stdair::BomKeyManager::extractSegmentDateKey\(\)](#), and [stdair::FlightDate::getSegmentDate\(\)](#).

### 32.23.2.16 SegmentDate \* stdair::BomRetriever::retrieveSegmentDateFromKey ( const FlightDate & iFlightDate, const SegmentDateKey & iKey ) [static]

Retrieve a [SegmentDate](#) object from an [SegmentDateKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">FlightDate&amp;</a> The root of the BOM tree.
<i>const</i>	<a href="#">SegmentDateKey&amp;</a> The key.

**Returns**

[SegmentDate\\*](#) The just retrieved [SegmentDate](#) object.

Definition at line 307 of file [BomRetriever.cpp](#).

References [stdair::FlightDate::getSegmentDate\(\)](#).

Referenced by [retrieveSegmentDateFromLongKey\(\)](#).

**32.23.2.17 SegmentDate \* stdair::BomRetriever::retrieveSegmentDateFromKey ( const FlightDate & iFlightDate, const AirportCode\_T & iOrigin, const AirportCode\_T & iDestination ) [static]**

Retrieve a [SegmentDate](#) object from an [SegmentDateKey](#) structure.

**Parameters**

<i>const</i>	<a href="#">FlightDate&amp;</a> The root of the BOM tree.
<i>const</i>	AirportCode_T& Origin, part of the key.
<i>const</i>	AirportCode_T& Destination, part of the key.

**Returns**

[SegmentDate\\*](#) The just retrieved [SegmentDate](#) object.

Definition at line 319 of file [BomRetriever.cpp](#).

References [stdair::FlightDate::getSegmentDate\(\)](#).

**32.23.2.18 BookingClass \* stdair::BomRetriever::retrieveBookingClassFromLongKey ( const Inventory & iInventory, const std::string & iFullKeyStr, const ClassCode\_T & iClassCode ) [static]**

Retrieve a [BookingClass](#) object from a (full) key string.

The full key string gathers airline code, segment number, origin and destination, cabin and booking class. It corresponds to the output generated by the `toString()` methods of the `XxxKey` structures.

Besides being attached to segment-cabin objects (and fare family objects, when they exist), the booking-class objects must also be attached directly to the segment-date.

Hence, if an assertion fails within that method call, chances are that the booking-class objects have not been attached to the segment-date objects. Check, for instance, the `CmdBomManager::buildSampleBom()` to see how that should be properly done.

**Parameters**

<i>const</i>	<a href="#">Inventory&amp;</a> The root of the BOM tree.
<i>const</i>	std::string& Part of the full key string.
<i>const</i>	ClassCode_T& Part of the full key string.

**Returns**

[BookingClass\\*](#) The just retrieved [BookingClass](#) object.

Definition at line 333 of file [BomRetriever.cpp](#).

References [retrieveSegmentDateFromLongKey\(\)](#).

32.23.2.19 `AirportPair * stdair::BomRetriever::retrieveAirportPairFromKeySet ( const BomRoot & iBomRoot, const stdair::AirportCode_T & iOrigin, const stdair::AirportCode_T & iDestination ) [static]`

Retrieve an `AirportPair` object from an `AirportPair` structure.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	<a href="#">AirportCode_T&amp;</a> Origin, part of the key.
<i>const</i>	<a href="#">AirportCode_T&amp;</a> Destination, part of the key.

**Returns**

[AirportPair\\*](#) The just retrieved [AirportPair](#) object.

Definition at line 355 of file [BomRetriever.cpp](#).

References [stdair::AirportPairKey::toString\(\)](#).

Referenced by [retrieveDatePeriodListFromKeySet\(\)](#).

**32.23.2.20** void [stdair::BomRetriever::retrieveDatePeriodListFromKey](#) ( *const AirportPair & iAirportPair, const stdair::Date\_T & iDepartureDate, stdair::DatePeriodList\_T & ioDatePeriodList* ) [static]

Retrieve a list of date-period corresponding to a flight date.

**Parameters**

<i>const</i>	<a href="#">AirportPair&amp;</a> The root of the BOM tree.
<i>const</i>	<a href="#">Date_T&amp;</a> Departure Date of the flight
<i>stdair::Date&lt;→ PeriodList_T&amp;</i>	List of <a href="#">DatePeriod</a> to display.

Definition at line 373 of file [BomRetriever.cpp](#).

References [stdair::DatePeriod::isDepartureDateValid\(\)](#).

Referenced by [retrieveDatePeriodListFromKeySet\(\)](#).

**32.23.2.21** void [stdair::BomRetriever::retrieveDatePeriodListFromKeySet](#) ( *const BomRoot & iBomRoot, const stdair::AirportCode\_T & iOrigin, const stdair::AirportCode\_T & iDestination, const stdair::Date\_T & iDepartureDate, stdair::DatePeriodList\_T & ioDatePeriodList* ) [static]

Retrieve a list of date-period from a set of keys.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> The root of the BOM tree.
<i>const</i>	<a href="#">AirportCode_T&amp;</a> Part of the <a href="#">AirportPair</a> key: the origin airport
<i>const</i>	<a href="#">AirportCode_T&amp;</a> Part of the <a href="#">AirportPair</a> key: the destination airport.
<i>const</i>	<a href="#">Date_T&amp;</a> Departure date of the flight
<i>stdair::Date&lt;→ PeriodList_T&amp;</i>	List of <a href="#">DatePeriod</a> to display.

Definition at line 404 of file [BomRetriever.cpp](#).

References [retrieveAirportPairFromKeySet\(\)](#), and [retrieveDatePeriodListFromKey\(\)](#).

Referenced by [stdair::STDAIR\\_Service::check\(\)](#), and [stdair::STDAIR\\_Service::csvDisplay\(\)](#).

**32.23.2.22** LegCabin & [stdair::BomRetriever::retrieveDummyLegCabin](#) ( *stdair::BomRoot & iBomRoot, const bool isForFareFamilies = false* ) [static]

Retrieve one sample leg-cabin of the dummy inventory of "XX".

**Parameters**

<code>stdair::BomRoot&amp;</code>	The BOM tree.
<code>const</code>	bool Boolean to choose the sample leg-cabin. True: the dummy leg-cabin with fare families. False: the dummy leg-cabin without fare families. By default the value is false.

Definition at line 427 of file [BomRetriever.cpp](#).

References `stdair::DEFAULT_AIRLINE_CODE`, `stdair::DEFAULT_CABIN_CODE`, `stdair::DEFAULT_DEPARTURE_DATE`, `stdair::DEFAULT_FLIGHT_NUMBER`, `stdair::DEFAULT_FLIGHT_NUMBER_FF`, `stdair::DEPART_ORIGIN`, `stdair::LegDate::getLegCabin()`, `stdair::FlightDate::getLegDate()`, `retrieveFlightDateFromKey()`, and `retrieveInventoryFromKey()`.

### 32.23.2.23 SegmentCabin & stdair::BomRetriever::retrieveDummySegmentCabin ( `stdair::BomRoot & iBomRoot`, `const bool isForFareFamilies = false` ) [static]

Retrieve one sample segment-cabin of the dummy inventory of "XX".

Parameters

<code>stdair::BomRoot&amp;</code>	The BOM tree.
<code>const</code>	bool Boolean to choose the sample segment-cabin. True: the dummy segment-cabin with fare families. False: the dummy segment-cabin without fare families. By default the value is false.

Definition at line 502 of file [BomRetriever.cpp](#).

References `stdair::DEFAULT_AIRLINE_CODE`, `stdair::DEFAULT_CABIN_CODE`, `stdair::DEFAULT_DEPARTURE_DATE`, `stdair::DEFAULT_DESTINATION`, `stdair::DEFAULT_FLIGHT_NUMBER`, `stdair::DEFAULT_FLIGHT_NUMBER_FF`, `stdair::DEFAULT_ORIGIN`, `stdair::FlightDate::getSegmentDate()`, `retrieveFlightDateFromKey()`, `retrieveInventoryFromKey()`, and `stdair::SegmentCabinKey::toString()`.

### 32.23.2.24 std::string stdair::BomRetriever::retrieveFullKeyFromSegmentDate ( `const SegmentDate & iSegmentdate` ) [static]

Retrieve the whole key of the segment date, that is to say a string composed of the inventory key, the flight date key and the segment date key.

Parameters

<code>const</code>	<code>SegmentDate&amp;</code> Segment date to retrieve the whole key for.
--------------------	---

Returns

`std::string` The just retrieved whole key.

Definition at line 578 of file [BomRetriever.cpp](#).

References `stdair::DEFAULT_KEY_SUB_FLD_DELIMITER`, `stdair::Inventory::describeKey()`, and `stdair::SegmentDate::describeKey()`.

The documentation for this class was generated from the following files:

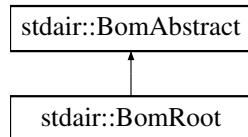
- `stdair/bom/BomRetriever.hpp`
- `stdair/bom/BomRetriever.cpp`

## 32.24 stdair::BomRoot Class Reference

Class representing the actual attributes for the Bom root.

```
#include <stdair/bom/BomRoot.hpp>
```

Inheritance diagram for stdair::BomRoot:



## Public Types

- `typedef BomRootKey Key_T`

## Public Member Functions

- `const Key_T & getKey () const`
- `const HolderMap_T & getHolderMap () const`
- `const FRAT5Curve_T & getFRAT5Curve (const std::string &iKey) const`
- `const FFDisutilityCurve_T & getFFDisutilityCurve (const std::string &iKey) const`
- `Inventory * getInventory (const std::string &iInventoryKeyStr) const`
- `Inventory * getInventory (const InventoryKey &) const`
- `void addFRAT5Curve (const std::string &iKey, const FRAT5Curve_T &iCurve)`
- `void addFFDisutilityCurve (const std::string &iKey, const FFDisutilityCurve_T &iCurve)`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `template<class Archive> void serialize (Archive &ar, const unsigned int iFileVersion)`

## Protected Member Functions

- `BomRoot ()`
- `BomRoot (const BomRoot &)`
- `BomRoot (const Key_T &iKey)`
- `~BomRoot ()`

## Protected Attributes

- `Key_T _key`
- `HolderMap_T _holderMap`
- `FRAT5CurveHolderStruct _frat5CurveHolder`
- `FFDisutilityCurveHolderStruct _ffDisutilityCurveHolder`

## Friends

- `template<typename BOM> class FacBom`
- `template<typename BOM> class FacCloneBom`
- `class FacBomManager`
- `class boost::serialization::access`

### 32.24.1 Detailed Description

Class representing the actual attributes for the Bom root.

Definition at line 32 of file [BomRoot.hpp](#).

### 32.24.2 Member Typedef Documentation

#### 32.24.2.1 `typedef BomRootKey stdair::BomRoot::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 42 of file [BomRoot.hpp](#).

### 32.24.3 Constructor & Destructor Documentation

#### 32.24.3.1 `stdair::BomRoot::BomRoot( ) [protected]`

Default constructor.

Definition at line 17 of file [BomRoot.cpp](#).

#### 32.24.3.2 `stdair::BomRoot::BomRoot( const BomRoot & iBomRoot ) [protected]`

Copy constructor.

Definition at line 22 of file [BomRoot.cpp](#).

#### 32.24.3.3 `stdair::BomRoot::BomRoot( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 28 of file [BomRoot.cpp](#).

#### 32.24.3.4 `stdair::BomRoot::~BomRoot( ) [protected]`

Destructor.

Definition at line 32 of file [BomRoot.cpp](#).

### 32.24.4 Member Function Documentation

#### 32.24.4.1 `const Key_T& stdair::BomRoot::getKey( ) const [inline]`

Get the inventory key (airline code).

Definition at line 48 of file [BomRoot.hpp](#).

References [\\_key](#).

#### 32.24.4.2 `const HolderMap_T& stdair::BomRoot::getHolderMap( ) const [inline]`

Get the map of children.

Definition at line 53 of file [BomRoot.hpp](#).

References [\\_holderMap](#).

#### 32.24.4.3 `const FRAT5Curve_T& stdair::BomRoot::getFRAT5Curve( const std::string & iKey ) const [inline]`

Get the FRAT5 curve corresponding to the given key.

Definition at line 58 of file [BomRoot.hpp](#).

References [\\_frat5CurveHolder](#), and [stdair::FRAT5CurveHolderStruct::getFRAT5Curve\(\)](#).

**32.24.4.4 const FFDisutilityCurve\_T& stdair::BomRoot::getFFDisutilityCurve ( const std::string & iKey ) const [inline]**

Get the FFDisutility curve corresponding to the given key.

Definition at line [63](#) of file [BomRoot.hpp](#).

References [\\_ffDisutilityCurveHolder](#), and [stdair::FFDisutilityCurveHolderStruct::getFFDisutilityCurve\(\)](#).

**32.24.4.5 Inventory \* stdair::BomRoot::getInventory ( const std::string & iInventoryKeyStr ) const**

Get a pointer on the [Inventory](#) object corresponding to the given key.

#### Note

The [Inventory](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

#### Parameters

<code>const</code>	<code>std::string&amp;</code> The flight-date key.
--------------------	--

#### Returns

`Inventory*` Found [Inventory](#) object. NULL if not found.

Definition at line [43](#) of file [BomRoot.cpp](#).

Referenced by [getInventory\(\)](#), [stdair::BomRetriever::retrieveInventoryFromKey\(\)](#), and [stdair::BomRetriever::retrieveInventoryFromLongKey\(\)](#).

**32.24.4.6 Inventory \* stdair::BomRoot::getInventory ( const InventoryKey & iInventoryKey ) const**

Get a pointer on the [Inventory](#) object corresponding to the given key.

#### Note

The [Inventory](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

#### Parameters

<code>const</code>	<code>InventoryKey&amp;</code> The flight-date key
--------------------	--

#### Returns

`Inventory*` Found [Inventory](#) object. NULL if not found.

Definition at line [50](#) of file [BomRoot.cpp](#).

References [getInventory\(\)](#), and [stdair::InventoryKey::toString\(\)](#).

**32.24.4.7 void stdair::BomRoot::addFRAT5Curve ( const std::string & iKey, const FRAT5Curve\_T & iCurve ) [inline]**

Add a new FRAT5 curve to the holder.

Definition at line [93](#) of file [BomRoot.hpp](#).

References [\\_frat5CurveHolder](#), and [stdair::FRAT5CurveHolderStruct::addCurve\(\)](#).

**32.24.4.8 void stdair::BomRoot::addFFDisutilityCurve ( const std::string & iKey, const FFDisutilityCurve\_T & iCurve ) [inline]**

Add a new FF disutility curve to the holder.

Definition at line 98 of file [BomRoot.hpp](#).

References [\\_ffDisutilityCurveHolder](#), and [stdair::FFDisutilityCurveHolderStruct::addCurve\(\)](#).

#### 32.24.4.9 void stdair::BomRoot::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]

Dump a Business Object into an output stream.

##### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 111 of file [BomRoot.hpp](#).

References [toString\(\)](#).

#### 32.24.4.10 void stdair::BomRoot::fromStream ( std::istream & *ioIn* ) [inline], [virtual]

Read a Business Object from an input stream.

##### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 120 of file [BomRoot.hpp](#).

#### 32.24.4.11 std::string stdair::BomRoot::toString ( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 36 of file [BomRoot.cpp](#).

References [\\_key](#), and [stdair::BomRootKey::toString\(\)](#).

Referenced by [toString\(\)](#).

#### 32.24.4.12 const std::string stdair::BomRoot::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line 131 of file [BomRoot.hpp](#).

References [\\_key](#), and [stdair::BomRootKey::toString\(\)](#).

#### 32.24.4.13 template<class Archive> void stdair::BomRoot::serialize ( Archive & *ar*, const unsigned int *iFileVersion* )

Serialisation.

That method is used both for serialisation a BOM tree (into a backup file/stream), as well as re-instantiating a BOM tree from a back-up file/stream.

##### Note

The implementation of that method is to be found in the [CmdBomSerialiser](#) command.

Definition at line 133 of file [CmdBomSerialiser.cpp](#).

References [\\_key](#).

#### 32.24.5 Friends And Related Function Documentation

### 32.24.5.1 template<typename BOM > friend class **FacBom** [friend]

Definition at line 33 of file [BomRoot.hpp](#).

### 32.24.5.2 template<typename BOM > friend class **FacCloneBom** [friend]

Definition at line 34 of file [BomRoot.hpp](#).

### 32.24.5.3 friend class **FacBomManager** [friend]

Definition at line 35 of file [BomRoot.hpp](#).

### 32.24.5.4 friend class boost::serialization::access [friend]

Definition at line 36 of file [BomRoot.hpp](#).

## 32.24.6 Member Data Documentation

### 32.24.6.1 **Key\_T stdair::BomRoot::\_key** [protected]

Primary key.

Definition at line 191 of file [BomRoot.hpp](#).

Referenced by [describeKey\(\)](#), [getKey\(\)](#), [serialize\(\)](#), and [toString\(\)](#).

### 32.24.6.2 **HolderMap\_T stdair::BomRoot::\_holderMap** [protected]

Map holding the children ([Inventory](#) objects).

Definition at line 196 of file [BomRoot.hpp](#).

Referenced by [getHolderMap\(\)](#).

### 32.24.6.3 **FRAT5CurveHolderStruct stdair::BomRoot::\_frat5CurveHolder** [protected]

Holder of FRAT5 curves.

Definition at line 201 of file [BomRoot.hpp](#).

Referenced by [addFRAT5Curve\(\)](#), and [getFRAT5Curve\(\)](#).

### 32.24.6.4 **FFDisutilityCurveHolderStruct stdair::BomRoot::\_ffDisutilityCurveHolder** [protected]

Holder of fare family disutility curves.

Definition at line 206 of file [BomRoot.hpp](#).

Referenced by [addFFDisutilityCurve\(\)](#), and [getFFDisutilityCurve\(\)](#).

The documentation for this class was generated from the following files:

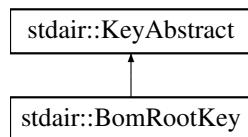
- stdair/bom/[BomRoot.hpp](#)
- stdair/bom/[BomRoot.cpp](#)
- stdair/command/[CmdBomSerialiser.cpp](#)

## 32.25 stdair::BomRootKey Struct Reference

Key of the BOM structure root.

```
#include <stdair/bom/BomRootKey.hpp>
```

Inheritance diagram for stdair::BomRootKey:



## Public Member Functions

- [BomRootKey \(\)](#)
- [BomRootKey \(const std::string & iIdentification\)](#)
- [BomRootKey \(const BomRootKey &\)](#)
- [~BomRootKey \(\)](#)
- const std::string & [getID \(\) const](#)
- void [toStream \(std::ostream & ioOut\) const](#)
- void [fromStream \(std::istream & ioIn\)](#)
- const std::string [toString \(\) const](#)
- template<class Archive>  
void [serialize \(Archive & ar, const unsigned int iFileVersion\)](#)

## Friends

- class [boost::serialization::access](#)

### 32.25.1 Detailed Description

Key of the BOM structure root.

Definition at line [25](#) of file [BomRootKey.hpp](#).

### 32.25.2 Constructor & Destructor Documentation

#### 32.25.2.1 stdair::BomRootKey::BomRootKey ( )

Default constructor.

Definition at line [18](#) of file [BomRootKey.cpp](#).

#### 32.25.2.2 stdair::BomRootKey::BomRootKey ( const std::string & iIdentification )

Constructor.

Definition at line [28](#) of file [BomRootKey.cpp](#).

#### 32.25.2.3 stdair::BomRootKey::BomRootKey ( const BomRootKey & iBomRootKey )

Copy constructor.

Definition at line [23](#) of file [BomRootKey.cpp](#).

#### 32.25.2.4 stdair::BomRootKey::~BomRootKey ( )

Destructor.

Definition at line [33](#) of file [BomRootKey.cpp](#).

### 32.25.3 Member Function Documentation

**32.25.3.1 const std::string& stdair::BomRootKey::getID ( ) const [inline]**

Get the identification.

Definition at line 56 of file [BomRootKey.hpp](#).

**32.25.3.2 void stdair::BomRootKey::toStream ( std::ostream & ioOut ) const [virtual]**

Dump a Business Object Key into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 37 of file [BomRootKey.cpp](#).

References [toString\(\)](#).

**32.25.3.3 void stdair::BomRootKey::fromStream ( std::istream & ioIn ) [virtual]**

Read a Business Object Key from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 42 of file [BomRootKey.cpp](#).

**32.25.3.4 const std::string stdair::BomRootKey::toString ( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 46 of file [BomRootKey.cpp](#).

Referenced by [stdair::BomRoot::describeKey\(\)](#), [toString\(\)](#), and [stdair::BomRoot::toString\(\)](#).

**32.25.3.5 template<class Archive> void stdair::BomRootKey::serialize ( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 68 of file [BomRootKey.cpp](#).

### 32.25.4 Friends And Related Function Documentation

**32.25.4.1 friend class boost::serialization::access [friend]**

Definition at line 26 of file [BomRootKey.hpp](#).

The documentation for this struct was generated from the following files:

- stdair/bom/[BomRootKey.hpp](#)
- stdair/bom/[BomRootKey.cpp](#)

## 32.26 stdair\_test::BookingClass Struct Reference

```
#include <test/stdair/StdairTestLib.hpp>
```

### Public Member Functions

- [BookingClass](#) (const std::string &iClassCode)
- std::string [toString \(\) const](#)

### Public Attributes

- std::string [\\_classCode](#)

#### 32.26.1 Detailed Description

##### [BookingClass](#)

Definition at line 16 of file [StdairTestLib.hpp](#).

#### 32.26.2 Constructor & Destructor Documentation

##### 32.26.2.1 stdair\_test::BookingClass::BookingClass ( const std::string & iClassCode ) [inline]

Constructor.

Definition at line 19 of file [StdairTestLib.hpp](#).

#### 32.26.3 Member Function Documentation

##### 32.26.3.1 std::string stdair\_test::BookingClass::toString ( ) const [inline]

Display .

Definition at line 24 of file [StdairTestLib.hpp](#).

References [\\_classCode](#).

#### 32.26.4 Member Data Documentation

##### 32.26.4.1 std::string stdair\_test::BookingClass::\_classCode

Definition at line 17 of file [StdairTestLib.hpp](#).

Referenced by [toString\(\)](#), and [stdair\\_test::Cabin::toString\(\)](#).

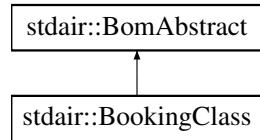
The documentation for this struct was generated from the following file:

- test/stdair/[StdairTestLib.hpp](#)

## 32.27 stdair::BookingClass Class Reference

```
#include <stdair/bom/BookingClass.hpp>
```

Inheritance diagram for stdair::BookingClass:



## Public Types

- `typedef BookingClassKey Key_T`

## Public Member Functions

- `const Key_T & getKey () const`
- `const ClassCode_T & getClassCode () const`
- `BomAbstract *const getParent () const`
- `const HolderMap_T & getHolderMap () const`
- `const SubclassCode_T & getSubclassCode () const`
- `const AuthorizationLevel_T & getAuthorizationLevel () const`
- `const ProtectionLevel_T & getProtection () const`
- `const ProtectionLevel_T & getCumulatedProtection () const`
- `const BookingLimit_T & getCumulatedBookingLimit () const`
- `const NbOfSeats_T & getNegotiatedSpace () const`
- `const OverbookingRate_T & getNoShowPercentage () const`
- `const OverbookingRate_T & getCancellationPercentage () const`
- `const NbOfBookings_T & getNbOfBookings () const`
- `const NbOfBookings_T & getNbOfGroupBookings () const`
- `const NbOfBookings_T & getNbOfPendingGroupBookings () const`
- `const NbOfBookings_T & getNbOfStaffBookings () const`
- `const NbOfBookings_T & getNbOfWLBookings () const`
- `const NbOfCancellations_T & getNbOfCancellations () const`
- `const NbOfBookings_T & getETB () const`
- `const Availability_T & getNetClassAvailability () const`
- `const Availability_T & getSegmentAvailability () const`
- `const Availability_T & getNetRevenueAvailability () const`
- `const Yield_T & getYield () const`
- `const Yield_T & getAdjustedYield () const`
- `const MeanValue_T & getMean () const`
- `const StdDevValue_T & getStdDev () const`
- `const MeanValue_T & getPriceDemMean () const`
- `const StdDevValue_T & getPriceDemStdDev () const`
- `const MeanValue_T & getCumuPriceDemMean () const`
- `const StdDevValue_T & getCumuPriceDemStdDev () const`
- `const MeanValue_T & getProductDemMean () const`
- `const StdDevValue_T & getProductDemStdDev () const`
- `const GeneratedDemandVector_T & getGeneratedDemandVector () const`
- `void setCumulatedProtection (const ProtectionLevel_T &iPL)`
- `void setProtection (const ProtectionLevel_T &iPL)`
- `void setCumulatedBookingLimit (const BookingLimit_T &iBL)`
- `void setAuthorizationLevel (const AuthorizationLevel_T &iAU)`
- `void setSegmentAvailability (const Availability_T &iAvl)`
- `void setYield (const Yield_T &iYield)`
- `void setAdjustedYield (const Yield_T &iYield)`
- `void setMean (const MeanValue_T &iMean)`

- void `setStdDev` (const `StdDevValue_T` &`iStdDev`)
- void `setPriceDemMean` (const `MeanValue_T` &`iMean`)
- void `setPriceDemStdDev` (const `StdDevValue_T` &`iStdDev`)
- void `setCumuPriceDemMean` (const `MeanValue_T` &`iMean`)
- void `setCumuPriceDemStdDev` (const `StdDevValue_T` &`iStdDev`)
- void `setProductDemMean` (const `MeanValue_T` &`iMean`)
- void `setProductDemStdDev` (const `StdDevValue_T` &`iStdDev`)
- void `toStream` (`std::ostream` &`ioOut`) const
- void `fromStream` (`std::istream` &`ioIn`)
- `std::string toString ()` const
- `const std::string describeKey ()` const
- void `sell` (const `NbOfBookings_T` &)
- void `cancel` (const `NbOfBookings_T` &)
- void `generateDemandSamples` (const `NbOfSamples_T` &)
- void `generateDemandSamples` (const `NbOfSamples_T` &, const `RandomSeed_T` &)

#### Protected Member Functions

- `BookingClass` (const `Key_T` &)
- virtual `~BookingClass ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `SubclassCode_T _subclassCode`
- `ProtectionLevel_T _cumulatedProtection`
- `ProtectionLevel_T _protection`
- `BookingLimit_T _cumulatedBookingLimit`
- `AuthorizationLevel_T _au`
- `NbOfSeats_T _nego`
- `OverbookingRate_T _noShowPercentage`
- `OverbookingRate_T _cancellationPercentage`
- `NbOfBookings_T _nbOfBookings`
- `NbOfBookings_T _groupNbOfBookings`
- `NbOfBookings_T _groupPendingNbOfBookings`
- `NbOfBookings_T _staffNbOfBookings`
- `NbOfBookings_T _wINbOfBookings`
- `NbOfCancellations_T _nbOfCancellations`
- `NbOfBookings_T _etib`
- `Availability_T _netClassAvailability`
- `Availability_T _segmentAvailability`
- `Availability_T _netRevenueAvailability`
- `Yield_T _yield`
- `Yield_T _adjustedYield`
- `MeanValue_T _mean`
- `StdDevValue_T _stdDev`
- `MeanValue_T _priceDemMean`
- `StdDevValue_T _priceDemStdDev`
- `MeanValue_T _cumuPriceDemMean`
- `StdDevValue_T _cumuPriceDemStdDev`
- `MeanValue_T _productDemMean`
- `StdDevValue_T _productDemStdDev`
- `GeneratedDemandVector_T _generatedDemandVector`

## Friends

- template<typename BOM >  
class [FacBom](#)
- template<typename BOM >  
class [FacCloneBom](#)
- class [FacBomManager](#)

### 32.27.1 Detailed Description

Class representing the actual attributes for an airline booking class.

Definition at line [24](#) of file [BookingClass.hpp](#).

### 32.27.2 Member Typedef Documentation

#### 32.27.2.1 `typedef BookingClassKey stdair::BookingClass::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [32](#) of file [BookingClass.hpp](#).

### 32.27.3 Constructor & Destructor Documentation

#### 32.27.3.1 `stdair::BookingClass::BookingClass ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line [49](#) of file [BookingClass.cpp](#).

#### 32.27.3.2 `stdair::BookingClass::~BookingClass ( ) [protected], [virtual]`

Destructor.

Definition at line [61](#) of file [BookingClass.cpp](#).

### 32.27.4 Member Function Documentation

#### 32.27.4.1 `const Key_T& stdair::BookingClass::getKey ( ) const [inline]`

Get the booking class key.

Definition at line [37](#) of file [BookingClass.hpp](#).

References [\\_key](#).

#### 32.27.4.2 `const ClassCode_T& stdair::BookingClass::getClassCode ( ) const [inline]`

Get the booking code (part of the primary key).

Definition at line [42](#) of file [BookingClass.hpp](#).

References [\\_key](#), and [stdair::BookingClassKey::getClassCode\(\)](#).

Referenced by [stdair::CancellationStruct::describe\(\)](#), and [stdair::CancellationStruct::display\(\)](#).

#### 32.27.4.3 `BomAbstract* const stdair::BookingClass::getParent ( ) const [inline]`

Get the parent object.

Definition at line [47](#) of file [BookingClass.hpp](#).

References [\\_parent](#).

**32.27.4.4 const HolderMap\_T& stdair::BookingClass::getHolderMap( ) const [inline]**

Get the map of children holders.

Definition at line [52](#) of file [BookingClass.hpp](#).

References [\\_holderMap](#).

**32.27.4.5 const SubclassCode\_T& stdair::BookingClass::getSubclassCode( ) const [inline]**

Get teh sub-class code.

Definition at line [57](#) of file [BookingClass.hpp](#).

References [\\_subclassCode](#).

**32.27.4.6 const AuthorizationLevel\_T& stdair::BookingClass::getAuthorizationLevel( ) const [inline]**

Get the authorisation level (AU, i.e., cumulated protection).

Definition at line [62](#) of file [BookingClass.hpp](#).

References [\\_au](#).

**32.27.4.7 const ProtectionLevel\_T& stdair::BookingClass::getProtection( ) const [inline]**

Get the protection.

Definition at line [67](#) of file [BookingClass.hpp](#).

References [\\_protection](#).

**32.27.4.8 const ProtectionLevel\_T& stdair::BookingClass::getCumulatedProtection( ) const [inline]**

Get the cumulated protection.

Definition at line [72](#) of file [BookingClass.hpp](#).

References [\\_cumulatedProtection](#).

**32.27.4.9 const BookingLimit\_T& stdair::BookingClass::getCumulatedBookingLimit( ) const [inline]**

Get the cumulated booking limit.

Definition at line [77](#) of file [BookingClass.hpp](#).

References [\\_cumulatedBookingLimit](#).

**32.27.4.10 const NbOfSeats\_T& stdair::BookingClass::getNegotiatedSpace( ) const [inline]**

Get the negotiated space.

Definition at line [82](#) of file [BookingClass.hpp](#).

References [\\_nego](#).

**32.27.4.11 const OverbookingRate\_T& stdair::BookingClass::getNoShowPercentage( ) const [inline]**

Get the no-show rate.

Definition at line [87](#) of file [BookingClass.hpp](#).

References [\\_noShowPercentage](#).

**32.27.4.12 const OverbookingRate\_T& stdair::BookingClass::getCancellationPercentage( ) const [inline]**

Get the cancellation rate.

Definition at line 92 of file [BookingClass.hpp](#).

References [\\_cancellationPercentage](#).

32.27.4.13 `const NbOfBookings_T& stdair::BookingClass::getNbOfBookings( ) const [inline]`

Get the number of bookings.

Definition at line 97 of file [BookingClass.hpp](#).

References [\\_nbOfBookings](#).

32.27.4.14 `const NbOfBookings_T& stdair::BookingClass::getNbOfGroupBookings( ) const [inline]`

Get the number of group bookings.

Definition at line 102 of file [BookingClass.hpp](#).

References [\\_groupNbOfBookings](#).

32.27.4.15 `const NbOfBookings_T& stdair::BookingClass::getNbOfPendingGroupBookings( ) const [inline]`

Get the number of pending group bookings.

Definition at line 107 of file [BookingClass.hpp](#).

References [\\_groupPendingNbOfBookings](#).

32.27.4.16 `const NbOfBookings_T& stdair::BookingClass::getNbOfStaffBookings( ) const [inline]`

Get the number of staff bookings.

Definition at line 112 of file [BookingClass.hpp](#).

References [\\_staffNbOfBookings](#).

32.27.4.17 `const NbOfBookings_T& stdair::BookingClass::getNbOfWLBookings( ) const [inline]`

Get the number of wait-list bookings.

Definition at line 117 of file [BookingClass.hpp](#).

References [\\_wlNbOfBookings](#).

32.27.4.18 `const NbOfCancellations_T& stdair::BookingClass::getNbOfCancellations( ) const [inline]`

Get the number of cancellations.

Definition at line 122 of file [BookingClass.hpp](#).

References [\\_nbOfCancellations](#).

32.27.4.19 `const NbOfBookings_T& stdair::BookingClass::getETB( ) const [inline]`

Get the expected number of passengers to board (ETB).

Definition at line 127 of file [BookingClass.hpp](#).

References [\\_etb](#).

32.27.4.20 `const Availability_T& stdair::BookingClass::getNetClassAvailability( ) const [inline]`

Get the net segment class availability.

Definition at line 132 of file [BookingClass.hpp](#).

References [\\_netClassAvailability](#).

32.27.4.21 const Availability\_T& stdair::BookingClass::getSegmentAvailability( ) const [inline]

Get the segment class availability.

Definition at line 137 of file [BookingClass.hpp](#).

References [\\_segmentAvailability](#).

32.27.4.22 const Availability\_T& stdair::BookingClass::getNetRevenueAvailability( ) const [inline]

Net revenue availability.

Definition at line 142 of file [BookingClass.hpp](#).

References [\\_netRevenueAvailability](#).

32.27.4.23 const Yield\_T& stdair::BookingClass:: getYield( ) const [inline]

Yield.

Definition at line 147 of file [BookingClass.hpp](#).

References [\\_yield](#).

32.27.4.24 const Yield\_T& stdair::BookingClass::getAdjustedYield( ) const [inline]

Definition at line 148 of file [BookingClass.hpp](#).

References [\\_adjustedYield](#).

32.27.4.25 const MeanValue\_T& stdair::BookingClass::getMean( ) const [inline]

Demand distribution.

Definition at line 151 of file [BookingClass.hpp](#).

References [\\_mean](#).

32.27.4.26 const StdDevValue\_T& stdair::BookingClass::getStdDev( ) const [inline]

Definition at line 152 of file [BookingClass.hpp](#).

References [\\_stdDev](#).

32.27.4.27 const MeanValue\_T& stdair::BookingClass::getPriceDemMean( ) const [inline]

Definition at line 153 of file [BookingClass.hpp](#).

References [\\_priceDemMean](#).

32.27.4.28 const StdDevValue\_T& stdair::BookingClass::getPriceDemStdDev( ) const [inline]

Definition at line 154 of file [BookingClass.hpp](#).

References [\\_priceDemStdDev](#).

32.27.4.29 const MeanValue\_T& stdair::BookingClass::getCumuPriceDemMean( ) const [inline]

Definition at line 155 of file [BookingClass.hpp](#).

References [\\_cumuPriceDemMean](#).

32.27.4.30 const StdDevValue\_T& stdair::BookingClass::getCumuPriceDemStdDev( ) const [inline]

Definition at line 158 of file [BookingClass.hpp](#).

References [\\_cumuPriceDemStdDev](#).

32.27.4.31 `const MeanValue_T& stdair::BookingClass::getProductDemMean( ) const [inline]`

Definition at line 161 of file [BookingClass.hpp](#).

References [\\_productDemMean](#).

32.27.4.32 `const StdDevValue_T& stdair::BookingClass::getProductDemStdDev( ) const [inline]`

Definition at line 162 of file [BookingClass.hpp](#).

References [\\_productDemStdDev](#).

32.27.4.33 `const GeneratedDemandVector_T& stdair::BookingClass::getGeneratedDemandVector( ) const [inline]`

Generated demand vector.

Definition at line 165 of file [BookingClass.hpp](#).

References [\\_generatedDemandVector](#).

Referenced by [stdair::VirtualClassStruct::getGeneratedDemandVector\(\)](#).

32.27.4.34 `void stdair::BookingClass::setCumulatedProtection( const ProtectionLevel_T & iPL ) [inline]`

Cumulated protection.

Definition at line 172 of file [BookingClass.hpp](#).

References [\\_cumulatedProtection](#).

32.27.4.35 `void stdair::BookingClass::setProtection( const ProtectionLevel_T & iPL ) [inline]`

Protection.

Definition at line 177 of file [BookingClass.hpp](#).

References [\\_protection](#).

32.27.4.36 `void stdair::BookingClass::setCumulatedBookingLimit( const BookingLimit_T & iBL ) [inline]`

Cumulated booking limit.

Definition at line 182 of file [BookingClass.hpp](#).

References [\\_cumulatedBookingLimit](#).

32.27.4.37 `void stdair::BookingClass::setAuthorizationLevel( const AuthorizationLevel_T & iAU ) [inline]`

Authorization level.

Definition at line 187 of file [BookingClass.hpp](#).

References [\\_au](#).

32.27.4.38 `void stdair::BookingClass::setSegmentAvailability( const Availability_T & iAvl ) [inline]`

Set availability.

Definition at line 192 of file [BookingClass.hpp](#).

References [\\_segmentAvailability](#).

32.27.4.39 `void stdair::BookingClass::setYield( const Yield_T & iYield ) [inline]`

Yield.

Definition at line 197 of file [BookingClass.hpp](#).

References [\\_adjustedYield](#), and [\\_yield](#).

32.27.4.40 void stdair::BookingClass::setAdjustedYield ( const Yield\_T & iYield ) [inline]

Definition at line 201 of file [BookingClass.hpp](#).

References [\\_adjustedYield](#).

32.27.4.41 void stdair::BookingClass::setMean ( const MeanValue\_T & iMean ) [inline]

Demand distribution.

Definition at line 204 of file [BookingClass.hpp](#).

References [\\_mean](#).

32.27.4.42 void stdair::BookingClass::setStdDev ( const StdDevValue\_T & iStdDev ) [inline]

Definition at line 205 of file [BookingClass.hpp](#).

References [\\_stdDev](#).

32.27.4.43 void stdair::BookingClass::setPriceDemMean ( const MeanValue\_T & iMean ) [inline]

Definition at line 206 of file [BookingClass.hpp](#).

References [\\_priceDemMean](#).

32.27.4.44 void stdair::BookingClass::setPriceDemStdDev ( const StdDevValue\_T & iStdDev ) [inline]

Definition at line 207 of file [BookingClass.hpp](#).

References [\\_priceDemStdDev](#).

32.27.4.45 void stdair::BookingClass::setCumuPriceDemMean ( const MeanValue\_T & iMean ) [inline]

Definition at line 210 of file [BookingClass.hpp](#).

References [\\_cumuPriceDemMean](#).

32.27.4.46 void stdair::BookingClass::setCumuPriceDemStdDev ( const StdDevValue\_T & iStdDev ) [inline]

Definition at line 212 of file [BookingClass.hpp](#).

References [\\_cumuPriceDemStdDev](#).

32.27.4.47 void stdair::BookingClass::setProductDemMean ( const MeanValue\_T & iMean ) [inline]

Definition at line 215 of file [BookingClass.hpp](#).

References [\\_productDemMean](#).

32.27.4.48 void stdair::BookingClass::setProductDemStdDev ( const StdDevValue\_T & iStdDev ) [inline]

Definition at line 218 of file [BookingClass.hpp](#).

References [\\_productDemStdDev](#).

32.27.4.49 void stdair::BookingClass::toStream ( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [226](#) of file [BookingClass.hpp](#).

References [toString\(\)](#).

**32.27.4.50 void stdair::BookingClass::fromStream ( std::istream & *iIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [232](#) of file [BookingClass.hpp](#).

**32.27.4.51 std::string stdair::BookingClass::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [65](#) of file [BookingClass.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.27.4.52 const std::string stdair::BookingClass::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line [239](#) of file [BookingClass.hpp](#).

References [\\_key](#), and [stdair::BookingClassKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.27.4.53 void stdair::BookingClass::sell ( const NbOfBookings\_T & *iNbOfBookings* )**

Register a sale.

Definition at line [72](#) of file [BookingClass.cpp](#).

References [\\_nbOfBookings](#).

**32.27.4.54 void stdair::BookingClass::cancel ( const NbOfBookings\_T & *iNbOfCancellations* )**

Register a cancellation.

Definition at line [77](#) of file [BookingClass.cpp](#).

References [\\_nbOfBookings](#), and [\\_nbOfCancellations](#).

**32.27.4.55 void stdair::BookingClass::generateDemandSamples ( const NbOfSamples\_T & *K* )**

Generate demand samples for Monte-Carlo method with the default random seed.

Definition at line [83](#) of file [BookingClass.cpp](#).

References [\\_generatedDemandVector](#), [\\_mean](#), [\\_stdDev](#), [stdair::DEFAULT\\_RANDOM\\_SEED](#), and [stdair::RandomGeneration::generateNormal\(\)](#).

32.27.4.56 void stdair::BookingClass::generateDemandSamples ( const NbOfSamples\_T & K, const RandomSeed\_T & iSeed )

Generate demand samples for Monte-Carlo method with the given random seed.

Definition at line 95 of file [BookingClass.cpp](#).

References [\\_generatedDemandVector](#), [\\_mean](#), [\\_stdDev](#), and [stdair::RandomGeneration::generateNormal\(\)](#).

### 32.27.5 Friends And Related Function Documentation

32.27.5.1 template<typename BOM> friend class **FacBom** [friend]

Definition at line 25 of file [BookingClass.hpp](#).

32.27.5.2 template<typename BOM> friend class **FacCloneBom** [friend]

Definition at line 26 of file [BookingClass.hpp](#).

32.27.5.3 friend class **FacBomManager** [friend]

Definition at line 27 of file [BookingClass.hpp](#).

### 32.27.6 Member Data Documentation

32.27.6.1 Key\_T stdair::BookingClass::\_key [protected]

Primary key (booking class code).

Definition at line 276 of file [BookingClass.hpp](#).

Referenced by [describeKey\(\)](#), [getClassCode\(\)](#), and [getKey\(\)](#).

32.27.6.2 BomAbstract\* stdair::BookingClass::\_parent [protected]

Pointer on the parent class ([SegmentCabin](#)).

Definition at line 279 of file [BookingClass.hpp](#).

Referenced by [getParent\(\)](#).

32.27.6.3 HolderMap\_T stdair::BookingClass::\_holderMap [protected]

Map holding the children ([SegmentDate](#) and [LegDate](#) objects).

Definition at line 282 of file [BookingClass.hpp](#).

Referenced by [getHolderMap\(\)](#).

32.27.6.4 SubclassCode\_T stdair::BookingClass::\_subclassName [protected]

Sub-class code.

Definition at line 285 of file [BookingClass.hpp](#).

Referenced by [getSubclassName\(\)](#).

32.27.6.5 ProtectionLevel\_T stdair::BookingClass::\_cumulatedProtection [protected]

Cumulated protection.

Definition at line 288 of file [BookingClass.hpp](#).

Referenced by [getCumulatedProtection\(\)](#), and [setCumulatedProtection\(\)](#).

**32.27.6.6 ProtectionLevel\_T stdair::BookingClass::\_protection [protected]**

Protection.

Definition at line 291 of file [BookingClass.hpp](#).

Referenced by [getProtection\(\)](#), and [setProtection\(\)](#).

**32.27.6.7 BookingLimit\_T stdair::BookingClass::\_cumulatedBookingLimit [protected]**

Cumulated booking limit.

Definition at line 294 of file [BookingClass.hpp](#).

Referenced by [getCumulatedBookingLimit\(\)](#), and [setCumulatedBookingLimit\(\)](#).

**32.27.6.8 AuthorizationLevel\_T stdair::BookingClass::\_au [protected]**

Authorization level.

Definition at line 297 of file [BookingClass.hpp](#).

Referenced by [getAuthorizationLevel\(\)](#), and [setAuthorizationLevel\(\)](#).

**32.27.6.9 NbOfSeats\_T stdair::BookingClass::\_nego [protected]**

Negotiated space.

Definition at line 300 of file [BookingClass.hpp](#).

Referenced by [getNegotiatedSpace\(\)](#).

**32.27.6.10 OverbookingRate\_T stdair::BookingClass::\_noShowPercentage [protected]**

Overbooking rate.

Definition at line 303 of file [BookingClass.hpp](#).

Referenced by [getNoShowPercentage\(\)](#).

**32.27.6.11 OverbookingRate\_T stdair::BookingClass::\_cancellationPercentage [protected]**

Cancellation rate.

Definition at line 306 of file [BookingClass.hpp](#).

Referenced by [getCancellationPercentage\(\)](#).

**32.27.6.12 NbOfBookings\_T stdair::BookingClass::\_nbOfBookings [protected]**

Number of bookings.

Definition at line 309 of file [BookingClass.hpp](#).

Referenced by [cancel\(\)](#), [getNbOfBookings\(\)](#), and [sell\(\)](#).

**32.27.6.13 NbOfBookings\_T stdair::BookingClass::\_groupNbOfBookings [protected]**

Number of group bookings.

Definition at line 312 of file [BookingClass.hpp](#).

Referenced by [getNbOfGroupBookings\(\)](#).

**32.27.6.14 NbOfBookings\_T stdair::BookingClass::\_groupPendingNbOfBookings [protected]**

Number of pending group bookings.

Definition at line 315 of file [BookingClass.hpp](#).

Referenced by [getNbOfPendingGroupBookings\(\)](#).

#### 32.27.6.15 NbOfBookings\_T stdair::BookingClass::\_staffNbOfBookings [protected]

Number of staff bookings.

Definition at line 318 of file [BookingClass.hpp](#).

Referenced by [getNbOfStaffBookings\(\)](#).

#### 32.27.6.16 NbOfBookings\_T stdair::BookingClass::\_wlNbOfBookings [protected]

Number of wait-list bookings.

Definition at line 321 of file [BookingClass.hpp](#).

Referenced by [getNbOfWLBookings\(\)](#).

#### 32.27.6.17 NbOfCancellations\_T stdair::BookingClass::\_nbOfCancellations [protected]

Number of cancellations.

Definition at line 324 of file [BookingClass.hpp](#).

Referenced by [cancel\(\)](#), and [getNbOfCancellations\(\)](#).

#### 32.27.6.18 NbOfBookings\_T stdair::BookingClass::\_etb [protected]

Expected to board (ETB).

Definition at line 327 of file [BookingClass.hpp](#).

Referenced by [getETB\(\)](#).

#### 32.27.6.19 Availability\_T stdair::BookingClass::\_netClassAvailability [protected]

Net segment class availability.

Definition at line 330 of file [BookingClass.hpp](#).

Referenced by [getNetClassAvailability\(\)](#).

#### 32.27.6.20 Availability\_T stdair::BookingClass::\_segmentAvailability [protected]

Segment class availability.

Definition at line 333 of file [BookingClass.hpp](#).

Referenced by [getSegmentAvailability\(\)](#), and [setSegmentAvailability\(\)](#).

#### 32.27.6.21 Availability\_T stdair::BookingClass::\_netRevenueAvailability [protected]

Net revenue availability.

Definition at line 336 of file [BookingClass.hpp](#).

Referenced by [getNetRevenueAvailability\(\)](#).

#### 32.27.6.22 Yield\_T stdair::BookingClass::\_yield [protected]

Yield.

Definition at line 339 of file [BookingClass.hpp](#).

Referenced by  [getYield\(\)](#), and [setYield\(\)](#).

#### 32.27.6.23 Yield\_T stdair::BookingClass::\_adjustedYield [protected]

Definition at line 340 of file [BookingClass.hpp](#).

Referenced by [getAdjustedYield\(\)](#), [setAdjustedYield\(\)](#), and [setYield\(\)](#).

**32.27.6.24 MeanValue\_T stdair::BookingClass::\_mean [protected]**

Demand distribution forecast.

Definition at line 343 of file [BookingClass.hpp](#).

Referenced by [generateDemandSamples\(\)](#), [getMean\(\)](#), and [setMean\(\)](#).

**32.27.6.25 StdDevValue\_T stdair::BookingClass::\_stdDev [protected]**

Definition at line 344 of file [BookingClass.hpp](#).

Referenced by [generateDemandSamples\(\)](#), [getStdDev\(\)](#), and [setStdDev\(\)](#).

**32.27.6.26 MeanValue\_T stdair::BookingClass::\_priceDemMean [protected]**

Price-oriented demand distribution forecast.

Definition at line 347 of file [BookingClass.hpp](#).

Referenced by [getPriceDemMean\(\)](#), and [setPriceDemMean\(\)](#).

**32.27.6.27 StdDevValue\_T stdair::BookingClass::\_priceDemStdDev [protected]**

Definition at line 348 of file [BookingClass.hpp](#).

Referenced by [getPriceDemStdDev\(\)](#), and [setPriceDemStdDev\(\)](#).

**32.27.6.28 MeanValue\_T stdair::BookingClass::\_cumuPriceDemMean [protected]**

Cumulative price-oriented demand distribution forecast.

Definition at line 351 of file [BookingClass.hpp](#).

Referenced by [getCumuPriceDemMean\(\)](#), and [setCumuPriceDemMean\(\)](#).

**32.27.6.29 StdDevValue\_T stdair::BookingClass::\_cumuPriceDemStdDev [protected]**

Definition at line 352 of file [BookingClass.hpp](#).

Referenced by [getCumuPriceDemStdDev\(\)](#), and [setCumuPriceDemStdDev\(\)](#).

**32.27.6.30 MeanValue\_T stdair::BookingClass::\_productDemMean [protected]**

Product-oriented demand distribution forecast.

Definition at line 355 of file [BookingClass.hpp](#).

Referenced by [getProductDemMean\(\)](#), and [setProductDemMean\(\)](#).

**32.27.6.31 StdDevValue\_T stdair::BookingClass::\_productDemStdDev [protected]**

Definition at line 356 of file [BookingClass.hpp](#).

Referenced by [getProductDemStdDev\(\)](#), and [setProductDemStdDev\(\)](#).

**32.27.6.32 GeneratedDemandVector\_T stdair::BookingClass::\_generatedDemandVector [protected]**

Vector of number of demand samples drawn from the demand distribution.

Definition at line 359 of file [BookingClass.hpp](#).

Referenced by [generateDemandSamples\(\)](#), and [getGeneratedDemandVector\(\)](#).

The documentation for this class was generated from the following files:

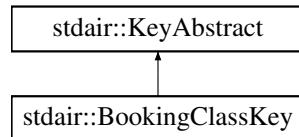
- stdair/bom/[BookingClass.hpp](#)

- stdair/bom/[BookingClass.cpp](#)

## 32.28 stdair::BookingClassKey Struct Reference

#include <stdair/bom/BookingClassKey.hpp>

Inheritance diagram for stdair::BookingClassKey:



### Public Member Functions

- [BookingClassKey \(const ClassCode\\_T &iClassCode\)](#)
- [BookingClassKey \(const BookingClassKey &\)](#)
- [~BookingClassKey \(\)](#)
- const [ClassCode\\_T & getClassCode \(\) const](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- void [fromStream \(std::istream &ioIn\)](#)
- const std::string [toString \(\) const](#)

#### 32.28.1 Detailed Description

Key of a given leg-cabin, made of a cabin code.

Definition at line 16 of file [BookingClassKey.hpp](#).

#### 32.28.2 Constructor & Destructor Documentation

##### 32.28.2.1 stdair::BookingClassKey::BookingClassKey ( const ClassCode\_T & iClassCode )

Constructor.

Definition at line 24 of file [BookingClassKey.cpp](#).

##### 32.28.2.2 stdair::BookingClassKey::BookingClassKey ( const BookingClassKey & iKey )

Default copy constructor.

Definition at line 19 of file [BookingClassKey.cpp](#).

##### 32.28.2.3 stdair::BookingClassKey::~BookingClassKey ( )

Destructor.

Definition at line 29 of file [BookingClassKey.cpp](#).

#### 32.28.3 Member Function Documentation

##### 32.28.3.1 const ClassCode\_T& stdair::BookingClassKey::getClassCode ( ) const [inline]

Get the class code.

Definition at line 34 of file [BookingClassKey.hpp](#).

Referenced by [stdair::BookingClass::getClassName\(\)](#).

### 32.28.3.2 void stdair::BookingClassKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 33 of file [BookingClassKey.cpp](#).

References [toString\(\)](#).

### 32.28.3.3 void stdair::BookingClassKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 38 of file [BookingClassKey.cpp](#).

### 32.28.3.4 const std::string stdair::BookingClassKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-cabin.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 42 of file [BookingClassKey.cpp](#).

Referenced by [stdair::BookingClass::describeKey\(\)](#), and [toString\(\)](#).

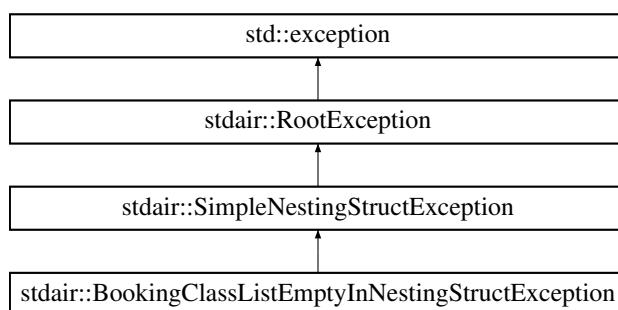
The documentation for this struct was generated from the following files:

- stdair/bom/[BookingClassKey.hpp](#)
- stdair/bom/[BookingClassKey.cpp](#)

## 32.29 stdair::BookingClassListEmptyInNestingStructException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::BookingClassListEmptyInNestingStructException:



### Public Member Functions

- [BookingClassListEmptyInNestingStructException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

### Protected Attributes

- [std::string \\_what](#)

#### 32.29.1 Detailed Description

Empty booking class list in Simple Nesting Structure.

Definition at line [219](#) of file [stdair\\_exceptions.hpp](#).

#### 32.29.2 Constructor & Destructor Documentation

##### 32.29.2.1 stdair::BookingClassListEmptyInNestingStructException::BookingClassListEmptyInNestingStructException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [223](#) of file [stdair\\_exceptions.hpp](#).

#### 32.29.3 Member Function Documentation

##### 32.29.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

#### 32.29.4 Member Data Documentation

##### 32.29.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

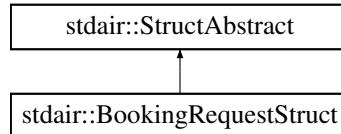
- [stdair/stdair\\_exceptions.hpp](#)

## 32.30 stdair::BookingRequestStruct Struct Reference

Structure holding the elements of a booking request.

```
#include <stdair/bom/BookingRequestStruct.hpp>
```

Inheritance diagram for stdair::BookingRequestStruct:



### Public Member Functions

- const `DemandGeneratorKey_T` & `getDemandGeneratorKey () const`
- const `AirportCode_T` & `getOrigin () const`
- const `AirportCode_T` & `getDestination () const`
- const `CityCode_T` & `getPOS () const`
- const `Date_T` & `getPreferedDepartureDate () const`
- const `Duration_T` & `getPreferredDepartureTime () const`
- const `DateTime_T` & `getRequestDateTime () const`
- const `CabinCode_T` & `getPreferredCabin () const`
- const `NbOfSeats_T` & `getPartySize () const`
- const `ChannelLabel_T` & `getBookingChannel () const`
- const `TripType_T` & `getTripType () const`
- const `DayDuration_T` & `getStayDuration () const`
- const `FrequentFlyer_T` & `getFrequentFlyerType () const`
- const `WTP_T` & `getWTP () const`
- const `PriceValue_T` & `getValueOfTime () const`
- const `ChangeFees_T` & `getChangeFees () const`
- const `Disutility_T` & `getChangeFeeDisutility () const`
- const `NonRefundable_T` & `getNonRefundable () const`
- const `Disutility_T` & `getNonRefundableDisutility () const`
- void `toStream` (std::ostream &iOut) const
- void `fromStream` (std::istream &iIn)
- const std::string `describe () const`
- const std::string `display () const`
- `BookingRequestStruct` (const `DemandGeneratorKey_T` &iGeneratorKey, const `AirportCode_T` &iOrigin, const `AirportCode_T` &iDestination, const `CityCode_T` &iPOS, const `Date_T` &iDepartureDate, const `DateTime_T` &iRequestDateTime, const `CabinCode_T` &iPreferredCabin, const `NbOfSeats_T` &iPartySize, const `ChannelLabel_T` &iChannel, const `TripType_T` &iTripType, const `DayDuration_T` &iStayDuration, const `FrequentFlyer_T` &iFrequentFlyerType, const `Duration_T` &iPreferredDepartureTime, const `WTP_T` &iWTP, const `PriceValue_T` &iValueOfTime, const `ChangeFees_T` &iChangeFees, const `Disutility_T` &iChangeFeeDisutility, const `NonRefundable_T` &iNonRefundable, const `Disutility_T` &iNonRefundableDisutility)
- `BookingRequestStruct` (const `AirportCode_T` &iOrigin, const `AirportCode_T` &iDestination, const `CityCode_T` &iPOS, const `Date_T` &iDepartureDate, const `DateTime_T` &iRequestDateTime, const `CabinCode_T` &iPreferredCabin, const `NbOfSeats_T` &iPartySize, const `ChannelLabel_T` &iChannel, const `TripType_T` &iTripType, const `DayDuration_T` &iStayDuration, const `FrequentFlyer_T` &iFrequentFlyerType, const `Duration_T` &iPreferredDepartureTime, const `WTP_T` &iWTP, const `PriceValue_T` &iValueOfTime, const `ChangeFees_T` &iChangeFees, const `Disutility_T` &iChangeFeeDisutility, const `NonRefundable_T` &iNonRefundable, const `Disutility_T` &iNonRefundableDisutility)
- `BookingRequestStruct` (const `BookingRequestStruct` &)
- `~BookingRequestStruct ()`

#### 32.30.1 Detailed Description

Structure holding the elements of a booking request.

Definition at line 21 of file `BookingRequestStruct.hpp`.

### 32.30.2 Constructor & Destructor Documentation

32.30.2.1 `stdair::BookingRequestStruct::BookingRequestStruct ( const DemandGeneratorKey_T & iGeneratorKey, const AirportCode_T & iOrigin, const AirportCode_T & iDestination, const CityCode_T & iPOS, const Date_T & iDepartureDate, const DateTime_T & iRequestDateTime, const CabinCode_T & iPreferredCabin, const NbOfSeats_T & iPartySize, const ChannelLabel_T & iChannel, const TripType_T & iTripType, const DayDuration_T & iStayDuration, const FrequentFlyer_T & iFrequentFlyerType, const Duration_T & iPreferredDepartureTime, const WTP_T & iWTP, const PriceValue_T & iValueOfTime, const ChangeFees_T & iChangeFees, const Disutility_T & iChangeFeeDisutility, const NonRefundable_T & iNonRefundable, const Disutility_T & iNonRefundableDisutility )`

Default constructor.

Definition at line 63 of file [BookingRequestStruct.cpp](#).

32.30.2.2 `stdair::BookingRequestStruct::BookingRequestStruct ( const AirportCode_T & iOrigin, const AirportCode_T & iDestination, const CityCode_T & iPOS, const Date_T & iDepartureDate, const DateTime_T & iRequestDateTime, const CabinCode_T & iPreferredCabin, const NbOfSeats_T & iPartySize, const ChannelLabel_T & iChannel, const TripType_T & iTripType, const DayDuration_T & iStayDuration, const FrequentFlyer_T & iFrequentFlyerType, const Duration_T & iPreferredDepartureTime, const WTP_T & iWTP, const PriceValue_T & iValueOfTime, const ChangeFees_T & iChangeFees, const Disutility_T & iChangeFeeDisutility, const NonRefundable_T & iNonRefundable, const Disutility_T & iNonRefundableDisutility )`

Constructor without the demand generator key, used for batches.

Definition at line 98 of file [BookingRequestStruct.cpp](#).

32.30.2.3 `stdair::BookingRequestStruct::BookingRequestStruct ( const BookingRequestStruct & iBookingRequest )`

Copy constructor.

Definition at line 39 of file [BookingRequestStruct.cpp](#).

32.30.2.4 `stdair::BookingRequestStruct::~BookingRequestStruct ( )`

Destructor.

Definition at line 131 of file [BookingRequestStruct.cpp](#).

### 32.30.3 Member Function Documentation

32.30.3.1 `const DemandGeneratorKey_T& stdair::BookingRequestStruct::getDemandGeneratorKey ( ) const [inline]`

Get the demand generator key.

Definition at line 25 of file [BookingRequestStruct.hpp](#).

32.30.3.2 `const AirportCode_T& stdair::BookingRequestStruct::getOrigin ( ) const [inline]`

Get the requested origin.

Definition at line 30 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.3 `const AirportCode_T& stdair::BookingRequestStruct::getDestination ( ) const [inline]`

Get the requested destination.

Definition at line 35 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.4 `const CityCode_T& stdair::BookingRequestStruct::getPOS( ) const [inline]`

Get the point-of-sale.

Definition at line 40 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.5 `const Date_T& stdair::BookingRequestStruct::getPreferedDepartureDate( ) const [inline]`

Get the requested departure date.

Definition at line 45 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.6 `const Duration_T& stdair::BookingRequestStruct::getPreferredDepartureTime( ) const [inline]`

Get the preferred departure time.

Definition at line 50 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.7 `const DateTime_T& stdair::BookingRequestStruct::getRequestDateTime( ) const [inline]`

Get the request datetime.

Definition at line 55 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.8 `const CabinCode_T& stdair::BookingRequestStruct::getPreferredCabin( ) const [inline]`

Get the preferred cabin.

Definition at line 60 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.9 `const NbOfSeats_T& stdair::BookingRequestStruct::getPartySize( ) const [inline]`

Get the party size.

Definition at line 65 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.10 `const ChannelLabel_T& stdair::BookingRequestStruct::getBookingChannel( ) const [inline]`

Get the reservation channel.

Definition at line 70 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.11 `const TripType_T& stdair::BookingRequestStruct::getTripType( ) const [inline]`

Get the trip type.

Definition at line 75 of file [BookingRequestStruct.hpp](#).

32.30.3.12 `const DayDuration_T& stdair::BookingRequestStruct::getStayDuration( ) const [inline]`

Get the duration of stay.

Definition at line 80 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.13 const FrequentFlyer\_T& stdair::BookingRequestStruct::getFrequentFlyerType( ) const [inline]

Get the frequent flyer type.

Definition at line 85 of file [BookingRequestStruct.hpp](#).

32.30.3.14 const WTP\_T& stdair::BookingRequestStruct::getWTP( ) const [inline]

Get the willingness-to-pay.

Definition at line 90 of file [BookingRequestStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

32.30.3.15 const PriceValue\_T& stdair::BookingRequestStruct::getValueOfTime( ) const [inline]

Get the value of time.

Definition at line 95 of file [BookingRequestStruct.hpp](#).

32.30.3.16 const ChangeFees\_T& stdair::BookingRequestStruct::getChangeFees( ) const [inline]

Get the change fee acceptation.

Definition at line 100 of file [BookingRequestStruct.hpp](#).

32.30.3.17 const Disutility\_T& stdair::BookingRequestStruct::getChangeFeeDisutility( ) const [inline]

Get the change disutility.

Definition at line 105 of file [BookingRequestStruct.hpp](#).

32.30.3.18 const NonRefundable\_T& stdair::BookingRequestStruct::getNonRefundable( ) const [inline]

Get the non refundable acceptation.

Definition at line 110 of file [BookingRequestStruct.hpp](#).

32.30.3.19 const Disutility\_T& stdair::BookingRequestStruct::getNonRefundableDisutility( ) const [inline]

Get the non refundable disutility.

Definition at line 115 of file [BookingRequestStruct.hpp](#).

32.30.3.20 void stdair::BookingRequestStruct::toStream( std::ostream & ioOut ) const

Dump a Business Object into an output stream.

#### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 135 of file [BookingRequestStruct.cpp](#).

References [describe\(\)](#).

32.30.3.21 void stdair::BookingRequestStruct::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object from an input stream.

#### Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 140 of file [BookingRequestStruct.cpp](#).

**32.30.3.22 const std::string stdair::BookingRequestStruct::describe( ) const [virtual]**

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 144 of file [BookingRequestStruct.cpp](#).

Referenced by [toStream\(\)](#).

**32.30.3.23 const std::string stdair::BookingRequestStruct::display( ) const**

Display of the structure.

- #id,
- request\_date (YYMMDD),
- request\_time (HHMMSS),
- POS (three-letter code),
- Channel (two-letter code):
  - 'D' for direct or 'I' for indirect,
  - 'N' for oNline or 'F' for oFfline,
- Origin (three-letter code),
- Destination (three-letter code),
- Preferred departure date (YYMMDD),
- Preferred departure time (HHMM),
- Min departure time (HHMM),
- Max departure time (HHMM),
- Preferred arrival date (YYMMDD),
- Preferred arrival time (HHMM),
- Preferred cabin:
  - 'F' for first,
  - 'C' for club/business,
  - 'W' for economy plus,
  - 'M' for economy,
- Trip type:
  - 'OW' for a one-way trip,
  - 'RO' for the outbound part of a round-trip,
  - 'RI' for the inbound part of a round-trip,
- Duration of stay (expressed as a number of days),
- Frequent flyer tier:
  - 'G' for gold,
  - 'S' for silver,
  - 'K' for basic,
  - 'N' for none,

- Willingness-to-pay (WTP, expressed as a monetary unit, e.g., EUR),
- Disutility per stop (expressed as a monetary unit, e.g., EUR),
- Value of time (EUR per hour),

**Returns**

`const std::string` The output of the booking request structure.

Definition at line 169 of file [BookingRequestStruct.cpp](#).

References [stdair::TRIP\\_TYPE\\_ONE WAY](#).

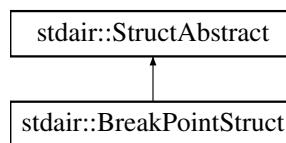
The documentation for this struct was generated from the following files:

- [stdair/bom/BookingRequestStruct.hpp](#)
- [stdair/bom/BookingRequestStruct.cpp](#)

**32.31 stdair::BreakPointStruct Struct Reference**

```
#include <stdair/bom/BreakPointStruct.hpp>
```

Inheritance diagram for stdair::BreakPointStruct:

**Public Member Functions**

- `const DateTime_T & getBreakPointTime () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string describe () const`
- `BreakPointStruct (const DateTime_T &)`
- `BreakPointStruct (const Date_T &)`
- `BreakPointStruct (const BreakPointStruct &)`
- `~BreakPointStruct ()`

**32.31.1 Detailed Description**

Structure holding the elements of a break point.

Definition at line 18 of file [BreakPointStruct.hpp](#).

**32.31.2 Constructor & Destructor Documentation****32.31.2.1 stdair::BreakPointStruct::BreakPointStruct ( const DateTime\_T & iBreakPointTime )**

Constructor.

Definition at line 26 of file [BreakPointStruct.cpp](#).

### 32.31.2.2 stdair::BreakPointStruct::BreakPointStruct ( const Date\_T & iBreakPointDate )

Constructor.

Definition at line 32 of file [BreakPointStruct.cpp](#).

### 32.31.2.3 stdair::BreakPointStruct::BreakPointStruct ( const BreakPointStruct & iBreakPoint )

Copy constructor.

Definition at line 20 of file [BreakPointStruct.cpp](#).

### 32.31.2.4 stdair::BreakPointStruct::~BreakPointStruct ( )

Destructor.

Definition at line 37 of file [BreakPointStruct.cpp](#).

## 32.31.3 Member Function Documentation

### 32.31.3.1 const DateTime\_T& stdair::BreakPointStruct::getBreakPointTime ( ) const [inline]

Get the break point action time.

Definition at line 22 of file [BreakPointStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBreakPointObject\(\)](#).

### 32.31.3.2 void stdair::BreakPointStruct::toStream ( std::ostream & ioOut ) const

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 41 of file [BreakPointStruct.cpp](#).

References [describe\(\)](#).

### 32.31.3.3 void stdair::BreakPointStruct::fromStream ( std::istream & iIn ) [virtual]

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 46 of file [BreakPointStruct.cpp](#).

### 32.31.3.4 const std::string stdair::BreakPointStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 50 of file [BreakPointStruct.cpp](#).

Referenced by [toStream\(\)](#).

The documentation for this struct was generated from the following files:

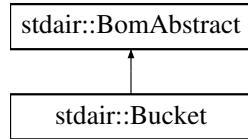
- stdair/bom/[BreakPointStruct.hpp](#)
- stdair/bom/[BreakPointStruct.cpp](#)

## 32.32 stdair::Bucket Class Reference

Class representing the actual attributes for an airline booking class.

```
#include <stdair/bom/Bucket.hpp>
```

Inheritance diagram for stdair::Bucket:



### Public Types

- `typedef BucketKey Key_T`

### Public Member Functions

- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const HolderMap_T & getHolderMap () const`
- `const SeatIndex_T & getSeatIndex () const`
- `const Yield_T & getYieldRangeUpperValue () const`
- `const CabinCapacity_T & getAvailability () const`
- `const NbOfSeats_T & getSoldSeats () const`
- `void setYieldRangeUpperValue (const Yield_T &iYield)`
- `void setAvailability (const CabinCapacity_T &iAvl)`
- `void setSoldSeats (const NbOfSeats_T &iSoldSeats)`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `template<class Archive> void serialize (Archive &ar, const unsigned int iFileVersion)`

### Protected Member Functions

- `Bucket (const Key_T &)`
- `virtual ~Bucket ()`

### Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`
- `Yield_T _yieldRangeUpperValue`
- `CabinCapacity_T _availability`
- `NbOfSeats_T _soldSeats`

## Friends

- template<typename BOM >  
  class [FacBom](#)
- template<typename BOM >  
  class [FacCloneBom](#)
- class [FacBomManager](#)
- class [boost::serialization::access](#)

### 32.32.1 Detailed Description

Class representing the actual attributes for an airline booking class.

Definition at line [29](#) of file [Bucket.hpp](#).

### 32.32.2 Member Typedef Documentation

#### 32.32.2.1 `typedef BucketKey stdair::Bucket::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [40](#) of file [Bucket.hpp](#).

### 32.32.3 Constructor & Destructor Documentation

#### 32.32.3.1 `stdair::Bucket::Bucket ( const Key_T & iKey ) [protected]`

Default constructor.

Definition at line [34](#) of file [Bucket.cpp](#).

#### 32.32.3.2 `stdair::Bucket::~Bucket ( ) [protected], [virtual]`

Destructor.

Definition at line [38](#) of file [Bucket.cpp](#).

### 32.32.4 Member Function Documentation

#### 32.32.4.1 `const Key_T& stdair::Bucket::getKey ( ) const [inline]`

Get the primary key of the bucket.

Definition at line [47](#) of file [Bucket.hpp](#).

References [\\_key](#).

#### 32.32.4.2 `BomAbstract* const stdair::Bucket::getParent ( ) const [inline]`

Get the parent object.

Definition at line [54](#) of file [Bucket.hpp](#).

References [\\_parent](#).

#### 32.32.4.3 `const HolderMap_T& stdair::Bucket::getHolderMap ( ) const [inline]`

Get the map of children holders.

Definition at line [59](#) of file [Bucket.hpp](#).

References [\\_holderMap](#).

**32.32.4.4 const SeatIndex\_T& stdair::Bucket::getSeatIndex( ) const [inline]**

Get the seat index (part of the primary key).

Definition at line 64 of file [Bucket.hpp](#).

References [\\_key](#), and [stdair::BucketKey::getSeatIndex\(\)](#).

**32.32.4.5 const Yield\_T& stdair::Bucket:: getYieldRangeUpperValue( ) const [inline]**

Get the upper yield range.

Definition at line 69 of file [Bucket.hpp](#).

References [\\_yieldRangeUpperValue](#).

**32.32.4.6 const CabinCapacity\_T& stdair::Bucket::getAvailability( ) const [inline]**

Get the availability.

Definition at line 74 of file [Bucket.hpp](#).

References [\\_availability](#).

**32.32.4.7 const NbOfSeats\_T& stdair::Bucket::getSoldSeats( ) const [inline]**

Get the number of seats already sold.

Definition at line 79 of file [Bucket.hpp](#).

References [\\_soldSeats](#).

**32.32.4.8 void stdair::Bucket::setYieldRangeUpperValue( const Yield\_T & iYield ) [inline]**

Set the upper yield range.

Definition at line 86 of file [Bucket.hpp](#).

References [\\_yieldRangeUpperValue](#).

**32.32.4.9 void stdair::Bucket::setAvailability( const CabinCapacity\_T & iAvl ) [inline]**

Set the availability.

Definition at line 91 of file [Bucket.hpp](#).

References [\\_availability](#).

**32.32.4.10 void stdair::Bucket::setSoldSeats( const NbOfSeats\_T & iSoldSeats ) [inline]**

Set the number of seats already sold.

Definition at line 96 of file [Bucket.hpp](#).

References [\\_soldSeats](#).

**32.32.4.11 void stdair::Bucket::toStream( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 108 of file [Bucket.hpp](#).

References [toString\(\)](#).

**32.32.4.12 void stdair::Bucket::fromStream( std::istream & *iOlN* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 117 of file [Bucket.hpp](#).

**32.32.4.13 std::string stdair::Bucket::toString( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 42 of file [Bucket.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

**32.32.4.14 const std::string stdair::Bucket::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line 128 of file [Bucket.hpp](#).

References [\\_key](#), and [stdair::BucketKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.32.4.15 template<class Archive> void stdair::Bucket::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 64 of file [Bucket.cpp](#).

References [\\_key](#).

## 32.32.5 Friends And Related Function Documentation

**32.32.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line 30 of file [Bucket.hpp](#).

**32.32.5.2 template<typename BOM> friend class FacCloneBom [friend]**

Definition at line 31 of file [Bucket.hpp](#).

**32.32.5.3 friend class FacBomManager [friend]**

Definition at line 32 of file [Bucket.hpp](#).

**32.32.5.4 friend class boost::serialization::access [friend]**

Definition at line 33 of file [Bucket.hpp](#).

## 32.32.6 Member Data Documentation

**32.32.6.1 Key\_T stdair::Bucket::\_key [protected]**

Primary key (upper yield range).

Definition at line 179 of file [Bucket.hpp](#).

Referenced by [describeKey\(\)](#), [getKey\(\)](#), [getSeatIndex\(\)](#), and [serialize\(\)](#).

### 32.32.6.2 `BomAbstract* stdair::Bucket::_parent` [protected]

Pointer on the parent class ([LegCabin](#)).

Definition at line [184](#) of file [Bucket.hpp](#).

Referenced by [getParent\(\)](#).

### 32.32.6.3 `HolderMap_T stdair::Bucket::_holderMap` [protected]

Map holding the children (empty for now).

Definition at line [189](#) of file [Bucket.hpp](#).

Referenced by [getHolderMap\(\)](#).

### 32.32.6.4 `Yield_T stdair::Bucket::_yieldRangeUpperValue` [protected]

Upper yield range.

Definition at line [197](#) of file [Bucket.hpp](#).

Referenced by  [getYieldRangeUpperValue\(\)](#), and [setYieldRangeUpperValue\(\)](#).

### 32.32.6.5 `CabinCapacity_T stdair::Bucket::_availability` [protected]

Availability.

Definition at line [202](#) of file [Bucket.hpp](#).

Referenced by [getAvailability\(\)](#), and [setAvailability\(\)](#).

### 32.32.6.6 `NbOfSeats_T stdair::Bucket::_soldSeats` [protected]

Number of seats already sold.

Definition at line [207](#) of file [Bucket.hpp](#).

Referenced by [getSoldSeats\(\)](#), and [setSoldSeats\(\)](#).

The documentation for this class was generated from the following files:

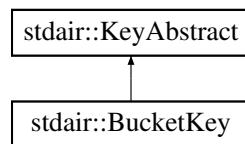
- stdair/bom/[Bucket.hpp](#)
- stdair/bom/[Bucket.cpp](#)

## 32.33 stdair::BucketKey Struct Reference

Key of booking-class.

```
#include <stdair/bom/BucketKey.hpp>
```

Inheritance diagram for stdair::BucketKey:



### Public Member Functions

- [BucketKey](#) (const [SeatIndex\\_T](#) &)
- [BucketKey](#) (const [BucketKey](#) &)
- [~BucketKey](#) ()

- const `SeatIndex_T & getSeatIndex () const`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- const std::string `toString () const`
- template<class Archive >  
void `serialize (Archive &ar, const unsigned int iFileVersion)`

#### Friends

- class `boost::serialization::access`

### 32.33.1 Detailed Description

Key of booking-class.

Definition at line 26 of file [BucketKey.hpp](#).

### 32.33.2 Constructor & Destructor Documentation

#### 32.33.2.1 stdair::BucketKey::BucketKey ( const SeatIndex\_T & iSeatIndex )

Main constructor.

Definition at line 22 of file [BucketKey.cpp](#).

#### 32.33.2.2 stdair::BucketKey::BucketKey ( const BucketKey & iBucketKey )

Copy constructor.

Definition at line 27 of file [BucketKey.cpp](#).

#### 32.33.2.3 stdair::BucketKey::~BucketKey ( )

Destructor.

Definition at line 32 of file [BucketKey.cpp](#).

### 32.33.3 Member Function Documentation

#### 32.33.3.1 const SeatIndex\_T& stdair::BucketKey::getSeatIndex ( ) const [inline]

Get the seat index.

Definition at line 54 of file [BucketKey.hpp](#).

Referenced by [stdair::Bucket::getSeatIndex\(\)](#).

#### 32.33.3.2 void stdair::BucketKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 36 of file [BucketKey.cpp](#).

References [toString\(\)](#).

**32.33.3.3 void stdair::BucketKey::fromStream ( std::istream & *iIn* ) [virtual]**

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 41 of file [BucketKey.cpp](#).

**32.33.3.4 const std::string stdair::BucketKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-cabin.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 45 of file [BucketKey.cpp](#).

Referenced by [stdair::Bucket::describeKey\(\)](#), and [toStream\(\)](#).

**32.33.3.5 template<class Archive> void stdair::BucketKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 67 of file [BucketKey.cpp](#).

**32.33.4 Friends And Related Function Documentation****32.33.4.1 friend class boost::serialization::access [friend]**

Definition at line 27 of file [BucketKey.hpp](#).

The documentation for this struct was generated from the following files:

- stdair/bom/[BucketKey.hpp](#)
- stdair/bom/[BucketKey.cpp](#)

**32.34 stdair\_test::Cabin Struct Reference**

```
#include <test/stdair/StdairTestLib.hpp>
```

**Public Types**

- [typedef BookingClass child](#)

**Public Member Functions**

- [Cabin \(const BookingClass &iBkgClass\)](#)
- [std::string toString\(\) const](#)

**Public Attributes**

- [BookingClass \\_bookingClass](#)

### 32.34.1 Detailed Description

#### Cabin

Definition at line 32 of file [StdairTestLib.hpp](#).

### 32.34.2 Member Typedef Documentation

#### 32.34.2.1 `typedef BookingClass stdair_test::Cabin::child`

Child type.

Definition at line 46 of file [StdairTestLib.hpp](#).

### 32.34.3 Constructor & Destructor Documentation

#### 32.34.3.1 `stdair_test::Cabin( const BookingClass & iBkgClass ) [inline]`

Definition at line 34 of file [StdairTestLib.hpp](#).

### 32.34.4 Member Function Documentation

#### 32.34.4.1 `std::string stdair_test::Cabin::toString( ) const [inline]`

Display .

Definition at line 39 of file [StdairTestLib.hpp](#).

References [stdair\\_test::BookingClass::\\_classCode](#).

### 32.34.5 Member Data Documentation

#### 32.34.5.1 `BookingClass stdair_test::Cabin::_bookingClass`

Definition at line 33 of file [StdairTestLib.hpp](#).

The documentation for this struct was generated from the following file:

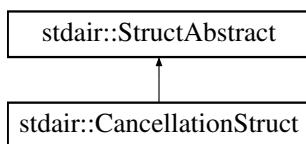
- test/stdair/[StdairTestLib.hpp](#)

## 32.35 stdair::CancellationStruct Struct Reference

Structure holding the elements of a travel solution.

```
#include <stdair/bom/CancellationStruct.hpp>
```

Inheritance diagram for stdair::CancellationStruct:



### Public Member Functions

- `const SegmentPath_T & getSegmentPath() const`

- const `ClassList_String_T & getClassList () const`
- const `BookingClassIDList_T & getClassIDList () const`
- const `PartySize_T & getPartySize () const`
- const `DateTime_T & getCancellationDateTime () const`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- const std::string `describe () const`
- const std::string `display () const`
- `CancellationStruct (const SegmentPath_T &, const ClassList_String_T &, const PartySize_T &, const DateTime_T &)`
- `CancellationStruct (const SegmentPath_T &, const BookingClassIDList_T &, const PartySize_T &, const DateTime_T &)`
- `~CancellationStruct ()`

### 32.35.1 Detailed Description

Structure holding the elements of a travel solution.

Definition at line 23 of file [CancellationStruct.hpp](#).

### 32.35.2 Constructor & Destructor Documentation

**32.35.2.1 stdair::CancellationStruct::CancellationStruct ( const SegmentPath\_T & iSegPath, const ClassList\_String\_T & iList, const PartySize\_T & iSize, const DateTime\_T & iDateTime )**

Default constructor without class ID list.

Definition at line 14 of file [CancellationStruct.cpp](#).

**32.35.2.2 stdair::CancellationStruct::CancellationStruct ( const SegmentPath\_T & iSegPath, const BookingClassIDList\_T & iIDList, const PartySize\_T & iSize, const DateTime\_T & iDateTime )**

Default constructor with class ID list.

Definition at line 23 of file [CancellationStruct.cpp](#).

**32.35.2.3 stdair::CancellationStruct::~CancellationStruct ( )**

Destructor.

Definition at line 32 of file [CancellationStruct.cpp](#).

### 32.35.3 Member Function Documentation

**32.35.3.1 const SegmentPath\_T& stdair::CancellationStruct::getSegmentPath ( ) const [inline]**

Get the segment path.

Definition at line 27 of file [CancellationStruct.hpp](#).

**32.35.3.2 const ClassList\_String\_T& stdair::CancellationStruct::getClassList ( ) const [inline]**

Get the class list.

Definition at line 32 of file [CancellationStruct.hpp](#).

**32.35.3.3 const BookingClassIDList\_T& stdair::CancellationStruct::getClassIDList ( ) const [inline]**

Get the class ID list.

Definition at line 37 of file [CancellationStruct.hpp](#).

32.35.3.4 `const PartySize_T& stdair::CancellationStruct::getPartySize( ) const [inline]`

Get the party size.

Definition at line 42 of file [CancellationStruct.hpp](#).

32.35.3.5 `const DateTime_T& stdair::CancellationStruct::getCancellationDateTime( ) const [inline]`

Get the datetime.

Definition at line 47 of file [CancellationStruct.hpp](#).

32.35.3.6 `void stdair::CancellationStruct::toStream( std::ostream & ioOut ) const`

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 36 of file [CancellationStruct.cpp](#).

References [describe\(\)](#).

32.35.3.7 `void stdair::CancellationStruct::fromStream( std::istream & ioin ) [virtual]`

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 41 of file [CancellationStruct.cpp](#).

32.35.3.8 `const std::string stdair::CancellationStruct::describe( ) const [virtual]`

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 45 of file [CancellationStruct.cpp](#).

References [stdair::BookingClass::getClassCode\(\)](#), and [stdair::BomID< BOM >::getObject\(\)](#).

Referenced by [toStream\(\)](#).

32.35.3.9 `const std::string stdair::CancellationStruct::display( ) const`

Display of the structure.

Definition at line 81 of file [CancellationStruct.cpp](#).

References [stdair::BookingClass::getClassCode\(\)](#), and [stdair::BomID< BOM >::getObject\(\)](#).

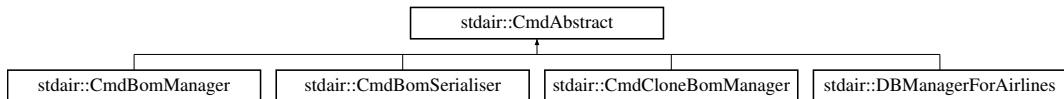
The documentation for this struct was generated from the following files:

- [stdair/bom/CancellationStruct.hpp](#)
- [stdair/bom/CancellationStruct.cpp](#)

## 32.36 stdair::CmdAbstract Class Reference

```
#include <stdair/command/CmdAbstract.hpp>
```

Inheritance diagram for stdair::CmdAbstract:



### 32.36.1 Detailed Description

Base class for the Command layer.

Definition at line 11 of file [CmdAbstract.hpp](#).

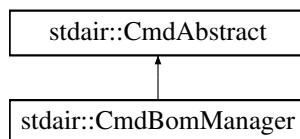
The documentation for this class was generated from the following file:

- stdair/command/[CmdAbstract.hpp](#)

## 32.37 stdair::CmdBomManager Class Reference

```
#include <stdair/command/CmdBomManager.hpp>
```

Inheritance diagram for stdair::CmdBomManager:



### Friends

- class [STDAIR\\_Service](#)

### 32.37.1 Detailed Description

Class wrapping utility functions for handling the BOM tree objects.

Definition at line 25 of file [CmdBomManager.hpp](#).

### 32.37.2 Friends And Related Function Documentation

#### 32.37.2.1 friend class [STDAIR\\_Service](#) [friend]

Definition at line 27 of file [CmdBomManager.hpp](#).

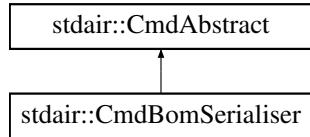
The documentation for this class was generated from the following file:

- stdair/command/[CmdBomManager.hpp](#)

## 32.38 stdair::CmdBomSerialiser Class Reference

```
#include <stdair/command/CmdBomSerialiser.hpp>
```

Inheritance diagram for stdair::CmdBomSerialiser:



### 32.38.1 Detailed Description

Class wrapping utility functions for handling the BOM tree objects.

Definition at line 25 of file [CmdBomSerialiser.hpp](#).

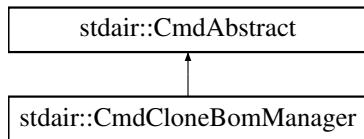
The documentation for this class was generated from the following file:

- stdair/command/[CmdBomSerialiser.hpp](#)

## 32.39 stdair::CmdCloneBomManager Class Reference

```
#include <stdair/command/CmdCloneBomManager.hpp>
```

Inheritance diagram for stdair::CmdCloneBomManager:



### Friends

- class [STDAIR\\_Service](#)

### 32.39.1 Detailed Description

Class wrapping utility functions for handling the BOM tree objects.

Definition at line 40 of file [CmdCloneBomManager.hpp](#).

### 32.39.2 Friends And Related Function Documentation

#### 32.39.2.1 friend class [STDAIR\\_Service](#) [friend]

Definition at line 42 of file [CmdCloneBomManager.hpp](#).

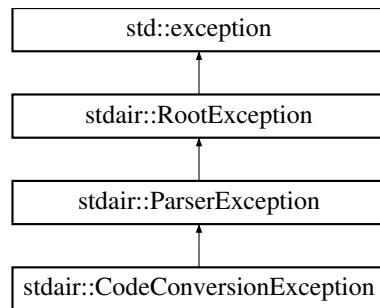
The documentation for this class was generated from the following file:

- stdair/command/[CmdCloneBomManager.hpp](#)

## 32.40 stdair::CodeConversionException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::CodeConversionException:



### Public Member Functions

- [CodeConversionException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

### Protected Attributes

- [std::string \\_what](#)

#### 32.40.1 Detailed Description

Code conversion.

Definition at line 133 of file [stdair\\_exceptions.hpp](#).

#### 32.40.2 Constructor & Destructor Documentation

##### 32.40.2.1 stdair::CodeConversionException::CodeConversionException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 136 of file [stdair\\_exceptions.hpp](#).

#### 32.40.3 Member Function Documentation

##### 32.40.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

#### 32.40.4 Member Data Documentation

##### 32.40.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

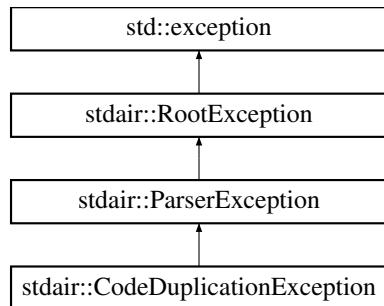
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

### 32.41 stdair::CodeDuplicationException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::CodeDuplicationException:



#### Public Member Functions

- [CodeDuplicationException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

#### Protected Attributes

- [std::string \\_what](#)

##### 32.41.1 Detailed Description

Code duplication.

Definition at line 141 of file [stdair\\_exceptions.hpp](#).

##### 32.41.2 Constructor & Destructor Documentation

###### 32.41.2.1 stdair::CodeDuplicationException::CodeDuplicationException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 144 of file [stdair\\_exceptions.hpp](#).

##### 32.41.3 Member Function Documentation

###### 32.41.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException:: what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

##### 32.41.4 Member Data Documentation

###### 32.41.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.42 COMMAND Struct Reference

```
#include <stdair/ui/cmdline/readline_autocomp.hpp>
```

### Public Attributes

- char const \* [name](#)
- [pt2Func](#) \* [func](#)
- char \* [doc](#)

#### 32.42.1 Detailed Description

A structure which contains information on the commands this program can understand.

Definition at line 41 of file [readline\\_autocomp.hpp](#).

#### 32.42.2 Member Data Documentation

##### 32.42.2.1 char const\* COMMAND::name

User printable name of the function.

Definition at line 45 of file [readline\\_autocomp.hpp](#).

Referenced by [com\\_help\(\)](#), and [find\\_command\(\)](#).

##### 32.42.2.2 pt2Func\* COMMAND::func

Function to call to do the job.

Definition at line 50 of file [readline\\_autocomp.hpp](#).

Referenced by [execute\\_line\(\)](#).

##### 32.42.2.3 char\* COMMAND::doc

Documentation for this function.

Definition at line 55 of file [readline\\_autocomp.hpp](#).

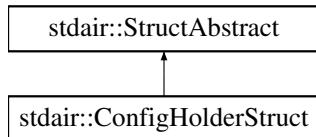
The documentation for this struct was generated from the following file:

- stdair/ui/cmdline/[readline\\_autocomp.hpp](#)

## 32.43 stdair::ConfigHolderStruct Struct Reference

```
#include <stdair/bom/ConfigHolderStruct.hpp>
```

Inheritance diagram for stdair::ConfigHolderStruct:



## Public Member Functions

- void [add \(const bpt::ptree &\)](#)
- bool [addValue \(const std::string &iValue, const std::string &iPath\)](#)
- template<typename ValueType>  
  bool [exportValue \(ValueType &ioValue, const std::string &iPath\) const](#)
- void [updateAirlineFeatures \(BomRoot &\)](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- void [fromStream \(std::istream &iIn\)](#)
- const std::string [describe \(\) const](#)
- const std::string [jsonExport \(\) const](#)
- [ConfigHolderStruct \(\)](#)
- [ConfigHolderStruct \(const ConfigHolderStruct &\)](#)
- [~ConfigHolderStruct \(\)](#)
- template<>  
  bool [exportValue \(Date\\_T &iValue, const std::string &iPath\) const](#)

### 32.43.1 Detailed Description

Structure holding the configuration of the simulation.

Definition at line [40](#) of file [ConfigHolderStruct.hpp](#).

### 32.43.2 Constructor & Destructor Documentation

#### 32.43.2.1 stdair::ConfigHolderStruct::ConfigHolderStruct ( )

Constructor.

Definition at line [27](#) of file [ConfigHolderStruct.cpp](#).

#### 32.43.2.2 stdair::ConfigHolderStruct::ConfigHolderStruct ( const ConfigHolderStruct & iConfigHolderStruct )

Copy constructor.

Definition at line [32](#) of file [ConfigHolderStruct.cpp](#).

#### 32.43.2.3 stdair::ConfigHolderStruct::~ConfigHolderStruct ( )

Destructor.

Definition at line [37](#) of file [ConfigHolderStruct.cpp](#).

### 32.43.3 Member Function Documentation

#### 32.43.3.1 void stdair::ConfigHolderStruct::add ( const bpt::ptree & iConfigPropertyTree )

Merge the given property tree with the existing configuration property tree gathering all the configuration information.

**Parameters**

<i>const</i>	bpt::ptree& Property tree to add to the configuration tree.
--------------	---

Definition at line 144 of file [ConfigHolderStruct.cpp](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#), and [stdair::BomJSONImport::jsonImportConfig\(\)](#).

**32.43.3.2 bool stdair::ConfigHolderStruct::addValue ( const std::string & iValue, const std::string & iPath )**

Create the given specified path in the configuration tree and add the corresponding given value (or replace the value if the path already exists).

**Parameters**

<i>const</i>	std::string& Value to add at the given path.
<i>const</i>	std::string& Path to create (or to look for).

Definition at line 191 of file [ConfigHolderStruct.cpp](#).

Referenced by [stdair::STDAIR\\_Service::importConfigValue\(\)](#).

**32.43.3.3 template<typename ValueType > bool stdair::ConfigHolderStruct::exportValue ( ValueType & ioValue, const std::string & iPath ) const**

Look for the specified path in the configuration tree and, if existing, try to extract the corresponding value. The type of the value to extract is a template parameter.

**Parameters**

<i>ValueType&amp;</i>	Value to add in the configuration tree.
<i>const</i>	std::string& Path to look for.

Definition at line 144 of file [ConfigHolderStruct.hpp](#).

Referenced by [stdair::STDAIR\\_Service::exportConfigValue\(\)](#).

**32.43.3.4 void stdair::ConfigHolderStruct::updateAirlineFeatures ( BomRoot & iBomRoot )**

Update the airline features objects thanks to the configuration holder.

**Parameters**

<i>BomRoot&amp;</i>	Reference on the <a href="#">BomRoot</a> to update.
---------------------	---

Definition at line 220 of file [ConfigHolderStruct.cpp](#).

References [stdair::BomRetriever::retrieveAirlineFeatureFromKey\(\)](#), [stdair::AirlineFeature::setForecastingMethod\(\)](#), [stdair::AirlineFeature::setOptimisationMethod\(\)](#), [stdair::AirlineFeature::setPartnershipTechnique\(\)](#), [stdair::AirlineFeature::setPreOptimisationMethod\(\)](#), [stdair::AirlineFeature::setUnconstrainingMethod\(\)](#), [STDAIR\\_LOG\\_ERROR](#), and [stdair::RootException::what\(\)](#).

Referenced by [stdair::STDAIR\\_Service::updateAirlineFeatures\(\)](#).

**32.43.3.5 void stdair::ConfigHolderStruct::toStream ( std::ostream & ioOut ) const**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 41 of file [ConfigHolderStruct.cpp](#).

References [describe\(\)](#).

**32.43.3.6 void stdair::ConfigHolderStruct::fromStream ( std::istream & *iIn* ) [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 46 of file [ConfigHolderStruct.cpp](#).

32.43.3.7 const std::string stdair::ConfigHolderStruct::describe( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 50 of file [ConfigHolderStruct.cpp](#).

Referenced by [stdair::STDAIR\\_Service::configDisplay\(\)](#), and [toStream\(\)](#).

32.43.3.8 const std::string stdair::ConfigHolderStruct::jsonExport( ) const

Display of the configuration in a JSON-ified format.

Definition at line 134 of file [ConfigHolderStruct.cpp](#).

Referenced by [stdair::STDAIR\\_Service::jsonExportConfiguration\(\)](#).

32.43.3.9 template<> bool stdair::ConfigHolderStruct::exportValue( Date\_T & ioValue, const std::string & iPath ) const [inline]

Definition at line 175 of file [ConfigHolderStruct.hpp](#).

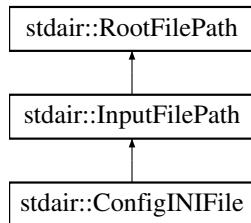
The documentation for this struct was generated from the following files:

- stdair/bom/[ConfigHolderStruct.hpp](#)
- stdair/bom/[ConfigHolderStruct.cpp](#)

## 32.44 stdair::ConfigINIFile Class Reference

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::ConfigINIFile:



### Public Member Functions

- [ConfigINIFile](#) (const [Filename\\_T](#) &iFilename)
- const char \* [name\(\)](#) const

### Protected Attributes

- const [Filename\\_T](#) \_filename

### 32.44.1 Detailed Description

Config file: INI format

Definition at line 112 of file [stdair\\_file.hpp](#).

### 32.44.2 Constructor & Destructor Documentation

#### 32.44.2.1 stdair::ConfigINIFile::ConfigINIFile ( const **Filename\_T** & iFilename ) [inline], [explicit]

Constructor.

Definition at line 117 of file [stdair\\_file.hpp](#).

### 32.44.3 Member Function Documentation

#### 32.44.3.1 const char\* stdair::RootFilePath::name ( ) const [inline], [inherited]

Give the details of the exception.

Definition at line 42 of file [stdair\\_file.hpp](#).

References [stdair::RootFilePath::\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

### 32.44.4 Member Data Documentation

#### 32.44.4.1 const **Filename\_T** stdair::RootFilePath::\_filename [protected], [inherited]

Name of the file.

Definition at line 50 of file [stdair\\_file.hpp](#).

Referenced by [stdair::RootFilePath::name\(\)](#).

The documentation for this class was generated from the following file:

- [stdair/stdair\\_file.hpp](#)

## 32.45 stdair::ContinuousAttributeLite< T > Struct Template Reference

Class modeling the distribution of values that can be taken by a continuous attribute.

```
#include <stdair/basic/ContinuousAttributeLite.hpp>
```

### Public Types

- [typedef std::map< T, stdair::Probability\\_T > ContinuousDistribution\\_T](#)

### Public Member Functions

- [const T getValue \(const stdair::Probability\\_T &iCumulativeProbability\) const](#)
- [const stdair::Probability\\_T getRemainingProportion \(const T &iValue\) const](#)
- [const double getDerivativeValue \(const T iKey\) const](#)
- [const T getUpperBound \(const T iKey\) const](#)
- [const std::string displayCumulativeDistribution \(\) const](#)
- [ContinuousAttributeLite \(const ContinuousDistribution\\_T &iValueMap\)](#)

- `ContinuousAttributeLite` (`const ContinuousAttributeLite &iCAL`)
- `ContinuousAttributeLite & operator=` (`const ContinuousAttributeLite &iCAL`)
- `virtual ~ContinuousAttributeLite ()`

### 32.45.1 Detailed Description

`template<typename T>struct stdair::ContinuousAttributeLite< T >`

Class modeling the distribution of values that can be taken by a continuous attribute.

Definition at line 26 of file [ContinuousAttributeLite.hpp](#).

### 32.45.2 Member Typedef Documentation

**32.45.2.1 template<typename T > typedef std::map<T, stdair::Probability\_T> stdair::ContinuousAttributeLite< T >::ContinuousDistribution\_T**

Type for the probability mass function.

Definition at line 32 of file [ContinuousAttributeLite.hpp](#).

### 32.45.3 Constructor & Destructor Documentation

**32.45.3.1 template<typename T > stdair::ContinuousAttributeLite< T >::ContinuousAttributeLite ( const ContinuousDistribution\_T & iValueMap ) [inline]**

Constructor.

Definition at line 204 of file [ContinuousAttributeLite.hpp](#).

**32.45.3.2 template<typename T > stdair::ContinuousAttributeLite< T >::ContinuousAttributeLite ( const ContinuousAttributeLite< T > & iCAL ) [inline]**

Copy constructor.

Definition at line 212 of file [ContinuousAttributeLite.hpp](#).

**32.45.3.3 template<typename T > virtual stdair::ContinuousAttributeLite< T >::~ContinuousAttributeLite ( ) [inline], [virtual]**

Destructor.

Definition at line 231 of file [ContinuousAttributeLite.hpp](#).

### 32.45.4 Member Function Documentation

**32.45.4.1 template<typename T > const T stdair::ContinuousAttributeLite< T >::getValue ( const stdair::Probability\_T & iCumulativeProbability ) const [inline]**

Get value from inverse cumulative distribution.

Definition at line 39 of file [ContinuousAttributeLite.hpp](#).

References `stdair::DictionaryManager::keyToValue()`, and `stdair::DictionaryManager::valueToKey()`.

**32.45.4.2 template<typename T > const stdair::Probability\_T stdair::ContinuousAttributeLite< T >::getRemainingProportion ( const T & iValue ) const [inline]**

Get remaining proportion from cumulative distribution.

Definition at line 84 of file [ContinuousAttributeLite.hpp](#).

References [stdair::DictionaryManager::keyToValue\(\)](#).

**32.45.4.3 template<typename T > const double stdair::ContinuousAttributeLite< T >::getDerivativeValue ( const T iKey ) const [inline]**

Get the value of the derivative function in a key point.

Definition at line 131 of file [ContinuousAttributeLite.hpp](#).

References [stdair::DictionaryManager::keyToValue\(\)](#).

**32.45.4.4 template<typename T > const T stdair::ContinuousAttributeLite< T >::getUpperBound ( const T iKey ) const [inline]**

Get the upper bound.

Definition at line 163 of file [ContinuousAttributeLite.hpp](#).

**32.45.4.5 template<typename T > const std::string stdair::ContinuousAttributeLite< T >::displayCumulativeDistribution ( ) const [inline]**

Display cumulative distribution.

Definition at line 182 of file [ContinuousAttributeLite.hpp](#).

References [stdair::DictionaryManager::keyToValue\(\)](#).

**32.45.4.6 template<typename T > ContinuousAttributeLite& stdair::ContinuousAttributeLite< T >::operator= ( const ContinuousAttributeLite< T > & iCAL ) [inline]**

Copy operator.

Definition at line 221 of file [ContinuousAttributeLite.hpp](#).

The documentation for this struct was generated from the following file:

- stdair/basic/[ContinuousAttributeLite.hpp](#)

## 32.46 stdair::date\_time\_element< MIN, MAX > Struct Template Reference

```
#include <stdair/basic/BasParserHelperTypes.hpp>
```

### Public Member Functions

- [date\\_time\\_element \(\)](#)
- [date\\_time\\_element \(const date\\_time\\_element &t\)](#)
- [date\\_time\\_element \(int i\)](#)
- void [check \(\) const](#)

### Public Attributes

- unsigned int [\\_value](#)

#### 32.46.1 Detailed Description

```
template<int MIN = 0, int MAX = 0>struct stdair::date_time_element< MIN, MAX >
```

Date & time element parser.

Definition at line 23 of file [BasParserHelperTypes.hpp](#).

### 32.46.2 Constructor & Destructor Documentation

32.46.2.1 `template<int MIN = 0, int MAX = 0> stdair::date_time_element< MIN, MAX >::date_time_element( ) [inline]`

Default constructor.

Definition at line 28 of file [BasParserHelperTypes.hpp](#).

32.46.2.2 `template<int MIN = 0, int MAX = 0> stdair::date_time_element< MIN, MAX >::date_time_element( const date_time_element< MIN, MAX > & t ) [inline]`

Default copy constructor.

Definition at line 30 of file [BasParserHelperTypes.hpp](#).

32.46.2.3 `template<int MIN = 0, int MAX = 0> stdair::date_time_element< MIN, MAX >::date_time_element( int i ) [inline]`

Constructor.

Definition at line 32 of file [BasParserHelperTypes.hpp](#).

### 32.46.3 Member Function Documentation

32.46.3.1 `template<int MIN = 0, int MAX = 0> void stdair::date_time_element< MIN, MAX >::check( ) const [inline]`

Checker.

Definition at line 34 of file [BasParserHelperTypes.hpp](#).

### 32.46.4 Member Data Documentation

32.46.4.1 `template<int MIN = 0, int MAX = 0> unsigned int stdair::date_time_element< MIN, MAX >::_value`

Definition at line 24 of file [BasParserHelperTypes.hpp](#).

Referenced by `stdair::operator*()`, and `stdair::operator+()`.

The documentation for this struct was generated from the following file:

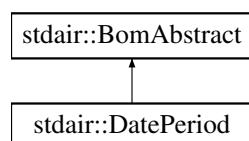
- stdair/basic/[BasParserHelperTypes.hpp](#)

## 32.47 stdair::DatePeriod Class Reference

Class representing the actual attributes for a fare date-period.

```
#include <stdair/bom/DatePeriod.hpp>
```

Inheritance diagram for stdair::DatePeriod:



## Public Types

- `typedef DatePeriodKey Key_T`

## Public Member Functions

- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const HolderMap_T & getHolderMap () const`
- `const DatePeriod_T & getDatePeriod () const`
- `bool isDepartureDateValid (const Date_T &) const`

## Protected Member Functions

- `DatePeriod (const Key_T &)`
- `virtual ~DatePeriod ()`

## Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`

## Friends

- `template<typename BOM >`  
`class FacBom`
- `template<typename BOM >`  
`class FacCloneBom`
- `class FacBomManager`

### 32.47.1 Detailed Description

Class representing the actual attributes for a fare date-period.

Definition at line 18 of file [DatePeriod.hpp](#).

### 32.47.2 Member Typedef Documentation

#### 32.47.2.1 `typedef DatePeriodKey stdair::DatePeriod::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 28 of file [DatePeriod.hpp](#).

### 32.47.3 Constructor & Destructor Documentation

#### 32.47.3.1 `stdair::DatePeriod::DatePeriod ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 27 of file [DatePeriod.cpp](#).

**32.47.3.2 stdair::DatePeriod::~DatePeriod( ) [protected], [virtual]**

Destructor.

Definition at line 32 of file [DatePeriod.cpp](#).

**32.47.4 Member Function Documentation****32.47.4.1 void stdair::DatePeriod::toStream( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 37 of file [DatePeriod.hpp](#).

References [toString\(\)](#).

**32.47.4.2 void stdair::DatePeriod::fromStream( std::istream & ioin ) [inline], [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 46 of file [DatePeriod.hpp](#).

**32.47.4.3 std::string stdair::DatePeriod::toString( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 36 of file [DatePeriod.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.47.4.4 const std::string stdair::DatePeriod::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line 57 of file [DatePeriod.hpp](#).

References [\\_key](#), and [stdair::DatePeriodKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.47.4.5 const Key\_T& stdair::DatePeriod::getKey( ) const [inline]**

Get the primary key (date period).

Definition at line 66 of file [DatePeriod.hpp](#).

References [\\_key](#).

**32.47.4.6 BomAbstract\* const stdair::DatePeriod::getParent( ) const [inline]**

Get a reference on the parent object instance.

Definition at line 73 of file [DatePeriod.hpp](#).

References [\\_parent](#).

#### 32.47.4.7 `const HolderMap_T& stdair::DatePeriod::getHolderMap( ) const [inline]`

Get a reference on the children holder.

Definition at line [80](#) of file [DatePeriod.hpp](#).

References [\\_holderMap](#).

#### 32.47.4.8 `const DatePeriod_T& stdair::DatePeriod::getDatePeriod( ) const [inline]`

Get the date period.

Definition at line [87](#) of file [DatePeriod.hpp](#).

References [\\_key](#), and [stdair::DatePeriodKey::getDatePeriod\(\)](#).

Referenced by [isDepartureDateValid\(\)](#).

#### 32.47.4.9 `bool stdair::DatePeriod::isDepartureDateValid( const Date_T & iFlightDate ) const`

Check if the given departure date is included in the departure period of the segment path.

Definition at line [44](#) of file [DatePeriod.cpp](#).

References [getDatePeriod\(\)](#).

Referenced by [stdair::BomRetriever::retrieveDatePeriodListFromKey\(\)](#).

### 32.47.5 Friends And Related Function Documentation

#### 32.47.5.1 `template<typename BOM> friend class FacBom [friend]`

Definition at line [19](#) of file [DatePeriod.hpp](#).

#### 32.47.5.2 `template<typename BOM> friend class FacCloneBom [friend]`

Definition at line [20](#) of file [DatePeriod.hpp](#).

#### 32.47.5.3 `friend class FacBomManager [friend]`

Definition at line [21](#) of file [DatePeriod.hpp](#).

### 32.47.6 Member Data Documentation

#### 32.47.6.1 `Key_T stdair::DatePeriod::_key [protected]`

Primary key (date period).

Definition at line [126](#) of file [DatePeriod.hpp](#).

Referenced by [describeKey\(\)](#), [getDatePeriod\(\)](#), and [getKey\(\)](#).

#### 32.47.6.2 `BomAbstract* stdair::DatePeriod::_parent [protected]`

Pointer on the parent class.

Definition at line [131](#) of file [DatePeriod.hpp](#).

Referenced by [getParent\(\)](#).

#### 32.47.6.3 `HolderMap_T stdair::DatePeriod::_holderMap [protected]`

Map holding the children.

Definition at line 136 of file [DatePeriod.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

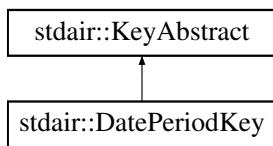
- stdair/bom/[DatePeriod.hpp](#)
- stdair/bom/[DatePeriod.cpp](#)

## 32.48 stdair::DatePeriodKey Struct Reference

Key of date-period.

```
#include <stdair/bom/DatePeriodKey.hpp>
```

Inheritance diagram for stdair::DatePeriodKey:



### Public Member Functions

- [DatePeriodKey](#) (const [DatePeriod\\_T](#) &)
- [DatePeriodKey](#) (const [DatePeriodKey](#) &)
- [~DatePeriodKey](#) ()
- const [DatePeriod\\_T](#) & [getDatePeriod](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const

### 32.48.1 Detailed Description

Key of date-period.

Definition at line 14 of file [DatePeriodKey.hpp](#).

### 32.48.2 Constructor & Destructor Documentation

#### 32.48.2.1 stdair::DatePeriodKey::DatePeriodKey ( const DatePeriod\_T & iDatePeriod )

Main Constructor.

Definition at line 22 of file [DatePeriodKey.cpp](#).

#### 32.48.2.2 stdair::DatePeriodKey::DatePeriodKey ( const DatePeriodKey & iKey )

Copy constructor.

Definition at line 27 of file [DatePeriodKey.cpp](#).

#### 32.48.2.3 stdair::DatePeriodKey::~DatePeriodKey ( )

Destructor.

Definition at line 32 of file [DatePeriodKey.cpp](#).

### 32.48.3 Member Function Documentation

32.48.3.1 `const DatePeriod_T& stdair::DatePeriodKey::getDatePeriod( ) const [inline]`

Get the date period.

Definition at line 32 of file [DatePeriodKey.hpp](#).

Referenced by [stdair::DatePeriod::getDatePeriod\(\)](#).

32.48.3.2 `void stdair::DatePeriodKey::toStream( std::ostream & ioOut ) const [virtual]`

Dump a Business Object Key into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 36 of file [DatePeriodKey.cpp](#).

References [toString\(\)](#).

32.48.3.3 `void stdair::DatePeriodKey::fromStream( std::istream & ioIn ) [virtual]`

Read a Business Object Key from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 41 of file [DatePeriodKey.cpp](#).

32.48.3.4 `const std::string stdair::DatePeriodKey::toString( ) const [virtual]`

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 45 of file [DatePeriodKey.cpp](#).

Referenced by [stdair::DatePeriod::describeKey\(\)](#), and [toString\(\)](#).

The documentation for this struct was generated from the following files:

- stdair/bom/[DatePeriodKey.hpp](#)
- stdair/bom/[DatePeriodKey.cpp](#)

## 32.49 stdair::DbaAbstract Class Reference

```
#include <stdair/dbadaptor/DbaAbstract.hpp>
```

### Public Member Functions

- virtual [~DbaAbstract\(\)](#)
- virtual void [toStream\( std::ostream &ioOut \) const](#)
- virtual void [fromStream\( std::istream &ioIn \)](#)

### Protected Member Functions

- [DbaAbstract \(\)](#)

#### 32.49.1 Detailed Description

Base class for the Database Adaptor (DBA) layer.

Definition at line 13 of file [DbaAbstract.hpp](#).

#### 32.49.2 Constructor & Destructor Documentation

##### 32.49.2.1 virtual stdair::DbaAbstract::~DbaAbstract( ) [inline], [virtual]

Destructor.

Definition at line 17 of file [DbaAbstract.hpp](#).

##### 32.49.2.2 stdair::DbaAbstract::DbaAbstract( ) [inline], [protected]

Protected Default Constructor to ensure this class is abstract.

Definition at line 29 of file [DbaAbstract.hpp](#).

#### 32.49.3 Member Function Documentation

##### 32.49.3.1 virtual void stdair::DbaAbstract::toStream( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

###### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 21 of file [DbaAbstract.hpp](#).

##### 32.49.3.2 virtual void stdair::DbaAbstract::fromStream( std::istream & ioIn ) [inline], [virtual]

Read a Business Object from an input stream.

###### Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Definition at line 25 of file [DbaAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

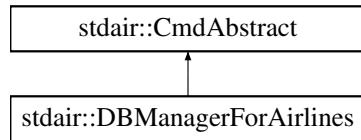
The documentation for this class was generated from the following file:

- stdair/dbadaptor/[DbaAbstract.hpp](#)

## 32.50 stdair::DBManagerForAirlines Class Reference

```
#include <stdair/command/DBManagerForAirlines.hpp>
```

Inheritance diagram for stdair::DBManagerForAirlines:



## Static Public Member Functions

- static void [updateAirlineInDB \(DBSession\\_T &, const AirlineStruct &\)](#)
- static bool [retrieveAirline \(DBSession\\_T &, const AirlineCode\\_T &, AirlineStruct &\)](#)
- static void [prepareSelectStatement \(DBSession\\_T &, DBRequestStatement\\_T &, AirlineStruct &\)](#)
- static bool [iterateOnStatement \(DBRequestStatement\\_T &, AirlineStruct &\)](#)

### 32.50.1 Detailed Description

Class building the Business Object Model (BOM) from data retrieved from the database.

Definition at line 18 of file [DBManagerForAirlines.hpp](#).

### 32.50.2 Member Function Documentation

#### 32.50.2.1 void stdair::DBManagerForAirlines::updateAirlineInDB ( DBSession\_T & *ioSociSession*, const AirlineStruct & *iAirline* ) [static]

Update the fields of the database row corresponding to the given BOM object. DBSession\_T& [AirlineStruct&](#) .

Definition at line 99 of file [DBManagerForAirlines.cpp](#).

References [stdair::AirlineStruct::getAirlineCode\(\)](#), and [stdair::AirlineStruct::getAirlineName\(\)](#).

#### 32.50.2.2 bool stdair::DBManagerForAirlines::retrieveAirline ( DBSession\_T & *ioSociSession*, const AirlineCode\_T & *iAirlineCode*, AirlineStruct & *ioAirline* ) [static]

Retrieve, from the (MySQL) database, the row corresponding to the given BOM code, and fill the given BOM object with that retrieved data. DBSession\_T& const AirlineCode\_T& [AirlineStruct&](#) .

Definition at line 134 of file [DBManagerForAirlines.cpp](#).

References [iterateOnStatement\(\)](#).

#### 32.50.2.3 void stdair::DBManagerForAirlines::prepareSelectStatement ( DBSession\_T & *ioSociSession*, DBRequestStatement\_T & *ioSelectStatement*, AirlineStruct & *ioAirline* ) [static]

Prepare (parse and put in cache) the SQL statement. DBSession\_T& DBRequestStatement\_T& [AirlineStruct&](#) .

Definition at line 26 of file [DBManagerForAirlines.cpp](#).

#### 32.50.2.4 bool stdair::DBManagerForAirlines::iterateOnStatement ( DBRequestStatement\_T & *ioStatement*, AirlineStruct & *ioAirline* ) [static]

Iterate on the SQL statement.

The SQL has to be already prepared. DBRequestStatement\_T& [AirlineStruct&](#) .

Definition at line 82 of file [DBManagerForAirlines.cpp](#).

Referenced by [retrieveAirline\(\)](#).

The documentation for this class was generated from the following files:

- stdair/command/[DBManagerForAirlines.hpp](#)
- stdair/command/[DBManagerForAirlines.cpp](#)

## 32.51 stdair::DBSessionManager Class Reference

```
#include <stdair/service/DBSessionManager.hpp>
```

### Public Member Functions

- `DBSession_T & getDBSession () const`

### Static Public Member Functions

- static `DBSessionManager & instance ()`

### Friends

- class `FacSupervisor`
- class `STDAIR_Service`

### 32.51.1 Detailed Description

Class holding the database session.

Note that the database access is handled by the SOCI library.

Definition at line 17 of file `DBSessionManager.hpp`.

### 32.51.2 Member Function Documentation

#### 32.51.2.1 `DBSessionManager & stdair::DBSessionManager::instance ( ) [static]`

Return the static `DBSessionManager` instance.

Definition at line 82 of file `DBSessionManager.cpp`.

#### 32.51.2.2 `DBSession_T & stdair::DBSessionManager::getDBSession ( ) const`

Retrieve the database session handler, held by the static instance of `DBSessionManager`.

Definition at line 92 of file `DBSessionManager.cpp`.

### 32.51.3 Friends And Related Function Documentation

#### 32.51.3.1 `friend class FacSupervisor [friend]`

Definition at line 19 of file `DBSessionManager.hpp`.

#### 32.51.3.2 `friend class STDAIR_Service [friend]`

Definition at line 20 of file `DBSessionManager.hpp`.

The documentation for this class was generated from the following files:

- stdair/service/`DBSessionManager.hpp`
- stdair/service/`DBSessionManager.cpp`

## 32.52 stdair::DefaultDCPList Struct Reference

```
#include <stdair/basic/BasConst_Inventory.hpp>
```

## Static Public Member Functions

- static [DCPList\\_T init \(\)](#)

### 32.52.1 Detailed Description

Definition at line [126](#) of file [BasConst\\_Inventory.hpp](#).

### 32.52.2 Member Function Documentation

#### 32.52.2.1 [DCPList\\_T stdair::DefaultDCPList::init \( \) \[static\]](#)

Definition at line [518](#) of file [BasConst.cpp](#).

The documentation for this struct was generated from the following files:

- stdair/basic/[BasConst\\_Inventory.hpp](#)
- stdair/basic/[BasConst.cpp](#)

## 32.53 stdair::DefaultDtdFratMap Struct Reference

```
#include <stdair/basic/BasConst_Inventory.hpp>
```

## Static Public Member Functions

- static [DTDMap\\_T init \(\)](#)

### 32.53.1 Detailed Description

Definition at line [130](#) of file [BasConst\\_Inventory.hpp](#).

### 32.53.2 Member Function Documentation

#### 32.53.2.1 [DTDMap\\_T stdair::DefaultDtdFratMap::init \( \) \[static\]](#)

Definition at line [697](#) of file [BasConst.cpp](#).

The documentation for this struct was generated from the following files:

- stdair/basic/[BasConst\\_Inventory.hpp](#)
- stdair/basic/[BasConst.cpp](#)

## 32.54 stdair::DefaultDtdProbMap Struct Reference

```
#include <stdair/basic/BasConst_Inventory.hpp>
```

## Static Public Member Functions

- static [DTDProbMap\\_T init \(\)](#)

### 32.54.1 Detailed Description

Definition at line [134](#) of file [BasConst\\_Inventory.hpp](#).

### 32.54.2 Member Function Documentation

#### 32.54.2.1 DTDProbMap\_T stdair::DefaultDtdProbMap::init( ) [static]

Definition at line 714 of file [BasConst.cpp](#).

The documentation for this struct was generated from the following files:

- stdair/basic/[BasConst\\_Inventory.hpp](#)
- stdair/basic/[BasConst.cpp](#)

## 32.55 stdair::DefaultMap Struct Reference

```
#include <stdair/basic/BasConst_SellUpCurves.hpp>
```

### Static Public Member Functions

- static FRAT5Curve\_T createFRAT5CurveA()
- static FRAT5Curve\_T createFRAT5CurveB()
- static FRAT5Curve\_T createFRAT5CurveC()
- static FRAT5Curve\_T createFRAT5CurveD()
- static FFDUtilityCurve\_T createFFDUtilityCurveA()
- static FFDUtilityCurve\_T createFFDUtilityCurveB()
- static FFDUtilityCurve\_T createFFDUtilityCurveC()
- static FFDUtilityCurve\_T createFFDUtilityCurveD()
- static FFDUtilityCurve\_T createFFDUtilityCurveE()
- static FFDUtilityCurve\_T createFFDUtilityCurveF()

### 32.55.1 Detailed Description

FRAT5 curves.

Definition at line 27 of file [BasConst\\_SellUpCurves.hpp](#).

### 32.55.2 Member Function Documentation

#### 32.55.2.1 FRAT5Curve\_T stdair::DefaultMap::createFRAT5CurveA( ) [static]

Definition at line 533 of file [BasConst.cpp](#).

#### 32.55.2.2 FRAT5Curve\_T stdair::DefaultMap::createFRAT5CurveB( ) [static]

Definition at line 547 of file [BasConst.cpp](#).

#### 32.55.2.3 FRAT5Curve\_T stdair::DefaultMap::createFRAT5CurveC( ) [static]

Definition at line 561 of file [BasConst.cpp](#).

#### 32.55.2.4 FRAT5Curve\_T stdair::DefaultMap::createFRAT5CurveD( ) [static]

Definition at line 575 of file [BasConst.cpp](#).

#### 32.55.2.5 FFDUtilityCurve\_T stdair::DefaultMap::createFFDUtilityCurveA( ) [static]

Definition at line 593 of file [BasConst.cpp](#).

### 32.55.2.6 FFDisutilityCurve\_T stdair::DefaultMap::createFFDisutilityCurveB ( ) [static]

Definition at line 611 of file [BasConst.cpp](#).

### 32.55.2.7 FFDisutilityCurve\_T stdair::DefaultMap::createFFDisutilityCurveC ( ) [static]

Definition at line 629 of file [BasConst.cpp](#).

### 32.55.2.8 FFDisutilityCurve\_T stdair::DefaultMap::createFFDisutilityCurveD ( ) [static]

Definition at line 647 of file [BasConst.cpp](#).

### 32.55.2.9 FFDisutilityCurve\_T stdair::DefaultMap::createFFDisutilityCurveE ( ) [static]

Definition at line 665 of file [BasConst.cpp](#).

### 32.55.2.10 FFDisutilityCurve\_T stdair::DefaultMap::createFFDisutilityCurveF ( ) [static]

Definition at line 683 of file [BasConst.cpp](#).

The documentation for this struct was generated from the following files:

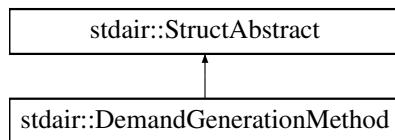
- [stdair/basic/BasConst\\_SellUpCurves.hpp](#)
- [stdair/basic/BasConst.cpp](#)

## 32.56 stdair::DemandGenerationMethod Struct Reference

Enumeration of demand (booking request) generation methods.

```
#include <stdair/basic/DemandGenerationMethod.hpp>
```

Inheritance diagram for stdair::DemandGenerationMethod:



### Public Types

- enum [EN\\_DemandGenerationMethod](#) { [POI\\_PRO](#) = 0, [STA\\_ORD](#), [LAST\\_VALUE](#) }

### Public Member Functions

- [EN\\_DemandGenerationMethod getMethod \(\) const](#)
- [char getMethodAsChar \(\) const](#)
- [std::string getMethodAsString \(\) const](#)
- [const std::string describe \(\) const](#)
- [bool operator== \(const EN\\_DemandGenerationMethod &\) const](#)
- [DemandGenerationMethod \(const EN\\_DemandGenerationMethod &\)](#)
- [DemandGenerationMethod \(const char iMethod\)](#)
- [DemandGenerationMethod \(const std::string &iMethod\)](#)
- [DemandGenerationMethod \(const DemandGenerationMethod &\)](#)
- [void toStream \(std::ostream &iOut\) const](#)
- [virtual void fromStream \(std::istream &iIn\)](#)

## Static Public Member Functions

- static const std::string & [getLabel](#) (const EN\_DemandGenerationMethod &)
- static EN\_DemandGenerationMethod [getMethod](#) (const char)
- static char [getMethodLabel](#) (const EN\_DemandGenerationMethod &)
- static std::string [getMethodLabelAsString](#) (const EN\_DemandGenerationMethod &)
- static std::string [describeLabels](#) ()

### 32.56.1 Detailed Description

Enumeration of demand (booking request) generation methods.

Definition at line 17 of file [DemandGenerationMethod.hpp](#).

### 32.56.2 Member Enumeration Documentation

#### 32.56.2.1 enum stdair::DemandGenerationMethod::EN\_DemandGenerationMethod

Enumerator

*POI\_PRO*  
*STA\_ORD*  
*LAST\_VALUE*

Definition at line 19 of file [DemandGenerationMethod.hpp](#).

### 32.56.3 Constructor & Destructor Documentation

#### 32.56.3.1 stdair::DemandGenerationMethod::DemandGenerationMethod ( const EN\_DemandGenerationMethod & *iDemandGenerationMethod* )

Main constructor.

Definition at line 34 of file [DemandGenerationMethod.cpp](#).

#### 32.56.3.2 stdair::DemandGenerationMethod::DemandGenerationMethod ( const char *iMethod* )

Alternative constructor.

Definition at line 62 of file [DemandGenerationMethod.cpp](#).

#### 32.56.3.3 stdair::DemandGenerationMethod::DemandGenerationMethod ( const std::string & *iMethod* )

Alternative constructor.

Definition at line 68 of file [DemandGenerationMethod.cpp](#).

References [getMethod\(\)](#).

#### 32.56.3.4 stdair::DemandGenerationMethod::DemandGenerationMethod ( const DemandGenerationMethod & *iDemandGenerationMethod* )

Default copy constructor.

Definition at line 28 of file [DemandGenerationMethod.cpp](#).

### 32.56.4 Member Function Documentation

---

32.56.4.1 `const std::string & stdair::DemandGenerationMethod::getLabel ( const EN_DemandGenerationMethod & iMethod ) [static]`

Get the label as a string (e.g., "PoissonProcess" or "StatisticsOrder").

Definition at line 78 of file [DemandGenerationMethod.cpp](#).

32.56.4.2 `DemandGenerationMethod::EN_DemandGenerationMethod stdair::DemandGenerationMethod::get←Method ( const char iMethodChar ) [static]`

Get the method value from parsing a single char (e.g., 'P' or 'S').

Definition at line 40 of file [DemandGenerationMethod.cpp](#).

References [describeLabels\(\)](#), [LAST\\_VALUE](#), [POI\\_PRO](#), and [STA\\_ORD](#).

32.56.4.3 `char stdair::DemandGenerationMethod::getMethodLabel ( const EN_DemandGenerationMethod & iMethod ) [static]`

Get the label as a single char (e.g., 'P' or 'S').

Definition at line 84 of file [DemandGenerationMethod.cpp](#).

32.56.4.4 `std::string stdair::DemandGenerationMethod::getMethodLabelAsString ( const EN_DemandGenerationMethod & iMethod ) [static]`

Get the label as a string of a single char (e.g., "P" or "S").

Definition at line 90 of file [DemandGenerationMethod.cpp](#).

32.56.4.5 `std::string stdair::DemandGenerationMethod::describeLabels ( ) [static]`

List the labels.

Definition at line 97 of file [DemandGenerationMethod.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [getMethod\(\)](#).

32.56.4.6 `DemandGenerationMethod::EN_DemandGenerationMethod stdair::DemandGenerationMethod::get←Method ( ) const`

Get the enumerated value.

Definition at line 110 of file [DemandGenerationMethod.cpp](#).

Referenced by [DemandGenerationMethod\(\)](#).

32.56.4.7 `char stdair::DemandGenerationMethod::getMethodAsChar ( ) const`

Get the enumerated value as a short string (e.g., 'P' or 'S').

Definition at line 115 of file [DemandGenerationMethod.cpp](#).

32.56.4.8 `std::string stdair::DemandGenerationMethod::getMethodAsString ( ) const`

Get the enumerated value as a short string (e.g., "P" or "S").

Definition at line 121 of file [DemandGenerationMethod.cpp](#).

32.56.4.9 `const std::string stdair::DemandGenerationMethod::describe ( ) const [virtual]`

Give a description of the structure (e.g., "PoissonProcess" or "StatisticsOrder").

Implements [stdair::StructAbstract](#).

Definition at line 128 of file [DemandGenerationMethod.cpp](#).

32.56.4.10 bool stdair::DemandGenerationMethod::operator== ( const EN\_DemandGenerationMethod & iMethod ) const

Comparison operator.

Definition at line 136 of file [DemandGenerationMethod.cpp](#).

32.56.4.11 void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

32.56.4.12 virtual void stdair::StructAbstract::fromStream ( std::istream & ioIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

The documentation for this struct was generated from the following files:

- stdair/basic/[DemandGenerationMethod.hpp](#)
- stdair/basic/[DemandGenerationMethod.cpp](#)

## 32.57 stdair::DictionaryManager Class Reference

Class wrapper of dictionary business methods.

```
#include <stdair/basic/DictionaryManager.hpp>
```

#### Static Public Member Functions

- static const [stdair::Probability\\_T](#) keyToValue (const [DictionaryKey\\_T](#))
- static const [DictionaryKey\\_T](#) valueToKey (const [stdair::Probability\\_T](#))

### 32.57.1 Detailed Description

Class wrapper of dictionary business methods.

Definition at line 22 of file [DictionaryManager.hpp](#).

### 32.57.2 Member Function Documentation

**32.57.2.1 const stdair::Probability\_T stdair::DictionaryManager::keyToValue ( const DictionaryKey\_T iKey ) [static]**

Convert from key to value.

Definition at line 12 of file [DictionaryManager.cpp](#).

References [stdair::DEFAULT\\_NUMBER\\_OF\\_SUBDIVISIONS](#).

Referenced by [stdair::ContinuousAttributeLite< T >::displayCumulativeDistribution\(\)](#), [stdair::ContinuousAttributeLite< T >::getDerivativeValue\(\)](#), [stdair::ContinuousAttributeLite< T >::getRemainingProportion\(\)](#), and [stdair::ContinuousAttributeLite< T >::getValue\(\)](#).

**32.57.2.2 const DictionaryKey\_T stdair::DictionaryManager::valueToKey ( const stdair::Probability\_T iValue ) [static]**

Convert from value to key.

Definition at line 21 of file [DictionaryManager.cpp](#).

References [stdair::DEFAULT\\_NUMBER\\_OF\\_SUBDIVISIONS](#).

Referenced by [stdair::ContinuousAttributeLite< T >::getValue\(\)](#).

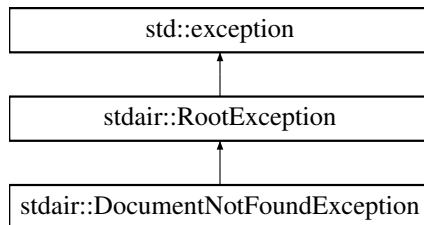
The documentation for this class was generated from the following files:

- [stdair/basic/DictionaryManager.hpp](#)
- [stdair/basic/DictionaryManager.cpp](#)

## 32.58 stdair::DocumentNotFoundException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::DocumentNotFoundException:



### Public Member Functions

- [DocumentNotFoundException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

### Protected Attributes

- [std::string \\_what](#)

## 32.58.1 Detailed Description

Document not found.

Definition at line 104 of file [stdair\\_exceptions.hpp](#).

### 32.58.2 Constructor & Destructor Documentation

32.58.2.1 stdair::DocumentNotFoundException::DocumentNotFoundException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line 107 of file [stdair\\_exceptions.hpp](#).

### 32.58.3 Member Function Documentation

32.58.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.58.4 Member Data Documentation

32.58.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

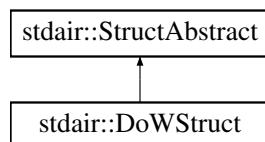
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.59 stdair::DoWStruct Struct Reference

```
#include <stdair/bom/DoWStruct.hpp>
```

Inheritance diagram for stdair::DoWStruct:



### Public Types

- [typedef std::vector< bool > BooleanList\\_T](#)

### Public Member Functions

- [bool getDayOfWeek \(const unsigned short i\) const](#)
- [bool getStandardDayOfWeek \(const unsigned short i\) const](#)
- [void setDayOfWeek \(const unsigned short, const bool\)](#)
- [const std::string describe \(\) const](#)
- [const std::string describeShort \(\) const](#)
- [DoWStruct shift \(const long &\) const](#)

- [DoWStruct intersection \(const DoWStruct &\) const](#)
- [const bool isValid \(\) const](#)
- [DoWStruct \(const std::string &iDowString\)](#)
- [DoWStruct \(\)](#)
- [DoWStruct \(const DoWStruct &\)](#)
- [~DoWStruct \(\)](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [virtual void fromStream \(std::istream &ioln\)](#)

### 32.59.1 Detailed Description

Define a Day Of the Week (DoW) sequence.

For instance, 1..11.1 means that the period is active on Mon., Thu., Fri. and Sun.

Definition at line [18](#) of file [DoWStruct.hpp](#).

### 32.59.2 Member Typedef Documentation

#### 32.59.2.1 `typedef std::vector<bool> stdair::DoWStruct::BooleanList_T`

Define the bit set representing the DoW.

Definition at line [21](#) of file [DoWStruct.hpp](#).

### 32.59.3 Constructor & Destructor Documentation

#### 32.59.3.1 `stdair::DoWStruct::DoWStruct ( const std::string & iDowString )`

Constructor from a given bit set (e.g., "0000011" for the week-ends).

Definition at line [21](#) of file [DoWStruct.cpp](#).

#### 32.59.3.2 `stdair::DoWStruct::DoWStruct ( )`

Default constructors.

Definition at line [14](#) of file [DoWStruct.cpp](#).

#### 32.59.3.3 `stdair::DoWStruct::DoWStruct ( const DoWStruct & iDoWStruct )`

Definition at line [34](#) of file [DoWStruct.cpp](#).

#### 32.59.3.4 `stdair::DoWStruct::~DoWStruct ( ) [inline]`

Default destructor.

Definition at line [63](#) of file [DoWStruct.hpp](#).

### 32.59.4 Member Function Documentation

#### 32.59.4.1 `bool stdair::DoWStruct::getDayOfWeek ( const unsigned short i ) const`

Get the i-th day of the week (Monday being the first one).

Definition at line [66](#) of file [DoWStruct.cpp](#).

Referenced by [intersection\(\)](#), and [isValid\(\)](#).

**32.59.4.2 bool stdair::DoWStruct::getStandardDayOfWeek ( const unsigned short *i* ) const**

Get the *i*-th day of the week (Sunday being the first one).

Definition at line 71 of file [DoWStruct.cpp](#).

**32.59.4.3 void stdair::DoWStruct::setDayOfWeek ( const unsigned short *i*, const bool *iBool* )**

Set the new value for the *i*-th day-of-week.

Definition at line 82 of file [DoWStruct.cpp](#).

Referenced by [intersection\(\)](#), and [shift\(\)](#).

**32.59.4.4 const std::string stdair::DoWStruct::describe ( ) const [virtual]**

Display explicitly (e.g., "Mon.Tue.Wed.Thu.Fri.").

Implements [stdair::StructAbstract](#).

Definition at line 52 of file [DoWStruct.cpp](#).

References [stdair::DOW\\_STR](#).

Referenced by [stdair::PeriodStruct::describe\(\)](#).

**32.59.4.5 const std::string stdair::DoWStruct::describeShort ( ) const**

Display as a bit set (e.g., "1111100").

Definition at line 40 of file [DoWStruct.cpp](#).

Referenced by [stdair::PeriodStruct::describeShort\(\)](#).

**32.59.4.6 DoWStruct stdair::DoWStruct::shift ( const long & *iNbOfDays* ) const**

Build a new DoW struct by shifting the current DoW by a given number.

Definition at line 88 of file [DoWStruct.cpp](#).

References [stdair::DEFAULT\\_DOW\\_STRING](#), and [setDayOfWeek\(\)](#).

Referenced by [stdair::PeriodStruct::addDateOffset\(\)](#).

**32.59.4.7 DoWStruct stdair::DoWStruct::intersection ( const DoWStruct & *iDoW* ) const**

Build a new DoW struct by intersecting two DoW structs.

Definition at line 104 of file [DoWStruct.cpp](#).

References [stdair::DEFAULT\\_DOW\\_STRING](#), [getDayOfWeek\(\)](#), and [setDayOfWeek\(\)](#).

Referenced by [stdair::PeriodStruct::intersection\(\)](#).

**32.59.4.8 const bool stdair::DoWStruct::isValid ( ) const**

Return if the DoW struct is valid (i.e., has at least one "true").

Definition at line 117 of file [DoWStruct.cpp](#).

References [getDayOfWeek\(\)](#).

Referenced by [stdair::PeriodStruct::isValid\(\)](#).

**32.59.4.9 void stdair::StructAbstract::toStream ( std::ostream & *ioOut* ) const [inline], [inherited]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.59.4.10 virtual void stdair::StructAbstract::fromStream ( std::istream & *iIn* ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDUtilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

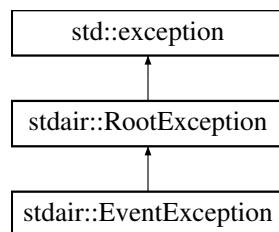
The documentation for this struct was generated from the following files:

- [stdair/bom/DoWStruct.hpp](#)
- [stdair/bom/DoWStruct.cpp](#)

## 32.60 stdair::EventException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::EventException:

**Public Member Functions**

- [EventException](#) (const std::string &*iWhat*)
- const char \* [what](#) () const throw ()

**Protected Attributes**

- std::string [\\_what](#)

### 32.60.1 Detailed Description

Event.

Definition at line 204 of file [stdair\\_exceptions.hpp](#).

### 32.60.2 Constructor & Destructor Documentation

#### 32.60.2.1 stdair::EventException::EventException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 207 of file [stdair\\_exceptions.hpp](#).

### 32.60.3 Member Function Documentation

#### 32.60.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.60.4 Member Data Documentation

#### 32.60.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

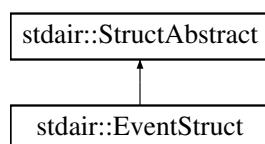
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.61 stdair::EventStruct Struct Reference

```
#include <stdair/bom/EventStruct.hpp>
```

Inheritance diagram for stdair::EventStruct:



### Public Member Functions

- const [EventType::EN\\_EventType & getEventType \(\) const](#)
- const [LongDuration\\_T & getEventTimeStamp \(\) const](#)
- const [DateTime\\_T & getEventTime \(\) const](#)
- const [BookingRequestStruct & getBookingRequest \(\) const](#)
- const [CancellationStruct & getCancellation \(\) const](#)
- const [OptimisationNotificationStruct & getOptimisationNotificationStruct \(\) const](#)
- const [SnapshotStruct & getSnapshotStruct \(\) const](#)
- const [RMEventStruct & getRMEvent \(\) const](#)
- const [BreakPointStruct & getBreakPoint \(\) const](#)
- void [fromStream \(std::istream &ioln\)](#)

- const std::string [describe \(\) const](#)
- [EventStruct \(\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, BookingRequestPtr\\_T\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, CancellationPtr\\_T\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, const DateTime\\_T &iDCPDate, OptimisationNotificationPtr\\_T\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, SnapshotPtr\\_T\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, RMEventPtr\\_T\)](#)
- [EventStruct \(const EventType::EN\\_EventType &, BreakPointPtr\\_T\)](#)
- [EventStruct \(const EventStruct &\)](#)
- [~EventStruct \(\)](#)
- void [incrementEventTimeStamp \(\)](#)
- void [toStream \(std::ostream &ioOut\) const](#)

### 32.61.1 Detailed Description

Structure holding the details of an event.

#### Note

No event should be scheduled before the date-time corresponding to the DEFAULT\_EVENT\_OLDEST\_DATE constant (as of Feb. 2011, that date is set to Jan. 1, 2010). That constant is specified in the [stdair/basic/BasConst.cpp](#) file. In other words, the simulation should not specified to start before that date-time.

Definition at line [36](#) of file [EventStruct.hpp](#).

### 32.61.2 Constructor & Destructor Documentation

#### 32.61.2.1 stdair::EventStruct::EventStruct( )

Default constructor.

Definition at line [26](#) of file [EventStruct.cpp](#).

#### 32.61.2.2 stdair::EventStruct::EventStruct( const EventType::EN\_EventType & iEventType, BookingRequestPtr\_T ioRequestPtr )

Constructor for events corresponding to booking requests.

Definition at line [31](#) of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLDEST\\_DATETIME](#).

#### 32.61.2.3 stdair::EventStruct::EventStruct( const EventType::EN\_EventType & iEventType, CancellationPtr\_T ioCancellationPtr )

Constructor for events corresponding to cancellations.

Definition at line [55](#) of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLDEST\\_DATETIME](#).

#### 32.61.2.4 stdair::EventStruct::EventStruct( const EventType::EN\_EventType & iEventType, const DateTime\_T & iDCPDate, OptimisationNotificationPtr\_T ioOptimisationNotificationPtr )

Constructor for events corresponding to optimisation requests.

Definition at line [80](#) of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLDEST\\_DATETIME](#).

32.61.2.5 `stdair::EventStruct::EventStruct ( const EventType::EN_EventType & iEventType, SnapshotPtr_T ioSnapshotPtr )`

Constructor for events corresponding to snapshot requests.

Definition at line 105 of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLEDEST\\_DATETIME](#).

32.61.2.6 `stdair::EventStruct::EventStruct ( const EventType::EN_EventType & iEventType, RMEventPtr_T ioRMEventPtr )`

Constructor for events corresponding to RM events.

Definition at line 130 of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLEDEST\\_DATETIME](#).

32.61.2.7 `stdair::EventStruct::EventStruct ( const EventType::EN_EventType & iEventType, BreakPointPtr_T ioBreakPointPtr )`

Constructor for events corresponding to Break Point events.

Definition at line 155 of file [EventStruct.cpp](#).

References [stdair::DEFAULT\\_EVENT\\_OLEDEST\\_DATETIME](#).

32.61.2.8 `stdair::EventStruct::EventStruct ( const EventStruct & iEventStruct )`

Copy constructor.

Definition at line 180 of file [EventStruct.cpp](#).

32.61.2.9 `stdair::EventStruct::~EventStruct ( )`

Destructor.

Definition at line 243 of file [EventStruct.cpp](#).

### 32.61.3 Member Function Documentation

32.61.3.1 `const EventType::EN_EventType& stdair::EventStruct::getEventType ( ) const [inline]`

Get the event type

Definition at line 41 of file [EventStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#), [stdair::BomJSONExport::jsonExportBreakPointObject\(\)](#), and [stdair::STDAIR\\_Service::jsonExportEventObject\(\)](#).

32.61.3.2 `const LongDuration_T& stdair::EventStruct::getEventTimeStamp ( ) const [inline]`

Get the event time stamp

Definition at line 46 of file [EventStruct.hpp](#).

32.61.3.3 `const DateTime_T & stdair::EventStruct::getEventTime ( ) const`

Get the event date-time i.e the stamp converted to a date-time format.

Definition at line 311 of file [EventStruct.cpp](#).

References [stdair::EventType::BKG\\_REQ](#), [stdair::EventType::BRK\\_PT](#), [stdair::EventType::CX](#), [stdair::DEFAULT\\_EVENT\\_OLEDEST\\_DATETIME](#), [stdair::EventType::OPT\\_NOT\\_4\\_FD](#), [stdair::EventType::RM](#), and [stdair::EventType::SNAPSHOT](#).

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**32.61.3.4 const BookingRequestStruct& stdair::EventStruct::getBookingRequest( ) const [inline]**

Get a reference on the booking request referred to by event.

**Note**

When that event is not of type booking request ([EventType::BKG\\_REQ](#)), an assertion fails.

Definition at line [59](#) of file [EventStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#).

**32.61.3.5 const CancellationStruct& stdair::EventStruct::getCancellation( ) const [inline]**

Get a reference on the cancellation referred to by event.

**Note**

When that event is not of type cancellation ([EventType::CX](#)), an assertion fails.

Definition at line [70](#) of file [EventStruct.hpp](#).

**32.61.3.6 const OptimisationNotificationStruct& stdair::EventStruct::getOptimisationNotificationStruct( ) const [inline]**

Get a reference on the optimisation notification referred to by event.

**Note**

When that event is not of type optimisation notification for optimisation notification ([EventType::OPT\\_NOT\\_4\\_FD](#)), an assertion fails.

Definition at line [83](#) of file [EventStruct.hpp](#).

**32.61.3.7 const SnapshotStruct& stdair::EventStruct::getSnapshotStruct( ) const [inline]**

Get a reference on the snapshot referred to by event.

**Note**

When that event is not of type snapshot for snapshot ([EventType::OPT\\_NOT\\_4\\_FD](#)), an assertion fails.

Definition at line [95](#) of file [EventStruct.hpp](#).

**32.61.3.8 const RMEventStruct& stdair::EventStruct::getRMEvent( ) const [inline]**

Get a reference on the RM event referred to by the generic event.

**Note**

When that event is not of type RM event for snapshot ([EventType::OPT\\_NOT\\_4\\_FD](#)), an assertion fails.

Definition at line [107](#) of file [EventStruct.hpp](#).

**32.61.3.9 const BreakPointStruct& stdair::EventStruct::getBreakPoint( ) const [inline]**

Get a reference on the break point referred to by event.

**Note**

When that event is not of type booking break point ([EventType::BRK\\_PT](#)), an assertion fails.

Definition at line [118](#) of file [EventStruct.hpp](#).

Referenced by [stdair::BomJSONExport::jsonExportBreakPointObject\(\)](#).

32.61.3.10 void stdair::EventStruct::fromStream ( std::istream & *iOlN* ) [virtual]

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 247 of file [EventStruct.cpp](#).

**32.61.3.11 const std::string stdair::EventStruct::describe( ) const [virtual]**

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 251 of file [EventStruct.cpp](#).

References [stdair::EventType::BKG\\_REQ](#), [stdair::EventType::BRK\\_PT](#), [stdair::EventType::CX](#), [stdair::DEFAULT\\_EVENT\\_OLEDEST\\_DATETIME](#), [stdair::EventType::getLabel\(\)](#), [stdair::EventType::OPT\\_NOT\\_4\\_FD](#), [stdair::EventType::RM](#), and [stdair::EventType::SNAPSHOT](#).

**32.61.3.12 void stdair::EventStruct::incrementEventTimeStamp( )**

Increment the date-time stamp which is counted in milliseconds.

This incrementation of one millisecond is needed when the insertion in the event queue failed, that is to say when an event with the exact same time stamp has already been inserted in the queue.

Definition at line 357 of file [EventStruct.cpp](#).

**32.61.3.13 void stdair::StructAbstract::toStream( std::ostream & ioOut ) const [inline], [inherited]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

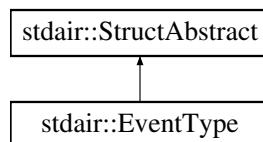
The documentation for this struct was generated from the following files:

- stdair/bom/[EventStruct.hpp](#)
- stdair/bom/[EventStruct.cpp](#)

**32.62 stdair::EventType Struct Reference**

```
#include <stdair/basic/EventType.hpp>
```

Inheritance diagram for stdair::EventType:

**Public Types**

- enum [EN\\_EventType](#) {
 [BKG\\_REQ](#) = 0, [CX](#), [OPT\\_NOT\\_4\\_FD](#), [OPT\\_NOT\\_4\\_NET](#),  
[SKD\\_CHG](#), [SNAPSHOT](#), [RM](#), [BRK\\_PT](#),  
[LAST\\_VALUE](#) }

## Public Member Functions

- `EN_EventType getType () const`
- `std::string getTypeAsString () const`
- `const std::string describe () const`
- `bool operator== (const EN_EventType &) const`
- `EventType (const EN_EventType &)`
- `EventType (const char iType)`
- `EventType (const std::string &iTypeStr)`
- `EventType (const EventType &)`
- `void toStream (std::ostream &ioOut) const`
- `virtual void fromStream (std::istream &iIn)`

## Static Public Member Functions

- `static const std::string & getLabel (const EN_EventType &)`
- `static char getTypeLabel (const EN_EventType &)`
- `static std::string getTypeLabelAsString (const EN_EventType &)`
- `static std::string describeLabels ()`

### 32.62.1 Detailed Description

Enumeration of event types.

Definition at line 15 of file [EventType.hpp](#).

### 32.62.2 Member Enumeration Documentation

#### 32.62.2.1 enum stdair::EventType::EN\_EventType

Enumerator

**BKG\_REQ**  
**CX**  
**OPT\_NOT\_4\_FD**  
**OPT\_NOT\_4\_NET**  
**SKD\_CHG**  
**SNAPSHOT**  
**RM**  
**BRK\_PT**  
**LAST\_VALUE**

Definition at line 17 of file [EventType.hpp](#).

### 32.62.3 Constructor & Destructor Documentation

#### 32.62.3.1 stdair::EventType::EventType ( const EN\_EventType & iEventType )

Constructor.

Definition at line 36 of file [EventType.cpp](#).

### 32.62.3.2 stdair::EventType::EventType ( const char *iType* )

Constructor using a char.

Definition at line 41 of file [EventType.cpp](#).

References [BKG\\_REQ](#), [BRK\\_PT](#), [CX](#), [describeLabels\(\)](#), [LAST\\_VALUE](#), [OPT\\_NOT\\_4\\_FD](#), [OPT\\_NOT\\_4\\_NET](#), [RM](#), [SKD\\_CHG](#), and [SNAPSHOT](#).

### 32.62.3.3 stdair::EventType::EventType ( const std::string & *iTypeStr* )

Constructor using a string.

Definition at line 64 of file [EventType.cpp](#).

References [describeLabels\(\)](#), and [LAST\\_VALUE](#).

### 32.62.3.4 stdair::EventType::EventType ( const EventType & *iEventType* )

Default copy constructor.

Definition at line 31 of file [EventType.cpp](#).

## 32.62.4 Member Function Documentation

### 32.62.4.1 const std::string & stdair::EventType::getLabel ( const EN\_EventType & *iType* ) [static]

Get the label as a string (e.g., "BookingRequest", "Cancellation", "OptimisationNotificationForFlightDate", "OptimisationNotificationForNetwork", "ScheduleChange", "Snapshot", "RevenueManagement", "BreakPoint" or "BookingRequest").

Definition at line 83 of file [EventType.cpp](#).

Referenced by [stdair::EventStruct::describe\(\)](#), [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#), and [stdair::BomJSONExport::jsonExportBreakPointObject\(\)](#).

### 32.62.4.2 char stdair::EventType::getTypeLabel ( const EN\_EventType & *iType* ) [static]

Get the label as a single char (e.g., 'B', 'X', 'F', 'N', 'C', 'S', 'R' or 'P').

Definition at line 88 of file [EventType.cpp](#).

### 32.62.4.3 std::string stdair::EventType::getTypeLabelAsString ( const EN\_EventType & *iType* ) [static]

Get the label as a string of a single char (e.g., "B", "X", "F", "N", "C", "S", "R" or "P").

Definition at line 93 of file [EventType.cpp](#).

### 32.62.4.4 std::string stdair::EventType::describeLabels ( ) [static]

List the labels.

Definition at line 100 of file [EventType.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [EventType\(\)](#).

### 32.62.4.5 EventType::EN\_EventType stdair::EventType::getType ( ) const

Get the enumerated value.

Definition at line 112 of file [EventType.cpp](#).

## 32.62.4.6 std::string stdair::EventType::getTypeAsString( ) const

Get the enumerated value as a short string (e.g., "B", "X", "F", "N", "C", "S", "R" or "P").

Definition at line 117 of file [EventType.cpp](#).

## 32.62.4.7 const std::string stdair::EventType::describe( ) const [virtual]

Give a description of the structure (e.g., "BookingRequest", "Cancellation", "OptimisationNotificationForFlightDate", "OptimisationNotificationForNetwork", "ScheduleChange", "Snapshot", "RevenueManagement", "BreakPoint" or " $\leftarrow$  BookingRequest").

Implements [stdair::StructAbstract](#).

Definition at line 124 of file [EventType.cpp](#).

## 32.62.4.8 bool stdair::EventType::operator==( const EN\_EventType &amp; iType ) const

Comparison operator.

Definition at line 131 of file [EventType.cpp](#).

## 32.62.4.9 void stdair::StructAbstract::toStream( std::ostream &amp; ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

## 32.62.4.10 virtual void stdair::StructAbstract::fromStream( std::istream &amp; ioIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

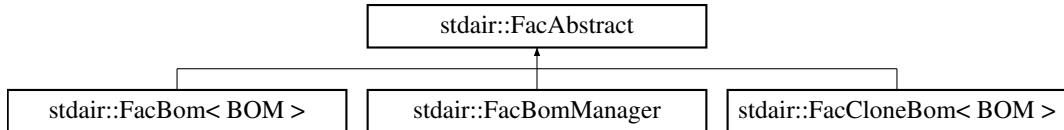
The documentation for this struct was generated from the following files:

- stdair/basic/[EventType.hpp](#)
- stdair/basic/[EventType.cpp](#)

## 32.63 stdair::FacAbstract Class Reference

```
#include <stdair/factory/FacAbstract.hpp>
```

Inheritance diagram for stdair::FacAbstract:



## Public Member Functions

- virtual [~FacAbstract \(\)](#)

## Protected Member Functions

- [FacAbstract \(\)](#)

### 32.63.1 Detailed Description

Base class for Factory layer.

Definition at line [10](#) of file [FacAbstract.hpp](#).

### 32.63.2 Constructor & Destructor Documentation

#### 32.63.2.1 stdair::FacAbstract::~FacAbstract( ) [virtual]

Destructor.

Definition at line [13](#) of file [FacAbstract.cpp](#).

#### 32.63.2.2 stdair::FacAbstract::FacAbstract( ) [inline], [protected]

Default Constructor.

This constructor is protected to ensure the class is abstract.

Definition at line [18](#) of file [FacAbstract.hpp](#).

The documentation for this class was generated from the following files:

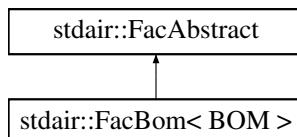
- stdair/factory/[FacAbstract.hpp](#)
- stdair/factory/[FacAbstract.cpp](#)

### 32.64 stdair::FacBom< BOM > Class Template Reference

Base class for Factory layer.

```
#include <stdair/factory/FacBom.hpp>
```

Inheritance diagram for stdair::FacBom< BOM >:



## Public Member Functions

- BOM & [create \(\)](#)
- BOM & [create \(const Key\\_T &\)](#)
- BOM & [create \(const BOM &\)](#)
- [~FacBom \(\)](#)
- void [clean \(\)](#)

## Static Public Member Functions

- static [FacBom & instance \(\)](#)

## Protected Member Functions

- [FacBom \(\)](#)

### 32.64.1 Detailed Description

`template<typename BOM>class stdair::FacBom< BOM >`

Base class for Factory layer.

Definition at line [22](#) of file [FacBom.hpp](#).

### 32.64.2 Constructor & Destructor Documentation

**32.64.2.1 template<typename BOM> stdair::FacBom< BOM >::FacBom( ) [inline], [protected]**

Default Constructor.

Definition at line [50](#) of file [FacBom.hpp](#).

**32.64.2.2 template<typename BOM> stdair::FacBom< BOM >::~FacBom( ) [inline]**

Destructor.

Definition at line [56](#) of file [FacBom.hpp](#).

References [stdair::FacBom< BOM >::clean\(\)](#).

### 32.64.3 Member Function Documentation

**32.64.3.1 template<typename BOM> FacBom< BOM > & stdair::FacBom< BOM >::instance( ) [static]**

Provide the unique instance.

The singleton is instantiated when first used.

#### Returns

[FacBom&](#)

Definition at line [84](#) of file [FacBom.hpp](#).

References [stdair::FacSupervisor::instance\(\)](#), and [stdair::FacSupervisor::registerPersistentBomFactory\(\)](#).

### 32.64.3.2 template<typename BOM > BOM & stdair::FacBom< BOM >::create ( )

Create a BOM object, given a key or not.

Definition at line 112 of file [FacBom.hpp](#).

Referenced by [stdair::FacBomManager::addBomHolder\(\)](#).

### 32.64.3.3 template<typename BOM > BOM & stdair::FacBom< BOM >::create ( const Key\_T & iKey )

Definition at line 118 of file [FacBom.hpp](#).

### 32.64.3.4 template<typename BOM > BOM & stdair::FacBom< BOM >::create ( const BOM & iBom )

Definition at line 126 of file [FacBom.hpp](#).

### 32.64.3.5 template<typename BOM > void stdair::FacBom< BOM >::clean ( )

Destroyed all the object instantiated by this factory.

Definition at line 95 of file [FacBom.hpp](#).

Referenced by [stdair::FacBom< BOM >::~FacBom\(\)](#).

The documentation for this class was generated from the following file:

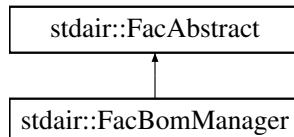
- [stdair/factory/FacBom.hpp](#)

## 32.65 stdair::FacBomManager Class Reference

Utility class for linking StdAir-based objects.

```
#include <stdair/factory/FacBomManager.hpp>
```

Inheritance diagram for stdair::FacBomManager:



### Public Member Functions

- [~FacBomManager \(\)](#)
- template->
 

```
void addToList (SegmentDate &ioSegmentDate, SegmentDate &ioMarketingSegmentDate)
```

### Static Public Member Functions

- template<typename OBJECT2 , typename OBJECT1 >
 

```
static BomHolder< OBJECT2 > * getBomHolderPtr (OBJECT1 &)
```
- template<typename OBJECT2 , typename OBJECT1 >
 

```
static BomHolder< OBJECT2 > & addBomHolder (OBJECT1 &)
```
- template<typename OBJECT1 , typename OBJECT2 >
 

```
static void addToList (OBJECT1 &, OBJECT2 &)
```
- template<typename OBJECT1 , typename OBJECT2 >
 

```
static void addToMap (OBJECT1 &, OBJECT2 &, const MapKey_T &)
```
- template<typename OBJECT1 , typename OBJECT2 >
 

```
static void addToMap (OBJECT1 &, OBJECT2 &)
```

- template<typename OBJECT1 , typename OBJECT2 >  
static void [addToListAndMap](#) (OBJECT1 &, OBJECT2 &)
- template<typename OBJECT1 , typename OBJECT2 >  
static void [addToListAndMap](#) (OBJECT1 &, OBJECT2 &, const [MapKey\\_T](#) &)
- template<typename PARENT , typename CHILD >  
static void [linkWithParent](#) (PARENT &, CHILD &)
- template<typename OBJECT2 , typename OBJECT1 >  
static void [cloneHolder](#) (OBJECT1 &, const OBJECT1 &)
- static void [resetYieldBasedNestingStructure](#) (const [SegmentCabin](#) &)
- static void [setAirlineFeature](#) ([Inventory](#) &iInventory, [AirlineFeature](#) &iAirlineFeature)
- static void [linkWithOperating](#) ([SegmentDate](#) &iSegmentDate, [SegmentDate](#) &iOperatingSegmentDate)

### Protected Member Functions

- [FacBomManager](#) ()

#### 32.65.1 Detailed Description

Utility class for linking StdAir-based objects.

Definition at line 30 of file [FacBomManager.hpp](#).

#### 32.65.2 Constructor & Destructor Documentation

##### 32.65.2.1 stdair::FacBomManager::FacBomManager( ) [inline], [protected]

Default Constructor.

This constructor is protected to comply with the singleton pattern.

Definition at line 225 of file [FacBomManager.hpp](#).

##### 32.65.2.2 stdair::FacBomManager::~FacBomManager( ) [inline]

Destructor.

Definition at line 231 of file [FacBomManager.hpp](#).

#### 32.65.3 Member Function Documentation

##### 32.65.3.1 template<typename OBJECT2 , typename OBJECT1 > [BomHolder](#)<OBJECT2>\* stdair::FacBomManager::getBomHolderPtr ( OBJECT1 & ioObject1 ) [static]

Retrieve a pointer on the holder of children (OBJECT2 type) for the parent (OBJECT1 type). If the holder does not exist, return NULL.

#### Parameters

<i>typename</i>	OBJECT1& Parent object.
-----------------	-------------------------

#### Returns

*typename BomHolder<OBJECT2>\** [BomHolder](#) for the children objects.

Definition at line 268 of file [FacBomManager.hpp](#).

32.65.3.2 template<typename OBJECT2 , typename OBJECT1 > **BomHolder< OBJECT2 >** &  
stdair::FacBomManager::addBomHolder( OBJECT1 & *ioObject1* ) [static]

Instantiate a **BomHolder<OBJECT2>** object, add it to the **OBJECT1**-typed object, given as parameter, and return a reference on that newly created [BomHolder](#).

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
-----------------	-------------------------

**Returns**

*typename* BomHolder<OBJECT2>& Just created [BomHolder](#) (e.g., for the children objects).

Definition at line [238](#) of file [FacBomManager.hpp](#).

References [stdair::FacBom< BOM >::create\(\)](#).

**32.65.3.3 template<typename OBJECT1 , typename OBJECT2 > void stdair::FacBomManager::addToList ( OBJECT1 & *ioObject1*, OBJECT2 & *ioObject2* ) [static]**

Add an OBJECT2-typed object (typically, a child) to the dedicated list held by the OBJECT1-typed object (typically, a parent).

**Note**

The underlying list is actually stored within an object of type BomHolder<OBJECT2>.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.

Definition at line [354](#) of file [FacBomManager.hpp](#).

**32.65.3.4 template<typename OBJECT1 , typename OBJECT2 > void stdair::FacBomManager::addToMap ( OBJECT1 & *ioObject1*, OBJECT2 & *ioObject2*, const MapKey\_T & *iKey* ) [static]**

Add an OBJECT2-typed object (typically, a child) to the dedicated map held by the OBJECT1-typed object (typically, a parent).

**Note**

The underlying map is actually stored within an object of type BomHolder<OBJECT2>.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.
<i>const</i>	MapKey_T&

Definition at line [424](#) of file [FacBomManager.hpp](#).

Referenced by [addToMap\(\)](#).

**32.65.3.5 template<typename OBJECT1 , typename OBJECT2 > void stdair::FacBomManager::addToMap ( OBJECT1 & *ioObject1*, OBJECT2 & *ioObject2* ) [static]**

Add an OBJECT2-typed object (typically, a child) to the dedicated map held by the OBJECT1-typed object (typically, a parent).

**Note**

The underlying map is actually stored within an object of type BomHolder<OBJECT2>.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.

Definition at line 446 of file [FacBomManager.hpp](#).

References [addToMap\(\)](#).

**32.65.3.6 template<typename OBJECT1 , typename OBJECT2 > void stdair::FacBomManager::addToListAndMap ( OBJECT1 & *ioObject1*, OBJECT2 & *ioObject2* ) [static]**

Add an OBJECT2-typed object (typically, a child) to the dedicated containers (list and map) held by the OBJECT1-typed object (typically, a parent).

**Note**

The underlying containers are actually stored within an object of type *BomHolder<OBJECT2>*.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.

Definition at line 490 of file [FacBomManager.hpp](#).

**32.65.3.7 template<typename OBJECT1 , typename OBJECT2 > void stdair::FacBomManager::addToListAndMap ( OBJECT1 & *ioObject1*, OBJECT2 & *ioObject2*, const MapKey\_T & *iKey* ) [static]**

Add an OBJECT2-typed object (typically, a child) to the dedicated containers (list and map) held by the OBJECT1-typed object (typically, a parent).

**Note**

The underlying containers are actually stored within an object of type *BomHolder<OBJECT2>*.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.
<i>const</i>	MapKey_T&

Definition at line 467 of file [FacBomManager.hpp](#).

**32.65.3.8 template<typename PARENT , typename CHILD > void stdair::FacBomManager::linkWithParent ( PARENT & *ioParent*, CHILD & *ioChild* ) [static]**

Allow the CHILD object to store a pointer on its PARENT object.

**Parameters**

<i>typename</i>	PARENT& Parent object.
<i>typename</i>	CHILD& Child object.

Definition at line 511 of file [FacBomManager.hpp](#).

Referenced by [stdair::serialiseHelper\(\)](#).

**32.65.3.9 template<typename OBJECT2 , typename OBJECT1 > void stdair::FacBomManager::cloneHolder ( OBJECT1 & *ioDest*, const OBJECT1 & *iOri* ) [static]**

Clone the underlying containers (held by the *BomHolder<OBJECT2>*-typed holder) of the OBJECT1-typed object.

**Note**

The underlying containers are actually stored within an object of type BomHolder<OBJECT2>.

**Parameters**

<i>typename</i>	OBJECT1& Parent object.
<i>typename</i>	OBJECT2& Child object.

Definition at line 519 of file [FacBomManager.hpp](#).

References [stdair::BomHolder< BOM >::\\_bomList](#), and [stdair::BomHolder< BOM >::\\_bomMap](#).

**32.65.3.10 void stdair::FacBomManager::resetYieldBasedNestingStructure ( const SegmentCabin & iSegmentCabin ) [static]**

Reset the yield-based nesting structure of a segment-cabin. This method is used with FA or MRT.

Definition at line 20 of file [FacBomManager.cpp](#).

References [stdair::BomHolder< BOM >::\\_bomList](#), [stdair::NestingNode::describeKey\(\)](#), [stdair::NestingNode::getHolderMap\(\)](#), [stdair::NestingNode::setYield\(\)](#), and [stdair::YIELD\\_BASED\\_NESTING\\_STRUCTURE\\_CODE](#).

**32.65.3.11 static void stdair::FacBomManager::setAirlineFeature ( Inventory & iInventory, AirlineFeature & iAirlineFeature ) [inline], [static]**

Set the airline feature object of an inventory.

Definition at line 205 of file [FacBomManager.hpp](#).

**32.65.3.12 static void stdair::FacBomManager::linkWithOperating ( SegmentDate & iSegmentDate, SegmentDate & iOperatingSegmentDate ) [inline], [static]**

Link the segment date with its operating segment date.

Definition at line 213 of file [FacBomManager.hpp](#).

**32.65.3.13 template<> void stdair::FacBomManager::addToList ( SegmentDate & ioSegmentDate, SegmentDate & ioMarketingSegmentDate ) [inline]**

Definition at line 539 of file [FacBomManager.hpp](#).

References [stdair::SegmentDate::\\_marketingSegmentDateList](#).

The documentation for this class was generated from the following files:

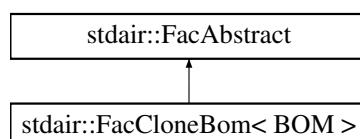
- stdair/factory/[FacBomManager.hpp](#)
- stdair/factory/[FacBomManager.cpp](#)

## 32.66 stdair::FacCloneBom< BOM > Class Template Reference

Base class for Factory layer.

```
#include <stdair/factory/FacCloneBom.hpp>
```

Inheritance diagram for stdair::FacCloneBom< BOM >:



## Public Member Functions

- BOM & [clone](#) (const BOM &)
- [~FacCloneBom](#) ()
- void [clean](#) ()

## Static Public Member Functions

- static [FacCloneBom](#) & [instance](#) ()

## Protected Member Functions

- [FacCloneBom](#) ()

### 32.66.1 Detailed Description

`template<typename BOM>class stdair::FacCloneBom< BOM >`

Base class for Factory layer.

Definition at line [22](#) of file [FacCloneBom.hpp](#).

### 32.66.2 Constructor & Destructor Documentation

**32.66.2.1 template<typename BOM > stdair::FacCloneBom< BOM >::FacCloneBom( ) [inline], [protected]**

Default Constructor.

Definition at line [48](#) of file [FacCloneBom.hpp](#).

**32.66.2.2 template<typename BOM > stdair::FacCloneBom< BOM >::~FacCloneBom( ) [inline]**

Destructor.

Definition at line [54](#) of file [FacCloneBom.hpp](#).

References [stdair::FacCloneBom< BOM >::clean\(\)](#).

### 32.66.3 Member Function Documentation

**32.66.3.1 template<typename BOM > FacCloneBom< BOM > & stdair::FacCloneBom< BOM >::instance( ) [static]**

Provide the unique instance.

The singleton is instantiated when first used.

#### Returns

[FacCloneBom](#)&

Definition at line [82](#) of file [FacCloneBom.hpp](#).

References [stdair::FacSupervisor::instance\(\)](#), and [stdair::FacSupervisor::registerCloneBomFactory\(\)](#).

32.66.3.2 template<typename BOM > BOM & stdair::FacCloneBom< BOM >::clone ( const BOM & *iBom* )

Clone a BOM object.

Definition at line 110 of file [FacCloneBom.hpp](#).

32.66.3.3 template<typename BOM > void stdair::FacCloneBom< BOM >::clean ( )

Destroyed all the object instantiated by this factory.

Definition at line 93 of file [FacCloneBom.hpp](#).

Referenced by [stdair::FacCloneBom< BOM >::~FacCloneBom\(\)](#).

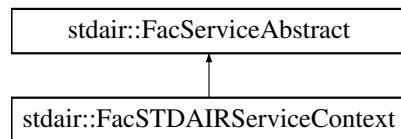
The documentation for this class was generated from the following file:

- stdair/factory/[FacCloneBom.hpp](#)

## 32.67 stdair::FacServiceAbstract Class Reference

```
#include <stdair/service/FacServiceAbstract.hpp>
```

Inheritance diagram for stdair::FacServiceAbstract:



### Public Types

- `typedef std::vector< ServiceAbstract * > ServicePool_T`

### Public Member Functions

- `virtual ~FacServiceAbstract ()`
- `void clean ()`

### Protected Member Functions

- `FacServiceAbstract ()`

### Protected Attributes

- `ServicePool_T _pool`

#### 32.67.1 Detailed Description

Base class for the (Service) Factory layer.

Definition at line 16 of file [FacServiceAbstract.hpp](#).

### 32.67.2 Member Typedef Documentation

#### 32.67.2.1 `typedef std::vector<ServiceAbstract*> stdair::FacServiceAbstract::ServicePool_T`

Define the list (pool) of Service objects.

Definition at line 20 of file [FacServiceAbstract.hpp](#).

### 32.67.3 Constructor & Destructor Documentation

#### 32.67.3.1 `stdair::FacServiceAbstract::~FacServiceAbstract( ) [virtual]`

Destructor.

Definition at line 13 of file [FacServiceAbstract.cpp](#).

References [clean\(\)](#).

#### 32.67.3.2 `stdair::FacServiceAbstract::FacServiceAbstract( ) [inline], [protected]`

Default Constructor.

This constructor is protected to ensure the class is abstract.

Definition at line 31 of file [FacServiceAbstract.hpp](#).

### 32.67.4 Member Function Documentation

#### 32.67.4.1 `void stdair::FacServiceAbstract::clean( )`

Destroyed all the object instantiated by this factory.

Definition at line 18 of file [FacServiceAbstract.cpp](#).

References [\\_pool](#).

Referenced by [~FacServiceAbstract\(\)](#).

### 32.67.5 Member Data Documentation

#### 32.67.5.1 `ServicePool_T stdair::FacServiceAbstract::_pool [protected]`

List of instantiated Business Objects

Definition at line 34 of file [FacServiceAbstract.hpp](#).

Referenced by [clean\(\)](#), and [stdair::FacSTDAIRServiceContext::create\(\)](#).

The documentation for this class was generated from the following files:

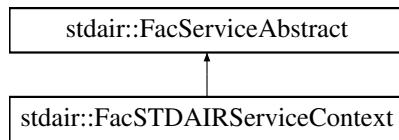
- stdair/service/[FacServiceAbstract.hpp](#)
- stdair/service/[FacServiceAbstract.cpp](#)

## 32.68 stdair::FacSTDAIRServiceContext Class Reference

Factory for [Bucket](#).

```
#include <stdair/service/FacSTDAIRServiceContext.hpp>
```

Inheritance diagram for stdair::FacSTDAIRServiceContext:



## Public Types

- `typedef std::vector< ServiceAbstract * > ServicePool_T`

## Public Member Functions

- `~FacSTDAIRServiceContext ()`
- `STDAIR_ServiceContext & create ()`
- `void clean ()`

## Static Public Member Functions

- `static FacSTDAIRServiceContext & instance ()`

## Protected Member Functions

- `FacSTDAIRServiceContext ()`

## Protected Attributes

- `ServicePool_T _pool`

### 32.68.1 Detailed Description

Factory for [Bucket](#).

Definition at line 18 of file [FacSTDAIRServiceContext.hpp](#).

### 32.68.2 Member Typedef Documentation

#### 32.68.2.1 `typedef std::vector<ServiceAbstract*> stdair::FacServiceAbstract::ServicePool_T [inherited]`

Define the list (pool) of Service objects.

Definition at line 20 of file [FacServiceAbstract.hpp](#).

### 32.68.3 Constructor & Destructor Documentation

#### 32.68.3.1 `stdair::FacSTDAIRServiceContext::~FacSTDAIRServiceContext( )`

Destructor.

The Destruction put the `_instance` to NULL in order to be clean for the next [FacSTDAIRServiceContext::instance\(\)](#).

Definition at line 16 of file [FacSTDAIRServiceContext.cpp](#).

### 32.68.3.2 stdair::FacSTDAIRServiceContext::FacSTDAIRServiceContext( ) [inline], [protected]

Default Constructor.

This constructor is protected in order to ensure the singleton pattern.

Definition at line 54 of file [FacSTDAIRServiceContext.hpp](#).

Referenced by [instance\(\)](#).

## 32.68.4 Member Function Documentation

### 32.68.4.1 FacSTDAIRServiceContext & stdair::FacSTDAIRServiceContext::instance( ) [static]

Provide the unique instance.

The singleton is instantiated when first used.

Returns

[FacSTDAIRServiceContext&](#)

Definition at line 21 of file [FacSTDAIRServiceContext.cpp](#).

References [FacSTDAIRServiceContext\(\)](#), [stdair::FacSupervisor::instance\(\)](#), and [stdair::FacSupervisor::registerServiceFactory\(\)](#).

### 32.68.4.2 STDAIR\_ServiceContext & stdair::FacSTDAIRServiceContext::create( )

Create a new [STDAIR\\_ServiceContext](#) object.

This new object is added to the list of instantiated objects.

Returns

[STDAIR\\_ServiceContext&](#) The newly created object.

Definition at line 33 of file [FacSTDAIRServiceContext.cpp](#).

References [stdair::FacServiceAbstract::\\_pool](#).

### 32.68.4.3 void stdair::FacServiceAbstract::clean( ) [inherited]

Destroyed all the object instantiated by this factory.

Definition at line 18 of file [FacServiceAbstract.cpp](#).

References [stdair::FacServiceAbstract::\\_pool](#).

Referenced by [stdair::FacServiceAbstract::~FacServiceAbstract\(\)](#).

## 32.68.5 Member Data Documentation

### 32.68.5.1 ServicePool\_T stdair::FacServiceAbstract::\_pool [protected], [inherited]

List of instantiated Business Objects

Definition at line 34 of file [FacServiceAbstract.hpp](#).

Referenced by [stdair::FacServiceAbstract::clean\(\)](#), and [create\(\)](#).

The documentation for this class was generated from the following files:

- stdair/service/[FacSTDAIRServiceContext.hpp](#)
- stdair/service/[FacSTDAIRServiceContext.cpp](#)

## 32.69 stdair::FacSupervisor Class Reference

```
#include <stdair/service/FacSupervisor.hpp>
```

### Public Types

- `typedef std::list< FacAbstract * > PersistentBomFactoryPool_T`
- `typedef std::list< FacAbstract * > CloneBomFactoryPool_T`
- `typedef std::list< FacServiceAbstract * > ServiceFactoryPool_T`

### Public Member Functions

- `void registerPersistentBomFactory (FacAbstract *)`
- `void registerCloneBomFactory (FacAbstract *)`
- `void registerServiceFactory (FacServiceAbstract *)`
- `void cleanPersistentBomLayer ()`
- `void cleanCloneBomLayer ()`
- `void cleanServiceLayer ()`
- `~FacSupervisor ()`

### Static Public Member Functions

- `static FacSupervisor & instance ()`
- `static void cleanLoggerService ()`
- `static void cleanDBSessionManager ()`
- `static void cleanAll ()`

### Protected Member Functions

- `FacSupervisor ()`
- `FacSupervisor (const FacSupervisor &)`

#### 32.69.1 Detailed Description

Singleton class to register and clean all Factories.

Definition at line 20 of file [FacSupervisor.hpp](#).

#### 32.69.2 Member Typedef Documentation

##### 32.69.2.1 `typedef std::list<FacAbstract*> stdair::FacSupervisor::PersistentBomFactoryPool_T`

Define the pool (list) of factories.

Definition at line 25 of file [FacSupervisor.hpp](#).

##### 32.69.2.2 `typedef std::list<FacAbstract*> stdair::FacSupervisor::CloneBomFactoryPool_T`

Definition at line 26 of file [FacSupervisor.hpp](#).

##### 32.69.2.3 `typedef std::list<FacServiceAbstract*> stdair::FacSupervisor::ServiceFactoryPool_T`

Definition at line 27 of file [FacSupervisor.hpp](#).

### 32.69.3 Constructor & Destructor Documentation

#### 32.69.3.1 stdair::FacSupervisor::~FacSupervisor( )

Destructor.

That destructors is applied on the static instance. It then deletes in turn all the other registered objects.

Definition at line 27 of file [FacSupervisor.cpp](#).

References [cleanCloneBomLayer\(\)](#), [cleanPersistentBomLayer\(\)](#), and [cleanServiceLayer\(\)](#).

#### 32.69.3.2 stdair::FacSupervisor::FacSupervisor( ) [inline], [protected]

Default Constructor.

This constructor is protected to ensure the singleton pattern.

Definition at line 120 of file [FacSupervisor.hpp](#).

Referenced by [instance\(\)](#).

#### 32.69.3.3 stdair::FacSupervisor::FacSupervisor( const FacSupervisor & ) [inline], [protected]

Definition at line 121 of file [FacSupervisor.hpp](#).

### 32.69.4 Member Function Documentation

#### 32.69.4.1 FacSupervisor & stdair::FacSupervisor::instance( ) [static]

Provide the unique (static) instance of the [FacSupervisor](#) object.

The singleton is instantiated when first used.

##### Returns

[FacSupervisor&](#)

Definition at line 18 of file [FacSupervisor.cpp](#).

References [FacSupervisor\(\)](#).

Referenced by [stdair::STDAIR\\_Service::clonePersistentBom\(\)](#), [stdair::FacSTDAIRServiceContext::instance\(\)](#), [stdair::FacBom< BOM >::instance\(\)](#), and [stdair::FacCloneBom< BOM >::instance\(\)](#).

#### 32.69.4.2 void stdair::FacSupervisor::registerPersistentBomFactory( [FacAbstract](#) \* *ioFac\_ptr* )

Register a newly instantiated persistent factory for the Bom layer.

When a concrete Factory is firstly instantiated this factory have to register itself to the [FacSupervisor](#)

##### Parameters

<i>FacAbstract*</i>	The concrete Factory to register.
---------------------	-----------------------------------

Definition at line 34 of file [FacSupervisor.cpp](#).

Referenced by [stdair::FacBom< BOM >::instance\(\)](#).

#### 32.69.4.3 void stdair::FacSupervisor::registerCloneBomFactory( [FacAbstract](#) \* *ioFac\_ptr* )

Register a newly instantiated concrete factory for the Bom layer.

When a concrete Factory is firstly instantiated this factory have to register itself to the [FacSupervisor](#)

**Parameters**

<i>FacAbstract*</i>	The concrete Factory to register.
---------------------	-----------------------------------

Definition at line 39 of file [FacSupervisor.cpp](#).

Referenced by [stdair::FacCloneBom< BOM >::instance\(\)](#).

**32.69.4.4 void stdair::FacSupervisor::registerServiceFactory ( *FacServiceAbstract \* ioFac\_ptr* )**

Register a newly instantiated concrete factory for the Service layer.

When a concrete Factory is firstly instantiated this factory have to register itself to the [FacSupervisor](#).

**Parameters**

<i>FacServiceAbstract&amp;</i>	the concrete Factory to register.
--------------------------------	-----------------------------------

Definition at line 44 of file [FacSupervisor.cpp](#).

Referenced by [stdair::FacSTDAIRServiceContext::instance\(\)](#).

**32.69.4.5 void stdair::FacSupervisor::cleanPersistentBomLayer ( )**

Clean all the persistent registered object.

Call the clean method of all the instantiated persistent factories for the BomStructure layer.

Definition at line 49 of file [FacSupervisor.cpp](#).

Referenced by [~FacSupervisor\(\)](#).

**32.69.4.6 void stdair::FacSupervisor::cleanCloneBomLayer ( )**

Clean all the clone registered object.

Call the clean method of all the instantiated factories for the BomStructure layer.

Definition at line 62 of file [FacSupervisor.cpp](#).

Referenced by [stdair::STDAIR\\_Service::clonePersistentBom\(\)](#), and [~FacSupervisor\(\)](#).

**32.69.4.7 void stdair::FacSupervisor::cleanServiceLayer ( )**

Clean all Service created object.

Call the clean method of all the instantiated factories for the Service layer.

Definition at line 76 of file [FacSupervisor.cpp](#).

Referenced by [~FacSupervisor\(\)](#).

**32.69.4.8 void stdair::FacSupervisor::cleanLoggerService ( ) [static]**

Delete the static instance of the [Logger](#) object.

Definition at line 90 of file [FacSupervisor.cpp](#).

Referenced by [cleanAll\(\)](#).

**32.69.4.9 void stdair::FacSupervisor::cleanDBSessionManager ( ) [static]**

Delete the static instance of the [DBSessionManager](#) object.

Definition at line 96 of file [FacSupervisor.cpp](#).

Referenced by [cleanAll\(\)](#).

### 32.69.4.10 void stdair::FacSupervisor::cleanAll( ) [static]

Clean the static instance. As the static instance (singleton) is deleted, all the other registered objects will be deleted in turn.

Definition at line 102 of file [FacSupervisor.cpp](#).

References [cleanDBSessionManager\(\)](#), and [cleanLoggerService\(\)](#).

The documentation for this class was generated from the following files:

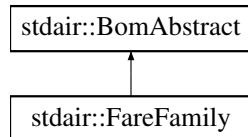
- [stdair/service/FacSupervisor.hpp](#)
- [stdair/service/FacSupervisor.cpp](#)

## 32.70 stdair::FareFamily Class Reference

Class representing the actual attributes for a family fare.

```
#include <stdair/bom/FareFamily.hpp>
```

Inheritance diagram for stdair::FareFamily:



### Public Types

- [typedef FareFamilyKey Key\\_T](#)

### Public Member Functions

- const [Key\\_T & getKey\(\)](#) const
- [BomAbstract \\*const getParent\(\)](#) const
- const [FamilyCode\\_T & getFamilyCode\(\)](#) const
- const [HolderMap\\_T & getHolderMap\(\)](#) const
- const [FRAT5Curve\\_T & getFrat5Curve\(\)](#) const
- const [FFDisutilityCurve\\_T & getDisutilityCurve\(\)](#) const
- const [MeanValue\\_T & getMean\(\)](#) const
- const [StdDevValue\\_T & getStdDev\(\)](#) const
- const [MeanStdDevPairVector\\_T & getMeanStdDev\(\)](#) const
- void [setFrat5Curve\(const FRAT5Curve\\_T &iFrat5Curve\)](#)
- void [setDisutilityCurve\(const FFDisutilityCurve\\_T &iDisutilityCurve\)](#)
- void [setMean\(const MeanValue\\_T &iMean\)](#)
- void [setStdDev\(const StdDevValue\\_T &iStdDev\)](#)
- void [setMeanStdDev\(const MeanStdDevPairVector\\_T &iMeanStdDev\)](#)
- void [toStream\(std::ostream &ioOut\)](#) const
- void [fromStream\(std::istream &ioln\)](#)
- std::string [toString\(\)](#) const
- const std::string [describeKey\(\)](#) const
- template<class Archive>
 void [serialize\(Archive &ar, const unsigned int iFileVersion\)](#)

## Public Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `FRAT5Curve_T _frat5Curve`
- `FFDisutilityCurve_T _disutilityCurve`
- `MeanValue_T _mean`
- `StdDevValue_T _stdDev`
- `MeanStdDevPairVector_T _meanStdDev`

## Protected Member Functions

- `FareFamily (const Key_T &)`
- `virtual ~FareFamily ()`

## Friends

- `template<typename BOM >`  
`class FacBom`
- `template<typename BOM >`  
`class FacCloneBom`
- `class FacBomManager`
- `class boost::serialization::access`

### 32.70.1 Detailed Description

Class representing the actual attributes for a family fare.

Definition at line 28 of file [FareFamily.hpp](#).

### 32.70.2 Member Typedef Documentation

#### 32.70.2.1 `typedef FareFamilyKey stdair::FareFamily::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 39 of file [FareFamily.hpp](#).

### 32.70.3 Constructor & Destructor Documentation

#### 32.70.3.1 `stdair::FareFamily::FareFamily ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line 32 of file [FareFamily.cpp](#).

#### 32.70.3.2 `stdair::FareFamily::~FareFamily ( ) [protected], [virtual]`

Destructor.

Definition at line 36 of file [FareFamily.cpp](#).

### 32.70.4 Member Function Documentation

32.70.4.1 `const Key_T& stdair::FareFamily::getKey( ) const [inline]`

Get the family fare key.

Definition at line 45 of file [FareFamily.hpp](#).

References [\\_key](#).

32.70.4.2 `BomAbstract* const stdair::FareFamily::getParent( ) const [inline]`

Get the parent object.

Definition at line 50 of file [FareFamily.hpp](#).

References [\\_parent](#).

32.70.4.3 `const FamilyCode_T& stdair::FareFamily::getFamilyCode( ) const [inline]`

Get the family fare code (part of the primary key).

Definition at line 55 of file [FareFamily.hpp](#).

References [\\_key](#), and [stdair::FareFamilyKey::getFamilyCode\(\)](#).

32.70.4.4 `const HolderMap_T& stdair::FareFamily::getHolderMap( ) const [inline]`

Get the map of children holders.

Definition at line 60 of file [FareFamily.hpp](#).

References [\\_holderMap](#).

32.70.4.5 `const FRAT5Curve_T& stdair::FareFamily::getFrat5Curve( ) const [inline]`

Get the FRAT5 Curve.

Definition at line 65 of file [FareFamily.hpp](#).

References [\\_frat5Curve](#).

32.70.4.6 `const FFDisutilityCurve_T& stdair::FareFamily::getDisutilityCurve( ) const [inline]`

Get the Disutility Curve.

Definition at line 70 of file [FareFamily.hpp](#).

References [\\_disutilityCurve](#).

32.70.4.7 `const MeanValue_T& stdair::FareFamily::getMean( ) const [inline]`

Demand distribution.

Definition at line 75 of file [FareFamily.hpp](#).

References [\\_mean](#).

32.70.4.8 `const StdDevValue_T& stdair::FareFamily::getStdDev( ) const [inline]`

Definition at line 76 of file [FareFamily.hpp](#).

References [\\_stdDev](#).

32.70.4.9 `const MeanStdDevPairVector_T& stdair::FareFamily::getMeanStdDev( ) const [inline]`

Demand distribution.

Definition at line 79 of file [FareFamily.hpp](#).

References [\\_meanStdDev](#).

32.70.4.10 void stdair::FareFamily::setFrat5Curve ( const **FRAT5Curve\_T** & *iFRAT5Curve* ) [inline]

FRAT5 Curve.

Definition at line 85 of file [FareFamily.hpp](#).

References [\\_frat5Curve](#).

32.70.4.11 void stdair::FareFamily::setDisutilityCurve ( const **FFDisutilityCurve\_T** & *iDisutilityCurve* ) [inline]

Disutility Curve.

Definition at line 90 of file [FareFamily.hpp](#).

References [\\_disutilityCurve](#).

32.70.4.12 void stdair::FareFamily::setMean ( const **MeanValue\_T** & *iMean* ) [inline]

Demand distribution.

Definition at line 95 of file [FareFamily.hpp](#).

References [\\_mean](#).

32.70.4.13 void stdair::FareFamily::setStdDev ( const **StdDevValue\_T** & *iStdDev* ) [inline]

Definition at line 96 of file [FareFamily.hpp](#).

References [\\_stdDev](#).

32.70.4.14 void stdair::FareFamily::setMeanStdDev ( const **MeanStdDevPairVector\_T** & *iMeanStdDev* ) [inline]

Demand distribution.

Definition at line 99 of file [FareFamily.hpp](#).

References [\\_meanStdDev](#).

32.70.4.15 void stdair::FareFamily::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 111 of file [FareFamily.hpp](#).

References [toString\(\)](#).

32.70.4.16 void stdair::FareFamily::fromStream ( std::istream & *ioIn* ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 120 of file [FareFamily.hpp](#).

32.70.4.17 std::string stdair::FareFamily::toString ( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 40 of file [FareFamily.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

**32.70.4.18 const std::string stdair::FareFamily::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line 131 of file [FareFamily.hpp](#).

References [\\_key](#), and [stdair::FareFamilyKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.70.4.19 template<class Archive> void stdair::FareFamily::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 62 of file [FareFamily.cpp](#).

References [\\_key](#).

## 32.70.5 Friends And Related Function Documentation

**32.70.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line 29 of file [FareFamily.hpp](#).

**32.70.5.2 template<typename BOM> friend class FacCloneBom [friend]**

Definition at line 30 of file [FareFamily.hpp](#).

**32.70.5.3 friend class FacBomManager [friend]**

Definition at line 31 of file [FareFamily.hpp](#).

**32.70.5.4 friend class boost::serialization::access [friend]**

Definition at line 32 of file [FareFamily.hpp](#).

## 32.70.6 Member Data Documentation

**32.70.6.1 Key\_T stdair::FareFamily::\_key**

Primary key (fare family code).

Definition at line 184 of file [FareFamily.hpp](#).

Referenced by [describeKey\(\)](#), [getFamilyCode\(\)](#), [getKey\(\)](#), and [serialize\(\)](#).

**32.70.6.2 BomAbstract\* stdair::FareFamily::\_parent**

Pointer on the parent class ([SegmentCabin](#)).

Definition at line 189 of file [FareFamily.hpp](#).

Referenced by [getParent\(\)](#).

**32.70.6.3 HolderMap\_T stdair::FareFamily::\_holderMap**

Map holding the children ([BookingClass](#) objects).

Definition at line 194 of file [FareFamily.hpp](#).

Referenced by [getHolderMap\(\)](#).

#### 32.70.6.4 FRAT5Curve\_T stdair::FareFamily::\_frat5Curve

The associated FRAT5 curve.

Definition at line 199 of file [FareFamily.hpp](#).

Referenced by [getFrat5Curve\(\)](#), and [setFrat5Curve\(\)](#).

#### 32.70.6.5 FFDisutilityCurve\_T stdair::FareFamily::\_disutilityCurve

The associated disutility for the next higher fare family.

Definition at line 204 of file [FareFamily.hpp](#).

Referenced by [getDisutilityCurve\(\)](#), and [setDisutilityCurve\(\)](#).

#### 32.70.6.6 MeanValue\_T stdair::FareFamily::\_mean

Demand distribution forecast.

Definition at line 207 of file [FareFamily.hpp](#).

Referenced by [getMean\(\)](#), and [setMean\(\)](#).

#### 32.70.6.7 StdDevValue\_T stdair::FareFamily::\_stdDev

Definition at line 208 of file [FareFamily.hpp](#).

Referenced by [getStdDev\(\)](#), and [setStdDev\(\)](#).

#### 32.70.6.8 MeanStdDevPairVector\_T stdair::FareFamily::\_meanStdDev

Achievable demand distribution forecast.

Definition at line 213 of file [FareFamily.hpp](#).

Referenced by [getMeanStdDev\(\)](#), and [setMeanStdDev\(\)](#).

The documentation for this class was generated from the following files:

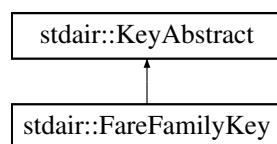
- stdair/bom/[FareFamily.hpp](#)
- stdair/bom/[FareFamily.cpp](#)

## 32.71 stdair::FareFamilyKey Struct Reference

Key of a given fare family, made of a fare family code.

```
#include <stdair/bom/FareFamilyKey.hpp>
```

Inheritance diagram for stdair::FareFamilyKey:



### Public Member Functions

- [FareFamilyKey](#) (const [FamilyCode\\_T](#) &iFamilyCode)

- `FareFamilyKey` (`const FareFamilyKey &`)
- `~FareFamilyKey` ()
- `const FamilyCode_T & getFamilyCode () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string toString () const`
- template<class Archive>  
`void serialize (Archive &ar, const unsigned int iFileVersion)`

## Friends

- class `boost::serialization::access`

### 32.71.1 Detailed Description

Key of a given fare family, made of a fare family code.

Definition at line [26](#) of file `FareFamilyKey.hpp`.

### 32.71.2 Constructor & Destructor Documentation

#### 32.71.2.1 `stdair::FareFamilyKey::FareFamilyKey ( const FamilyCode_T & iFamilyCode )`

Constructor.

Definition at line [28](#) of file `FareFamilyKey.cpp`.

#### 32.71.2.2 `stdair::FareFamilyKey::FareFamilyKey ( const FareFamilyKey & iFareFamilyKey )`

Copy constructor.

Definition at line [23](#) of file `FareFamilyKey.cpp`.

#### 32.71.2.3 `stdair::FareFamilyKey::~FareFamilyKey ( )`

Destructor.

Definition at line [33](#) of file `FareFamilyKey.cpp`.

### 32.71.3 Member Function Documentation

#### 32.71.3.1 `const FamilyCode_T& stdair::FareFamilyKey::getFamilyCode ( ) const [inline]`

Get the family code.

Definition at line [56](#) of file `FareFamilyKey.hpp`.

Referenced by `stdair::FareFamily::getFamilyCode()`.

#### 32.71.3.2 `void stdair::FareFamilyKey::toStream ( std::ostream & ioOut ) const [virtual]`

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from `stdair::KeyAbstract`.

Definition at line [37](#) of file `FareFamilyKey.cpp`.

References `toString()`.

32.71.3.3 void stdair::FareFamilyKey::fromStream ( std::istream & *iOlN* ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [FareFamilyKey.cpp](#).

## 32.71.3.4 const std::string stdair::FareFamilyKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [46](#) of file [FareFamilyKey.cpp](#).

Referenced by [stdair::FareFamily::describeKey\(\)](#), and [toStream\(\)](#).

32.71.3.5 template<class Archive> void stdair::FareFamilyKey::serialize ( Archive & *ar*, const unsigned int *iFileVersion* )

Serialisation.

Definition at line [68](#) of file [FareFamilyKey.cpp](#).

## 32.71.4 Friends And Related Function Documentation

## 32.71.4.1 friend class boost::serialization::access [friend]

Definition at line [27](#) of file [FareFamilyKey.hpp](#).

The documentation for this struct was generated from the following files:

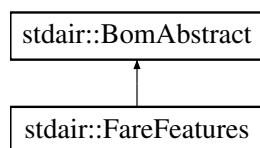
- stdair/bom/[FareFamilyKey.hpp](#)
- stdair/bom/[FareFamilyKey.cpp](#)

## 32.72 stdair::FareFeatures Class Reference

Class representing the actual attributes for a fare date-period.

```
#include <stdair/bom/FareFeatures.hpp>
```

Inheritance diagram for stdair::FareFeatures:



### Public Types

- [typedef FareFeaturesKey Key\\_T](#)

## Public Member Functions

- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &ioln)
- std::string `toString` () const
- const std::string `describeKey` () const
- const `Key_T` & `getKey` () const
- `BomAbstract` \*const `getParent` () const
- const `HolderMap_T` & `getHolderMap` () const
- const `TripType_T` & `getTripType` () const
- const `DayDuration_T` & `getAdvancePurchase` () const
- const `SaturdayStay_T` & `getSaturdayStay` () const
- const `ChangeFees_T` & `getChangeFees` () const
- const `NonRefundable_T` & `getRefundableOption` () const
- const `DayDuration_T` & `getMinimumStay` () const
- bool `isTripTypeValid` (const `TripType_T` &) const
- bool `isStayDurationValid` (const `DayDuration_T` &) const
- bool `isAdvancePurchaseValid` (const `DateTIme_T` &iBookingRequestDateTIme, const `DateTIme_T` &iFlight←  
DateTIme) const

## Protected Member Functions

- `FareFeatures` (const `Key_T` &)
- virtual ~`FareFeatures` ()

## Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`

## Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.72.1 Detailed Description

Class representing the actual attributes for a fare date-period.

Definition at line 18 of file `FareFeatures.hpp`.

### 32.72.2 Member Typedef Documentation

#### 32.72.2.1 `typedef FareFeaturesKey stdair::FareFeatures::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 28 of file `FareFeatures.hpp`.

## 32.72.3 Constructor &amp; Destructor Documentation

32.72.3.1 stdair::FareFeatures::FareFeatures ( const Key\_T & iKey ) [protected]

Main constructor.

Definition at line 33 of file [FareFeatures.cpp](#).

32.72.3.2 stdair::FareFeatures::~FareFeatures ( ) [protected], [virtual]

Destructor.

Definition at line 38 of file [FareFeatures.cpp](#).

## 32.72.4 Member Function Documentation

32.72.4.1 void stdair::FareFeatures::toStream ( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 37 of file [FareFeatures.hpp](#).

References [toString\(\)](#).

32.72.4.2 void stdair::FareFeatures::fromStream ( std::istream & ioIn ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 46 of file [FareFeatures.hpp](#).

32.72.4.3 std::string stdair::FareFeatures::toString ( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 42 of file [FareFeatures.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

32.72.4.4 const std::string stdair::FareFeatures::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line 57 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::toString\(\)](#).

Referenced by [toString\(\)](#).

32.72.4.5 const Key\_T& stdair::FareFeatures::getKey ( ) const [inline]

Get the primary key (trip type, advance purchase,... ,cabin code).

Definition at line 67 of file [FareFeatures.hpp](#).

References [\\_key](#).

**32.72.4.6 `BomAbstract* const stdair::FareFeatures::getParent( ) const [inline]`**

Get a reference on the parent object instance.

Definition at line 74 of file [FareFeatures.hpp](#).

References [\\_parent](#).

**32.72.4.7 `const HolderMap_T& stdair::FareFeatures::getHolderMap( ) const [inline]`**

Get a reference on the children holder.

Definition at line 81 of file [FareFeatures.hpp](#).

References [\\_holderMap](#).

**32.72.4.8 `const TripType_T& stdair::FareFeatures::getTripType( ) const [inline]`**

Get the trip type.

Definition at line 88 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getTripType\(\)](#).

Referenced by [isTripTypeValid\(\)](#).

**32.72.4.9 `const DayDuration_T& stdair::FareFeatures::getAdvancePurchase( ) const [inline]`**

Get the fare day duration.

Definition at line 95 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getAdvancePurchase\(\)](#).

Referenced by [isAdvancePurchaseValid\(\)](#).

**32.72.4.10 `const SaturdayStay_T& stdair::FareFeatures::getSaturdayStay( ) const [inline]`**

Get the fare saturday stay option.

Definition at line 102 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getSaturdayStay\(\)](#).

**32.72.4.11 `const ChangeFees_T& stdair::FareFeatures::getChangeFees( ) const [inline]`**

Get the change fees criterion.

Definition at line 109 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getChangeFees\(\)](#).

**32.72.4.12 `const NonRefundable_T& stdair::FareFeatures::getRefundableOption( ) const [inline]`**

Get the refundable option.

Definition at line 116 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getRefundableOption\(\)](#).

**32.72.4.13 `const DayDuration_T& stdair::FareFeatures::getMinimumStay( ) const [inline]`**

Get the minimum stay.

Definition at line 123 of file [FareFeatures.hpp](#).

References [\\_key](#), and [stdair::FareFeaturesKey::getMinimumStay\(\)](#).

Referenced by [isStayDurationValid\(\)](#).

#### 32.72.4.14 bool stdair::FareFeatures::isTripTypeValid ( const TripType\_T & iBookingRequestTripType ) const

Check whether the fare rule trip type corresponds to the booking request trip type.

Definition at line [50](#) of file [FareFeatures.cpp](#).

References [getTripType\(\)](#), [stdair::TRIP\\_TYPE\\_INBOUND](#), [stdair::TRIP\\_TYPE\\_OUTBOUND](#), and [stdair::TRIP\\_TYPE\\_ROUND\\_TRIP](#).

#### 32.72.4.15 bool stdair::FareFeatures::isStayDurationValid ( const DayDuration\_T & iStayDuration ) const

Check whether a given stay duration is greater or equal to the minimum stay of the fare rule.

Definition at line [75](#) of file [FareFeatures.cpp](#).

References [getMinimumStay\(\)](#).

#### 32.72.4.16 bool stdair::FareFeatures::isAdvancePurchaseValid ( const DateTime\_T & iBookingRequestDateTime, const DateTime\_T & iFlightDateTime ) const

Check whether a booking request date is valid compared the required advance purchase number of days of the fare rule.

Definition at line [88](#) of file [FareFeatures.cpp](#).

References [getAdvancePurchase\(\)](#).

### 32.72.5 Friends And Related Function Documentation

#### 32.72.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line [19](#) of file [FareFeatures.hpp](#).

#### 32.72.5.2 template<typename BOM> friend class FacCloneBom [friend]

Definition at line [20](#) of file [FareFeatures.hpp](#).

#### 32.72.5.3 friend class FacBomManager [friend]

Definition at line [21](#) of file [FareFeatures.hpp](#).

### 32.72.6 Member Data Documentation

#### 32.72.6.1 Key\_T stdair::FareFeatures::\_key [protected]

Primary key (flight number and departure date).

Definition at line [176](#) of file [FareFeatures.hpp](#).

Referenced by [describeKey\(\)](#), [getAdvancePurchase\(\)](#), [getChangeFees\(\)](#), [getKey\(\)](#), [getMinimumStay\(\)](#), [getRefundableOption\(\)](#), [getSaturdayStay\(\)](#), and [getTripType\(\)](#).

#### 32.72.6.2 BomAbstract\* stdair::FareFeatures::\_parent [protected]

Pointer on the parent class.

Definition at line [181](#) of file [FareFeatures.hpp](#).

Referenced by [getParent\(\)](#).

### 32.72.6.3 HolderMap\_T stdair::FareFeatures::\_holderMap [protected]

Map holding the children.

Definition at line 186 of file [FareFeatures.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

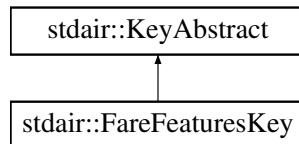
- stdair/bom/[FareFeatures.hpp](#)
- stdair/bom/[FareFeatures.cpp](#)

## 32.73 stdair::FareFeaturesKey Struct Reference

Key of date-period.

#include <stdair/bom/FareFeaturesKey.hpp>

Inheritance diagram for stdair::FareFeaturesKey:



### Public Member Functions

- [FareFeaturesKey](#) (const [TripType\\_T](#) &, const [DayDuration\\_T](#) &, const [SaturdayStay\\_T](#) &, const [ChangeFees\\_T](#) &, const [NonRefundable\\_T](#) &, const [DayDuration\\_T](#) &)
- [FareFeaturesKey](#) (const [FareFeaturesKey](#) &)
- [~FareFeaturesKey](#) ()
- const [TripType\\_T](#) & [getTripType](#) () const
- const [DayDuration\\_T](#) & [getAdvancePurchase](#) () const
- const [SaturdayStay\\_T](#) & [getSaturdayStay](#) () const
- const [ChangeFees\\_T](#) & [getChangeFees](#) () const
- const [NonRefundable\\_T](#) & [getRefundableOption](#) () const
- const [DayDuration\\_T](#) & [getMinimumStay](#) () const
- void [toStream](#) (std::ostream &iOOut) const
- void [fromStream](#) (std::istream &iOIIn)
- const std::string [toString](#) () const

### 32.73.1 Detailed Description

Key of date-period.

Definition at line 18 of file [FareFeaturesKey.hpp](#).

### 32.73.2 Constructor & Destructor Documentation

#### 32.73.2.1 stdair::FareFeaturesKey::FareFeaturesKey ( const [TripType\\_T](#) & *iTripType*, const [DayDuration\\_T](#) & *iAdvancePurchase*, const [SaturdayStay\\_T](#) & *iSaturdayStay*, const [ChangeFees\\_T](#) & *iChangeFees*, const [NonRefundable\\_T](#) & *iNonRefundable*, const [DayDuration\\_T](#) & *iMinimumStay* )

Main constructor.

Definition at line 26 of file [FareFeaturesKey.cpp](#).

## 32.73.2.2 stdair::FareFeaturesKey::FareFeaturesKey ( const FareFeaturesKey &amp; iKey )

Copy constructor.

Definition at line 38 of file [FareFeaturesKey.cpp](#).

## 32.73.2.3 stdair::FareFeaturesKey::~FareFeaturesKey ( )

Destructor.

Definition at line 48 of file [FareFeaturesKey.cpp](#).

## 32.73.3 Member Function Documentation

## 32.73.3.1 const TripType\_T&amp; stdair::FareFeaturesKey::getTripType ( ) const [inline]

Get the fare trip type.

Definition at line 39 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getTripType\(\)](#).

## 32.73.3.2 const DayDuration\_T&amp; stdair::FareFeaturesKey::getAdvancePurchase ( ) const [inline]

Get the fare day duration.

Definition at line 46 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getAdvancePurchase\(\)](#).

## 32.73.3.3 const SaturdayStay\_T&amp; stdair::FareFeaturesKey::getSaturdayStay ( ) const [inline]

Get the fare saturday stay option.

Definition at line 53 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getSaturdayStay\(\)](#).

## 32.73.3.4 const ChangeFees\_T&amp; stdair::FareFeaturesKey::getChangeFees ( ) const [inline]

Get the change fees criterion.

Definition at line 60 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getChangeFees\(\)](#).

## 32.73.3.5 const NonRefundable\_T&amp; stdair::FareFeaturesKey::getRefundableOption ( ) const [inline]

Get the refundable option.

Definition at line 67 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getRefundableOption\(\)](#).

## 32.73.3.6 const DayDuration\_T&amp; stdair::FareFeaturesKey::getMinimumStay ( ) const [inline]

Get the minimum stay.

Definition at line 74 of file [FareFeaturesKey.hpp](#).

Referenced by [stdair::FareFeatures::getMinimumStay\(\)](#).

## 32.73.3.7 void stdair::FareFeaturesKey::toStream ( std::ostream &amp; ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [52](#) of file [FareFeaturesKey.cpp](#).

References [toString\(\)](#).

### 32.73.3.8 void stdair::FareFeaturesKey::fromStream ( std::istream & *iIn* ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [57](#) of file [FareFeaturesKey.cpp](#).

### 32.73.3.9 const std::string stdair::FareFeaturesKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [61](#) of file [FareFeaturesKey.cpp](#).

Referenced by [stdair::FareFeatures::describeKey\(\)](#), and [toString\(\)](#).

The documentation for this struct was generated from the following files:

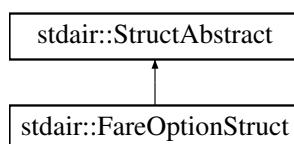
- stdair/bom/[FareFeaturesKey.hpp](#)
- stdair/bom/[FareFeaturesKey.cpp](#)

## 32.74 stdair::FareOptionStruct Struct Reference

Structure holding the elements of a fare option.

```
#include <stdair/bom/FareOptionStruct.hpp>
```

Inheritance diagram for stdair::FareOptionStruct:



### Public Member Functions

- const [ClassList\\_StringList\\_T](#) & [getClassPath](#) () const
- const [Fare\\_T](#) & [getFare](#) () const
- const [Availability\\_T](#) & [getAvailability](#) () const
- const [ChangeFees\\_T](#) [getChangeFees](#) () const
- const [NonRefundable\\_T](#) [getNonRefundable](#) () const
- const [SaturdayStay\\_T](#) [getSaturdayStay](#) () const
- void [addClassList](#) (const std::string)
- void [emptyClassList](#) ()

- void `setFare` (const `Fare_T` &iFare)
- void `setAvailability` (const `Availability_T` &iAvl)
- void `setChangeFees` (const `ChangeFees_T` iRes)
- void `setNonRefundable` (const `NonRefundable_T` iRes)
- void `setSaturdayStay` (const `SaturdayStay_T` iRes)
- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &iOlN)
- const std::string `describe` () const
- const std::string `display` () const
- `FareOptionStruct` ()
- `FareOptionStruct` (const std::string &iClassPath, const `Fare_T` &, const `ChangeFees_T` &, const `NonRefundable_T` &, const `SaturdayStay_T` &)
- `FareOptionStruct` (const `FareOptionStruct` &)
- `~FareOptionStruct` ()

### 32.74.1 Detailed Description

Structure holding the elements of a fare option.

Definition at line 20 of file `FareOptionStruct.hpp`.

### 32.74.2 Constructor & Destructor Documentation

#### 32.74.2.1 stdair::FareOptionStruct::FareOptionStruct( )

Default constructor.

Definition at line 14 of file `FareOptionStruct.cpp`.

#### 32.74.2.2 stdair::FareOptionStruct::FareOptionStruct( const std::string & iClassPath, const `Fare_T` & iFare, const `ChangeFees_T` & iChangeFee, const `NonRefundable_T` & iNonRefundable, const `SaturdayStay_T` & iSaturdayNightStay )

Main constructor.

Definition at line 26 of file `FareOptionStruct.cpp`.

#### 32.74.2.3 stdair::FareOptionStruct::FareOptionStruct( const `FareOptionStruct` & iFO )

Copy constructor.

Definition at line 19 of file `FareOptionStruct.cpp`.

#### 32.74.2.4 stdair::FareOptionStruct::~FareOptionStruct( )

Destructor.

Definition at line 38 of file `FareOptionStruct.cpp`.

### 32.74.3 Member Function Documentation

#### 32.74.3.1 const `ClassList_StringList_T`& stdair::FareOptionStruct::getClassPath( ) const [inline]

Get the class-path.

Definition at line 24 of file `FareOptionStruct.hpp`.

32.74.3.2 `const Fare_T& stdair::FareOptionStruct::getFare( ) const [inline]`

Get the fare value.

Definition at line [29](#) of file [FareOptionStruct.hpp](#).

32.74.3.3 `const Availability_T& stdair::FareOptionStruct::getAvailability( ) const [inline]`

Get the availability.

Definition at line [34](#) of file [FareOptionStruct.hpp](#).

32.74.3.4 `const ChangeFees_T stdair::FareOptionStruct::getChangeFees( ) const [inline]`

Get the change fees.

Definition at line [39](#) of file [FareOptionStruct.hpp](#).

32.74.3.5 `const NonRefundable_T stdair::FareOptionStruct::getNonRefundable( ) const [inline]`

State whether the ticket is refundable.

Definition at line [44](#) of file [FareOptionStruct.hpp](#).

32.74.3.6 `const SaturdayStay_T stdair::FareOptionStruct::getSaturdayStay( ) const [inline]`

State whether there is a condition on the saturday night stay.

Definition at line [49](#) of file [FareOptionStruct.hpp](#).

32.74.3.7 `void stdair::FareOptionStruct::addClassList( const std::string &iClassCodeList )`

Set the class-path.

Definition at line [93](#) of file [FareOptionStruct.cpp](#).

32.74.3.8 `void stdair::FareOptionStruct::emptyClassList( )`

Empty the class-path.

Definition at line [98](#) of file [FareOptionStruct.cpp](#).

32.74.3.9 `void stdair::FareOptionStruct::setFare( const Fare_T &iFare ) [inline]`

Set the fare value.

Definition at line [63](#) of file [FareOptionStruct.hpp](#).

32.74.3.10 `void stdair::FareOptionStruct::setAvailability( const Availability_T &iAvl ) [inline]`

Set the availability.

Definition at line [68](#) of file [FareOptionStruct.hpp](#).

32.74.3.11 `void stdair::FareOptionStruct::setChangeFees( const ChangeFees_T iRes ) [inline]`

Set the change fees.

Definition at line [73](#) of file [FareOptionStruct.hpp](#).

32.74.3.12 `void stdair::FareOptionStruct::setNonRefundable( const NonRefundable_T iRes ) [inline]`

Set the flag for the ticket refundability.

Definition at line [78](#) of file [FareOptionStruct.hpp](#).

## 32.74.3.13 void stdair::FareOptionStruct::setSaturdayStay ( const SaturdayStay\_T iRes ) [inline]

Set the flag for the saturday night stay condition.

Definition at line 83 of file [FareOptionStruct.hpp](#).

## 32.74.3.14 void stdair::FareOptionStruct::toStream ( std::ostream &amp; ioOut ) const

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 42 of file [FareOptionStruct.cpp](#).

References [describe\(\)](#).

## 32.74.3.15 void stdair::FareOptionStruct::fromStream ( std::istream &amp; ioIn ) [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 47 of file [FareOptionStruct.cpp](#).

## 32.74.3.16 const std::string stdair::FareOptionStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 51 of file [FareOptionStruct.cpp](#).

Referenced by [stdair::TravelSolutionStruct::describe\(\)](#), and [toStream\(\)](#).

## 32.74.3.17 const std::string stdair::FareOptionStruct::display ( ) const

Display of the structure.

Definition at line 73 of file [FareOptionStruct.cpp](#).

Referenced by [stdair::TravelSolutionStruct::display\(\)](#).

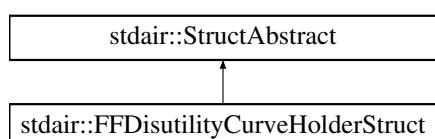
The documentation for this struct was generated from the following files:

- [stdair/bom/FareOptionStruct.hpp](#)
- [stdair/bom/FareOptionStruct.cpp](#)

## 32.75 stdair::FFDisutilityCurveHolderStruct Struct Reference

```
#include <stdair/bom/FFDisutilityCurveHolderStruct.hpp>
```

Inheritance diagram for stdair::FFDisutilityCurveHolderStruct:



## Public Member Functions

- const `FFDisutilityCurve_T & getFFDisutilityCurve (const std::string &)` const
- void `addCurve (const std::string &, const FFDisutilityCurve_T &)`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- const std::string `describe () const`
- `FFDisutilityCurveHolderStruct ()`
- `FFDisutilityCurveHolderStruct (const FFDisutilityCurveHolderStruct &)`
- `~FFDisutilityCurveHolderStruct ()`

### 32.75.1 Detailed Description

Structure holding the elements of a snapshot .

Definition at line 19 of file [FFDisutilityCurveHolderStruct.hpp](#).

### 32.75.2 Constructor & Destructor Documentation

#### 32.75.2.1 `stdair::FFDisutilityCurveHolderStruct::FFDisutilityCurveHolderStruct ( )`

Constructor.

Definition at line 14 of file [FFDisutilityCurveHolderStruct.cpp](#).

#### 32.75.2.2 `stdair::FFDisutilityCurveHolderStruct::FFDisutilityCurveHolderStruct ( const FFDisutilityCurveHolderStruct & iHolder )`

Copy constructor.

Definition at line 19 of file [FFDisutilityCurveHolderStruct.cpp](#).

#### 32.75.2.3 `stdair::FFDisutilityCurveHolderStruct::~FFDisutilityCurveHolderStruct ( )`

Destructor.

Definition at line 24 of file [FFDisutilityCurveHolderStruct.cpp](#).

### 32.75.3 Member Function Documentation

#### 32.75.3.1 `const FFDisutilityCurve_T & stdair::FFDisutilityCurveHolderStruct::getFFDisutilityCurve ( const std::string & iKey ) const`

Get the FFDisutility curve corresponding to the given key.

Definition at line 29 of file [FFDisutilityCurveHolderStruct.cpp](#).

References [STDAIR\\_LOG\\_DEBUG](#).

Referenced by [stdair::BomRoot::getFFDisutilityCurve\(\)](#).

#### 32.75.3.2 `void stdair::FFDisutilityCurveHolderStruct::addCurve ( const std::string & iKey, const FFDisutilityCurve_T & iCurve )`

Add a new curve to the holder.

Definition at line 42 of file [FFDisutilityCurveHolderStruct.cpp](#).

References [STDAIR\\_LOG\\_DEBUG](#).

Referenced by [stdair::BomRoot::addFFDisutilityCurve\(\)](#).

32.75.3.3 void stdair::FFDisutilityCurveHolderStruct::toStream ( std::ostream & *ioOut* ) const

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 53 of file [FFDisutilityCurveHolderStruct.cpp](#).

References [describe\(\)](#).

**32.75.3.4 void stdair::FFDisutilityCurveHolderStruct::fromStream ( std::istream & *ioIn* ) [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 58 of file [FFDisutilityCurveHolderStruct.cpp](#).

**32.75.3.5 const std::string stdair::FFDisutilityCurveHolderStruct::describe ( ) const [virtual]**

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 62 of file [FFDisutilityCurveHolderStruct.cpp](#).

Referenced by [toStream\(\)](#).

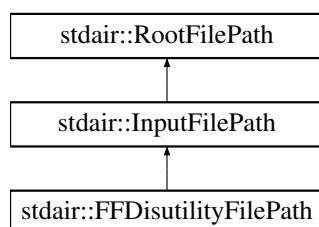
The documentation for this struct was generated from the following files:

- stdair/bom/[FFDisutilityCurveHolderStruct.hpp](#)
- stdair/bom/[FFDisutilityCurveHolderStruct.cpp](#)

## 32.76 stdair::FFDisutilityFilePath Class Reference

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::FFDisutilityFilePath:

**Public Member Functions**

- [FFDisutilityFilePath](#) (const [Filename\\_T](#) &*iFilename*)
- const char \* [name](#) () const

**Protected Attributes**

- const [Filename\\_T](#) \_filename

### 32.76.1 Detailed Description

FFDisutility input file.

Definition at line 100 of file [stdair\\_file.hpp](#).

### 32.76.2 Constructor & Destructor Documentation

32.76.2.1 `stdair::FFDisutilityFilePath::FFDisutilityFilePath ( const Filename_T & iFilename ) [inline], [explicit]`

Constructor.

Definition at line 105 of file [stdair\\_file.hpp](#).

### 32.76.3 Member Function Documentation

32.76.3.1 `const char* stdair::RootFilePath::name ( ) const [inline], [inherited]`

Give the details of the exception.

Definition at line 42 of file [stdair\\_file.hpp](#).

References [stdair::RootFilePath::\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

### 32.76.4 Member Data Documentation

32.76.4.1 `const Filename_T stdair::RootFilePath::_filename [protected], [inherited]`

Name of the file.

Definition at line 50 of file [stdair\\_file.hpp](#).

Referenced by [stdair::RootFilePath::name\(\)](#).

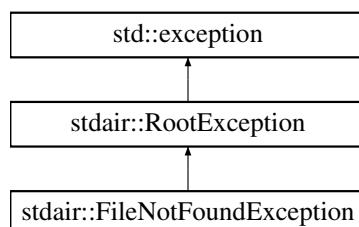
The documentation for this class was generated from the following file:

- [stdair/stdair\\_file.hpp](#)

## 32.77 stdair::FileNotFoundException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::FileNotFoundException:



### Public Member Functions

- [FileNotFoundException](#) (const std::string &iWhat)
- const char \* [what \(\) const throw \(\)](#)

## Protected Attributes

- std::string [\\_what](#)

### 32.77.1 Detailed Description

File not found.

Definition at line [50](#) of file [stdair\\_exceptions.hpp](#).

### 32.77.2 Constructor & Destructor Documentation

#### 32.77.2.1 stdair::FileNotFoundException::FileNotFoundException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [53](#) of file [stdair\\_exceptions.hpp](#).

### 32.77.3 Member Function Documentation

#### 32.77.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.77.4 Member Data Documentation

#### 32.77.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

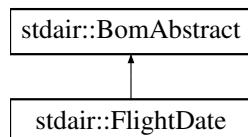
- [stdair/stdair\\_exceptions.hpp](#)

## 32.78 stdair::FlightDate Class Reference

Class representing the actual attributes for an airline flight-date.

```
#include <stdair/bom/FlightDate.hpp>
```

Inheritance diagram for stdair::FlightDate:



## Public Types

- `typedef FlightDateKey Key_T`

## Public Member Functions

- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const FlightNumber_T & getFlightNumber () const`
- `const Date_T & getDepartureDate () const`
- `const AirlineCode_T & getAirlineCode () const`
- `const HolderMap_T & getHolderMap () const`
- `LegDate * getLegDate (const std::string &iLegDateKeyStr) const`
- `LegDate * getLegDate (const LegDateKey &) const`
- `SegmentDate * getSegmentDate (const std::string &iSegmentDateKeyStr) const`
- `SegmentDate * getSegmentDate (const SegmentDateKey &) const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &iIoIn)`
- `std::string toString () const`
- `const std::string describeKey () const`
- template<class Archive>  
  `void serialize (Archive &ar, const unsigned int iFileVersion)`

## Protected Member Functions

- `FlightDate (const Key_T &)`
- `virtual ~FlightDate ()`

## Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`

## Friends

- template<typename BOM>  
  `class FacBom`
- template<typename BOM>  
  `class FacCloneBom`
- `class FacBomManager`
- `class boost::serialization::access`

### 32.78.1 Detailed Description

Class representing the actual attributes for an airline flight-date.

Definition at line 35 of file [FlightDate.hpp](#).

### 32.78.2 Member Typedef Documentation

#### 32.78.2.1 `typedef FlightDateKey stdair::FlightDate::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 46 of file [FlightDate.hpp](#).

### 32.78.3 Constructor & Destructor Documentation

#### 32.78.3.1 stdair::FlightDate::FlightDate ( const Key\_T & iKey ) [protected]

Main constructor.

Definition at line 29 of file [FlightDate.cpp](#).

#### 32.78.3.2 stdair::FlightDate::~FlightDate ( ) [protected], [virtual]

Destructor.

Definition at line 33 of file [FlightDate.cpp](#).

### 32.78.4 Member Function Documentation

#### 32.78.4.1 const Key\_T& stdair::FlightDate::getKey ( ) const [inline]

Get the flight-date key.

Definition at line 52 of file [FlightDate.hpp](#).

References [\\_key](#).

#### 32.78.4.2 BomAbstract\* const stdair::FlightDate::getParent ( ) const [inline]

Get the parent object.

Definition at line 57 of file [FlightDate.hpp](#).

References [\\_parent](#).

Referenced by [getAirlineCode\(\)](#).

#### 32.78.4.3 const FlightNumber\_T& stdair::FlightDate::getFlightNumber ( ) const [inline]

Get the flight number (part of the primary key).

Definition at line 62 of file [FlightDate.hpp](#).

References [\\_key](#), and [stdair::FlightDateKey::getFlightNumber\(\)](#).

Referenced by [stdair::BomJSONExport::jsonExportFlightDateList\(\)](#), and [stdair::BomJSONExport::jsonExportFlightDateObjects\(\)](#).

#### 32.78.4.4 const Date\_T& stdair::FlightDate::getDepartureDate ( ) const [inline]

Get the flight date (part of the primary key).

Definition at line 67 of file [FlightDate.hpp](#).

References [\\_key](#), and [stdair::FlightDateKey::getDepartureDate\(\)](#).

Referenced by [stdair::LegDate::describeRoutingKey\(\)](#), [stdair::BomJSONExport::jsonExportFlightDateList\(\)](#), and [stdair::BomJSONExport::jsonExportFlightDateObjects\(\)](#).

#### 32.78.4.5 const AirlineCode\_T & stdair::FlightDate::getAirlineCode ( ) const

Get the airline code (key of the parent object).

#### Note

That method assumes that the parent object derives from the [Inventory](#) class, as it needs to have access to the [getAirlineCode\(\)](#) method.

Definition at line 37 of file [FlightDate.cpp](#).

References [stdair::Inventory::getAirlineCode\(\)](#), and [getParent\(\)](#).

Referenced by [stdair::LegDate::getAirlineCode\(\)](#), and [stdair::BomJSONExport::jsonExportFlightDateObjects\(\)](#).

#### 32.78.4.6 const HolderMap\_T& stdair::FlightDate::getHolderMap( ) const [inline]

Get the map of children holders.

Definition at line 83 of file [FlightDate.hpp](#).

References [\\_holderMap](#).

#### 32.78.4.7 LegDate \* stdair::FlightDate::getLegDate( const std::string & iLegDateKeyStr ) const

Get a pointer on the [LegDate](#) object corresponding to the given key.

##### Note

The [LegDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

##### Parameters

<code>const</code>	<code>std::string&amp;</code> The leg-date key.
--------------------	---

##### Returns

`LegDate*` Found [LegDate](#) object. NULL if not found.

Definition at line 52 of file [FlightDate.cpp](#).

Referenced by [getLegDate\(\)](#), [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#), and [stdair::BomRetriever::retrieveOperatingLegDateFromLongKey\(\)](#).

#### 32.78.4.8 LegDate \* stdair::FlightDate::getLegDate( const LegDateKey & iLegDateKey ) const

Get a pointer on the [LegDate](#) object corresponding to the given key.

##### Note

The [LegDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

##### Parameters

<code>const</code>	<code>LegDateKey&amp;</code> The leg-date key
--------------------	---

##### Returns

`LegDate*` Found [LegDate](#) object. NULL if not found.

Definition at line 59 of file [FlightDate.cpp](#).

References [getLegDate\(\)](#), and [stdair::LegDateKey::toString\(\)](#).

#### 32.78.4.9 SegmentDate \* stdair::FlightDate::getSegmentDate( const std::string & iSegmentDateKeyStr ) const

Get a pointer on the [SegmentDate](#) object corresponding to the given key.

##### Note

The [SegmentDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

**Parameters**

<i>const</i>	std::string& The segment-date key.
--------------	------------------------------------

**Returns**

SegmentDate\* Found [SegmentDate](#) object. NULL if not found.

Definition at line 65 of file [FlightDate.cpp](#).

Referenced by [getSegmentDate\(\)](#), [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#), [stdair::BomRetriever::retrieveSegmentDateFromKey\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

**32.78.4.10 SegmentDate \* stdair::FlightDate::getSegmentDate ( const SegmentDateKey & iSegmentDateKey ) const**

Get a pointer on the [SegmentDate](#) object corresponding to the given key.

**Note**

The [SegmentDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

**Parameters**

<i>const</i>	<a href="#">SegmentDateKey</a> & The segment-date key
--------------	---

**Returns**

SegmentDate\* Found [SegmentDate](#) object. NULL if not found.

Definition at line 73 of file [FlightDate.cpp](#).

References [getSegmentDate\(\)](#), and [stdair::SegmentDateKey::toString\(\)](#).

**32.78.4.11 void stdair::FlightDate::toStream ( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 142 of file [FlightDate.hpp](#).

References [toString\(\)](#).

**32.78.4.12 void stdair::FlightDate::fromStream ( std::istream & ioIn ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 151 of file [FlightDate.hpp](#).

**32.78.4.13 std::string stdair::FlightDate::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 45 of file [FlightDate.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

#### 32.78.4.14 const std::string stdair::FlightDate::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line [162](#) of file [FlightDate.hpp](#).

References [\\_key](#), and [stdair::FlightDateKey::toString\(\)](#).

Referenced by [toString\(\)](#).

#### 32.78.4.15 template<class Archive> void stdair::FlightDate::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line [187](#) of file [CmdBomSerialiser.cpp](#).

References [\\_key](#).

### 32.78.5 Friends And Related Function Documentation

#### 32.78.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line [36](#) of file [FlightDate.hpp](#).

#### 32.78.5.2 template<typename BOM> friend class FacCloneBom [friend]

Definition at line [37](#) of file [FlightDate.hpp](#).

#### 32.78.5.3 friend class FacBomManager [friend]

Definition at line [38](#) of file [FlightDate.hpp](#).

#### 32.78.5.4 friend class boost::serialization::access [friend]

Definition at line [39](#) of file [FlightDate.hpp](#).

### 32.78.6 Member Data Documentation

#### 32.78.6.1 Key\_T stdair::FlightDate::\_key [protected]

Primary key (flight number and departure date).

Definition at line [216](#) of file [FlightDate.hpp](#).

Referenced by [describeKey\(\)](#), [getDepartureDate\(\)](#), [getFlightNumber\(\)](#), [getKey\(\)](#), and [serialize\(\)](#).

#### 32.78.6.2 BomAbstract\* stdair::FlightDate::\_parent [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line [221](#) of file [FlightDate.hpp](#).

Referenced by [getParent\(\)](#).

#### 32.78.6.3 HolderMap\_T stdair::FlightDate::\_holderMap [protected]

Map holding the children ([SegmentDate](#) and [LegDate](#) objects).

Definition at line [226](#) of file [FlightDate.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

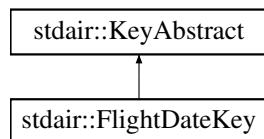
- stdair/bom/[FlightDate.hpp](#)
- stdair/bom/[FlightDate.cpp](#)
- stdair/command/[CmdBomSerialiser.cpp](#)

### 32.79 stdair::FlightDateKey Struct Reference

Key of a given flight-date, made of a flight number and a departure date.

```
#include <stdair/bom/FlightDateKey.hpp>
```

Inheritance diagram for stdair::FlightDateKey:



#### Public Member Functions

- `FlightDateKey (const FlightNumber_T &, const Date_T &)`
- `FlightDateKey (const FlightDateKey &)`
- `~FlightDateKey ()`
- `const FlightNumber_T & getFlightNumber () const`
- `const Date_T & getDepartureDate () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string toString () const`
- `template<class Archive> void serialize (Archive &ar, const unsigned int iFileVersion)`

#### Friends

- class `boost::serialization::access`

#### 32.79.1 Detailed Description

Key of a given flight-date, made of a flight number and a departure date.

Definition at line [28](#) of file [FlightDateKey.hpp](#).

#### 32.79.2 Constructor & Destructor Documentation

##### 32.79.2.1 stdair::FlightDateKey::FlightDateKey ( const FlightNumber\_T & iFlightNumber, const Date\_T & iFlightDate )

Constructor.

Definition at line [28](#) of file [FlightDateKey.cpp](#).

##### 32.79.2.2 stdair::FlightDateKey::FlightDateKey ( const FlightDateKey & iKey )

Copy constructor.

Definition at line [34](#) of file [FlightDateKey.cpp](#).

## 32.79.2.3 stdair::FlightDateKey::~FlightDateKey ( )

Destructor.

Definition at line 39 of file [FlightDateKey.cpp](#).

## 32.79.3 Member Function Documentation

## 32.79.3.1 const FlightNumber\_T&amp; stdair::FlightDateKey::getFlightNumber ( ) const [inline]

Get the flight number.

Definition at line 58 of file [FlightDateKey.hpp](#).

Referenced by [stdair::FlightDate::getFlightNumber\(\)](#).

## 32.79.3.2 const Date\_T&amp; stdair::FlightDateKey::getDepartureDate ( ) const [inline]

Get the departure date of the (first leg of the) flight.

Definition at line 63 of file [FlightDateKey.hpp](#).

Referenced by [stdair::OnDDateKey::getDate\(\)](#), and [stdair::FlightDate::getDepartureDate\(\)](#).

## 32.79.3.3 void stdair::FlightDateKey::toStream ( std::ostream &amp; ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 43 of file [FlightDateKey.cpp](#).

References [toString\(\)](#).

## 32.79.3.4 void stdair::FlightDateKey::fromStream ( std::istream &amp; ioIn ) [virtual]

Read a Business Object Key from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 48 of file [FlightDateKey.cpp](#).

## 32.79.3.5 const std::string stdair::FlightDateKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 52 of file [FlightDateKey.cpp](#).

References [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::FlightDate::describeKey\(\)](#), [stdair::Inventory::getFlightDate\(\)](#), [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#), and [toStream\(\)](#).

32.79.3.6 template<class Archive> void stdair::FlightDateKey::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 77 of file [FlightDateKey.cpp](#).

### 32.79.4 Friends And Related Function Documentation

32.79.4.1 friend class boost::serialization::access [friend]

Definition at line 29 of file [FlightDateKey.hpp](#).

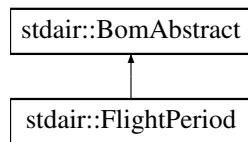
The documentation for this struct was generated from the following files:

- stdair/bom/[FlightDateKey.hpp](#)
- stdair/bom/[FlightDateKey.cpp](#)

## 32.80 stdair::FlightPeriod Class Reference

```
#include <stdair/bom/FlightPeriod.hpp>
```

Inheritance diagram for stdair::FlightPeriod:



### Public Types

- [typedef FlightPeriodKey Key\\_T](#)

### Public Member Functions

- const [Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- const [FlightNumber\\_T & getFlightNumber \(\) const](#)
- const [PeriodStruct & getPeriod \(\) const](#)
- const [HolderMap\\_T & getHolderMap \(\) const](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- void [fromStream \(std::istream &ioln\)](#)
- std::string [toString \(\) const](#)
- const std::string [describeKey \(\) const](#)

### Protected Member Functions

- [FlightPeriod \(const Key\\_T &\)](#)
- [~FlightPeriod \(\)](#)

### Protected Attributes

- [Key\\_T \\_key](#)
- [BomAbstract \\*\\_parent](#)
- [HolderMap\\_T \\_holderMap](#)

## Friends

- template<typename BOM >  
  class [FacBom](#)
- template<typename BOM >  
  class [FacCloneBom](#)
- class [FacBomManager](#)

### 32.80.1 Detailed Description

Class representing the actual attributes for an airline flight-period.

Definition at line [15](#) of file [FlightPeriod.hpp](#).

### 32.80.2 Member Typedef Documentation

#### 32.80.2.1 `typedef FlightPeriodKey stdair::FlightPeriod::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [23](#) of file [FlightPeriod.hpp](#).

### 32.80.3 Constructor & Destructor Documentation

#### 32.80.3.1 `stdair::FlightPeriod::FlightPeriod ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line [12](#) of file [FlightPeriod.cpp](#).

#### 32.80.3.2 `stdair::FlightPeriod::~FlightPeriod ( ) [protected]`

Destructor.

Definition at line [22](#) of file [FlightPeriod.cpp](#).

### 32.80.4 Member Function Documentation

#### 32.80.4.1 `const Key_T& stdair::FlightPeriod::getKey ( ) const [inline]`

Get the flight-period key.

Definition at line [28](#) of file [FlightPeriod.hpp](#).

References [\\_key](#).

#### 32.80.4.2 `BomAbstract* const stdair::FlightPeriod::getParent ( ) const [inline]`

Get the parent object.

Definition at line [31](#) of file [FlightPeriod.hpp](#).

References [\\_parent](#).

#### 32.80.4.3 `const FlightNumber_T& stdair::FlightPeriod::getFlightNumber ( ) const [inline]`

Get the flight number (part of the primary key).

Definition at line [34](#) of file [FlightPeriod.hpp](#).

References [\\_key](#), and [stdair::FlightPeriodKey::getFlightNumber\(\)](#).

### 32.80.4.4 const PeriodStruct& stdair::FlightPeriod::getPeriod( ) const [inline]

Get the departure period (part of the key).

Definition at line 39 of file [FlightPeriod.hpp](#).

References [\\_key](#), and [stdair::FlightPeriodKey::getPeriod\(\)](#).

### 32.80.4.5 const HolderMap\_T& stdair::FlightPeriod::getHolderMap( ) const [inline]

Get the map of children holders.

Definition at line 42 of file [FlightPeriod.hpp](#).

References [\\_holderMap](#).

### 32.80.4.6 void stdair::FlightPeriod::toStream( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 49 of file [FlightPeriod.hpp](#).

References [toString\(\)](#).

### 32.80.4.7 void stdair::FlightPeriod::fromStream( std::istream & ioIn ) [inline], [virtual]

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 53 of file [FlightPeriod.hpp](#).

### 32.80.4.8 std::string stdair::FlightPeriod::toString( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 26 of file [FlightPeriod.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

### 32.80.4.9 const std::string stdair::FlightPeriod::describeKey( ) const [inline]

Get a string describing the key.

Definition at line 59 of file [FlightPeriod.hpp](#).

References [\\_key](#), and [stdair::FlightPeriodKey::toString\(\)](#).

Referenced by [toString\(\)](#).

## 32.80.5 Friends And Related Function Documentation

### 32.80.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line 16 of file [FlightPeriod.hpp](#).

32.80.5.2 template<typename BOM > friend class **FacCloneBom** [friend]

Definition at line 17 of file [FlightPeriod.hpp](#).

32.80.5.3 friend class **FacBomManager** [friend]

Definition at line 18 of file [FlightPeriod.hpp](#).

## 32.80.6 Member Data Documentation

32.80.6.1 **Key\_T** stdair::FlightPeriod::\_key [protected]

Definition at line 86 of file [FlightPeriod.hpp](#).

Referenced by [describeKey\(\)](#), [getFlightNumber\(\)](#), [getKey\(\)](#), and [getPeriod\(\)](#).

32.80.6.2 **BomAbstract\*** stdair::FlightPeriod::\_parent [protected]

Definition at line 87 of file [FlightPeriod.hpp](#).

Referenced by [getParent\(\)](#).

32.80.6.3 **HolderMap\_T** stdair::FlightPeriod::\_holderMap [protected]

Definition at line 88 of file [FlightPeriod.hpp](#).

Referenced by [getHolderMap\(\)](#).

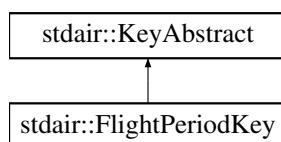
The documentation for this class was generated from the following files:

- stdair/bom/[FlightPeriod.hpp](#)
- stdair/bom/[FlightPeriod.cpp](#)

## 32.81 stdair::FlightPeriodKey Struct Reference

```
#include <stdair/bom/FlightPeriodKey.hpp>
```

Inheritance diagram for stdair::FlightPeriodKey:



## Public Member Functions

- [FlightPeriodKey](#) (const [FlightNumber\\_T](#) &, const [PeriodStruct](#) &)
- [FlightPeriodKey](#) (const [FlightPeriodKey](#) &)
- [~FlightPeriodKey](#) ()
- const [FlightNumber\\_T](#) & [getFlightNumber](#) () const
- const [PeriodStruct](#) & [getPeriod](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const

### 32.81.1 Detailed Description

Key of flight-period.

Definition at line 13 of file [FlightPeriodKey.hpp](#).

### 32.81.2 Constructor & Destructor Documentation

32.81.2.1 `stdair::FlightPeriodKey::FlightPeriodKey ( const FlightNumber_T & iFlightNumber, const PeriodStruct & iPeriod )`

Constructors.

Definition at line 10 of file [FlightPeriodKey.cpp](#).

32.81.2.2 `stdair::FlightPeriodKey::FlightPeriodKey ( const FlightPeriodKey & iKey )`

Definition at line 16 of file [FlightPeriodKey.cpp](#).

32.81.2.3 `stdair::FlightPeriodKey::~FlightPeriodKey ( )`

Destructor.

Definition at line 21 of file [FlightPeriodKey.cpp](#).

### 32.81.3 Member Function Documentation

32.81.3.1 `const FlightNumber_T& stdair::FlightPeriodKey::getFlightNumber ( ) const [inline]`

Get the flight number.

Definition at line 28 of file [FlightPeriodKey.hpp](#).

Referenced by [stdair::FlightPeriod::getFlightNumber\(\)](#).

32.81.3.2 `const PeriodStruct& stdair::FlightPeriodKey::getPeriod ( ) const [inline]`

Get the active days-of-week.

Definition at line 33 of file [FlightPeriodKey.hpp](#).

Referenced by [stdair::FlightPeriod::getPeriod\(\)](#).

32.81.3.3 `void stdair::FlightPeriodKey::toStream ( std::ostream & ioOut ) const [virtual]`

Dump a Business Object Key into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 25 of file [FlightPeriodKey.cpp](#).

References [toString\(\)](#).

32.81.3.4 `void stdair::FlightPeriodKey::fromStream ( std::istream & ioIn ) [virtual]`

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 30 of file [FlightPeriodKey.cpp](#).

### 32.81.3.5 const std::string stdair::FlightPeriodKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-period.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 34 of file [FlightPeriodKey.cpp](#).

References [stdair::PeriodStruct::describeShort\(\)](#).

Referenced by [stdair::FlightPeriod::describeKey\(\)](#), and [toStream\(\)](#).

The documentation for this struct was generated from the following files:

- [stdair/bom/FlightPeriodKey.hpp](#)
- [stdair/bom/FlightPeriodKey.cpp](#)

## 32.82 FloatingPoint< RawType > Class Template Reference

```
#include <stdair/basic/float_utils_google.hpp>
```

**Public Types**

- [typedef TypeWithSize< sizeof\(RawType\)>::UInt Bits](#)

**Public Member Functions**

- [FloatingPoint \(const RawType &x\)](#)
- [const Bits & bits \(\) const](#)
- [Bits exponent\\_bits \(\) const](#)
- [Bits fraction\\_bits \(\) const](#)
- [Bits sign\\_bit \(\) const](#)
- [bool is\\_nan \(\) const](#)
- [bool AlmostEquals \(const FloatingPoint &rhs\) const](#)

**Static Public Member Functions**

- [static RawType ReinterpretBits \(const Bits bits\)](#)
- [static RawType Infinity \(\)](#)

**Static Public Attributes**

- [static const size\\_t kBitCount = 8\\*sizeof\(RawType\)](#)
- [static const size\\_t kFractionBitCount](#)
- [static const size\\_t kExponentBitCount = kBitCount - 1 - kFractionBitCount](#)
- [static const Bits kSignBitMask = static\\_cast<Bits>\(1\) << \(kBitCount - 1\)](#)
- [static const Bits kFractionBitMask](#)
- [static const Bits kExponentBitMask = ~\(kSignBitMask | kFractionBitMask\)](#)
- [static const size\\_t kMaxUlps = 4](#)

### 32.82.1 Detailed Description

```
template<typename RawType>class FloatingPoint< RawType >
```

Definition at line 117 of file [float\\_utils\\_google.hpp](#).

### 32.82.2 Member Typedef Documentation

```
32.82.2.1 template<typename RawType> typedef TypeWithSize<sizeof(RawType)>::UInt FloatingPoint< RawType >::Bits
```

Definition at line 121 of file [float\\_utils\\_google.hpp](#).

### 32.82.3 Constructor & Destructor Documentation

```
32.82.3.1 template<typename RawType> FloatingPoint< RawType >::FloatingPoint ( const RawType & x )
    [inline], [explicit]
```

Definition at line 165 of file [float\\_utils\\_google.hpp](#).

### 32.82.4 Member Function Documentation

```
32.82.4.1 template<typename RawType> static RawType FloatingPoint< RawType >::ReinterpretBits ( const Bits bits )
    [inline], [static]
```

Definition at line 172 of file [float\\_utils\\_google.hpp](#).

References [FloatingPoint< RawType >::bits\(\)](#).

Referenced by [FloatingPoint< RawType >::Infinity\(\)](#).

```
32.82.4.2 template<typename RawType> static RawType FloatingPoint< RawType >::Infinity ( ) [inline],
    [static]
```

Definition at line 179 of file [float\\_utils\\_google.hpp](#).

References [FloatingPoint< RawType >::ReinterpretBits\(\)](#).

```
32.82.4.3 template<typename RawType> const Bits& FloatingPoint< RawType >::bits ( ) const [inline]
```

Definition at line 186 of file [float\\_utils\\_google.hpp](#).

Referenced by [FloatingPoint< RawType >::ReinterpretBits\(\)](#).

```
32.82.4.4 template<typename RawType> Bits FloatingPoint< RawType >::exponent_bits ( ) const [inline]
```

Definition at line 189 of file [float\\_utils\\_google.hpp](#).

Referenced by [FloatingPoint< RawType >::is\\_nan\(\)](#).

```
32.82.4.5 template<typename RawType> Bits FloatingPoint< RawType >::fraction_bits ( ) const [inline]
```

Definition at line 192 of file [float\\_utils\\_google.hpp](#).

Referenced by [FloatingPoint< RawType >::is\\_nan\(\)](#).

```
32.82.4.6 template<typename RawType> Bits FloatingPoint< RawType >::sign_bit ( ) const [inline]
```

Definition at line 195 of file [float\\_utils\\_google.hpp](#).

32.82.4.7 template<typename RawType> bool FloatingPoint< RawType >::is\_nan( ) const [inline]

Definition at line 198 of file [float\\_utils\\_google.hpp](#).

References [FloatingPoint< RawType >::exponent\\_bits\(\)](#), and [FloatingPoint< RawType >::fraction\\_bits\(\)](#).

Referenced by [FloatingPoint< RawType >::AlmostEquals\(\)](#).

32.82.4.8 template<typename RawType> bool FloatingPoint< RawType >::AlmostEquals( const FloatingPoint< RawType > & rhs ) const [inline]

Definition at line 210 of file [float\\_utils\\_google.hpp](#).

References [FloatingPoint< RawType >::is\\_nan\(\)](#), and [FloatingPoint< RawType >::kMaxUlps](#).

### 32.82.5 Member Data Documentation

32.82.5.1 template<typename RawType> const size\_t FloatingPoint< RawType >::kBitCount = 8\*sizeof(RawType) [static]

Definition at line 126 of file [float\\_utils\\_google.hpp](#).

32.82.5.2 template<typename RawType> const size\_t FloatingPoint< RawType >::kFractionBitCount [static]

**Initial value:**

```
= std::numeric_limits<RawType>::digits - 1
```

Definition at line 129 of file [float\\_utils\\_google.hpp](#).

32.82.5.3 template<typename RawType> const size\_t FloatingPoint< RawType >::kExponentBitCount = kBitCount - 1 - kFractionBitCount [static]

Definition at line 133 of file [float\\_utils\\_google.hpp](#).

32.82.5.4 template<typename RawType> const Bits FloatingPoint< RawType >::kSignBitMask = static\_cast<Bits>(1) << (kBitCount - 1) [static]

Definition at line 136 of file [float\\_utils\\_google.hpp](#).

32.82.5.5 template<typename RawType> const Bits FloatingPoint< RawType >::kFractionBitMask [static]

**Initial value:**

```
= ~static_cast<Bits>(0) >> (kExponentBitCount + 1)
```

Definition at line 139 of file [float\\_utils\\_google.hpp](#).

32.82.5.6 template<typename RawType> const Bits FloatingPoint< RawType >::kExponentBitMask = ~kSignBitMask | kFractionBitMask [static]

Definition at line 143 of file [float\\_utils\\_google.hpp](#).

32.82.5.7 template<typename RawType> const size\_t FloatingPoint< RawType >::kMaxUlps = 4 [static]

Definition at line 157 of file [float\\_utils\\_google.hpp](#).

Referenced by [FloatingPoint< RawType >::AlmostEquals\(\)](#).

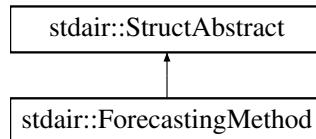
The documentation for this class was generated from the following file:

- stdair/basic/[float\\_utils\\_google.hpp](#)

### 32.83 stdair::ForecastingMethod Struct Reference

```
#include <stdair/basic/ForecastingMethod.hpp>
```

Inheritance diagram for stdair::ForecastingMethod:



#### Public Types

- enum `EN_ForecastingMethod` {
 `Q_FORECASTING` = 0, `HYBRID_FORECASTING`, `OLD_QFF`, `NEW_QFF`,  
`BASED_FORECASTING`, `LAST_VALUE` }

#### Public Member Functions

- `EN_ForecastingMethod getMethod () const`
- `std::string getMethodAsString () const`
- `const std::string describe () const`
- `bool operator== (const EN_ForecastingMethod &) const`
- `ForecastingMethod (const EN_ForecastingMethod &)`
- `ForecastingMethod (const char iMethod)`
- `ForecastingMethod (const ForecastingMethod &)`
- `void toStream (std::ostream &iOut) const`
- `virtual void fromStream (std::istream &iIn)`

#### Static Public Member Functions

- `static const std::string & getLabel (const EN_ForecastingMethod &)`
- `static char getMethodLabel (const EN_ForecastingMethod &)`
- `static std::string getMethodLabelAsString (const EN_ForecastingMethod &)`
- `static std::string describeLabels ()`

#### 32.83.1 Detailed Description

Enumeration of forecasting methods.

Definition at line 15 of file [ForecastingMethod.hpp](#).

#### 32.83.2 Member Enumeration Documentation

##### 32.83.2.1 enum stdair::ForecastingMethod::EN\_ForecastingMethod

Enumerator

`Q_FORECASTING`  
`HYBRID_FORECASTING`  
`OLD_QFF`  
`NEW_QFF`  
`BASED_FORECASTING`

**LAST\_VALUE**

Definition at line 17 of file [ForecastingMethod.hpp](#).

### 32.83.3 Constructor & Destructor Documentation

#### 32.83.3.1 stdair::ForecastingMethod::ForecastingMethod ( const EN\_ForecastingMethod & iForecastingMethod )

Constructor.

Definition at line 37 of file [ForecastingMethod.cpp](#).

#### 32.83.3.2 stdair::ForecastingMethod::ForecastingMethod ( const char iMethod )

Constructor.

Definition at line 42 of file [ForecastingMethod.cpp](#).

References [BASED\\_FORECASTING](#), [describeLabels\(\)](#), [HYBRID\\_FORECASTING](#), [LAST\\_VALUE](#), [NEW\\_QFF](#), [OLD\\_QFF](#), and [Q\\_FORECASTING](#).

#### 32.83.3.3 stdair::ForecastingMethod::ForecastingMethod ( const ForecastingMethod & iForecastingMethod )

Default copy constructor.

Definition at line 31 of file [ForecastingMethod.cpp](#).

### 32.83.4 Member Function Documentation

#### 32.83.4.1 const std::string & stdair::ForecastingMethod::getLabel ( const EN\_ForecastingMethod & iMethod ) [static]

Get the label as a string (e.g., "Q Forecasting", "Hybrid Forecasting", "Old QFF" or "New QFF").

Definition at line 63 of file [ForecastingMethod.cpp](#).

#### 32.83.4.2 char stdair::ForecastingMethod::getMethodLabel ( const EN\_ForecastingMethod & iMethod ) [static]

Get the label as a single char (e.g., 'Q', 'H', 'O', 'N' or 'B').

Definition at line 68 of file [ForecastingMethod.cpp](#).

#### 32.83.4.3 std::string stdair::ForecastingMethod::getMethodLabelAsString ( const EN\_ForecastingMethod & iMethod ) [static]

Get the label as a string of a single char (e.g., "Q", "H", "O", "N" or "B").

Definition at line 74 of file [ForecastingMethod.cpp](#).

#### 32.83.4.4 std::string stdair::ForecastingMethod::describeLabels ( ) [static]

List the labels.

Definition at line 81 of file [ForecastingMethod.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [ForecastingMethod\(\)](#).

#### 32.83.4.5 ForecastingMethod::EN\_ForecastingMethod stdair::ForecastingMethod::getMethod ( ) const

Get the enumerated value.

Definition at line 93 of file [ForecastingMethod.cpp](#).

Referenced by [stdair::AirlineFeature::getForecastingMethod\(\)](#).

#### **32.83.4.6 std::string stdair::ForecastingMethod::getMethodAsString( ) const**

Get the enumerated value as a short string (e.g., "Q", "H", "O", "N" or "B").

Definition at line 98 of file [ForecastingMethod.cpp](#).

#### **32.83.4.7 const std::string stdair::ForecastingMethod::describe( ) const [virtual]**

Give a description of the structure (e.g., "Q Forecasting", "Hybrid Forecasting", "Old QFF", "New QFF" or "Based Forecasting").

Implements [stdair::StructAbstract](#).

Definition at line 105 of file [ForecastingMethod.cpp](#).

#### **32.83.4.8 bool stdair::ForecastingMethod::operator==( const EN\_ForecastingMethod & iMethod ) const**

Comparison operator.

Definition at line 113 of file [ForecastingMethod.cpp](#).

#### **32.83.4.9 void stdair::StructAbstract::toStream( std::ostream & ioOut ) const [inline], [inherited]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

#### **32.83.4.10 virtual void stdair::StructAbstract::fromStream( std::istream & iIn ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

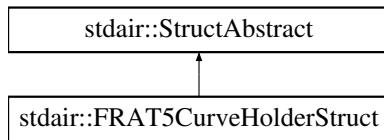
The documentation for this struct was generated from the following files:

- [stdair/basic/ForecastingMethod.hpp](#)
- [stdair/basic/ForecastingMethod.cpp](#)

## **32.84 stdair::FRAT5CurveHolderStruct Struct Reference**

```
#include <stdair/bom/FRAT5CurveHolderStruct.hpp>
```

Inheritance diagram for stdair::FRAT5CurveHolderStruct:



### Public Member Functions

- const [FRAT5Curve\\_T & getFRAT5Curve](#) (const std::string &) const
- void [addCurve](#) (const std::string &, const [FRAT5Curve\\_T &](#))
- void [toStream](#) (std::ostream &iOut) const
- void [fromStream](#) (std::istream &iIn)
- const std::string [describe](#) () const
- [FRAT5CurveHolderStruct](#) ()
- [FRAT5CurveHolderStruct](#) (const [FRAT5CurveHolderStruct &](#))
- [~FRAT5CurveHolderStruct](#) ()

#### 32.84.1 Detailed Description

Structure holding the elements of a snapshot .

Definition at line 19 of file [FRAT5CurveHolderStruct.hpp](#).

#### 32.84.2 Constructor & Destructor Documentation

##### 32.84.2.1 stdair::FRAT5CurveHolderStruct::FRAT5CurveHolderStruct ( )

Constructor.

Definition at line 14 of file [FRAT5CurveHolderStruct.cpp](#).

##### 32.84.2.2 stdair::FRAT5CurveHolderStruct::FRAT5CurveHolderStruct ( const FRAT5CurveHolderStruct & iHolder )

Copy constructor.

Definition at line 19 of file [FRAT5CurveHolderStruct.cpp](#).

##### 32.84.2.3 stdair::FRAT5CurveHolderStruct::~FRAT5CurveHolderStruct ( )

Destructor.

Definition at line 24 of file [FRAT5CurveHolderStruct.cpp](#).

#### 32.84.3 Member Function Documentation

##### 32.84.3.1 const FRAT5Curve\_T & stdair::FRAT5CurveHolderStruct::getFRAT5Curve ( const std::string & iKey ) const

Get the FRAT5 curve corresponding to the given key.

Definition at line 29 of file [FRAT5CurveHolderStruct.cpp](#).

References [STDAIR\\_LOG\\_DEBUG](#).

Referenced by [stdair::BomRoot::getFRAT5Curve\(\)](#).

##### 32.84.3.2 void stdair::FRAT5CurveHolderStruct::addCurve ( const std::string & iKey, const FRAT5Curve\_T & iCurve )

Add a new curve to the holder.

Definition at line 42 of file [FRAT5CurveHolderStruct.cpp](#).

References [STDAIR\\_LOG\\_DEBUG](#).

Referenced by [stdair::BomRoot::addFRAT5Curve\(\)](#).

### 32.84.3.3 void stdair::FRAT5CurveHolderStruct::toStream ( std::ostream & ioOut ) const

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 53 of file [FRAT5CurveHolderStruct.cpp](#).

References [describe\(\)](#).

### 32.84.3.4 void stdair::FRAT5CurveHolderStruct::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 58 of file [FRAT5CurveHolderStruct.cpp](#).

### 32.84.3.5 const std::string stdair::FRAT5CurveHolderStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 62 of file [FRAT5CurveHolderStruct.cpp](#).

Referenced by [toStream\(\)](#).

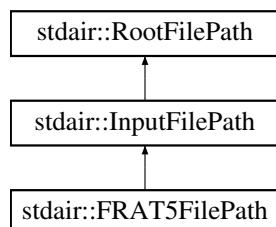
The documentation for this struct was generated from the following files:

- stdair/bom/[FRAT5CurveHolderStruct.hpp](#)
- stdair/bom/[FRAT5CurveHolderStruct.cpp](#)

## 32.85 stdair::FRAT5FilePath Class Reference

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::FRAT5FilePath:



### Public Member Functions

- [FRAT5FilePath](#) (const [Filename\\_T](#) &iFilename)
- const char \* [name](#) () const

### Protected Attributes

- const [Filename\\_T \\_filename](#)

#### 32.85.1 Detailed Description

FRAT5 input file.

Definition at line [88](#) of file [stdair\\_file.hpp](#).

#### 32.85.2 Constructor & Destructor Documentation

##### 32.85.2.1 stdair::FRAT5FilePath::FRAT5FilePath ( const [Filename\\_T & iFilename](#) ) [inline], [explicit]

Constructor.

Definition at line [93](#) of file [stdair\\_file.hpp](#).

#### 32.85.3 Member Function Documentation

##### 32.85.3.1 const char\* stdair::RootFilePath::name ( ) const [inline], [inherited]

Give the details of the exception.

Definition at line [42](#) of file [stdair\\_file.hpp](#).

References [stdair::RootFilePath::\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

#### 32.85.4 Member Data Documentation

##### 32.85.4.1 const [Filename\\_T](#) stdair::RootFilePath::\_filename [protected], [inherited]

Name of the file.

Definition at line [50](#) of file [stdair\\_file.hpp](#).

Referenced by [stdair::RootFilePath::name\(\)](#).

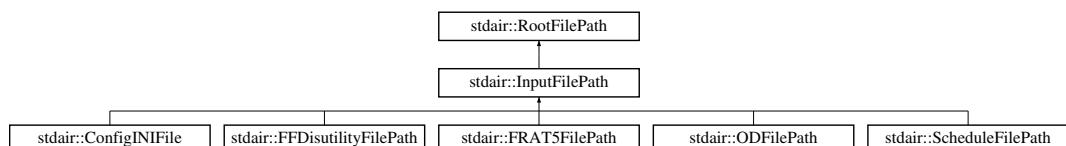
The documentation for this class was generated from the following file:

- stdair/[stdair\\_file.hpp](#)

## 32.86 stdair::InputFilePath Class Reference

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::InputFilePath:



## Public Member Functions

- [InputFilePath \(const `Filename\_T` &\*iFilename\*\)](#)
- [const char \\* name \(\) const](#)

## Protected Attributes

- [const `Filename\_T \_filename`](#)

### 32.86.1 Detailed Description

Input File.

Definition at line [54](#) of file [stdair\\_file.hpp](#).

### 32.86.2 Constructor & Destructor Documentation

#### 32.86.2.1 stdair::InputFilePath::InputFilePath ( const `Filename_T` & *iFilename* ) [inline]

Constructor.

Definition at line [57](#) of file [stdair\\_file.hpp](#).

### 32.86.3 Member Function Documentation

#### 32.86.3.1 const char\* stdair::RootFilePath::name ( ) const [inline], [inherited]

Give the details of the exception.

Definition at line [42](#) of file [stdair\\_file.hpp](#).

References [stdair::RootFilePath::\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

### 32.86.4 Member Data Documentation

#### 32.86.4.1 const `Filename_T` stdair::RootFilePath::\_filename [protected], [inherited]

Name of the file.

Definition at line [50](#) of file [stdair\\_file.hpp](#).

Referenced by [stdair::RootFilePath::name\(\)](#).

The documentation for this class was generated from the following file:

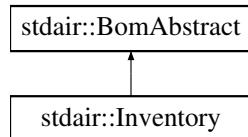
- stdair/[stdair\\_file.hpp](#)

## 32.87 stdair::Inventory Class Reference

Class representing the actual attributes for an airline inventory.

```
#include <stdair/bom/Inventory.hpp>
```

Inheritance diagram for stdair::Inventory:



### Public Types

- `typedef InventoryKey Key_T`

### Public Member Functions

- `const Key_T & getKey () const`
- `const AirlineCode_T & getAirlineCode () const`
- `ForecastingMethod::EN_ForecastingMethod getForecastingMethod () const`
- `UnconstrainingMethod::EN_UnconstrainingMethod getUnconstrainingMethod () const`
- `PreOptimisationMethod::EN_PreOptimisationMethod getPreOptimisationMethod () const`
- `OptimisationMethod::EN_OptimisationMethod getOptimisationMethod () const`
- `PartnershipTechnique::EN_PartnershipTechnique getPartnershipTechnique () const`
- `BomAbstract *const getParent () const`
- `const HolderMap_T & getHolderMap () const`
- `FlightDate * getFlightDate (const std::string &iFlightDateKeyStr) const`
- `FlightDate * getFlightDate (const FlightDateKey &) const`
- `AirlineFeature * getAirlineFeature () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `template<class Archive>`  
    `void serialize (Archive &ar, const unsigned int iFileVersion)`

### Protected Member Functions

- `Inventory (const Key_T &)`
- `~Inventory ()`

### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `AirlineFeature * _airlineFeature`
- `HolderMap_T _holderMap`

### Friends

- `template<typename BOM>`  
    `class FacBom`
- `template<typename BOM>`  
    `class FacCloneBom`
- `class FacBomManager`
- `class boost::serialization::access`

### 32.87.1 Detailed Description

Class representing the actual attributes for an airline inventory.

Definition at line 34 of file [Inventory.hpp](#).

### 32.87.2 Member Typedef Documentation

#### 32.87.2.1 `typedef InventoryKey stdair::Inventory::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 45 of file [Inventory.hpp](#).

### 32.87.3 Constructor & Destructor Documentation

#### 32.87.3.1 `stdair::Inventory::Inventory ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line 31 of file [Inventory.cpp](#).

#### 32.87.3.2 `stdair::Inventory::~Inventory ( ) [protected]`

Destructor.

Definition at line 38 of file [Inventory.cpp](#).

### 32.87.4 Member Function Documentation

#### 32.87.4.1 `const Key_T& stdair::Inventory::getKey ( ) const [inline]`

Get the inventory key (airline code).

Definition at line 51 of file [Inventory.hpp](#).

References [\\_key](#).

#### 32.87.4.2 `const AirlineCode_T& stdair::Inventory::getAirlineCode ( ) const [inline]`

Get the airline code (inventory/primary key).

Definition at line 56 of file [Inventory.hpp](#).

References [\\_key](#), and [stdair::InventoryKey::getAirlineCode\(\)](#).

Referenced by [stdair::OnDDate::getAirlineCode\(\)](#), [stdair::FlightDate::getAirlineCode\(\)](#), [stdair::BomJSONExport::jsonExportFlightDateList\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

#### 32.87.4.3 `ForecastingMethod::EN_ForecastingMethod stdair::Inventory::getForecastingMethod ( ) const`

Get the forecasting method.

Definition at line 64 of file [Inventory.cpp](#).

References [\\_airlineFeature](#), and [stdair::AirlineFeature::getForecastingMethod\(\)](#).

#### 32.87.4.4 `UnconstrainingMethod::EN_UnconstrainingMethod stdair::Inventory::getUnconstrainingMethod ( ) const`

Get the unconstraining method.

Definition at line 71 of file [Inventory.cpp](#).

References [\\_airlineFeature](#), and [stdair::AirlineFeature::getUnconstrainingMethod\(\)](#).

32.87.4.5 **PreOptimisationMethod::EN\_PreOptimisationMethod** stdair::Inventory::getPreOptimisationMethod ( ) const

Get the pre-optimisation method.

Definition at line 78 of file [Inventory.cpp](#).

References [\\_airlineFeature](#), and [stdair::AirlineFeature::getPreOptimisationMethod\(\)](#).

32.87.4.6 **OptimisationMethod::EN\_OptimisationMethod** stdair::Inventory::getOptimisationMethod ( ) const

Get the optimisation method.

Definition at line 85 of file [Inventory.cpp](#).

References [\\_airlineFeature](#), and [stdair::AirlineFeature::getOptimisationMethod\(\)](#).

32.87.4.7 **PartnershipTechnique::EN\_PartnershipTechnique** stdair::Inventory::getPartnershipTechnique ( ) const

Get the partnership technique.

Definition at line 92 of file [Inventory.cpp](#).

References [\\_airlineFeature](#), and [stdair::AirlineFeature::getPartnershipTechnique\(\)](#).

32.87.4.8 **BomAbstract\* const** stdair::Inventory::getParent ( ) const [inline]

Get the parent object.

Definition at line 76 of file [Inventory.hpp](#).

References [\\_parent](#).

32.87.4.9 **const HolderMap\_T&** stdair::Inventory::getHolderMap ( ) const [inline]

Get the map of children.

Definition at line 81 of file [Inventory.hpp](#).

References [\\_holderMap](#).

32.87.4.10 **FlightDate \*** stdair::Inventory::getFlightDate ( const std::string & iFlightDateKeyStr ) const

Get a pointer on the [FlightDate](#) object corresponding to the given key.

#### Note

The [FlightDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

#### Parameters

<code>const</code>	<code>std::string&amp;</code> The flight-date key.
--------------------	--

#### Returns

`FlightDate*` Found [FlightDate](#) object. `NULL` if not found.

Definition at line 50 of file [Inventory.cpp](#).

Referenced by [getFlightDate\(\)](#), [stdair::BomRetriever::retrieveFlightDateFromKey\(\)](#), and [stdair::BomRetriever::retrieveFlightDateFromLongKey\(\)](#).

32.87.4.11 **FlightDate \*** stdair::Inventory::getFlightDate ( const [FlightDateKey](#) & iFlightDateKey ) const

Get a pointer on the [FlightDate](#) object corresponding to the given key.

**Note**

The [FlightDate](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

**Parameters**

<code>const</code>	<a href="#">FlightDateKey</a> & The flight-date key
--------------------	---

**Returns**

`FlightDate*` Found [FlightDate](#) object. `NULL` if not found.

Definition at line [58](#) of file [Inventory.cpp](#).

References [getFlightDate\(\)](#), and [stdair::FlightDateKey::toString\(\)](#).

**32.87.4.12** `AirlineFeature* stdair::Inventory::getAirlineFeature( ) const [inline]`

Get the airline feature.

Definition at line [112](#) of file [Inventory.hpp](#).

References [\\_airlineFeature](#).

Referenced by [stdair::BomManager::getObjectPtr\(\)](#).

**32.87.4.13** `void stdair::Inventory::toStream( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

**Parameters**

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [132](#) of file [Inventory.hpp](#).

References [toString\(\)](#).

**32.87.4.14** `void stdair::Inventory::fromStream( std::istream & ioIn ) [inline], [virtual]`

Read a Business Object from an input stream.

**Parameters**

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [141](#) of file [Inventory.hpp](#).

**32.87.4.15** `std::string stdair::Inventory::toString( ) const [virtual]`

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [42](#) of file [Inventory.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

**32.87.4.16** `const std::string stdair::Inventory::describeKey( ) const [inline]`

Get a string describing the key.

Definition at line [152](#) of file [Inventory.hpp](#).

References [\\_key](#), and [stdair::InventoryKey::toString\(\)](#).

Referenced by [stdair::BomRetriever::retrieveFullKeyFromSegmentDate\(\)](#), and [toString\(\)](#).

#### 32.87.4.17 template<class Archive> void stdair::Inventory::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 160 of file [CmdBomSerialiser.cpp](#).

References [\\_key](#).

### 32.87.5 Friends And Related Function Documentation

#### 32.87.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line 35 of file [Inventory.hpp](#).

#### 32.87.5.2 template<typename BOM> friend class FacCloneBom [friend]

Definition at line 36 of file [Inventory.hpp](#).

#### 32.87.5.3 friend class FacBomManager [friend]

Definition at line 37 of file [Inventory.hpp](#).

#### 32.87.5.4 friend class boost::serialization::access [friend]

Definition at line 38 of file [Inventory.hpp](#).

### 32.87.6 Member Data Documentation

#### 32.87.6.1 Key\_T stdair::Inventory::\_key [protected]

Primary key (airline code).

Definition at line 204 of file [Inventory.hpp](#).

Referenced by [describeKey\(\)](#), [getAirlineCode\(\)](#), [getKey\(\)](#), and [serialize\(\)](#).

#### 32.87.6.2 BomAbstract\* stdair::Inventory::\_parent [protected]

Pointer on the parent class ([BomRoot](#)).

Definition at line 209 of file [Inventory.hpp](#).

Referenced by [getParent\(\)](#).

#### 32.87.6.3 AirlineFeature\* stdair::Inventory::\_airlineFeature [protected]

Features specific to the airline.

Definition at line 214 of file [Inventory.hpp](#).

Referenced by [getAirlineFeature\(\)](#), [getForecastingMethod\(\)](#), [getOptimisationMethod\(\)](#), [getPartnershipTechnique\(\)](#), [getPreOptimisationMethod\(\)](#), and [getUnconstrainingMethod\(\)](#).

#### 32.87.6.4 HolderMap\_T stdair::Inventory::\_holderMap [protected]

Map holding the children ([FlightDate](#) objects).

Definition at line 219 of file [Inventory.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

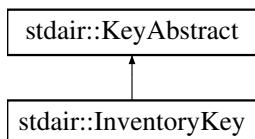
- stdair/bom/[Inventory.hpp](#)
- stdair/bom/[Inventory.cpp](#)
- stdair/command/[CmdBomSerialiser.cpp](#)

### 32.88 stdair::InventoryKey Struct Reference

Key of a given inventory, made of the airline code.

```
#include <stdair/bom/InventoryKey.hpp>
```

Inheritance diagram for stdair::InventoryKey:



#### Public Member Functions

- [InventoryKey](#) (const [AirlineCode\\_T](#) &iAirlineCode)
- [InventoryKey](#) (const [InventoryKey](#) &)
- [~InventoryKey](#) ()
- const [AirlineCode\\_T](#) & [getAirlineCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioIn)
- const std::string [toString](#) () const
- template<class Archive>  
void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

#### Friends

- class [boost::serialization::access](#)

#### 32.88.1 Detailed Description

Key of a given inventory, made of the airline code.

Definition at line 26 of file [InventoryKey.hpp](#).

#### 32.88.2 Constructor & Destructor Documentation

##### 32.88.2.1 stdair::InventoryKey::InventoryKey ( const AirlineCode\_T & iAirlineCode )

Constructor.

Definition at line 23 of file [InventoryKey.cpp](#).

##### 32.88.2.2 stdair::InventoryKey::InventoryKey ( const InventoryKey & iKey )

Copy constructor.

Definition at line 28 of file [InventoryKey.cpp](#).

### 32.88.2.3 stdair::InventoryKey::~InventoryKey( )

Destructor.

Definition at line 33 of file [InventoryKey.cpp](#).

### 32.88.3 Member Function Documentation

#### 32.88.3.1 const AirlineCode\_T& stdair::InventoryKey::getAirlineCode( ) const [inline]

Get the airline code.

Definition at line 58 of file [InventoryKey.hpp](#).

Referenced by [stdair::Inventory::getAirlineCode\(\)](#), [stdair::BomRetriever::retrieveInventoryFromLongKey\(\)](#), and [stdair::BomRetriever::retrievePartnerSegmentDateFromLongKey\(\)](#).

#### 32.88.3.2 void stdair::InventoryKey::toStream( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 37 of file [InventoryKey.cpp](#).

References [toString\(\)](#).

#### 32.88.3.3 void stdair::InventoryKey::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

##### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 42 of file [InventoryKey.cpp](#).

#### 32.88.3.4 const std::string stdair::InventoryKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 46 of file [InventoryKey.cpp](#).

Referenced by [stdair::Inventory::describeKey\(\)](#), [stdair::BomRoot::getInventory\(\)](#), and [toString\(\)](#).

#### 32.88.3.5 template<class Archive> void stdair::InventoryKey::serialize( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 68 of file [InventoryKey.cpp](#).

### 32.88.4 Friends And Related Function Documentation

### 32.88.4.1 friend class boost::serialization::access [friend]

Definition at line 27 of file [InventoryKey.hpp](#).

The documentation for this struct was generated from the following files:

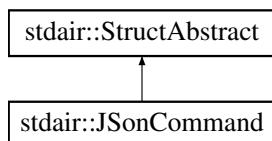
- stdair/bom/[InventoryKey.hpp](#)
- stdair/bom/[InventoryKey.cpp](#)

## 32.89 stdair::JJsonCommand Struct Reference

Enumeration of json commands.

```
#include <stdair/basic/JJsonCommand.hpp>
```

Inheritance diagram for stdair::JJsonCommand:



### Public Types

- enum [EN\\_JJsonCommand](#) {
 [LIST](#) = 0, [FLIGHT\\_DATE](#), [EVENT\\_LIST](#), [BREAK\\_POINT](#),  
[RUN](#), [RESET](#), [STATUS](#), [CONFIG](#),  
[LAST\\_VALUE](#) }

### Public Member Functions

- [EN\\_JJsonCommand getCommand \(\) const](#)
- [const std::string describe \(\) const](#)
- [bool operator== \(const EN\\_JJsonCommand &\) const](#)
- [JJsonCommand \(const EN\\_JJsonCommand &\)](#)
- [JJsonCommand \(const std::string &\)](#)
- [JJsonCommand \(const JJsonCommand &\)](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [virtual void fromStream \(std::istream &ioln\)](#)

### Static Public Member Functions

- [static EN\\_JJsonCommand getCommand \(const std::string &iCommandStr\)](#)
- [static std::string getLabel \(const EN\\_JJsonCommand &\)](#)
- [static std::string describeLabels \(\)](#)

### 32.89.1 Detailed Description

Enumeration of json commands.

Definition at line 17 of file [JJsonCommand.hpp](#).

## 32.89.2 Member Enumeration Documentation

## 32.89.2.1 enum stdair::JJsonCommand::EN\_JJsonCommand

Enumerator

*LIST*  
*FLIGHT\_DATE*  
*EVENT\_LIST*  
*BREAK\_POINT*  
*RUN*  
*RESET*  
*STATUS*  
*CONFIG*  
*LAST\_VALUE*

Definition at line 19 of file [JJsonCommand.hpp](#).

## 32.89.3 Constructor &amp; Destructor Documentation

## 32.89.3.1 stdair::JJsonCommand::JJsonCommand ( const EN\_JJsonCommand &amp; )

Main Constructor.

## 32.89.3.2 stdair::JJsonCommand::JJsonCommand ( const std::string &amp; iCommandStr )

Alternative constructor.

Definition at line 71 of file [JJsonCommand.cpp](#).

References [getCommand\(\)](#).

## 32.89.3.3 stdair::JJsonCommand::JJsonCommand ( const JJsonCommand &amp; iJsonCommand )

Default copy constructor.

Definition at line 25 of file [JJsonCommand.cpp](#).

## 32.89.4 Member Function Documentation

## 32.89.4.1 JJsonCommand::EN\_JJsonCommand stdair::JJsonCommand::getCommand ( const std::string &amp; iCommandStr ) [static]

Get the command value from parsing a single char (e.g., "list", "flight\_date", "event\_list", "break\_point", "run", "reset", "status" or "config").

Definition at line 31 of file [JJsonCommand.cpp](#).

References [BREAK\\_POINT](#), [CONFIG](#), [describeLabels\(\)](#), [EVENT\\_LIST](#), [FLIGHT\\_DATE](#), [LAST\\_VALUE](#), [LIST](#), [RESET](#), [RUN](#), and [STATUS](#).

Referenced by [stdair::BomJSONImport::jsonImportCommand\(\)](#).

## 32.89.4.2 std::string stdair::JJsonCommand::getLabel ( const EN\_JJsonCommand &amp; iCommand ) [static]

Get a label of a command

Definition at line 66 of file [JJsonCommand.cpp](#).

### 32.89.4.3 std::string stdair::JSonCommand::describeLabels( ) [static]

List the labels.

Definition at line 77 of file [JSonCommand.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [getCommand\(\)](#).

### 32.89.4.4 JSonCommand::EN\_JSOnCommand stdair::JSonCommand::getCommand( ) const

Get the enumerated value.

Definition at line 89 of file [JSonCommand.cpp](#).

Referenced by [JSonCommand\(\)](#).

### 32.89.4.5 const std::string stdair::JSonCommand::describe( ) const [virtual]

Give a description of the structure (e.g., "list", "flight\_date", "event\_list", "break\_point" "run", "reset", "status" or "config").

Implements [stdair::StructAbstract](#).

Definition at line 94 of file [JSonCommand.cpp](#).

### 32.89.4.6 bool stdair::JSonCommand::operator==( const EN\_JSOnCommand & iCommand ) const

Comparison operator.

Definition at line 102 of file [JSonCommand.cpp](#).

### 32.89.4.7 void stdair::StructAbstract::toStream( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

### 32.89.4.8 virtual void stdair::StructAbstract::fromStream( std::istream & ioIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

The documentation for this struct was generated from the following files:

- [stdair/basic/JSonCommand.hpp](#)
- [stdair/basic/JSonCommand.cpp](#)

## 32.90 stdair::JSONString Class Reference

JSON-formatted string.

```
#include <stdair/stdair_json.hpp>
```

### Public Member Functions

- [JSONString \(const std::string &iJsonString\)](#)
- [JSONString \(\)](#)
- [virtual ~JSONString \(\)](#)
- [const std::string & getString \(\) const](#)

### Protected Attributes

- [std::string \\_jsonString](#)

#### 32.90.1 Detailed Description

JSON-formatted string.

Definition at line [16](#) of file [stdair\\_json.hpp](#).

#### 32.90.2 Constructor & Destructor Documentation

##### 32.90.2.1 stdair::JSONString::JSONString ( const std::string & iJsonString ) [inline], [explicit]

Main Constructor.

Definition at line [21](#) of file [stdair\\_json.hpp](#).

##### 32.90.2.2 stdair::JSONString::JSONString ( ) [inline], [explicit]

Default constructor.

Definition at line [26](#) of file [stdair\\_json.hpp](#).

##### 32.90.2.3 virtual stdair::JSONString::~JSONString ( ) [inline], [virtual]

Destructor.

Definition at line [31](#) of file [stdair\\_json.hpp](#).

#### 32.90.3 Member Function Documentation

##### 32.90.3.1 const std::string& stdair::JSONString::getString ( ) const [inline]

Get the string value.

Definition at line [36](#) of file [stdair\\_json.hpp](#).

References [\\_jsonString](#).

Referenced by [stdair::BomJSONImport::jsonImportBreakPoints\(\)](#), [stdair::BomJSONImport::jsonImportCommand\(\)](#), [stdair::BomJSONImport::jsonImportConfig\(\)](#), [stdair::BomJSONImport::jsonImportEventType\(\)](#), [stdair::BomJSONImport::jsonImportFlightDate\(\)](#), [stdair::BomJSONImport::jsonImportFlightNumber\(\)](#), and [stdair::BomJSONImport::jsonImportInventoryKey\(\)](#).

### 32.90.4 Member Data Documentation

#### 32.90.4.1 std::string stdair::JSONString::\_jsonString [protected]

Definition at line 44 of file [stdair\\_json.hpp](#).

Referenced by [getString\(\)](#).

The documentation for this class was generated from the following file:

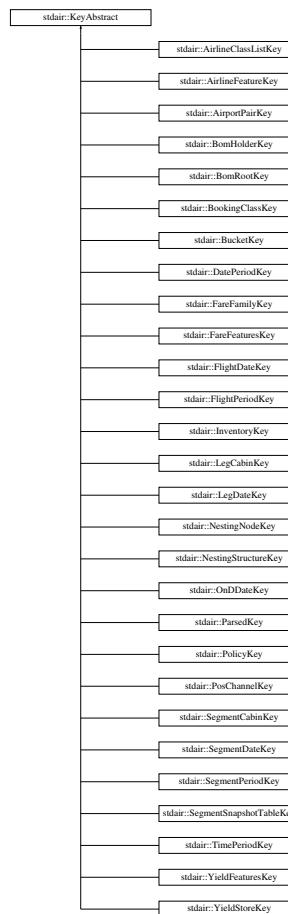
- stdair/[stdair\\_json.hpp](#)

## 32.91 stdair::KeyAbstract Struct Reference

Base class for the keys of Business Object Model (BOM) layer.

```
#include <stdair/bom/KeyAbstract.hpp>
```

Inheritance diagram for stdair::KeyAbstract:



### Public Member Functions

- virtual void [toStream](#) (std::ostream &ioOut) const  
*Dump a Business Object Key into an output stream.*
- virtual void [fromStream](#) (std::istream &ioln)  
*Read a Business Object Key from an input stream.*
- virtual const std::string [toString](#) () const  
*Get the serialised version of the Business Object Key.*

- virtual ~KeyAbstract ()

*Default destructor.*

### 32.91.1 Detailed Description

Base class for the keys of Business Object Model (BOM) layer.

Note that that key allows to differentiate two objects at the same level only. For instance, the segment-date key allows to differentiate two segment-dates under a given flight-date, but does not allow to differentiate two segment-dates in general.

Definition at line 27 of file [KeyAbstract.hpp](#).

### 32.91.2 Constructor & Destructor Documentation

#### 32.91.2.1 virtual stdair::KeyAbstract::~KeyAbstract( ) [inline], [virtual]

Default destructor.

Definition at line 61 of file [KeyAbstract.hpp](#).

### 32.91.3 Member Function Documentation

#### 32.91.3.1 virtual void stdair::KeyAbstract::toStream( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

in, out	<i>ostream&amp;</i>	the output stream.
---------	---------------------	--------------------

Reimplemented in [stdair::FareFeaturesKey](#), [stdair::OnDDateKey](#), [stdair::FlightDateKey](#), [stdair::AirlineClassListKey](#), [stdair::InventoryKey](#), [stdair::BomRootKey](#), [stdair::FareFamilyKey](#), [stdair::LegCabinKey](#), [stdair::NestingNodeKey](#), [stdair::NestingStructureKey](#), [stdair::PolicyKey](#), [stdair::SegmentCabinKey](#), [stdair::SegmentSnapshotTableKey](#), [stdair::SegmentDateKey](#), [stdair::BucketKey](#), [stdair::YieldFeaturesKey](#), [stdair::PosChannelKey](#), [stdair::AirportPairKey](#), [stdair::TimePeriodKey](#), [stdair::ParsedKey](#), [stdair::DatePeriodKey](#), [stdair::BookingClassKey](#), [stdair::LegDateKey](#), [stdair::SegmentPeriodKey](#), [stdair::FlightPeriodKey](#), [stdair::YieldStoreKey](#), [stdair::AirlineFeatureKey](#), and [stdair::BomHolderKey](#).

Definition at line 36 of file [KeyAbstract.hpp](#).

#### 32.91.3.2 virtual void stdair::KeyAbstract::fromStream( std::istream & ioIn ) [inline], [virtual]

Read a Business Object Key from an input stream.

##### Parameters

in, out	<i>istream&amp;</i>	the input stream.
---------	---------------------	-------------------

Reimplemented in [stdair::FareFeaturesKey](#), [stdair::OnDDateKey](#), [stdair::FlightDateKey](#), [stdair::AirlineClassListKey](#), [stdair::InventoryKey](#), [stdair::BomRootKey](#), [stdair::FareFamilyKey](#), [stdair::LegCabinKey](#), [stdair::NestingNodeKey](#), [stdair::NestingStructureKey](#), [stdair::PolicyKey](#), [stdair::SegmentCabinKey](#), [stdair::SegmentSnapshotTableKey](#), [stdair::SegmentDateKey](#), [stdair::BucketKey](#), [stdair::YieldFeaturesKey](#), [stdair::PosChannelKey](#), [stdair::AirportPairKey](#), [stdair::TimePeriodKey](#), [stdair::ParsedKey](#), [stdair::DatePeriodKey](#), [stdair::BookingClassKey](#), [stdair::LegDateKey](#), [stdair::SegmentPeriodKey](#), [stdair::FlightPeriodKey](#), [stdair::YieldStoreKey](#), [stdair::AirlineFeatureKey](#), and [stdair::BomHolderKey](#).

Definition at line 43 of file [KeyAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

### 32.91.3.3 virtual const std::string stdair::KeyAbstract::toString( ) const [inline], [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

#### Parameters

out	<i>const</i>	std::string	The serialised version of the Business Object Key.
-----	--------------	-------------	--

Reimplemented in [stdair::FareFeaturesKey](#), [stdair::OnDDateKey](#), [stdair::FlightDateKey](#), [stdair::AirlineClassListKey](#), [stdair::InventoryKey](#), [stdair::BomRootKey](#), [stdair::FareFamilyKey](#), [stdair::LegCabinKey](#), [stdair::NestingNodeKey](#), [stdair::NestingStructureKey](#), [stdair::PolicyKey](#), [stdair::SegmentCabinKey](#), [stdair::SegmentSnapshotTableKey](#), [stdair::SegmentDateKey](#), [stdair::BucketKey](#), [stdair::YieldFeaturesKey](#), [stdair::PosChannelKey](#), [stdair::AirportPairKey](#), [stdair::TimePeriodKey](#), [stdair::ParsedKey](#), [stdair::DatePeriodKey](#), [stdair::BookingClassKey](#), [stdair::LegDateKey](#), [stdair::SegmentPeriodKey](#), [stdair::FlightPeriodKey](#), [stdair::YieldStoreKey](#), [stdair::AirlineFeatureKey](#), and [stdair::BomHolderKey](#).

Definition at line 56 of file [KeyAbstract.hpp](#).

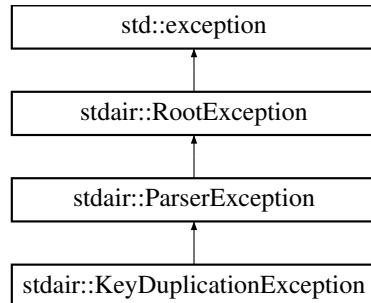
The documentation for this struct was generated from the following file:

- [stdair/bom/KeyAbstract.hpp](#)

## 32.92 stdair::KeyDuplicationException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::KeyDuplicationException:



#### Public Member Functions

- [KeyDuplicationException](#) (const std::string &iWhat)
- const char \* [what\(\)](#) const throw ()

#### Protected Attributes

- std::string [\\_what](#)

### 32.92.1 Detailed Description

Key duplication.

Definition at line 149 of file [stdair\\_exceptions.hpp](#).

### 32.92.2 Constructor & Destructor Documentation

32.92.2.1 stdair::KeyDuplicationException::KeyDuplicationException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 152 of file [stdair\\_exceptions.hpp](#).

### 32.92.3 Member Function Documentation

32.92.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.92.4 Member Data Documentation

32.92.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

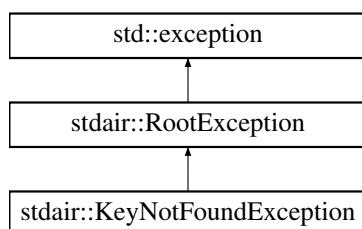
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.93 stdair::KeyNotFoundException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::KeyNotFoundException:



### Public Member Functions

- [KeyNotFoundException](#) (const std::string &iWhat)
- const char \* [what](#) () const throw ()

### Protected Attributes

- std::string [\\_what](#)

### 32.93.1 Detailed Description

Not found key.

Definition at line 126 of file [stdair\\_exceptions.hpp](#).

### 32.93.2 Constructor & Destructor Documentation

#### 32.93.2.1 stdair::KeyNotFoundException::KeyNotFoundException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 129 of file [stdair\\_exceptions.hpp](#).

### 32.93.3 Member Function Documentation

#### 32.93.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.93.4 Member Data Documentation

#### 32.93.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

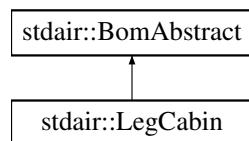
- [stdair/stdair\\_exceptions.hpp](#)

## 32.94 stdair::LegCabin Class Reference

Class representing the actual attributes for an airline leg-cabin.

```
#include <stdair/bom/LegCabin.hpp>
```

Inheritance diagram for stdair::LegCabin:



### Public Types

- [typedef LegCabinKey Key\\_T](#)

### Public Member Functions

- const `Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- const `CabinCode_T & getCabinCode () const`
- const `MapKey_T getFullerKey () const`
- const `HolderMap_T & getHolderMap () const`
- const `CabinCapacity_T & getOfferedCapacity () const`
- const `CabinCapacity_T & getPhysicalCapacity () const`
- const `NbOfSeats_T & getSoldSeat () const`
- const `CommittedSpace_T & getCommittedSpace () const`
- const `Availability_T & getAvailabilityPool () const`
- const `Availability_T & getAvailability () const`
- const `BidPrice_T & getCurrentBidPrice () const`
- const `BidPrice_T & getPreviousBidPrice () const`
- const `BidPriceVector_T & getBidPriceVector () const`
- const `CapacityAdjustment_T & getRegradeAdjustment () const`
- const `AuthorizationLevel_T & getAuthorizationLevel () const`
- const `UPR_T & getUPR () const`
- const `Availability_T & getNetAvailability () const`
- const `Availability_T & getGrossAvailability () const`
- const `OverbookingRate_T & getAvgCancellationPercentage () const`
- const `NbOfSeats_T & getETB () const`
- const `NbOfSeats_T & getStaffNbOfSeats () const`
- const `NbOfSeats_T & getWLNbOfSeats () const`
- const `NbOfSeats_T & getGroupNbOfSeats () const`
- `VirtualClassList_T & getVirtualClassList ()`
- `BidPriceVector_T & getBidPriceVector ()`
- const `YieldLevelDemandMap_T & getYieldLevelDemandMap ()`
- void `setCapacities (const CabinCapacity_T &iCapacity)`
- void `setSoldSeat (const NbOfSeats_T &iSoldSeat)`
- void `setCommittedSpace (const CommittedSpace_T &iCommittedSpace)`
- void `setAvailabilityPool (const Availability_T &iAvailabilityPool)`
- void `setAvailability (const Availability_T &iAvailability)`
- void `setCurrentBidPrice (const BidPrice_T &iBidPrice)`
- void `setPreviousBidPrice (const BidPrice_T &iBidPrice)`
- void `updatePreviousBidPrice ()`
- void `setRegradeAdjustment (const CapacityAdjustment_T &iRegradeAdjustment)`
- void `setAuthorizationLevel (const AuthorizationLevel_T &iAU)`
- void `setUPR (const UPR_T &iUPR)`
- void `setNetAvailability (const Availability_T &iNAV)`
- void `setGrossAvailability (const Availability_T &iGAV)`
- void `setAvgCancellationPercentage (const OverbookingRate_T &iACP)`
- void `setETB (const NbOfSeats_T &iETB)`
- void `setStaffNbOfSeats (const NbOfSeats_T &iStaffSeats)`
- void `setWLNbOfSeats (const NbOfSeats_T &iWLSeats)`
- void `setGroupNbOfSeats (const NbOfSeats_T &iGroupSeats)`
- void `updateCurrentBidPrice ()`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioIn)`
- std::string `toString () const`
- const std::string `describeKey () const`
- const std::string `displayVirtualClassList () const`
- void `updateFromReservation (const NbOfBookings_T &`
- void `addVirtualClass (const VirtualClassStruct &iVC)`

- void `emptyVirtualClassList ()`
- void `emptyBidPriceVector ()`
- void `addDemandInformation (const YieldValue_T &, const MeanValue_T &, const StdDevValue_T &)`
- void `emptyYieldLevelDemandMap ()`

#### Public Attributes

- CapacityAdjustment\_T \_dcsRegrade
- AuthorizationLevel\_T \_au
- UPR\_T \_upr
- Availability\_T \_nav
- Availability\_T \_gav
- OverbookingRate\_T \_acp
- NbOfSeats\_T \_etb
- NbOfSeats\_T \_staffNbOfBookings
- NbOfSeats\_T \_wlNbOfBookings
- NbOfSeats\_T \_groupNbOfBookings

#### Protected Member Functions

- LegCabin (const Key\_T &)
- ~LegCabin ()

#### Protected Attributes

- Key\_T \_key
- BomAbstract \* \_parent
- HolderMap\_T \_holderMap
- CabinCapacity\_T \_offeredCapacity
- CabinCapacity\_T \_physicalCapacity
- NbOfSeats\_T \_soldSeat
- CommittedSpace\_T \_committedSpace
- Availability\_T \_availabilityPool
- Availability\_T \_availability
- BidPrice\_T \_currentBidPrice
- BidPrice\_T \_previousBidPrice
- BidPriceVector\_T \_bidPriceVector
- VirtualClassList\_T \_virtualClassList
- YieldLevelDemandMap\_T \_yieldLevelDemandMap

#### Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

#### 32.94.1 Detailed Description

Class representing the actual attributes for an airline leg-cabin.

Definition at line 25 of file `LegCabin.hpp`.

### 32.94.2 Member Typedef Documentation

#### 32.94.2.1 `typedef LegCabinKey stdair::LegCabin::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 35 of file [LegCabin.hpp](#).

### 32.94.3 Constructor & Destructor Documentation

#### 32.94.3.1 `stdair::LegCabin::LegCabin ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line 46 of file [LegCabin.cpp](#).

#### 32.94.3.2 `stdair::LegCabin::~LegCabin ( ) [protected]`

Destructor.

Definition at line 69 of file [LegCabin.cpp](#).

### 32.94.4 Member Function Documentation

#### 32.94.4.1 `const Key_T& stdair::LegCabin::getKey ( ) const [inline]`

Get the leg-cabin key (cabin code).

Definition at line 42 of file [LegCabin.hpp](#).

References [\\_key](#).

#### 32.94.4.2 `BomAbstract* const stdair::LegCabin::getParent ( ) const [inline]`

Get the parent object.

Definition at line 49 of file [LegCabin.hpp](#).

References [\\_parent](#).

#### 32.94.4.3 `const CabinCode_T& stdair::LegCabin::getCabinCode ( ) const [inline]`

Get the cabin code (from key).

Definition at line 56 of file [LegCabin.hpp](#).

References [\\_key](#), and [stdair::LegCabinKey::getCabinCode\(\)](#).

Referenced by [getFullerKey\(\)](#).

#### 32.94.4.4 `const MapKey_T stdair::LegCabin::getFullerKey ( ) const`

Get the (leg-date, leg-cabin) key (board point and cabin code).

#### Note

That method assumes that the parent object derives from the [SegmentDate](#) class, as it needs to have access to the [describeKey\(\)](#) method.

Definition at line 80 of file [LegCabin.cpp](#).

References [stdair::DEFAULT\\_KEY\\_FLD\\_DELIMITER](#), [stdair::LegDate::describeKey\(\)](#), and [getCabinCode\(\)](#).

**32.94.4.5 const HolderMap\_T& stdair::LegCabin::getHolderMap( ) const [inline]**

Get the map of children holders.

Definition at line [72](#) of file [LegCabin.hpp](#).

References [\\_holderMap](#).

**32.94.4.6 const CabinCapacity\_T& stdair::LegCabin::getOfferedCapacity( ) const [inline]**

Get the cabin offered capacity.

Definition at line [77](#) of file [LegCabin.hpp](#).

References [\\_offeredCapacity](#).

**32.94.4.7 const CabinCapacity\_T& stdair::LegCabin::getPhysicalCapacity( ) const [inline]**

Get the cabin physical capacity.

Definition at line [82](#) of file [LegCabin.hpp](#).

References [\\_physicalCapacity](#).

**32.94.4.8 const NbOfSeats\_T& stdair::LegCabin::getSoldSeat( ) const [inline]**

Get the number of sold seat.

Definition at line [87](#) of file [LegCabin.hpp](#).

References [\\_soldSeat](#).

**32.94.4.9 const CommittedSpace\_T& stdair::LegCabin::getCommittedSpace( ) const [inline]**

Get the value of committed space.

Definition at line [92](#) of file [LegCabin.hpp](#).

References [\\_committedSpace](#).

**32.94.4.10 const Availability\_T& stdair::LegCabin::getAvailabilityPool( ) const [inline]**

Get the value of the availability pool.

Definition at line [97](#) of file [LegCabin.hpp](#).

References [\\_availabilityPool](#).

**32.94.4.11 const Availability\_T& stdair::LegCabin::getAvailability( ) const [inline]**

Get the value of the availability.

Definition at line [102](#) of file [LegCabin.hpp](#).

References [\\_availability](#).

**32.94.4.12 const BidPrice\_T& stdair::LegCabin::getCurrentBidPrice( ) const [inline]**

Get the current Bid-Price.

Definition at line [107](#) of file [LegCabin.hpp](#).

References [\\_currentBidPrice](#).

**32.94.4.13 const BidPrice\_T& stdair::LegCabin::getPreviousBidPrice( ) const [inline]**

Get the previous Bid-Price.

Definition at line [112](#) of file [LegCabin.hpp](#).

References [\\_previousBidPrice](#).

32.94.4.14 const BidPriceVector\_T& stdair::LegCabin::getBidPriceVector( ) const [inline]

Get the Bid-Price Vector.

Definition at line 117 of file [LegCabin.hpp](#).

References [\\_bidPriceVector](#).

32.94.4.15 const CapacityAdjustment\_T& stdair::LegCabin::getRegradeAdjustment( ) const [inline]

Get the capacity adjustment due to check-in (DCS) regrade.

Definition at line 122 of file [LegCabin.hpp](#).

References [\\_dcsRegrade](#).

32.94.4.16 const AuthorizationLevel\_T& stdair::LegCabin::getAuthorizationLevel( ) const [inline]

Authorisation Level (AU).

Definition at line 127 of file [LegCabin.hpp](#).

References [\\_au](#).

32.94.4.17 const UPR\_T& stdair::LegCabin::getUPR( ) const [inline]

Unsold Protection (UPR).

Definition at line 132 of file [LegCabin.hpp](#).

References [\\_upr](#).

32.94.4.18 const Availability\_T& stdair::LegCabin::getNetAvailability( ) const [inline]

Net Availability (NAV).

Definition at line 137 of file [LegCabin.hpp](#).

References [\\_nav](#).

32.94.4.19 const Availability\_T& stdair::LegCabin::getGrossAvailability( ) const [inline]

Gross Availability (GAV).

Definition at line 142 of file [LegCabin.hpp](#).

References [\\_gav](#).

32.94.4.20 const OverbookingRate\_T& stdair::LegCabin::getAvgCancellationPercentage( ) const [inline]

Average Cancellation Percentage (ACP).

Definition at line 147 of file [LegCabin.hpp](#).

References [\\_acp](#).

32.94.4.21 const NbOfSeats\_T& stdair::LegCabin::getETB( ) const [inline]

Expected to Board (ETB).

Definition at line 152 of file [LegCabin.hpp](#).

References [\\_etb](#).

32.94.4.22 const NbOfSeats\_T& stdair::LegCabin::getStaffNbOfSeats( ) const [inline]

Number of staff bookings.

Definition at line 157 of file [LegCabin.hpp](#).

References [\\_staffNbOfBookings](#).

32.94.4.23 `const NbOfSeats_T& stdair::LegCabin::getWLNbOfSeats( ) const [inline]`

Number of wait-listed bookings.

Definition at line 162 of file [LegCabin.hpp](#).

References [\\_wlNbOfBookings](#).

32.94.4.24 `const NbOfSeats_T& stdair::LegCabin::getGroupNbOfSeats( ) const [inline]`

Number of group bookings.

Definition at line 167 of file [LegCabin.hpp](#).

References [\\_groupNbOfBookings](#).

32.94.4.25 `VirtualClassList_T& stdair::LegCabin::getVirtualClassList( ) [inline]`

The virtual class list.

Definition at line 172 of file [LegCabin.hpp](#).

References [\\_virtualClassList](#).

32.94.4.26 `BidPriceVector_T& stdair::LegCabin::getBidPriceVector( ) [inline]`

Reset the bid price vector and return it.

Definition at line 177 of file [LegCabin.hpp](#).

References [\\_bidPriceVector](#).

32.94.4.27 `const YieldLevelDemandMap_T& stdair::LegCabin:: getYieldLevelDemandMap( ) [inline]`

Get the yield-demand map.

Definition at line 183 of file [LegCabin.hpp](#).

References [\\_yieldLevelDemandMap](#).

32.94.4.28 `void stdair::LegCabin::setCapacities( const CabinCapacity_T & iCapacity )`

Set the offered and physical capacities.

Definition at line 73 of file [LegCabin.cpp](#).

References [\\_committedSpace](#), [\\_offeredCapacity](#), [\\_physicalCapacity](#), and [setAvailabilityPool\(\)](#).

32.94.4.29 `void stdair::LegCabin::setSoldSeat( const NbOfSeats_T & iSoldSeat ) [inline]`

Set the number of sold seat.

Definition at line 194 of file [LegCabin.hpp](#).

References [\\_soldSeat](#).

32.94.4.30 `void stdair::LegCabin::setCommittedSpace( const CommittedSpace_T & iCommittedSpace ) [inline]`

Set the value of committed space.

Definition at line 199 of file [LegCabin.hpp](#).

References [\\_committedSpace](#).

32.94.4.31 void stdair::LegCabin::setAvailabilityPool ( const Availability\_T & *iAvailabilityPool* ) [inline]

Set the value of availability pool.

Definition at line 204 of file [LegCabin.hpp](#).

References [\\_availabilityPool](#).

Referenced by [setCapacities\(\)](#).

32.94.4.32 void stdair::LegCabin::setAvailability ( const Availability\_T & *iAvailability* ) [inline]

Set the value of availability.

Definition at line 209 of file [LegCabin.hpp](#).

References [\\_availability](#).

32.94.4.33 void stdair::LegCabin::setCurrentBidPrice ( const BidPrice\_T & *iBidPrice* ) [inline]

Set the current Bid-Price.

Definition at line 214 of file [LegCabin.hpp](#).

References [\\_currentBidPrice](#).

32.94.4.34 void stdair::LegCabin::setPreviousBidPrice ( const BidPrice\_T & *iBidPrice* ) [inline]

Set the previous Bid-Price.

Definition at line 219 of file [LegCabin.hpp](#).

References [\\_previousBidPrice](#).

32.94.4.35 void stdair::LegCabin::updatePreviousBidPrice ( ) [inline]

Update the previous bid price value with the current one.

Definition at line 224 of file [LegCabin.hpp](#).

References [\\_currentBidPrice](#), and [\\_previousBidPrice](#).

32.94.4.36 void stdair::LegCabin::setRegradeAdjustment ( const CapacityAdjustment\_T & *iRegradeAdjustment* ) [inline]

Get the capacity adjustment due to check-in (DCS) regrade.

Definition at line 229 of file [LegCabin.hpp](#).

References [\\_dcsRegrade](#).

32.94.4.37 void stdair::LegCabin::setAuthorizationLevel ( const AuthorizationLevel\_T & *iAU* ) [inline]

Set the Authorisation Level (AU).

Definition at line 234 of file [LegCabin.hpp](#).

References [\\_au](#).

32.94.4.38 void stdair::LegCabin::setUPR ( const UPR\_T & *iUPR* ) [inline]

Set the Unsold Protection (UPR).

Definition at line 239 of file [LegCabin.hpp](#).

References [\\_upr](#).

32.94.4.39 void stdair::LegCabin::setNetAvailability ( const Availability\_T & iNAV ) [inline]

Set the Net Availability (NAV).

Definition at line 244 of file [LegCabin.hpp](#).

References [\\_nav](#).

32.94.4.40 void stdair::LegCabin::setGrossAvailability ( const Availability\_T & iGAV ) [inline]

Set the Gross Availability (GAV).

Definition at line 249 of file [LegCabin.hpp](#).

References [\\_gav](#).

32.94.4.41 void stdair::LegCabin::setAvgCancellationPercentage ( const OverbookingRate\_T & iACP ) [inline]

Set the Average Cancellation Percentage (ACP).

Definition at line 254 of file [LegCabin.hpp](#).

References [\\_acp](#).

32.94.4.42 void stdair::LegCabin::setETB ( const NbOfSeats\_T & iETB ) [inline]

Set the Expected to Board (ETB).

Definition at line 259 of file [LegCabin.hpp](#).

References [\\_etb](#).

32.94.4.43 void stdair::LegCabin::setStaffNbOfSeats ( const NbOfSeats\_T & iStaffSeats ) [inline]

Set the Number of staff sold seats.

Definition at line 264 of file [LegCabin.hpp](#).

References [\\_staffNbOfBookings](#).

32.94.4.44 void stdair::LegCabin::setWLNbOfSeats ( const NbOfSeats\_T & iWLSeats ) [inline]

Set the Number of wait-listed sold seats.

Definition at line 269 of file [LegCabin.hpp](#).

References [\\_wlNbOfBookings](#).

32.94.4.45 void stdair::LegCabin::setGroupNbOfSeats ( const NbOfSeats\_T & iGroupSeats ) [inline]

Set the Number of group sold seats.

Definition at line 274 of file [LegCabin.hpp](#).

References [\\_groupNbOfBookings](#).

32.94.4.46 void stdair::LegCabin::updateCurrentBidPrice ( )

Update the bid price (from bid price vector if not empty).

Definition at line 120 of file [LegCabin.cpp](#).

References [\\_availabilityPool](#), [\\_bidPriceVector](#), and [\\_currentBidPrice](#).

32.94.4.47 void stdair::LegCabin::toStream ( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 288 of file [LegCabin.hpp](#).

References [toString\(\)](#).

**32.94.4.48 void stdair::LegCabin::fromStream ( std::istream & *iIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 296 of file [LegCabin.hpp](#).

**32.94.4.49 std::string stdair::LegCabin::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 89 of file [LegCabin.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.94.4.50 const std::string stdair::LegCabin::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line 307 of file [LegCabin.hpp](#).

References [\\_key](#), and [stdair::LegCabinKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.94.4.51 const std::string stdair::LegCabin::displayVirtualClassList ( ) const**

Display the virtual class list content.

Definition at line 96 of file [LegCabin.cpp](#).

References [\\_virtualClassList](#), [stdair::VirtualClassStruct::getCumulatedBookingLimit\(\)](#), [stdair::VirtualClassStruct::getCumulatedProtection\(\)](#), and [stdair::VirtualClassStruct::getYield\(\)](#).

**32.94.4.52 void stdair::LegCabin::updateFromReservation ( const NbOfBookings\_T & *iNbOfBookings* )**

Register a sale.

Definition at line 114 of file [LegCabin.cpp](#).

References [\\_availabilityPool](#), [\\_committedSpace](#), and [\\_offeredCapacity](#).

**32.94.4.53 void stdair::LegCabin::addVirtualClass ( const VirtualClassStruct & *iVC* ) [inline]**

Add a virtual class to the list.

Definition at line 327 of file [LegCabin.hpp](#).

References [\\_virtualClassList](#).

32.94.4.54 void stdair::LegCabin::emptyVirtualClassList( ) [inline]

Empty the virtual class list.

Definition at line 334 of file [LegCabin.hpp](#).

References [\\_virtualClassList](#).

32.94.4.55 void stdair::LegCabin::emptyBidPriceVector( ) [inline]

Empty the bid price vector.

Definition at line 341 of file [LegCabin.hpp](#).

References [\\_bidPriceVector](#).

32.94.4.56 void stdair::LegCabin::addDemandInformation ( const YieldValue\_T & *iYield*, const MeanValue\_T & *iMeanValue*, const StdDevValue\_T & *iStdDevValue* )

Add demand information.

Definition at line 133 of file [LegCabin.cpp](#).

References [\\_yieldLevelDemandMap](#).

32.94.4.57 void stdair::LegCabin::emptyYieldLevelDemandMap( ) [inline]

Reset the (yield level,demand) map.

Definition at line 354 of file [LegCabin.hpp](#).

References [\\_yieldLevelDemandMap](#).

## 32.94.5 Friends And Related Function Documentation

32.94.5.1 template<typename BOM> friend class **FacBom** [friend]

Definition at line 26 of file [LegCabin.hpp](#).

32.94.5.2 template<typename BOM> friend class **FacCloneBom** [friend]

Definition at line 27 of file [LegCabin.hpp](#).

32.94.5.3 friend class **FacBomManager** [friend]

Definition at line 28 of file [LegCabin.hpp](#).

## 32.94.6 Member Data Documentation

32.94.6.1 **Key\_T** stdair::LegCabin::\_key [protected]

Primary key (cabin code).

Definition at line 387 of file [LegCabin.hpp](#).

Referenced by [describeKey\(\)](#), [getCabinCode\(\)](#), and [getKey\(\)](#).

32.94.6.2 **BomAbstract\*** stdair::LegCabin::\_parent [protected]

Pointer on the parent class ([LegDate](#)).

Definition at line 392 of file [LegCabin.hpp](#).

Referenced by [getParent\(\)](#).

**32.94.6.3 HolderMap\_T stdair::LegCabin::\_holderMap [protected]**

Map holding the children ([Bucket](#) objects).

Definition at line [397](#) of file [LegCabin.hpp](#).

Referenced by [getHolderMap\(\)](#).

**32.94.6.4 CabinCapacity\_T stdair::LegCabin::\_offeredCapacity [protected]**

Saleable capacity of the cabin.

Definition at line [400](#) of file [LegCabin.hpp](#).

Referenced by [getOfferedCapacity\(\)](#), [setCapacities\(\)](#), and [updateFromReservation\(\)](#).

**32.94.6.5 CabinCapacity\_T stdair::LegCabin::\_physicalCapacity [protected]**

Physical capacity of the cabin.

Definition at line [403](#) of file [LegCabin.hpp](#).

Referenced by [getPhysicalCapacity\(\)](#), and [setCapacities\(\)](#).

**32.94.6.6 NbOfSeats\_T stdair::LegCabin::\_soldSeat [protected]**

Aggregated number of sold seats.

Definition at line [406](#) of file [LegCabin.hpp](#).

Referenced by [getSoldSeat\(\)](#), and [setSoldSeat\(\)](#).

**32.94.6.7 CommittedSpace\_T stdair::LegCabin::\_committedSpace [protected]**

Definition at line [409](#) of file [LegCabin.hpp](#).

Referenced by [getCommittedSpace\(\)](#), [setCapacities\(\)](#), [setCommittedSpace\(\)](#), and [updateFromReservation\(\)](#).

**32.94.6.8 Availability\_T stdair::LegCabin::\_availabilityPool [protected]**

Availability pool.

Definition at line [412](#) of file [LegCabin.hpp](#).

Referenced by [getAvailabilityPool\(\)](#), [setAvailabilityPool\(\)](#), [updateCurrentBidPrice\(\)](#), and [updateFromReservation\(\)](#).

**32.94.6.9 Availability\_T stdair::LegCabin::\_availability [protected]**

Availability.

Definition at line [415](#) of file [LegCabin.hpp](#).

Referenced by [getAvailability\(\)](#), and [setAvailability\(\)](#).

**32.94.6.10 BidPrice\_T stdair::LegCabin::\_currentBidPrice [protected]**

Current Bid-Price (BP).

Definition at line [418](#) of file [LegCabin.hpp](#).

Referenced by [getCurrentBidPrice\(\)](#), [setCurrentBidPrice\(\)](#), [updateCurrentBidPrice\(\)](#), and [updatePreviousBidPrice\(\)](#).

**32.94.6.11 BidPrice\_T stdair::LegCabin::\_previousBidPrice [protected]**

Previous Bid-Price (BP).

Definition at line [421](#) of file [LegCabin.hpp](#).

Referenced by [getPreviousBidPrice\(\)](#), [setPreviousBidPrice\(\)](#), and [updatePreviousBidPrice\(\)](#).

#### 32.94.6.12 **BidPriceVector\_T** stdair::LegCabin::\_bidPriceVector [protected]

Bid-Price Vector (BPV).

Definition at line 424 of file [LegCabin.hpp](#).

Referenced by [emptyBidPriceVector\(\)](#), [getBidPriceVector\(\)](#), and [updateCurrentBidPrice\(\)](#).

#### 32.94.6.13 **VirtualclassList\_T** stdair::LegCabin::\_virtualclassList [protected]

List of virtual classes (for revenue management optimisation).

Definition at line 427 of file [LegCabin.hpp](#).

Referenced by [addVirtualClass\(\)](#), [displayVirtualclassList\(\)](#), [emptyVirtualclassList\(\)](#), and [getVirtualclassList\(\)](#).

#### 32.94.6.14 **YieldLevelDemandMap\_T** stdair::LegCabin::\_yieldLevelDemandMap [protected]

Map holding the demand information indexed by yield.

Definition at line 430 of file [LegCabin.hpp](#).

Referenced by [addDemandInformation\(\)](#), [emptyYieldLevelDemandMap\(\)](#), and [getYieldLevelDemandMap\(\)](#).

#### 32.94.6.15 **CapacityAdjustment\_T** stdair::LegCabin::\_dcsRegrade

Capacity adjustment of the cabin, due to check-in (DCS) regrade.

Definition at line 435 of file [LegCabin.hpp](#).

Referenced by [getRegradeAdjustment\(\)](#), and [setRegradeAdjustment\(\)](#).

#### 32.94.6.16 **AuthorizationLevel\_T** stdair::LegCabin::\_au

Authorisation Level (AU).

Definition at line 438 of file [LegCabin.hpp](#).

Referenced by [getAuthorizationLevel\(\)](#), and [setAuthorizationLevel\(\)](#).

#### 32.94.6.17 **UPR\_T** stdair::LegCabin::\_upr

Unsold Protection (UPR).

Definition at line 441 of file [LegCabin.hpp](#).

Referenced by [getUPR\(\)](#), and [setUPR\(\)](#).

#### 32.94.6.18 **Availability\_T** stdair::LegCabin::\_nav

Net Availability (NAV).

Definition at line 444 of file [LegCabin.hpp](#).

Referenced by [getNetAvailability\(\)](#), and [setNetAvailability\(\)](#).

#### 32.94.6.19 **Availability\_T** stdair::LegCabin::\_gav

Gross Availability (GAV).

Definition at line 447 of file [LegCabin.hpp](#).

Referenced by [getGrossAvailability\(\)](#), and [setGrossAvailability\(\)](#).

#### 32.94.6.20 **OverbookingRate\_T** stdair::LegCabin::\_acp

Average Cancellation Percentage (ACP).

Definition at line 450 of file [LegCabin.hpp](#).

Referenced by [getAvgCancellationPercentage\(\)](#), and [setAvgCancellationPercentage\(\)](#).

#### 32.94.6.21 NbOfSeats\_T stdair::LegCabin::\_etb

Expected to Board (ETB).

Definition at line 453 of file [LegCabin.hpp](#).

Referenced by [getETB\(\)](#), and [setETB\(\)](#).

#### 32.94.6.22 NbOfSeats\_T stdair::LegCabin::\_staffNbOfBookings

Number of staff bookings.

Definition at line 456 of file [LegCabin.hpp](#).

Referenced by [getStaffNbOfSeats\(\)](#), and [setStaffNbOfSeats\(\)](#).

#### 32.94.6.23 NbOfSeats\_T stdair::LegCabin::\_wlNbOfBookings

Number of wait-listed bookings.

Definition at line 459 of file [LegCabin.hpp](#).

Referenced by [getWLNbOfSeats\(\)](#), and [setWLNbOfSeats\(\)](#).

#### 32.94.6.24 NbOfSeats\_T stdair::LegCabin::\_groupNbOfBookings

Number of group bookings.

Definition at line 462 of file [LegCabin.hpp](#).

Referenced by [getGroupNbOfSeats\(\)](#), and [setGroupNbOfSeats\(\)](#).

The documentation for this class was generated from the following files:

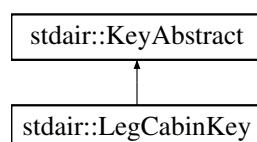
- stdair/bom/[LegCabin.hpp](#)
- stdair/bom/[LegCabin.cpp](#)

## 32.95 stdair::LegCabinKey Struct Reference

Key of a given leg-cabin, made of a cabin code (only).

```
#include <stdair/bom/LegCabinKey.hpp>
```

Inheritance diagram for stdair::LegCabinKey:



### Public Member Functions

- [LegCabinKey](#) (const [CabinCode\\_T](#) &iCabinCode)
- [LegCabinKey](#) (const [LegCabinKey](#) &)
- [~LegCabinKey](#) ()
- const [CabinCode\\_T](#) & [getCabinCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)

- const std::string `toString () const`
- template<class Archive >  
void `serialize (Archive &ar, const unsigned int iFileVersion)`

## Friends

- class `boost::serialization::access`

### 32.95.1 Detailed Description

Key of a given leg-cabin, made of a cabin code (only).

Definition at line 26 of file [LegCabinKey.hpp](#).

### 32.95.2 Constructor & Destructor Documentation

#### 32.95.2.1 `stdair::LegCabinKey::LegCabinKey ( const CabinCode_T & iCabinCode )`

Constructor.

Definition at line 23 of file [LegCabinKey.cpp](#).

#### 32.95.2.2 `stdair::LegCabinKey::LegCabinKey ( const LegCabinKey & iKey )`

Copy constructor.

Definition at line 28 of file [LegCabinKey.cpp](#).

#### 32.95.2.3 `stdair::LegCabinKey::~LegCabinKey ( )`

Destructor.

Definition at line 33 of file [LegCabinKey.cpp](#).

### 32.95.3 Member Function Documentation

#### 32.95.3.1 `const CabinCode_T& stdair::LegCabinKey::getCabinCode ( ) const [inline]`

Get the cabin code.

Definition at line 56 of file [LegCabinKey.hpp](#).

Referenced by [stdair::LegCabin::getCabinCode\(\)](#).

#### 32.95.3.2 `void stdair::LegCabinKey::toStream ( std::ostream & ioOut ) const [virtual]`

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 37 of file [LegCabinKey.cpp](#).

References [toString\(\)](#).

#### 32.95.3.3 `void stdair::LegCabinKey::fromStream ( std::istream & ioIn ) [virtual]`

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [LegCabinKey.cpp](#).

**32.95.3.4 const std::string stdair::LegCabinKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [46](#) of file [LegCabinKey.cpp](#).

Referenced by [stdair::LegCabin::describeKey\(\)](#), [stdair::LegDate::getLegCabin\(\)](#), and [toStream\(\)](#).

**32.95.3.5 template<class Archive> void stdair::LegCabinKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line [68](#) of file [LegCabinKey.cpp](#).

**32.95.4 Friends And Related Function Documentation****32.95.4.1 friend class boost::serialization::access [friend]**

Definition at line [27](#) of file [LegCabinKey.hpp](#).

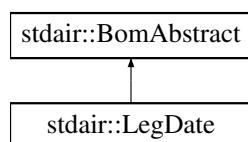
The documentation for this struct was generated from the following files:

- stdair/bom/[LegCabinKey.hpp](#)
- stdair/bom/[LegCabinKey.cpp](#)

**32.96 stdair::LegDate Class Reference**

```
#include <stdair/bom/LegDate.hpp>
```

Inheritance diagram for stdair::LegDate:

**Public Types**

- [typedef LegDateKey Key\\_T](#)

**Public Member Functions**

- [const Key\\_T & getKey\( \) const](#)
- [BomAbstract \\*const getParent\( \) const](#)

- const `AirportCode_T & getBoardingPoint () const`
- const `AirlineCode_T & getAirlineCode () const`
- const `HolderMap_T & getHolderMap () const`
- `LegCabin * getLegCabin (const std::string &iLegCabinKeyStr) const`
- `LegCabin * getLegCabin (const LegCabinKey &) const`
- const `AirportCode_T & getOffPoint () const`
- const `Date_T & getBoardingDate () const`
- const `Duration_T & getBoardingTime () const`
- const `Date_T & getOffDate () const`
- const `Duration_T & getOffTime () const`
- const `Duration_T & getElapsedTime () const`
- const `Distance_T & getDistance () const`
- const `CabinCapacity_T & getCapacity () const`
- const `DateOffset_T getDateOffset () const`
- const `Duration_T getTimeOffset () const`
- void `setOffPoint (const AirportCode_T &iOffPoint)`
- void `setBoardingDate (const Date_T &iBoardingDate)`
- void `setBoardingTime (const Duration_T &iBoardingTime)`
- void `setOffDate (const Date_T &iOffDate)`
- void `setOffTime (const Duration_T &iOffTime)`
- void `setElapsedTime (const Duration_T &)`
- void `setOperatingAirlineCode (const AirlineCode_T &iAirlineCode)`
- void `setOperatingFlightNumber (const FlightNumber_T &iFlightNumber)`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- std::string `toString () const`
- const std::string `describeKey () const`
- const std::string `describeRoutingKey () const`

#### Protected Member Functions

- `LegDate (const Key_T &)`
- virtual `~LegDate ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `AirportCode_T _offPoint`
- `Date_T _boardingDate`
- `Duration_T _boardingTime`
- `Date_T _offDate`
- `Duration_T _offTime`
- `Duration_T _elapsedTime`
- `Distance_T _distance`
- `CabinCapacity_T _capacity`
- `AirlineCode_T _operatingAirlineCode`
- `FlightNumber_T _operatingFlightNumber`

## Friends

- template<typename BOM >  
class [FacBom](#)
- template<typename BOM >  
class [FacCloneBom](#)
- class [FacBomManager](#)

### 32.96.1 Detailed Description

Class representing the actual attributes for an airline leg-date.

Definition at line [25](#) of file [LegDate.hpp](#).

### 32.96.2 Member Typedef Documentation

#### 32.96.2.1 `typedef LegDateKey stdair::LegDate::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [33](#) of file [LegDate.hpp](#).

### 32.96.3 Constructor & Destructor Documentation

#### 32.96.3.1 `stdair::LegDate::LegDate ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line [38](#) of file [LegDate.cpp](#).

#### 32.96.3.2 `stdair::LegDate::~LegDate ( ) [protected], [virtual]`

Destructor.

Definition at line [44](#) of file [LegDate.cpp](#).

### 32.96.4 Member Function Documentation

#### 32.96.4.1 `const Key_T& stdair::LegDate::getKey ( ) const [inline]`

Get the leg-date key.

Definition at line [39](#) of file [LegDate.hpp](#).

References [\\_key](#).

#### 32.96.4.2 `BomAbstract* const stdair::LegDate::getParent ( ) const [inline]`

Get the parent object.

Definition at line [44](#) of file [LegDate.hpp](#).

References [\\_parent](#).

Referenced by [describeRoutingKey\(\)](#), and [getAirlineCode\(\)](#).

#### 32.96.4.3 `const AirportCode_T& stdair::LegDate::getBoardingPoint ( ) const [inline]`

Get the boarding point (part of the primary key).

Definition at line [49](#) of file [LegDate.hpp](#).

References [\\_key](#), and [stdair::LegDateKey::getBoardingPoint\(\)](#).

#### 32.96.4.4 const AirlineCode\_T & stdair::LegDate::getAirlineCode( ) const

Get the airline code (key of the parent object).

##### Note

That method assumes that the parent object derives from the [Inventory](#) class, as it needs to have access to the [getAirlineCode\(\)](#) method.

Definition at line 48 of file [LegDate.cpp](#).

References [stdair::FlightDate::getAirlineCode\(\)](#), and [getParent\(\)](#).

#### 32.96.4.5 const HolderMap\_T& stdair::LegDate::getHolderMap( ) const [inline]

Get the map of children holders.

Definition at line 65 of file [LegDate.hpp](#).

References [\\_holderMap](#).

#### 32.96.4.6 LegCabin \* stdair::LegDate::getLegCabin( const std::string & iLegCabinKeyStr ) const

Get a pointer on the [LegCabin](#) object corresponding to the given key.

##### Note

The [LegCabin](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

##### Parameters

<i>const</i>	<code>std::string&amp;</code> The leg-cabin key.
--------------	--

##### Returns

`LegCabin*` Found [LegCabin](#) object. `NULL` if not found.

Definition at line 76 of file [LegDate.cpp](#).

Referenced by [getLegCabin\(\)](#), and [stdair::BomRetriever::retrieveDummyLegCabin\(\)](#).

#### 32.96.4.7 LegCabin \* stdair::LegDate::getLegCabin( const LegCabinKey & iLegCabinKey ) const

Get a pointer on the [LegCabin](#) object corresponding to the given key.

##### Note

The [LegCabin](#) object can be inherited from, if needed. In that case, a `dynamic_cast<>` may be needed.

##### Parameters

<i>const</i>	<code>LegCabinKey&amp;</code> The leg-cabin key
--------------	---

##### Returns

`LegCabin*` Found [LegCabin](#) object. `NULL` if not found.

Definition at line 83 of file [LegDate.cpp](#).

References [getLegCabin\(\)](#), and [stdair::LegCabinKey::toString\(\)](#).

**32.96.4.8 const AirportCode\_T& stdair::LegDate::getOffPoint( ) const [inline]**

Get the off point.

Definition at line 94 of file [LegDate.hpp](#).

References [\\_offPoint](#).

**32.96.4.9 const Date\_T& stdair::LegDate::getBoardingDate( ) const [inline]**

Get the boarding date.

Definition at line 99 of file [LegDate.hpp](#).

References [\\_boardingDate](#).

**32.96.4.10 const Duration\_T& stdair::LegDate::getBoardingTime( ) const [inline]**

Get the boarding time.

Definition at line 104 of file [LegDate.hpp](#).

References [\\_boardingTime](#).

**32.96.4.11 const Date\_T& stdair::LegDate::getOffDate( ) const [inline]**

Get the off date.

Definition at line 109 of file [LegDate.hpp](#).

References [\\_offDate](#).

**32.96.4.12 const Duration\_T& stdair::LegDate::getOffTime( ) const [inline]**

Get the off time.

Definition at line 114 of file [LegDate.hpp](#).

References [\\_offTime](#).

**32.96.4.13 const Duration\_T& stdair::LegDate::getElapsedTime( ) const [inline]**

Get the elapsed time.

Definition at line 119 of file [LegDate.hpp](#).

References [\\_elapsedTime](#).

**32.96.4.14 const Distance\_T& stdair::LegDate::getDistance( ) const [inline]**

Get the distance.

Definition at line 124 of file [LegDate.hpp](#).

References [\\_distance](#).

**32.96.4.15 const CabinCapacity\_T& stdair::LegDate::getCapacity( ) const [inline]**

Get the leg capacity.

Definition at line 129 of file [LegDate.hpp](#).

References [\\_capacity](#).

**32.96.4.16 const DateOffset\_T stdair::LegDate::getDateOffset( ) const [inline]**

Get the date offset (off date - boarding date).

Definition at line 134 of file [LegDate.hpp](#).

References [\\_boardingDate](#), and [\\_offDate](#).

Referenced by [getTimeOffset\(\)](#).

#### 32.96.4.17 const Duration\_T stdair::LegDate::getTimeOffset ( ) const

Get the time off set between boarding and off points.

It is defined as being:  $\text{TimeOffset} = (\text{OffTime} - \text{BoardingTime}) + (\text{OffDate} - \text{BoardingDate}) * 24$

- ElapsedTime.

Definition at line 88 of file [LegDate.cpp](#).

References [\\_boardingTime](#), [\\_elapsedTime](#), [\\_offTime](#), and [getDateOffset\(\)](#).

#### 32.96.4.18 void stdair::LegDate::setOffPoint ( const AirportCode\_T & iOffPoint ) [inline]

Set the off point.

Definition at line 148 of file [LegDate.hpp](#).

References [\\_offPoint](#).

#### 32.96.4.19 void stdair::LegDate::setBoardingDate ( const Date\_T & iBoardingDate ) [inline]

Set the boarding date.

Definition at line 153 of file [LegDate.hpp](#).

References [\\_boardingDate](#).

#### 32.96.4.20 void stdair::LegDate::setBoardingTime ( const Duration\_T & iBoardingTime ) [inline]

Set the boarding time.

Definition at line 158 of file [LegDate.hpp](#).

References [\\_boardingTime](#).

#### 32.96.4.21 void stdair::LegDate::setOffDate ( const Date\_T & iOffDate ) [inline]

Set the off date.

Definition at line 163 of file [LegDate.hpp](#).

References [\\_offDate](#).

#### 32.96.4.22 void stdair::LegDate::setOffTime ( const Duration\_T & iOffTime ) [inline]

Set the off time.

Definition at line 168 of file [LegDate.hpp](#).

References [\\_offTime](#).

#### 32.96.4.23 void stdair::LegDate::setElapsedTime ( const Duration\_T & iElapsedTime )

Set the elapsed time.

Definition at line 103 of file [LegDate.cpp](#).

References [\\_elapsedTime](#).

#### 32.96.4.24 void stdair::LegDate::setOperatingAirlineCode ( const AirlineCode\_T & iAirlineCode ) [inline]

Set the operating airline code.

Definition at line 176 of file [LegDate.hpp](#).

References [\\_operatingAirlineCode](#).

**32.96.4.25 void stdair::LegDate::setOperatingFlightNumber ( const FlightNumber\_T & iFlightNumber ) [inline]**

Set the operating flight number.

Definition at line 181 of file [LegDate.hpp](#).

References [\\_operatingFlightNumber](#).

**32.96.4.26 void stdair::LegDate::toStream ( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 194 of file [LegDate.hpp](#).

References [toString\(\)](#).

**32.96.4.27 void stdair::LegDate::fromStream ( std::istream & iIn ) [inline], [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 200 of file [LegDate.hpp](#).

**32.96.4.28 std::string stdair::LegDate::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 56 of file [LegDate.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

**32.96.4.29 const std::string stdair::LegDate::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line 207 of file [LegDate.hpp](#).

References [\\_key](#), and [stdair::LegDateKey::toString\(\)](#).

Referenced by [describeRoutingKey\(\)](#), [stdair::LegCabin::getFullerKey\(\)](#), and [toString\(\)](#).

**32.96.4.30 const std::string stdair::LegDate::describeRoutingKey ( ) const**

Get a string describing the routing key.

Definition at line 63 of file [LegDate.cpp](#).

References [\\_operatingAirlineCode](#), [\\_operatingFlightNumber](#), [stdair::DEFAULT\\_KEY\\_FLD\\_DELIMITER](#), [describeKey\(\)](#), [stdair::FlightDate::getDepartureDate\(\)](#), and [getParent\(\)](#).

## 32.96.5 Friends And Related Function Documentation

32.96.5.1 template<typename BOM > friend class **FacBom** [friend]

Definition at line 26 of file [LegDate.hpp](#).

32.96.5.2 template<typename BOM > friend class **FacCloneBom** [friend]

Definition at line 27 of file [LegDate.hpp](#).

32.96.5.3 friend class **FacBomManager** [friend]

Definition at line 28 of file [LegDate.hpp](#).

## 32.96.6 Member Data Documentation

32.96.6.1 **Key\_T stdair::LegDate::\_key** [protected]

Primary key (origin airport).

Definition at line 231 of file [LegDate.hpp](#).

Referenced by [describeKey\(\)](#), [getBoardingPoint\(\)](#), and [getKey\(\)](#).

32.96.6.2 **BomAbstract\* stdair::LegDate::\_parent** [protected]

Pointer on the parent class ([FlightDate](#)).

Definition at line 234 of file [LegDate.hpp](#).

Referenced by [getParent\(\)](#).

32.96.6.3 **HolderMap\_T stdair::LegDate::\_holderMap** [protected]

Map holding the children ([LegCabin](#) objects).

Definition at line 237 of file [LegDate.hpp](#).

Referenced by [getHolderMap\(\)](#).

32.96.6.4 **AirportCode\_T stdair::LegDate::\_offPoint** [protected]

Landing airport.

Definition at line 240 of file [LegDate.hpp](#).

Referenced by [getOffPoint\(\)](#), and [setOffPoint\(\)](#).

32.96.6.5 **Date\_T stdair::LegDate::\_boardingDate** [protected]

Boarding date.

Definition at line 243 of file [LegDate.hpp](#).

Referenced by [getBoardingDate\(\)](#), [getDateOffset\(\)](#), and [setBoardingDate\(\)](#).

32.96.6.6 **Duration\_T stdair::LegDate::\_boardingTime** [protected]

Boarding time.

Definition at line 246 of file [LegDate.hpp](#).

Referenced by [getBoardingTime\(\)](#), [getTimeOffset\(\)](#), and [setBoardingTime\(\)](#).

32.96.6.7 **Date\_T stdair::LegDate::\_offDate** [protected]

Landing date.

Definition at line 249 of file [LegDate.hpp](#).

Referenced by [getDateFormat\(\)](#), [getOffDate\(\)](#), and [setOffDate\(\)](#).

#### 32.96.6.8 Duration\_T stdair::LegDate::\_offTime [protected]

Landing time.

Definition at line 252 of file [LegDate.hpp](#).

Referenced by [getOffTime\(\)](#), [getTimeOffset\(\)](#), and [setOffTime\(\)](#).

#### 32.96.6.9 Duration\_T stdair::LegDate::\_elapsedTime [protected]

Trip elapsed time.

Definition at line 255 of file [LegDate.hpp](#).

Referenced by [getElapsedTime\(\)](#), [getTimeOffset\(\)](#), and [setElapsedTime\(\)](#).

#### 32.96.6.10 Distance\_T stdair::LegDate::\_distance [protected]

Trip distance.

Definition at line 258 of file [LegDate.hpp](#).

Referenced by [getDistance\(\)](#).

#### 32.96.6.11 CabinCapacity\_T stdair::LegDate::\_capacity [protected]

Aggregated capacity for all the leg-cabins.

Definition at line 261 of file [LegDate.hpp](#).

Referenced by [getCapacity\(\)](#).

#### 32.96.6.12 AirlineCode\_T stdair::LegDate::\_operatingAirlineCode [protected]

Operating airline code.

Definition at line 264 of file [LegDate.hpp](#).

Referenced by [describeRoutingKey\(\)](#), and [setOperatingAirlineCode\(\)](#).

#### 32.96.6.13 FlightNumber\_T stdair::LegDate::\_operatingFlightNumber [protected]

Operating flight number.

Definition at line 267 of file [LegDate.hpp](#).

Referenced by [describeRoutingKey\(\)](#), and [setOperatingFlightNumber\(\)](#).

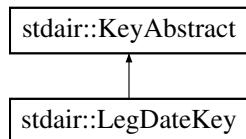
The documentation for this class was generated from the following files:

- stdair/bom/[LegDate.hpp](#)
- stdair/bom/[LegDate.cpp](#)

## 32.97 stdair::LegDateKey Struct Reference

```
#include <stdair/bom/LegDateKey.hpp>
```

Inheritance diagram for stdair::LegDateKey:



## Public Member Functions

- [LegDateKey \(const AirportCode\\_T &iBoardingPoint\)](#)
- [LegDateKey \(const LegDateKey &\)](#)
- [~LegDateKey \(\)](#)
- const [AirportCode\\_T & getBoardingPoint \(\) const](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- void [fromStream \(std::istream &ioln\)](#)
- const std::string [toString \(\) const](#)

### 32.97.1 Detailed Description

Key of a given leg-date, made of an origin airport.

Definition at line 16 of file [LegDateKey.hpp](#).

### 32.97.2 Constructor & Destructor Documentation

#### 32.97.2.1 stdair::LegDateKey::LegDateKey ( const AirportCode\_T & iBoardingPoint )

Constructor.

Definition at line 19 of file [LegDateKey.cpp](#).

#### 32.97.2.2 stdair::LegDateKey::LegDateKey ( const LegDateKey & iKey )

Default copy constructor.

Definition at line 24 of file [LegDateKey.cpp](#).

#### 32.97.2.3 stdair::LegDateKey::~LegDateKey ( )

Destructor.

Definition at line 29 of file [LegDateKey.cpp](#).

### 32.97.3 Member Function Documentation

#### 32.97.3.1 const AirportCode\_T& stdair::LegDateKey::getBoardingPoint ( ) const [inline]

Get the boarding point.

Definition at line 34 of file [LegDateKey.hpp](#).

Referenced by [stdair::LegDate::getBoardingPoint\(\)](#).

#### 32.97.3.2 void stdair::LegDateKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 33 of file [LegDateKey.cpp](#).

References [toString\(\)](#).

#### 32.97.3.3 void stdair::LegDateKey::fromStream ( std::istream & ioln ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [38](#) of file [LegDateKey.cpp](#).

### 32.97.3.4 const std::string stdair::LegDateKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same leg-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [LegDateKey.cpp](#).

Referenced by [stdair::LegDate::describeKey\(\)](#), [stdair::FlightDate::getLegDate\(\)](#), and [toStream\(\)](#).

The documentation for this struct was generated from the following files:

- [stdair/bom/LegDateKey.hpp](#)
- [stdair/bom/LegDateKey.cpp](#)

## 32.98 stdair::Logger Class Reference

```
#include <stdair/service/Logger.hpp>
```

### Public Member Functions

- template<typename T >  
void [log](#) (const [LOG::EN\\_LogLevel](#) iLevel, const int iLineNumber, const std::string &iFileName, const T &i←  
ToBeLogged)

### Static Public Member Functions

- static [Logger & instance](#) ()

### Friends

- class [FacSupervisor](#)  
*Friend classes.*
- class [STDAIR\\_Service](#)

### 32.98.1 Detailed Description

Class holding the stream for logs.

Note that the error logs are seen as standard output logs, but with a higher level of visibility.

Definition at line [48](#) of file [Logger.hpp](#).

### 32.98.2 Member Function Documentation

**32.98.2.1 template<typename T > void stdair::Logger::log ( const LOG::EN\_LogLevel iLevel, const int iLineNumber, const std::string & iFileName, const T & iToBeLogged ) [inline]**

Main log entry.

Definition at line 59 of file [Logger.hpp](#).

References [stdair::LOG::\\_logLevels](#).

**32.98.2.2 Logger & stdair::Logger::instance ( ) [static]**

Return the static [Logger](#) instance.

Definition at line 48 of file [Logger.cpp](#).

### 32.98.3 Friends And Related Function Documentation

**32.98.3.1 friend class FacSupervisor [friend]**

Friend classes.

Definition at line 50 of file [Logger.hpp](#).

**32.98.3.2 friend class STDAIR\_Service [friend]**

Definition at line 51 of file [Logger.hpp](#).

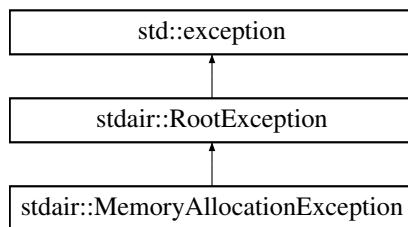
The documentation for this class was generated from the following files:

- [stdair/service/Logger.hpp](#)
- [stdair/service/Logger.cpp](#)

## 32.99 stdair::MemoryAllocationException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::MemoryAllocationException:



### Public Member Functions

- [MemoryAllocationException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

### Protected Attributes

- [std::string \\_what](#)

### 32.99.1 Detailed Description

Memory allocation.

Definition at line 89 of file [stdair\\_exceptions.hpp](#).

### 32.99.2 Constructor & Destructor Documentation

#### 32.99.2.1 stdair::MemoryAllocationException::MemoryAllocationException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 92 of file [stdair\\_exceptions.hpp](#).

### 32.99.3 Member Function Documentation

#### 32.99.3.1 const char\* stdair::RootException::what ( ) const throw [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.99.4 Member Data Documentation

#### 32.99.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

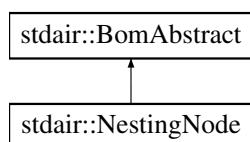
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.100 stdair::NestingNode Class Reference

```
#include <stdair/bom/NestingNode.hpp>
```

Inheritance diagram for stdair::NestingNode:



### Public Types

- [typedef NestingNodeKey Key\\_T](#)

## Public Member Functions

- const `Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- const `HolderMap_T & getHolderMap () const`
- const `Yield_T & getYield () const`
- void `setYield (const Yield_T &iYield)`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- std::string `toString () const`
- const std::string `describeKey () const`
- template<class Archive >  
void `serialize (Archive &ar, const unsigned int iFileVersion)`

## Protected Member Functions

- `NestingNode (const Key_T &)`
- virtual `~NestingNode ()`

## Friends

- template<typename BOM >  
class `FacBom`
- class `FacBomManager`
- class `boost::serialization::access`

### 32.100.1 Detailed Description

Structure holding the elements of a nesting node. A nesting node is a set of booking classes.

Definition at line 29 of file `NestingNode.hpp`.

### 32.100.2 Member Typedef Documentation

#### 32.100.2.1 `typedef NestingNodeKey stdair::NestingNode::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 39 of file `NestingNode.hpp`.

### 32.100.3 Constructor & Destructor Documentation

#### 32.100.3.1 `stdair::NestingNode::NestingNode ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 31 of file `NestingNode.cpp`.

#### 32.100.3.2 `stdair::NestingNode::~NestingNode ( ) [protected], [virtual]`

Destructor.

Definition at line 35 of file `NestingNode.cpp`.

## 32.100.4 Member Function Documentation

32.100.4.1 `const Key_T& stdair::NestingNode::getKey( ) const [inline]`

Get the policy key.

Definition at line 44 of file [NestingNode.hpp](#).

32.100.4.2 `BomAbstract* const stdair::NestingNode::getParent( ) const [inline]`

Get the parent object.

Definition at line 49 of file [NestingNode.hpp](#).

32.100.4.3 `const HolderMap_T& stdair::NestingNode::getHolderMap( ) const [inline]`

Get the map of children holders.

Definition at line 56 of file [NestingNode.hpp](#).

Referenced by [stdair::FacBomManager::resetYieldBasedNestingStructure\(\)](#).

32.100.4.4 `const Yield_T& stdair::NestingNode:: getYield( ) const [inline]`

Getter for the yield.

Definition at line 61 of file [NestingNode.hpp](#).

32.100.4.5 `void stdair::NestingNode::setYield( const Yield_T & iYield ) [inline]`

Setter for the yield.

Definition at line 68 of file [NestingNode.hpp](#).

Referenced by [stdair::FacBomManager::resetYieldBasedNestingStructure\(\)](#).

32.100.4.6 `void stdair::NestingNode::toStream( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 80 of file [NestingNode.hpp](#).

References [toString\(\)](#).

32.100.4.7 `void stdair::NestingNode::fromStream( std::istream & ioIn ) [inline], [virtual]`

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 89 of file [NestingNode.hpp](#).

32.100.4.8 `std::string stdair::NestingNode::toString( ) const [virtual]`

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 39 of file [NestingNode.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

#### 32.100.4.9 const std::string stdair::NestingNode::describeKey( ) const [inline]

Get a string describing the key.

Definition at line 100 of file [NestingNode.hpp](#).

References [stdair::NestingNodeKey::toString\(\)](#).

Referenced by [stdair::FacBomManager::resetYieldBasedNestingStructure\(\)](#), and [toString\(\)](#).

#### 32.100.4.10 template<class Archive> void stdair::NestingNode::serialize( Archive & ar, const unsigned int iFileVersion )

Serialisation.

### 32.100.5 Friends And Related Function Documentation

#### 32.100.5.1 template<typename BOM> friend class FacBom [friend]

Definition at line 30 of file [NestingNode.hpp](#).

#### 32.100.5.2 friend class FacBomManager [friend]

Definition at line 31 of file [NestingNode.hpp](#).

#### 32.100.5.3 friend class boost::serialization::access [friend]

Definition at line 32 of file [NestingNode.hpp](#).

The documentation for this class was generated from the following files:

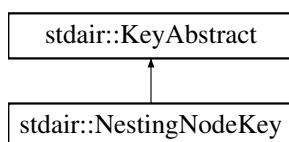
- stdair/bom/[NestingNode.hpp](#)
- stdair/bom/[NestingNode.cpp](#)

### 32.101 stdair::NestingNodeKey Struct Reference

Key of a given policy, made of a policy code.

```
#include <stdair/bom/NestingNodeKey.hpp>
```

Inheritance diagram for stdair::NestingNodeKey:



### Public Member Functions

- [NestingNodeKey](#) (const [NestingNodeCode\\_T](#) &iNestingNodeCode)
- [NestingNodeKey](#) (const [NestingNodeKey](#) &)
- [~NestingNodeKey](#) ()
- const [NestingNodeCode\\_T](#) & [getNestingNodeCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)

- const std::string [toString\(\)](#) const
- template<class Archive>  
void [serialize](#)(Archive &ar, const unsigned int iFileVersion)

#### Friends

- class [boost::serialization::access](#)

#### 32.101.1 Detailed Description

Key of a given policy, made of a policy code.

Definition at line [26](#) of file [NestingNodeKey.hpp](#).

#### 32.101.2 Constructor & Destructor Documentation

##### 32.101.2.1 stdair::NestingNodeKey::NestingNodeKey ( const NestingNodeCode\_T & iNestingNodeCode )

Constructor.

Definition at line [28](#) of file [NestingNodeKey.cpp](#).

##### 32.101.2.2 stdair::NestingNodeKey::NestingNodeKey ( const NestingNodeKey & iNestingNodeKey )

Copy constructor.

Definition at line [23](#) of file [NestingNodeKey.cpp](#).

##### 32.101.2.3 stdair::NestingNodeKey::~NestingNodeKey ( )

Destructor.

Definition at line [33](#) of file [NestingNodeKey.cpp](#).

#### 32.101.3 Member Function Documentation

##### 32.101.3.1 const NestingNodeCode\_T& stdair::NestingNodeKey::getNestingNodeCode ( ) const [inline]

Get the policy code.

Definition at line [56](#) of file [NestingNodeKey.hpp](#).

##### 32.101.3.2 void stdair::NestingNodeKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

###### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [37](#) of file [NestingNodeKey.cpp](#).

References [toString\(\)](#).

##### 32.101.3.3 void stdair::NestingNodeKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [NestingNodeKey.cpp](#).

**32.101.3.4 const std::string stdair::NestingNodeKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [46](#) of file [NestingNodeKey.cpp](#).

Referenced by [stdair::NestingNode::describeKey\(\)](#), and [toStream\(\)](#).

**32.101.3.5 template<class Archive> void stdair::NestingNodeKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line [68](#) of file [NestingNodeKey.cpp](#).

#### 32.101.4 Friends And Related Function Documentation

**32.101.4.1 friend class boost::serialization::access [friend]**

Definition at line [27](#) of file [NestingNodeKey.hpp](#).

The documentation for this struct was generated from the following files:

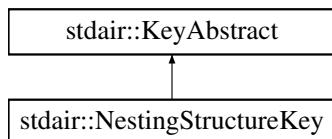
- stdair/bom/[NestingNodeKey.hpp](#)
- stdair/bom/[NestingNodeKey.cpp](#)

## 32.102 stdair::NestingStructureKey Struct Reference

Key of a given policy, made of a policy code.

```
#include <stdair/bom/NestingStructureKey.hpp>
```

Inheritance diagram for stdair::NestingStructureKey:



#### Public Member Functions

- [NestingStructureKey](#) (const [NestingStructureCode\\_T](#) &iNestingStructureCode)
- [NestingStructureKey](#) (const [NestingStructureKey](#) &)
- [~NestingStructureKey](#) ()
- const [NestingStructureCode\\_T](#) & [getNestingStructureCode](#) () const
- void [toStream](#) ([std::ostream](#) &ioOut) const

- void [fromStream](#) (std::istream &iIn)
- const std::string [toString](#) () const
- template<class Archive >  
void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

#### Friends

- class [boost::serialization::access](#)

#### 32.102.1 Detailed Description

Key of a given policy, made of a policy code.

Definition at line [26](#) of file [NestingStructureKey.hpp](#).

#### 32.102.2 Constructor & Destructor Documentation

##### 32.102.2.1 stdair::NestingStructureKey::NestingStructureKey ( const NestingStructureCode\_T & iNestingStructureCode )

Constructor.

Definition at line [28](#) of file [NestingStructureKey.cpp](#).

##### 32.102.2.2 stdair::NestingStructureKey::NestingStructureKey ( const NestingStructureKey & iNestingStructureKey )

Copy constructor.

Definition at line [23](#) of file [NestingStructureKey.cpp](#).

##### 32.102.2.3 stdair::NestingStructureKey::~NestingStructureKey ( )

Destructor.

Definition at line [33](#) of file [NestingStructureKey.cpp](#).

#### 32.102.3 Member Function Documentation

##### 32.102.3.1 const NestingStructureCode\_T& stdair::NestingStructureKey::getNestingStructureCode ( ) const [inline]

Get the nesting structure code.

Definition at line [56](#) of file [NestingStructureKey.hpp](#).

##### 32.102.3.2 void stdair::NestingStructureKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

###### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [37](#) of file [NestingStructureKey.cpp](#).

References [toString\(\)](#).

##### 32.102.3.3 void stdair::NestingStructureKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

## Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [NestingStructureKey.cpp](#).

**32.102.3.4 const std::string stdair::NestingStructureKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [46](#) of file [NestingStructureKey.cpp](#).

Referenced by [stdair::SimpleNestingStructure::describeKey\(\)](#), and [toStream\(\)](#).

**32.102.3.5 template<class Archive> void stdair::NestingStructureKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line [68](#) of file [NestingStructureKey.cpp](#).

## 32.102.4 Friends And Related Function Documentation

**32.102.4.1 friend class boost::serialization::access [friend]**

Definition at line [27](#) of file [NestingStructureKey.hpp](#).

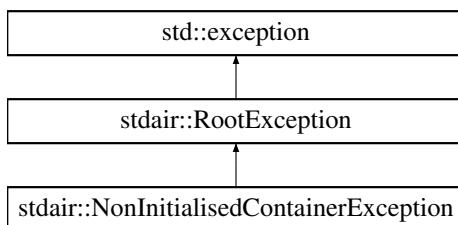
The documentation for this struct was generated from the following files:

- stdair/bom/[NestingStructureKey.hpp](#)
- stdair/bom/[NestingStructureKey.cpp](#)

## 32.103 stdair::NonInitialisedContainerException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::NonInitialisedContainerException:



## Public Member Functions

- [NonInitialisedContainerException](#) (const std::string &iWhat)
- const char \* [what\(\)](#) const throw ()

### Protected Attributes

- std::string [\\_what](#)

#### 32.103.1 Detailed Description

Non initialised container.

Definition at line [73](#) of file [stdair\\_exceptions.hpp](#).

#### 32.103.2 Constructor & Destructor Documentation

##### 32.103.2.1 stdair::NonInitialisedContainerException::NonInitialisedContainerException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line [76](#) of file [stdair\\_exceptions.hpp](#).

#### 32.103.3 Member Function Documentation

##### 32.103.3.1 const char\* stdair::RootException::what ( ) const throw [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

#### 32.103.4 Member Data Documentation

##### 32.103.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

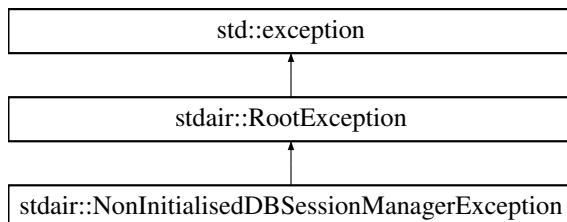
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

### 32.104 stdair::NonInitialisedDBSessionManagerException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::NonInitialisedDBSessionManagerException:



## Public Member Functions

- [NonInitialisedDBSessionManagerException](#) (const std::string &*iWhat*)
- const char \* [what \(\) const throw \(\)](#)

## Protected Attributes

- std::string [\\_what](#)

### 32.104.1 Detailed Description

Non initialised database session.

Definition at line [188](#) of file [stdair\\_exceptions.hpp](#).

### 32.104.2 Constructor & Destructor Documentation

#### 32.104.2.1 [stdair::NonInitialisedDBSessionManagerException::NonInitialisedDBSessionManagerException \( const std::string & iWhat \) \[inline\]](#)

Constructor.

Definition at line [191](#) of file [stdair\\_exceptions.hpp](#).

### 32.104.3 Member Function Documentation

#### 32.104.3.1 [const char\\* stdair::RootException::what \( \) const throw \(\) \[inline\], \[inherited\]](#)

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.104.4 Member Data Documentation

#### 32.104.4.1 [std::string stdair::RootException::\\_what \[protected\], \[inherited\]](#)

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

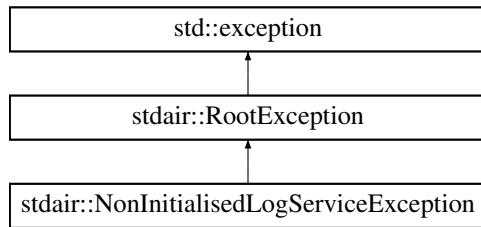
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.105 stdair::NonInitialisedLogServiceException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::NonInitialisedLogServiceException:



## Public Member Functions

- [NonInitialisedLogServiceException](#) (const std::string &iWhat)
- const char \* [what \(\) const throw \(\)](#)

## Protected Attributes

- std::string [\\_what](#)

### 32.105.1 Detailed Description

Non initialised log service.

Definition at line [57](#) of file [stdair\\_exceptions.hpp](#).

### 32.105.2 Constructor & Destructor Documentation

#### 32.105.2.1 stdair::NonInitialisedLogServiceException::NonInitialisedLogServiceException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [60](#) of file [stdair\\_exceptions.hpp](#).

### 32.105.3 Member Function Documentation

#### 32.105.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.105.4 Member Data Documentation

#### 32.105.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

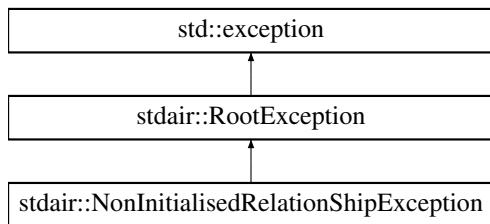
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

### 32.106 stdair::NonInitialisedRelationShipException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::NonInitialisedRelationShipException:



#### Public Member Functions

- [NonInitialisedRelationShipException](#) (const std::string &*iWhat*)
- const char \* [what](#) () const throw ()

#### Protected Attributes

- std::string [\\_what](#)

##### 32.106.1 Detailed Description

Non initialised relationship.

Definition at line 81 of file [stdair\\_exceptions.hpp](#).

##### 32.106.2 Constructor & Destructor Documentation

###### 32.106.2.1 stdair::NonInitialisedRelationShipException::NonInitialisedRelationShipException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line 84 of file [stdair\\_exceptions.hpp](#).

##### 32.106.3 Member Function Documentation

###### 32.106.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

##### 32.106.4 Member Data Documentation

###### 32.106.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

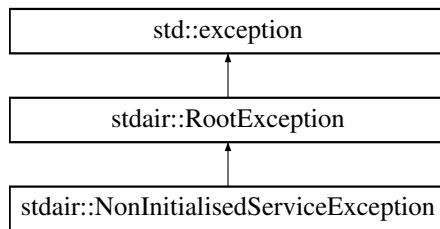
The documentation for this class was generated from the following file:

- stdair/stdair\_exceptions.hpp

## 32.107 stdair::NonInitialisedServiceException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::NonInitialisedServiceException:



### Public Member Functions

- [NonInitialisedServiceException](#) (const std::string &*iWhat*)
- const char \* [what \(\) const throw \(\)](#)

### Protected Attributes

- std::string [\\_what](#)

#### 32.107.1 Detailed Description

Non initialised service.

Definition at line 65 of file [stdair\\_exceptions.hpp](#).

#### 32.107.2 Constructor & Destructor Documentation

##### 32.107.2.1 stdair::NonInitialisedServiceException::NonInitialisedServiceException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line 68 of file [stdair\\_exceptions.hpp](#).

#### 32.107.3 Member Function Documentation

##### 32.107.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.107.4 Member Data Documentation

#### 32.107.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

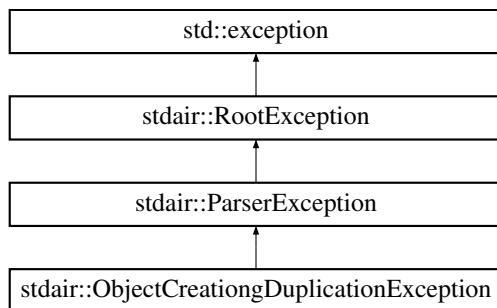
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

### 32.108 stdair::ObjectCreationgDuplicationException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::ObjectCreationgDuplicationException:



#### Public Member Functions

- [ObjectCreationgDuplicationException](#) (const std::string &iWhat)
- const char \* [what](#) () const throw ()

#### Protected Attributes

- std::string [\\_what](#)

### 32.108.1 Detailed Description

Duplicated object.

Definition at line 157 of file [stdair\\_exceptions.hpp](#).

### 32.108.2 Constructor & Destructor Documentation

#### 32.108.2.1 stdair::ObjectCreationgDuplicationException::ObjectCreationgDuplicationException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 160 of file [stdair\\_exceptions.hpp](#).

### 32.108.3 Member Function Documentation

32.108.3.1 `const char* stdair::RootException::what( ) const throw()` [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.108.4 Member Data Documentation

32.108.4.1 `std::string stdair::RootException::__what` [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

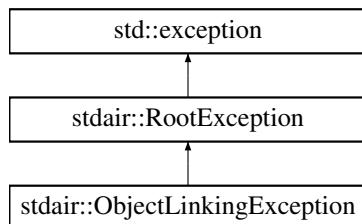
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.109 stdair::ObjectLinkingException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::ObjectLinkingException:



### Public Member Functions

- [ObjectLinkingException](#) (`const std::string &iWhat`)
- `const char * what() const throw()`

### Protected Attributes

- `std::string __what`

### 32.109.1 Detailed Description

Object link.

Definition at line 97 of file [stdair\\_exceptions.hpp](#).

### 32.109.2 Constructor & Destructor Documentation

#### 32.109.2.1 stdair::ObjectLinkingException::ObjectLinkingException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 100 of file [stdair\\_exceptions.hpp](#).

### 32.109.3 Member Function Documentation

#### 32.109.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.109.4 Member Data Documentation

#### 32.109.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

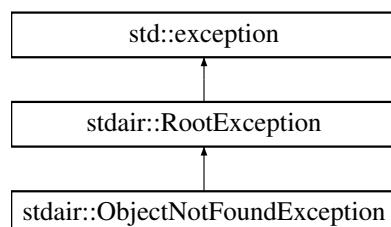
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.110 stdair::ObjectNotFoundException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::ObjectNotFoundException:



### Public Member Functions

- [ObjectNotFoundException](#) (const std::string &iWhat)
- const char \* [what](#) () const throw ()

### Protected Attributes

- std::string [\\_what](#)

### 32.110.1 Detailed Description

Not found object.

Definition at line 165 of file [stdair\\_exceptions.hpp](#).

### 32.110.2 Constructor & Destructor Documentation

32.110.2.1 `stdair::ObjectNotFoundException::ObjectNotFoundException ( const std::string & iWhat ) [inline]`

Constructor.

Definition at line 168 of file [stdair\\_exceptions.hpp](#).

### 32.110.3 Member Function Documentation

32.110.3.1 `const char* stdair::RootException::what ( ) const throw () [inline], [inherited]`

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.110.4 Member Data Documentation

32.110.4.1 `std::string stdair::RootException::_what [protected], [inherited]`

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

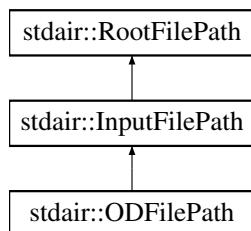
The documentation for this class was generated from the following file:

- [stdair/stdair\\_exceptions.hpp](#)

## 32.111 stdair::ODFilePath Class Reference

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::ODFilePath:



### Public Member Functions

- [ODFilePath](#) (const [Filename\\_T](#) &iFilename)
- [const char \\* name \(\) const](#)

## Protected Attributes

- const `Filename_T _filename`

### 32.111.1 Detailed Description

OD input file.

Definition at line [76](#) of file `stdair_file.hpp`.

### 32.111.2 Constructor & Destructor Documentation

#### 32.111.2.1 stdair::ODFilePath::ODFilePath ( const `Filename_T & iFilename` ) [inline], [explicit]

Constructor.

Definition at line [81](#) of file `stdair_file.hpp`.

### 32.111.3 Member Function Documentation

#### 32.111.3.1 const char\* stdair::RootFilePath::name ( ) const [inline], [inherited]

Give the details of the exception.

Definition at line [42](#) of file `stdair_file.hpp`.

References `stdair::RootFilePath::_filename`.

Referenced by `stdair::BomINIImport::importINIConfig()`.

### 32.111.4 Member Data Documentation

#### 32.111.4.1 const `Filename_T stdair::RootFilePath::_filename` [protected], [inherited]

Name of the file.

Definition at line [50](#) of file `stdair_file.hpp`.

Referenced by `stdair::RootFilePath::name()`.

The documentation for this class was generated from the following file:

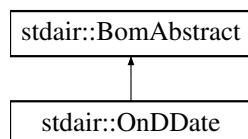
- `stdair/stdair_file.hpp`

## 32.112 stdair::OnDDate Class Reference

Class representing the actual attributes for an airline flight-date.

```
#include <stdair/bom/OnDDate.hpp>
```

Inheritance diagram for stdair::OnDDate:



### Public Types

- `typedef OnDDateKey Key_T`

### Public Member Functions

- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const AirlineCode_T & getAirlineCode () const`
- `const stdair::Date_T getDate () const`
- `const stdair::AirportCode_T getOrigin () const`
- `const stdair::AirportCode_T getDestination () const`
- `const HolderMap_T & getHolderMap () const`
- `const StringDemandStructMap_T & getDemandInfoMap () const`
- `const CabinForecastMap_T & getTotalForecastMap () const`
- `const WTPDemandPair_T & getTotalForecast (const CabinCode_T &iCC) const`
- `const CabinClassPairList_T & getCabinClassPairList (const std::string &iStr) const`
- `const short getNbOfSegments () const`
- `void setDemandInformation (const CabinClassPairList_T &, const YieldDemandPair_T &)`
- `void setTotalForecast (const CabinCode_T &, const WTPDemandPair_T &)`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &iOIn)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `template<class Archive >  
void serialize (Archive &ar, const unsigned int iFileVersion)`

### Protected Member Functions

- `OnDDate (const Key_T &)`
- `virtual ~OnDDate ()`

### Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`
- `StringDemandStructMap_T _classPathDemandMap`
- `StringCabinClassPairListMap_T _stringCabinClassPairListMap`
- `CabinForecastMap_T _cabinForecastMap`

### Friends

- `template<typename BOM >  
class FacBom`
- `template<typename BOM >  
class FacCloneBom`
- `class FacBomManager`
- `class boost::serialization::access`

### 32.112.1 Detailed Description

Class representing the actual attributes for an airline flight-date.

Definition at line 33 of file `OnDDate.hpp`.

### 32.112.2 Member Typedef Documentation

#### 32.112.2.1 `typedef OnDDateKey stdair::OnDDate::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 44 of file [OnDDate.hpp](#).

### 32.112.3 Constructor & Destructor Documentation

#### 32.112.3.1 `stdair::OnDDate::OnDDate ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 28 of file [OnDDate.cpp](#).

#### 32.112.3.2 `stdair::OnDDate::~OnDDate ( ) [protected], [virtual]`

Destructor.

Definition at line 33 of file [OnDDate.cpp](#).

### 32.112.4 Member Function Documentation

#### 32.112.4.1 `const Key_T& stdair::OnDDate::getKey ( ) const [inline]`

Get the O&D date key.

Definition at line 50 of file [OnDDate.hpp](#).

References [\\_key](#).

#### 32.112.4.2 `BomAbstract* const stdair::OnDDate::getParent ( ) const [inline]`

Get the parent object.

Definition at line 55 of file [OnDDate.hpp](#).

References [\\_parent](#).

Referenced by [getAirlineCode\(\)](#).

#### 32.112.4.3 `const AirlineCode_T & stdair::OnDDate::getAirlineCode ( ) const`

Get the airline code (key of the parent object).

#### Note

That method assumes that the parent object derives from the [Inventory](#) class, as it needs to have access to the [getAirlineCode\(\)](#) method.

Definition at line 44 of file [OnDDate.cpp](#).

References [stdair::Inventory::getAirlineCode\(\)](#), and [getParent\(\)](#).

#### 32.112.4.4 `const stdair::Date_T stdair::OnDDate::getDate ( ) const [inline]`

Get the boarding date.

Definition at line 70 of file [OnDDate.hpp](#).

References [\\_key](#), and [stdair::OnDDateKey::getDate\(\)](#).

32.112.4.5 const stdair::AirportCode\_T stdair::OnDDate::getOrigin( ) const [inline]

Get the origin.

Definition at line 75 of file [OnDDate.hpp](#).

References [\\_key](#), and [stdair::OnDDateKey::getOrigin\(\)](#).

32.112.4.6 const stdair::AirportCode\_T stdair::OnDDate::getDestination( ) const [inline]

Get the destination.

Definition at line 80 of file [OnDDate.hpp](#).

References [\\_key](#), and [stdair::OnDDateKey::getDestination\(\)](#).

32.112.4.7 const HolderMap\_T& stdair::OnDDate::getHolderMap( ) const [inline]

Get the map of children holders.

Definition at line 87 of file [OnDDate.hpp](#).

References [\\_holderMap](#).

32.112.4.8 const StringDemandStructMap\_T& stdair::OnDDate::getDemandInfoMap( ) const [inline]

Get the map of demand information.

Definition at line 94 of file [OnDDate.hpp](#).

References [\\_classPathDemandMap](#).

32.112.4.9 const CabinForecastMap\_T& stdair::OnDDate::getTotalForecastMap( ) const [inline]

Get the map of total forecast.

Definition at line 101 of file [OnDDate.hpp](#).

References [\\_cabinForecastMap](#).

32.112.4.10 const WTPDemandPair\_T& stdair::OnDDate::getTotalForecast( const CabinCode\_T & iCC ) const [inline]

Get the total forecast for a given cabin.

Definition at line 108 of file [OnDDate.hpp](#).

References [\\_cabinForecastMap](#).

32.112.4.11 const CabinClassPairList\_T& stdair::OnDDate::getCabinClassPairList( const std::string & iStr ) const [inline]

Get the cabin-class pair out of a string.

Definition at line 116 of file [OnDDate.hpp](#).

References [\\_stringCabinClassPairListMap](#).

32.112.4.12 const short stdair::OnDDate::getNbOfSegments( ) const [inline]

Get the number of segments of the O&D.

Definition at line 124 of file [OnDDate.hpp](#).

References [\\_key](#), and [stdair::OnDDateKey::getNbOfSegments\(\)](#).

**32.112.4.13 void stdair::OnDDate::setDemandInformation ( const CabinClassPairList\_T & iCabinClassPairList, const YieldDemandPair\_T & iYieldDemandPair )**

Set demand information.

Definition at line 53 of file [OnDDate.cpp](#).

References [\\_classPathDemandMap](#), and [\\_stringCabinClassPairListMap](#).

**32.112.4.14 void stdair::OnDDate::setTotalForecast ( const CabinCode\_T & iCabinCode, const WTPDemandPair\_T & iWTPDemandPair )**

Set forecast information per cabin.

Definition at line 76 of file [OnDDate.cpp](#).

References [\\_cabinForecastMap](#).

**32.112.4.15 void stdair::OnDDate::toStream ( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 147 of file [OnDDate.hpp](#).

References [toString\(\)](#).

**32.112.4.16 void stdair::OnDDate::fromStream ( std::istream & ioin ) [inline], [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 156 of file [OnDDate.hpp](#).

**32.112.4.17 std::string stdair::OnDDate::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 37 of file [OnDDate.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.112.4.18 const std::string stdair::OnDDate::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line 167 of file [OnDDate.hpp](#).

References [\\_key](#), and [stdair::OnDDateKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.112.4.19 template<class Archive> void stdair::OnDDate::serialize ( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

## 32.112.5 Friends And Related Function Documentation

32.112.5.1 template<typename BOM> friend class **FacBom** [friend]

Definition at line 34 of file [OnDDate.hpp](#).

32.112.5.2 template<typename BOM> friend class **FacCloneBom** [friend]

Definition at line 35 of file [OnDDate.hpp](#).

32.112.5.3 friend class **FacBomManager** [friend]

Definition at line 36 of file [OnDDate.hpp](#).

32.112.5.4 friend class boost::serialization::access [friend]

Definition at line 37 of file [OnDDate.hpp](#).

## 32.112.6 Member Data Documentation

32.112.6.1 **Key\_T** stdair::OnDDate::\_key [protected]

Primary key (list of OnD string keys).

Definition at line 217 of file [OnDDate.hpp](#).

Referenced by [describeKey\(\)](#), [getDate\(\)](#), [getDestination\(\)](#), [getKey\(\)](#), [getNbOfSegments\(\)](#), and [getOrigin\(\)](#).

32.112.6.2 **BomAbstract\*** stdair::OnDDate::\_parent [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line 222 of file [OnDDate.hpp](#).

Referenced by [getParent\(\)](#).

32.112.6.3 **HolderMap\_T** stdair::OnDDate::\_holderMap [protected]

Map holding the children ([SegmentDate](#) and [LegDate](#) objects).

Definition at line 227 of file [OnDDate.hpp](#).

Referenced by [getHolderMap\(\)](#).

32.112.6.4 **StringDemandStructMap\_T** stdair::OnDDate::\_classPathDemandMap [protected]

O&D demand information.

Definition at line 232 of file [OnDDate.hpp](#).

Referenced by [getDemandInfoMap\(\)](#), and [setDemandInformation\(\)](#).

32.112.6.5 **StringCabinClassPairListMap\_T** stdair::OnDDate::\_stringCabinClassPairListMap [protected]

O&D cabin and associated class map.

Definition at line 237 of file [OnDDate.hpp](#).

Referenced by [getCabinClassPairList\(\)](#), and [setDemandInformation\(\)](#).

32.112.6.6 **CabinForecastMap\_T** stdair::OnDDate::\_cabinForecastMap [protected]

O&D demand total forecast.

Definition at line 242 of file [OnDDate.hpp](#).

Referenced by [getTotalForecast\(\)](#), [getTotalForecastMap\(\)](#), and [setTotalForecast\(\)](#).

The documentation for this class was generated from the following files:

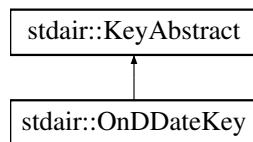
- stdair/bom/[OnDDate.hpp](#)
- stdair/bom/[OnDDate.cpp](#)

### 32.113 stdair::OnDDateKey Struct Reference

Key of a given O&D-date, made of a list of OnD strings. a OnD string contains the airline code, the flight number, the date and the segment (origin and destination).

```
#include <stdair/bom/OnDDateKey.hpp>
```

Inheritance diagram for stdair::OnDDateKey:



#### Public Member Functions

- [OnDDateKey](#) (const [OnDStringList\\_T](#) &)
- [OnDDateKey](#) (const [OnDDateKey](#) &)
- [~OnDDateKey](#) ()
- const [Date\\_T](#) [getDate](#) () const
- const [AirportCode\\_T](#) [getOrigin](#) () const
- const [AirportCode\\_T](#) [getDestination](#) () const
- const short [getNbOfSegments](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const
- template<class Archive>  
void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

#### Friends

- class [boost::serialization::access](#)

#### 32.113.1 Detailed Description

Key of a given O&D-date, made of a list of OnD strings. a OnD string contains the airline code, the flight number, the date and the segment (origin and destination).

Definition at line 23 of file [OnDDateKey.hpp](#).

#### 32.113.2 Constructor & Destructor Documentation

##### 32.113.2.1 stdair::OnDDateKey::OnDDateKey ( const [OnDStringList\\_T](#) & *iOnDStringList* )

Constructor.

Definition at line 33 of file [OnDDateKey.cpp](#).

## 32.113.2.2 stdair::OnDDateKey::OnDDateKey ( const OnDDateKey &amp; iKey )

Copy constructor.

Definition at line 38 of file [OnDDateKey.cpp](#).

## 32.113.2.3 stdair::OnDDateKey::~OnDDateKey ( )

Destructor.

Definition at line 43 of file [OnDDateKey.cpp](#).

## 32.113.3 Member Function Documentation

## 32.113.3.1 const Date\_T stdair::OnDDateKey::getDate ( ) const

Get the boarding date.

Definition at line 47 of file [OnDDateKey.cpp](#).

References [stdair::BomKeyManager::extractFlightDateKey\(\)](#), and [stdair::FlightDateKey::getDepartureDate\(\)](#).

Referenced by [stdair::OnDDate::getDate\(\)](#).

## 32.113.3.2 const AirportCode\_T stdair::OnDDateKey::getOrigin ( ) const

Get the origin.

Definition at line 54 of file [OnDDateKey.cpp](#).

References [stdair::BomKeyManager::extractSegmentDateKey\(\)](#), and [stdair::SegmentDateKey::getBoardingPoint\(\)](#).

Referenced by [stdair::OnDDate::getOrigin\(\)](#).

## 32.113.3.3 const AirportCode\_T stdair::OnDDateKey::getDestination ( ) const

Get the destination.

Definition at line 61 of file [OnDDateKey.cpp](#).

References [stdair::BomKeyManager::extractSegmentDateKey\(\)](#), and [stdair::SegmentDateKey::getOffPoint\(\)](#).

Referenced by [stdair::OnDDate::getDestination\(\)](#).

## 32.113.3.4 const short stdair::OnDDateKey::getNbOfSegments ( ) const [inline]

Get the number of segments.

Definition at line 70 of file [OnDDateKey.hpp](#).

Referenced by [stdair::OnDDate::getNbOfSegments\(\)](#).

## 32.113.3.5 void stdair::OnDDateKey::toStream ( std::ostream &amp; ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 68 of file [OnDDateKey.cpp](#).

References [toString\(\)](#).

**32.113.3.6 void stdair::OnDDateKey::fromStream ( std::istream & *ioln* ) [virtual]**

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 73 of file [OnDDateKey.cpp](#).

**32.113.3.7 const std::string stdair::OnDDateKey::toString( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 77 of file [OnDDateKey.cpp](#).

Referenced by [stdair::OnDDate::describeKey\(\)](#), and [toStream\(\)](#).

**32.113.8 template<class Archive> void stdair::OnDDateKey::serialize( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 102 of file [OnDDateKey.cpp](#).

**32.113.4 Friends And Related Function Documentation****32.113.4.1 friend class boost::serialization::access [friend]**

Definition at line 24 of file [OnDDateKey.hpp](#).

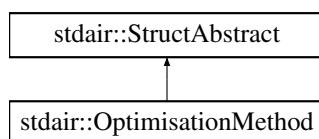
The documentation for this struct was generated from the following files:

- stdair/bom/[OnDDateKey.hpp](#)
- stdair/bom/[OnDDateKey.cpp](#)

**32.114 stdair::OptimisationMethod Struct Reference**

```
#include <stdair/basic/OptimisationMethod.hpp>
```

Inheritance diagram for stdair::OptimisationMethod:

**Public Types**

- enum [EN\\_OptimisationMethod](#) { [LEG\\_BASED\\_MC](#) = 0, [LEG\\_BASED\\_EMSR\\_B](#), [LAST\\_VALUE](#) }

**Public Member Functions**

- [EN\\_OptimisationMethod getMethod\(\)](#) const
- [std::string getMethodAsString\(\)](#) const

- const std::string `describe () const`
- bool `operator== (const EN_OptimisationMethod &) const`
- `OptimisationMethod (const EN_OptimisationMethod &)`
- `OptimisationMethod (const char iMethod)`
- `OptimisationMethod (const OptimisationMethod &)`
- void `toStream (std::ostream &ioOut) const`
- virtual void `fromStream (std::istream &ioln)`

#### Static Public Member Functions

- static const std::string & `getLabel (const EN_OptimisationMethod &)`
- static char `getMethodLabel (const EN_OptimisationMethod &)`
- static std::string `getMethodLabelAsString (const EN_OptimisationMethod &)`
- static std::string `describeLabels ()`

#### 32.114.1 Detailed Description

Enumeration of Optimisation methods.

Definition at line 15 of file [OptimisationMethod.hpp](#).

#### 32.114.2 Member Enumeration Documentation

##### 32.114.2.1 enum stdair::OptimisationMethod::EN\_OptimisationMethod

Enumerator

*LEG\_BASED\_MC*

*LEG\_BASED\_EMSR\_B*

*LAST\_VALUE*

Definition at line 17 of file [OptimisationMethod.hpp](#).

#### 32.114.3 Constructor & Destructor Documentation

##### 32.114.3.1 stdair::OptimisationMethod::OptimisationMethod ( const EN\_OptimisationMethod & iOptimisationMethod )

Constructor.

Definition at line 36 of file [OptimisationMethod.cpp](#).

##### 32.114.3.2 stdair::OptimisationMethod::OptimisationMethod ( const char iMethod )

Constructor.

Definition at line 41 of file [OptimisationMethod.cpp](#).

References [describeLabels\(\)](#), [LAST\\_VALUE](#), [LEG\\_BASED\\_EMSR\\_B](#), and [LEG\\_BASED\\_MC](#).

##### 32.114.3.3 stdair::OptimisationMethod::OptimisationMethod ( const OptimisationMethod & iOptimisationMethod )

Default copy constructor.

Definition at line 30 of file [OptimisationMethod.cpp](#).

## 32.114.4 Member Function Documentation

32.114.4.1 `const std::string & stdair::OptimisationMethod::getLabel ( const EN_OptimisationMethod & iMethod ) [static]`

Get the label as a string (e.g., "Leg based Monte Carlo" or "Leg based EMSRb").

Definition at line 59 of file [OptimisationMethod.cpp](#).

32.114.4.2 `char stdair::OptimisationMethod::getMethodLabel ( const EN_OptimisationMethod & iMethod ) [static]`

Get the label as a single char (e.g., 'M' or 'E').

Definition at line 64 of file [OptimisationMethod.cpp](#).

32.114.4.3 `std::string stdair::OptimisationMethod::getMethodLabelAsString ( const EN_OptimisationMethod & iMethod ) [static]`

Get the label as a string of a single char (e.g., "M" or "E").

Definition at line 70 of file [OptimisationMethod.cpp](#).

32.114.4.4 `std::string stdair::OptimisationMethod::describeLabels ( ) [static]`

List the labels.

Definition at line 77 of file [OptimisationMethod.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [OptimisationMethod\(\)](#).

32.114.4.5 `OptimisationMethod::EN_OptimisationMethod stdair::OptimisationMethod::getMethod ( ) const`

Get the enumerated value.

Definition at line 89 of file [OptimisationMethod.cpp](#).

Referenced by [stdair::AirlineFeature::getOptimisationMethod\(\)](#).

32.114.4.6 `std::string stdair::OptimisationMethod::getMethodAsString ( ) const`

Get the enumerated value as a short string (e.g., "M" or "E").

Definition at line 94 of file [OptimisationMethod.cpp](#).

32.114.4.7 `const std::string stdair::OptimisationMethod::describe ( ) const [virtual]`

Give a description of the structure (e.g., "Leg based Monte Carlo" or "Leg based EMSRb").

Implements [stdair::StructAbstract](#).

Definition at line 101 of file [OptimisationMethod.cpp](#).

32.114.4.8 `bool stdair::OptimisationMethod::operator== ( const EN_OptimisationMethod & iMethod ) const`

Comparaison operator.

Definition at line 109 of file [OptimisationMethod.cpp](#).

32.114.4.9 `void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]`

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.114.4.10 virtual void stdair::StructAbstract::fromStream ( std::istream & *ioIn* ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDUtilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

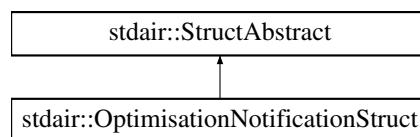
The documentation for this struct was generated from the following files:

- [stdair/basic/OptimisationMethod.hpp](#)
- [stdair/basic/OptimisationMethod.cpp](#)

## 32.115 stdair::OptimisationNotificationStruct Struct Reference

```
#include <stdair/bom/OptimisationNotificationStruct.hpp>
```

Inheritance diagram for stdair::OptimisationNotificationStruct:



### Public Member Functions

- const [AirportCode\\_T & getOrigin \(\) const](#)
- const [AirportCode\\_T & getDestination \(\) const](#)
- const [CityCode\\_T & getPOS \(\) const](#)
- const [Date\\_T & getPreferredDepartureDate \(\) const](#)
- const [DateTime\\_T & getNotificationDateTime \(\) const](#)
- const [CabinCode\\_T & getPreferredCabin \(\) const](#)
- const [NbOfSeats\\_T & getPartySize \(\) const](#)
- const [ChannelLabel\\_T & getOptimisationChannel \(\) const](#)
- const [TripType\\_T & getTripType \(\) const](#)
- const [DayDuration\\_T & getStayDuration \(\) const](#)
- const [FrequentFlyer\\_T & getFrequentFlyerType \(\) const](#)
- const [Duration\\_T & getPreferredDepartureTime \(\) const](#)
- const [WTP\\_T & getWTP \(\) const](#)
- const [PriceValue\\_T & getValueOfTime \(\) const](#)

- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [describe](#) () const
- OptimisationNotificationStruct (const [AirportCode\\_T](#) &iOrigin, const [AirportCode\\_T](#) &iDestination, const [CityCode\\_T](#) &iPOS, const [Date\\_T](#) &iDepartureDate, const [DateTime\\_T](#) &iNotificationDateTime, const [CabinCode\\_T](#) &iPreferredCabin, const [NbOfSeats\\_T](#) &iPartySize, const [ChannelLabel\\_T](#) &iChannel, const [TripType\\_T](#) &iTripType, const [DayDuration\\_T](#) &iStayDuration, const [FrequentFlyer\\_T](#) &iFrequentFlyerType, const [Duration\\_T](#) &iPreferredDepartureTime, const [WTP\\_T](#) &iWTP, const [PriceValue\\_T](#) &iValueOfTime)
- OptimisationNotificationStruct (const OptimisationNotificationStruct &)
- ~OptimisationNotificationStruct ()

### 32.115.1 Detailed Description

Structure holding the elements of a optimisation notification.

Definition at line 19 of file [OptimisationNotificationStruct.hpp](#).

### 32.115.2 Constructor & Destructor Documentation

32.115.2.1 stdair::OptimisationNotificationStruct::OptimisationNotificationStruct ( const [AirportCode\\_T](#) & iOrigin, const [AirportCode\\_T](#) & iDestination, const [CityCode\\_T](#) & iPOS, const [Date\\_T](#) & iDepartureDate, const [DateTime\\_T](#) & iNotificationDateTime, const [CabinCode\\_T](#) & iPreferredCabin, const [NbOfSeats\\_T](#) & iPartySize, const [ChannelLabel\\_T](#) & iChannel, const [TripType\\_T](#) & iTripType, const [DayDuration\\_T](#) & iStayDuration, const [FrequentFlyer\\_T](#) & iFrequentFlyerType, const [Duration\\_T](#) & iPreferredDepartureTime, const [WTP\\_T](#) & iWTP, const [PriceValue\\_T](#) & iValueOfTime )

Constructor.

Definition at line 39 of file [OptimisationNotificationStruct.cpp](#).

32.115.2.2 stdair::OptimisationNotificationStruct::OptimisationNotificationStruct ( const OptimisationNotificationStruct & iOptimisationNotification )

Copy constructor.

Definition at line 20 of file [OptimisationNotificationStruct.cpp](#).

32.115.2.3 stdair::OptimisationNotificationStruct::~OptimisationNotificationStruct ( )

Destructor.

Definition at line 64 of file [OptimisationNotificationStruct.cpp](#).

### 32.115.3 Member Function Documentation

32.115.3.1 const [AirportCode\\_T](#)& stdair::OptimisationNotificationStruct::getOrigin ( ) const [inline]

Get the notificationed origin.

Definition at line 23 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.2 const [AirportCode\\_T](#)& stdair::OptimisationNotificationStruct::getDestination ( ) const [inline]

Get the notificationed destination.

Definition at line 28 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.3 const [CityCode\\_T](#)& stdair::OptimisationNotificationStruct::getPOS ( ) const [inline]

Get the point-of-sale.

Definition at line 33 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.4 const Date\_T& stdair::OptimisationNotificationStruct::getPreferredDepartureDate( ) const [inline]

Get the notificationed departure date.

Definition at line 38 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.5 const DateTime\_T& stdair::OptimisationNotificationStruct::getNotificationDateTime( ) const [inline]

Get the notification datetime.

Definition at line 43 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.6 const CabinCode\_T& stdair::OptimisationNotificationStruct::getPreferredCabin( ) const [inline]

Get the preferred cabin.

Definition at line 48 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.7 const NbOfSeats\_T& stdair::OptimisationNotificationStruct::getPartySize( ) const [inline]

Get the party size.

Definition at line 53 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.8 const ChannelLabel\_T& stdair::OptimisationNotificationStruct::getOptimisationChannel( ) const [inline]

Get the reservation channel.

Definition at line 58 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.9 const TripType\_T& stdair::OptimisationNotificationStruct::getTripType( ) const [inline]

Get the trip type.

Definition at line 63 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.10 const DayDuration\_T& stdair::OptimisationNotificationStruct::getStayDuration( ) const [inline]

Get the duration of stay.

Definition at line 68 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.11 const FrequentFlyer\_T& stdair::OptimisationNotificationStruct::getFrequentFlyerType( ) const [inline]

Get the frequent flyer type.

Definition at line 73 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.12 const Duration\_T& stdair::OptimisationNotificationStruct::getPreferredDepartureTime( ) const [inline]

Get the preferred departure time.

Definition at line 78 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.13 const WTP\_T& stdair::OptimisationNotificationStruct::getWTP( ) const [inline]

Get the willingness-to-pay.

Definition at line 83 of file [OptimisationNotificationStruct.hpp](#).

32.115.3.14 const PriceValue\_T& stdair::OptimisationNotificationStruct::getValueOfTime( ) const [inline]

Get the value of time.

Definition at line 88 of file [OptimisationNotificationStruct.hpp](#).

### 32.115.3.15 void stdair::OptimisationNotificationStruct::toStream ( std::ostream & ioOut ) const

Dump a Business Object into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 68 of file [OptimisationNotificationStruct.cpp](#).

References [describe\(\)](#).

### 32.115.3.16 void stdair::OptimisationNotificationStruct::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 73 of file [OptimisationNotificationStruct.cpp](#).

### 32.115.3.17 const std::string stdair::OptimisationNotificationStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 77 of file [OptimisationNotificationStruct.cpp](#).

Referenced by [toStream\(\)](#).

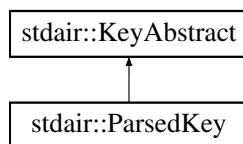
The documentation for this struct was generated from the following files:

- stdair/bom/[OptimisationNotificationStruct.hpp](#)
- stdair/bom/[OptimisationNotificationStruct.cpp](#)

## 32.116 stdair::ParsedKey Struct Reference

```
#include <stdair/bom/ParsedKey.hpp>
```

Inheritance diagram for stdair::ParsedKey:



#### Public Member Functions

- [InventoryKey getInventoryKey \(\) const](#)
- [FlightDateKey getFlightDateKey \(\) const](#)
- [SegmentDateKey getSegmentKey \(\) const](#)
- [LegDateKey getLegKey \(\) const](#)
- [const Duration\\_T getBoardingTime \(\) const](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [void fromStream \(std::istream &ioIn\)](#)

- const std::string [toString\(\)](#) const
- [ParsedKey\(\)](#)
- [~ParsedKey\(\)](#)

#### Public Attributes

- std::string [\\_fullKey](#)
- std::string [\\_airlineCode](#)
- std::string [\\_flightNumber](#)
- std::string [\\_departureDate](#)
- std::string [\\_boardingPoint](#)
- std::string [\\_offPoint](#)
- std::string [\\_boardingTime](#)

#### 32.116.1 Detailed Description

Structure which holds the results/keys after the parsing.

Definition at line [22](#) of file [ParsedKey.hpp](#).

#### 32.116.2 Constructor & Destructor Documentation

##### 32.116.2.1 stdair::ParsedKey::ParsedKey( )

Definition at line [41](#) of file [ParsedKey.cpp](#).

##### 32.116.2.2 stdair::ParsedKey::~ParsedKey( )

Definition at line [47](#) of file [ParsedKey.cpp](#).

#### 32.116.3 Member Function Documentation

##### 32.116.3.1 InventoryKey stdair::ParsedKey::getInventoryKey( ) const

[Inventory key](#).

Definition at line [51](#) of file [ParsedKey.cpp](#).

References [\\_airlineCode](#), [\\_fullKey](#), [STDAIR\\_LOG\\_DEBUG](#), [STDAIR\\_LOG\\_ERROR](#), and [toString\(\)](#).

Referenced by [stdair::BomKeyManager::extractInventoryKey\(\)](#).

##### 32.116.3.2 FlightDateKey stdair::ParsedKey::getFlightDateKey( ) const

Flight-date key.

Definition at line [62](#) of file [ParsedKey.cpp](#).

References [\\_departureDate](#), [\\_flightNumber](#), [\\_fullKey](#), [STDAIR\\_LOG\\_DEBUG](#), [STDAIR\\_LOG\\_ERROR](#), [stdair::TokeniserDashSeparator\(\)](#), and [toString\(\)](#).

Referenced by [stdair::BomKeyManager::extractFlightDateKey\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

##### 32.116.3.3 SegmentDateKey stdair::ParsedKey::getSegmentKey( ) const

Segment-date key.

Definition at line [98](#) of file [ParsedKey.cpp](#).

References [\\_boardingPoint](#), [\\_fullKey](#), [\\_offPoint](#), [STDAIR\\_LOG\\_DEBUG](#), [STDAIR\\_LOG\\_ERROR](#), and [toString\(\)](#).

Referenced by [stdair::BomKeyManager::extractSegmentDateKey\(\)](#), and [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#).

#### 32.116.3.4 LegDateKey stdair::ParsedKey::getLegKey ( ) const

Leg-date key.

Definition at line 84 of file [ParsedKey.cpp](#).

References [\\_boardingPoint](#), [\\_fullKey](#), [STDAIR\\_LOG\\_DEBUG](#), [STDAIR\\_LOG\\_ERROR](#), and [toString\(\)](#).

Referenced by [stdair::BomKeyManager::extractLegDateKey\(\)](#).

#### 32.116.3.5 const Duration\_T stdair::ParsedKey::getBoardingTime ( ) const

Boarding time.

Definition at line 112 of file [ParsedKey.cpp](#).

References [\\_boardingTime](#), [\\_fullKey](#), [STDAIR\\_LOG\\_DEBUG](#), [STDAIR\\_LOG\\_ERROR](#), [stdair::TokeniserTime::Separator\(\)](#), and [toString\(\)](#).

#### 32.116.3.6 void stdair::ParsedKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 130 of file [ParsedKey.cpp](#).

References [toString\(\)](#).

#### 32.116.3.7 void stdair::ParsedKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 135 of file [ParsedKey.cpp](#).

#### 32.116.3.8 const std::string stdair::ParsedKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 139 of file [ParsedKey.cpp](#).

References [\\_airlineCode](#), [\\_boardingPoint](#), [\\_boardingTime](#), [\\_departureDate](#), [\\_flightNumber](#), [\\_offPoint](#), [stdair::DEFAULT\\_KEY\\_FLD\\_DELIMITER](#), and [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::TravelSolutionStruct::describe\(\)](#), [stdair::TravelSolutionStruct::describeSegmentPath\(\)](#), [stdair::TravelSolutionStruct::display\(\)](#), [getBoardingTime\(\)](#), [getFlightDateKey\(\)](#), [getInventoryKey\(\)](#), [getLegKey\(\)](#), [getSegmentKey\(\)](#), and [toStream\(\)](#).

### 32.116.4 Member Data Documentation

#### 32.116.4.1 std::string stdair::ParsedKey::\_fullKey

Definition at line 76 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getBoardingTime\(\)](#), [getFlightDateKey\(\)](#), [getInventoryKey\(\)](#), [getLegKey\(\)](#), and [getSegmentKey\(\)](#).

#### 32.116.4.2 std::string stdair::ParsedKey::\_airlineCode

Definition at line 77 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getInventoryKey\(\)](#), [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#), and [toString\(\)](#).

#### 32.116.4.3 std::string stdair::ParsedKey::\_flightNumber

Definition at line 78 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getFlightDateKey\(\)](#), and [toString\(\)](#).

#### 32.116.4.4 std::string stdair::ParsedKey::\_departureDate

Definition at line 79 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getFlightDateKey\(\)](#), and [toString\(\)](#).

#### 32.116.4.5 std::string stdair::ParsedKey::\_boardingPoint

Definition at line 80 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getLegKey\(\)](#), [getSegmentKey\(\)](#), and [toString\(\)](#).

#### 32.116.4.6 std::string stdair::ParsedKey::\_offPoint

Definition at line 81 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getSegmentKey\(\)](#), and [toString\(\)](#).

#### 32.116.4.7 std::string stdair::ParsedKey::\_boardingTime

Definition at line 82 of file [ParsedKey.hpp](#).

Referenced by [stdair::BomKeyManager::extractKeys\(\)](#), [getBoardingTime\(\)](#), and [toString\(\)](#).

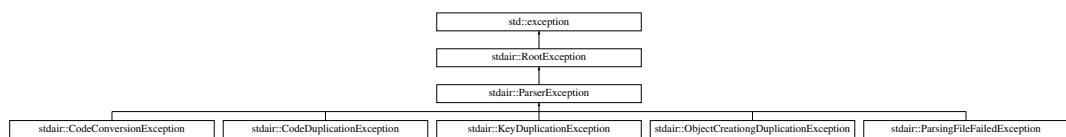
The documentation for this struct was generated from the following files:

- stdair/bom/[ParsedKey.hpp](#)
- stdair/bom/[ParsedKey.cpp](#)

### 32.117 stdair::ParserException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::ParserException:



## Public Member Functions

- [ParserException \(const std::string &iWhat\)](#)
- const char \* [what \(\) const throw \(\)](#)

## Protected Attributes

- std::string [\\_what](#)

### 32.117.1 Detailed Description

Parser.

Definition at line [112](#) of file [stdair\\_exceptions.hpp](#).

### 32.117.2 Constructor & Destructor Documentation

#### 32.117.2.1 stdair::ParserException::ParserException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [115](#) of file [stdair\\_exceptions.hpp](#).

### 32.117.3 Member Function Documentation

#### 32.117.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.117.4 Member Data Documentation

#### 32.117.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

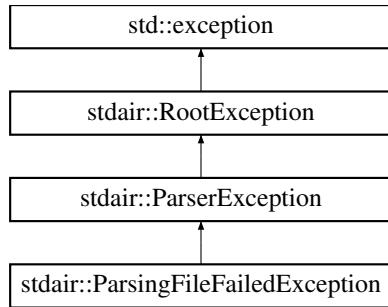
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.118 stdair::ParsingFileNotFoundException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::ParsingFileNotFoundException:



## Public Member Functions

- [ParsingFileFailedException \(const std::string &iWhat\)](#)
- [const char \\* what \(\) const throw \(\)](#)

## Protected Attributes

- [std::string \\_what](#)

### 32.118.1 Detailed Description

Input file parsing failure.

Definition at line [173](#) of file [stdair\\_exceptions.hpp](#).

### 32.118.2 Constructor & Destructor Documentation

#### 32.118.2.1 stdair::ParsingFileFailedException::ParsingFileFailedException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [176](#) of file [stdair\\_exceptions.hpp](#).

### 32.118.3 Member Function Documentation

#### 32.118.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.118.4 Member Data Documentation

#### 32.118.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

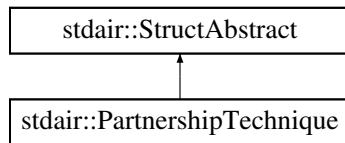
- [stdair/stdair\\_exceptions.hpp](#)

## 32.119 stdair::PartnershipTechnique Struct Reference

Enumeration of partnership techniques.

```
#include <stdair/basic/PartnershipTechnique.hpp>
```

Inheritance diagram for stdair::PartnershipTechnique:



### Public Types

- enum `EN_PartnershipTechnique` {
 `NONE` = 0,
 `RAE_DA`,
 `RAE_YP`,
 `IBP_DA`,
 `IBP_YP`,
 `IBP_YP_U`,
 `RMC`,
 `A_RMC`,
 `LAST_VALUE` }

### Public Member Functions

- `EN_PartnershipTechnique getTechnique () const`
- `char getTechniqueAsChar () const`
- `std::string getTechniqueAsString () const`
- `const std::string describe () const`
- `bool operator== (const EN_PartnershipTechnique &) const`
- `PartnershipTechnique (const EN_PartnershipTechnique &)`
- `PartnershipTechnique (const char iTechnique)`
- `PartnershipTechnique (const std::string &iTechnique)`
- `PartnershipTechnique (const PartnershipTechnique &)`
- `void toStream (std::ostream &iOut) const`
- `virtual void fromStream (std::istream &iIn)`

### Static Public Member Functions

- `static const std::string & getLabel (const EN_PartnershipTechnique &)`
- `static EN_PartnershipTechnique getTechnique (const char)`
- `static char getTechniqueLabel (const EN_PartnershipTechnique &)`
- `static std::string getTechniqueLabelAsString (const EN_PartnershipTechnique &)`
- `static std::string describeLabels ()`

### 32.119.1 Detailed Description

Enumeration of partnership techniques.

Definition at line 17 of file [PartnershipTechnique.hpp](#).

### 32.119.2 Member Enumeration Documentation

#### 32.119.2.1 enum stdair::PartnershipTechnique::EN\_PartnershipTechnique

##### Enumerator

**`NONE`**

***RAE\_DA******RAE\_YP******IBP\_DA******IBP\_YP******IBP\_YP\_U******RMC******A\_RMC******LAST\_VALUE***

Definition at line 19 of file [PartnershipTechnique.hpp](#).

### 32.119.3 Constructor & Destructor Documentation

**32.119.3.1 stdair::PartnershipTechnique::PartnershipTechnique ( const EN\_PartnershipTechnique & *iPartnershipTechnique* )**

Main constructor.

Definition at line 48 of file [PartnershipTechnique.cpp](#).

**32.119.3.2 stdair::PartnershipTechnique::PartnershipTechnique ( const char *iTechnique* )**

Alternative constructor.

Definition at line 82 of file [PartnershipTechnique.cpp](#).

**32.119.3.3 stdair::PartnershipTechnique::PartnershipTechnique ( const std::string & *iTechnique* )**

Alternative constructor.

Definition at line 88 of file [PartnershipTechnique.cpp](#).

References [getTechnique\(\)](#).

**32.119.3.4 stdair::PartnershipTechnique::PartnershipTechnique ( const PartnershipTechnique & *iPartnershipTechnique* )**

Default copy constructor.

Definition at line 42 of file [PartnershipTechnique.cpp](#).

### 32.119.4 Member Function Documentation

**32.119.4.1 const std::string & stdair::PartnershipTechnique::getLabel ( const EN\_PartnershipTechnique & *iTechnique* ) [static]**

Get the label as a string (e.g., "RevenueManagementCooperation").

Definition at line 98 of file [PartnershipTechnique.cpp](#).

**32.119.4.2 PartnershipTechnique::EN\_PartnershipTechnique stdair::PartnershipTechnique::getTechnique ( const char *iTechniqueChar* ) [static]**

Get the technique value from parsing a single char (e.g., 'r' or 'C').

Definition at line 54 of file [PartnershipTechnique.cpp](#).

References [A\\_RMC](#), [describeLabels\(\)](#), [IBP\\_DA](#), [IBP\\_YP](#), [IBP\\_YP\\_U](#), [LAST\\_VALUE](#), [NONE](#), [RAE\\_DA](#), [RAE\\_YP](#), and [RMC](#).

Referenced by [stdair::AirlineFeature::getPartnershipTechnique\(\)](#).

32.119.4.3 `char stdair::PartnershipTechnique::getTechniqueLabel ( const EN_PartnershipTechnique & iTechnique ) [static]`

Get the label as a single char (e.g., 'r' or 'C').

Definition at line 104 of file [PartnershipTechnique.cpp](#).

32.119.4.4 `std::string stdair::PartnershipTechnique::getTechniqueLabelAsString ( const EN_PartnershipTechnique & iTechnique ) [static]`

Get the label as a string of a single char (e.g., "r" or "C").

Definition at line 110 of file [PartnershipTechnique.cpp](#).

32.119.4.5 `std::string stdair::PartnershipTechnique::describeLabels ( ) [static]`

List the labels.

Definition at line 117 of file [PartnershipTechnique.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [getTechnique\(\)](#).

32.119.4.6 `PartnershipTechnique::EN_PartnershipTechnique stdair::PartnershipTechnique::getTechnique ( ) const`

Get the enumerated value.

Definition at line 130 of file [PartnershipTechnique.cpp](#).

Referenced by [PartnershipTechnique\(\)](#).

32.119.4.7 `char stdair::PartnershipTechnique::getTechniqueAsChar ( ) const`

Get the enumerated value as a char (e.g., 'r' or 'C').

Definition at line 135 of file [PartnershipTechnique.cpp](#).

32.119.4.8 `std::string stdair::PartnershipTechnique::getTechniqueAsString ( ) const`

Get the enumerated value as a short string (e.g., "r" or "C").

Definition at line 141 of file [PartnershipTechnique.cpp](#).

32.119.4.9 `const std::string stdair::PartnershipTechnique::describe ( ) const [virtual]`

Give a description of the structure (e.g., "RevenueManagementCooperation" or "InterlineBidPriceYieldProration").

Implements [stdair::StructAbstract](#).

Definition at line 148 of file [PartnershipTechnique.cpp](#).

32.119.4.10 `bool stdair::PartnershipTechnique::operator== ( const EN_PartnershipTechnique & iTechnique ) const`

Comparison operator.

Definition at line 156 of file [PartnershipTechnique.cpp](#).

32.119.4.11 `void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]`

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.119.4.12 virtual void stdair::StructAbstract::fromStream ( std::istream & *ioIn* ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

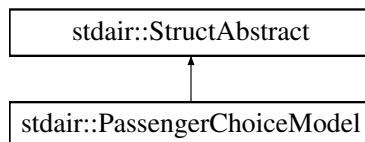
The documentation for this struct was generated from the following files:

- [stdair/basic/PartnershipTechnique.hpp](#)
- [stdair/basic/PartnershipTechnique.cpp](#)

## 32.120 stdair::PassengerChoiceModel Struct Reference

```
#include <stdair/basic/PassengerChoiceModel.hpp>
```

Inheritance diagram for stdair::PassengerChoiceModel:



### Public Types

- enum [EN\\_PassengerChoiceModel](#) { [HARD\\_RESTRICTION](#) = 0, [PRICE\\_ORIENTED](#), [HYBRID](#), [LAST\\_VALUE](#) }

### Public Member Functions

- [EN\\_PassengerChoiceModel getModel \(\) const](#)
- [std::string getModelAsString \(\) const](#)
- [const std::string describe \(\) const](#)
- [bool operator== \(const EN\\_PassengerChoiceModel &\) const](#)
- [PassengerChoiceModel \(const EN\\_PassengerChoiceModel &\)](#)
- [PassengerChoiceModel \(const char iModel\)](#)
- [PassengerChoiceModel \(const PassengerChoiceModel &\)](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [virtual void fromStream \(std::istream &ioIn\)](#)

## Static Public Member Functions

- static const std::string & [getLabel](#) (const EN\_PassengerChoiceModel &)
- static char [getModelLabel](#) (const EN\_PassengerChoiceModel &)
- static std::string [getModelLabelAsString](#) (const EN\_PassengerChoiceModel &)
- static std::string [describeLabels](#) ()

### 32.120.1 Detailed Description

Enumeration of passenger choice models.

Definition at line 15 of file [PassengerChoiceModel.hpp](#).

### 32.120.2 Member Enumeration Documentation

#### 32.120.2.1 enum stdair::PassengerChoiceModel::EN\_PassengerChoiceModel

Enumerator

*HARD\_RESTRICTION*  
*PRICE\_ORIENTED*  
*HYBRID*  
*LAST\_VALUE*

Definition at line 17 of file [PassengerChoiceModel.hpp](#).

### 32.120.3 Constructor & Destructor Documentation

#### 32.120.3.1 stdair::PassengerChoiceModel::PassengerChoiceModel ( const EN\_PassengerChoiceModel & *iPassengerChoiceModel* )

Constructor.

Definition at line 36 of file [PassengerChoiceModel.cpp](#).

#### 32.120.3.2 stdair::PassengerChoiceModel::PassengerChoiceModel ( const char *iModel* )

Constructor.

Definition at line 41 of file [PassengerChoiceModel.cpp](#).

References [describeLabels\(\)](#), *HARD\_RESTRICTION*, *HYBRID*, *LAST\_VALUE*, and *PRICE\_ORIENTED*.

#### 32.120.3.3 stdair::PassengerChoiceModel::PassengerChoiceModel ( const PassengerChoiceModel & *iPassengerChoiceModel* )

Default copy constructor.

Definition at line 30 of file [PassengerChoiceModel.cpp](#).

### 32.120.4 Member Function Documentation

#### 32.120.4.1 const std::string & stdair::PassengerChoiceModel::getLabel ( const EN\_PassengerChoiceModel & *iModel* ) [static]

Get the label as a string (e.g., "HardRestrictionModel", "PriceOrientedModel" or "HybridModel").

Definition at line 60 of file [PassengerChoiceModel.cpp](#).

---

32.120.4.2 `char stdair::PassengerChoiceModel::getModelLabel ( const EN_PassengerChoiceModel & iModel ) [static]`

Get the label as a single char (e.g., 'R', 'P' or 'H').

Definition at line 65 of file [PassengerChoiceModel.cpp](#).

32.120.4.3 `std::string stdair::PassengerChoiceModel::getModelLabelAsString ( const EN_PassengerChoiceModel & iModel ) [static]`

Get the label as a string of a single char (e.g., "R", "P" or "H").

Definition at line 71 of file [PassengerChoiceModel.cpp](#).

32.120.4.4 `std::string stdair::PassengerChoiceModel::describeLabels ( ) [static]`

List the labels.

Definition at line 78 of file [PassengerChoiceModel.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [PassengerChoiceModel\(\)](#).

32.120.4.5 `PassengerChoiceModel::EN_PassengerChoiceModel stdair::PassengerChoiceModel::getModel ( ) const`

Get the enumerated value.

Definition at line 90 of file [PassengerChoiceModel.cpp](#).

32.120.4.6 `std::string stdair::PassengerChoiceModel::getModelAsString ( ) const`

Get the enumerated value as a short string (e.g., "R", "P" or "H").

Definition at line 95 of file [PassengerChoiceModel.cpp](#).

32.120.4.7 `const std::string stdair::PassengerChoiceModel::describe ( ) const [virtual]`

Give a description of the structure (e.g., "HardRestrictionModel", "PriceOrientedModel" or "HybridModel").

Implements [stdair::StructAbstract](#).

Definition at line 102 of file [PassengerChoiceModel.cpp](#).

32.120.4.8 `bool stdair::PassengerChoiceModel::operator== ( const EN_PassengerChoiceModel & iModel ) const`

Comparaison operator.

Definition at line 110 of file [PassengerChoiceModel.cpp](#).

32.120.4.9 `void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]`

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

32.120.4.10 `virtual void stdair::StructAbstract::fromStream ( std::istream & ioIn ) [inline], [virtual], [inherited]`

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

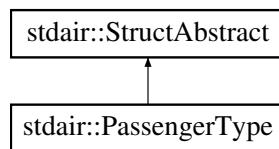
The documentation for this struct was generated from the following files:

- [stdair/basic/PassengerChoiceModel.hpp](#)
- [stdair/basic/PassengerChoiceModel.cpp](#)

**32.121 stdair::PassengerType Struct Reference**

```
#include <stdair/basic/PassengerType.hpp>
```

Inheritance diagram for stdair::PassengerType:

**Public Types**

- enum [EN\\_PassengerType](#) { [LEISURE](#) = 0, [BUSINESS](#), [FIRST](#), [LAST\\_VALUE](#) }

**Public Member Functions**

- [EN\\_PassengerType getType \(\) const](#)
- [std::string getTypeAsString \(\) const](#)
- [const std::string describe \(\) const](#)
- [bool operator==\(const EN\\_PassengerType &\) const](#)
- [PassengerType \(const EN\\_PassengerType &\)](#)
- [PassengerType \(const char iType\)](#)
- [void toStream \(std::ostream &iOOut\) const](#)
- [virtual void fromStream \(std::istream &iOlN\)](#)

**Static Public Member Functions**

- [static const std::string & getLabel \(const EN\\_PassengerType &\)](#)
- [static char getTypeLabel \(const EN\\_PassengerType &\)](#)
- [static std::string getTypeLabelAsString \(const EN\\_PassengerType &\)](#)
- [static std::string describeLabels \(\)](#)

**32.121.1 Detailed Description**

Enumeration of Frequent Flyer types.

Definition at line 15 of file [PassengerType.hpp](#).

### 32.121.2 Member Enumeration Documentation

#### 32.121.2.1 enum stdair::PassengerType::EN\_PassengerType

Enumerator

**LEISURE**  
**BUSINESS**  
**FIRST**  
**LAST\_VALUE**

Definition at line 17 of file [PassengerType.hpp](#).

### 32.121.3 Constructor & Destructor Documentation

#### 32.121.3.1 stdair::PassengerType::PassengerType ( const EN\_PassengerType & iPassengerType )

Constructor.

Definition at line 21 of file [PassengerType.cpp](#).

#### 32.121.3.2 stdair::PassengerType::PassengerType ( const char iType )

Constructor.

Definition at line 26 of file [PassengerType.cpp](#).

References [BUSINESS](#), [describeLabels\(\)](#), [FIRST](#), [LAST\\_VALUE](#), and [LEISURE](#).

### 32.121.4 Member Function Documentation

#### 32.121.4.1 const std::string & stdair::PassengerType::getLabel ( const EN\_PassengerType & iType ) [static]

Get the label as a string (e.g., "Leisure" or "Business").

Definition at line 44 of file [PassengerType.cpp](#).

#### 32.121.4.2 char stdair::PassengerType::getTypeLabel ( const EN\_PassengerType & iType ) [static]

Get the label as a single char (e.g., 'L' or 'B').

Definition at line 49 of file [PassengerType.cpp](#).

#### 32.121.4.3 std::string stdair::PassengerType::getTypeLabelAsString ( const EN\_PassengerType & iType ) [static]

Get the label as a single char (e.g., 'L' or 'B').

Definition at line 55 of file [PassengerType.cpp](#).

#### 32.121.4.4 std::string stdair::PassengerType::describeLabels ( ) [static]

List the labels.

Definition at line 62 of file [PassengerType.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [PassengerType\(\)](#).

#### 32.121.4.5 PassengerType::EN\_PassengerType stdair::PassengerType::getType ( ) const

Get the enumerated value.

Definition at line 74 of file [PassengerType.cpp](#).

## 32.121.4.6 std::string stdair::PassengerType::getTypeAsString( ) const

Get the enumerated value as a short string (e.g., 'L' or 'B').

Definition at line 79 of file [PassengerType.cpp](#).

## 32.121.4.7 const std::string stdair::PassengerType::describe( ) const [virtual]

Give a description of the structure (e.g., "Leisure" or "Business").

Implements [stdair::StructAbstract](#).

Definition at line 86 of file [PassengerType.cpp](#).

## 32.121.4.8 bool stdair::PassengerType::operator==( const EN\_PassengerType &amp; iType ) const

Comparison operator.

Definition at line 93 of file [PassengerType.cpp](#).

## 32.121.4.9 void stdair::StructAbstract::toStream( std::ostream &amp; ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

## 32.121.4.10 virtual void stdair::StructAbstract::fromStream( std::istream &amp; iIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

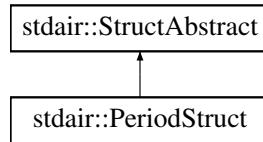
The documentation for this struct was generated from the following files:

- [stdair/basic/PassengerType.hpp](#)
- [stdair/basic/PassengerType.cpp](#)

## 32.122 stdair::PeriodStruct Struct Reference

```
#include <stdair/bom/PeriodStruct.hpp>
```

Inheritance diagram for stdair::PeriodStruct:



## Public Member Functions

- const [DatePeriod\\_T & getDateRange \(\) const](#)
- const [DoWStruct & getDoW \(\) const](#)
- void [setDateRange \(const DatePeriod\\_T &iDateRange\)](#)
- void [setDoW \(const DoWStruct &iDoW\)](#)
- const std::string [describe \(\) const](#)
- const std::string [describeShort \(\) const](#)
- [PeriodStruct addDateOffset \(const DateOffset\\_T &\) const](#)
- [PeriodStruct intersection \(const PeriodStruct &\) const](#)
- const bool [isValid \(\) const](#)
- [PeriodStruct \(const DatePeriod\\_T &, const DoWStruct &\)](#)
- [PeriodStruct \(\)](#)
- [PeriodStruct \(const PeriodStruct &\)](#)
- [~PeriodStruct \(\)](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- virtual void [fromStream \(std::istream &ioln\)](#)

### 32.122.1 Detailed Description

Define a departure period

A period is defined by a date range and a day-of-week struct.

Definition at line 19 of file [PeriodStruct.hpp](#).

### 32.122.2 Constructor & Destructor Documentation

#### 32.122.2.1 stdair::PeriodStruct::PeriodStruct ( const DatePeriod\_T & iDateRange, const DoWStruct & iDoW )

Constructor.

Definition at line 19 of file [PeriodStruct.cpp](#).

#### 32.122.2.2 stdair::PeriodStruct::PeriodStruct ( )

Default constructors.

Definition at line 14 of file [PeriodStruct.cpp](#).

Referenced by [addDateOffset\(\)](#), and [intersection\(\)](#).

#### 32.122.2.3 stdair::PeriodStruct::PeriodStruct ( const PeriodStruct & iPeriodStruct )

Definition at line 25 of file [PeriodStruct.cpp](#).

#### 32.122.2.4 stdair::PeriodStruct::~PeriodStruct ( ) [inline]

Default destructor.

Definition at line 64 of file [PeriodStruct.hpp](#).

## 32.122.3 Member Function Documentation

32.122.3.1 `const DatePeriod_T& stdair::PeriodStruct::getDateRange( ) const [inline]`

Retrieve the attributes.

Definition at line 23 of file [PeriodStruct.hpp](#).

Referenced by [addDateOffset\(\)](#).

32.122.3.2 `const DoWStruct& stdair::PeriodStruct::getDoW( ) const [inline]`

Definition at line 26 of file [PeriodStruct.hpp](#).

Referenced by [addDateOffset\(\)](#).

32.122.3.3 `void stdair::PeriodStruct::setDateRange( const DatePeriod_T & iDateRange ) [inline]`

Set the new value for the attributes.

Definition at line 33 of file [PeriodStruct.hpp](#).

32.122.3.4 `void stdair::PeriodStruct::setDoW( const DoWStruct & iDoW ) [inline]`

Definition at line 36 of file [PeriodStruct.hpp](#).

32.122.3.5 `const std::string stdair::PeriodStruct::describe( ) const [virtual]`

Display explicitly (e.g., "Mon.Tue.Wed.Thu.Fri").

Implements [stdair::StructAbstract](#).

Definition at line 38 of file [PeriodStruct.cpp](#).

References [stdair::DoWStruct::describe\(\)](#).

32.122.3.6 `const std::string stdair::PeriodStruct::describeShort( ) const`

Display as a bit set (e.g., "1111100").

Definition at line 31 of file [PeriodStruct.cpp](#).

References [stdair::DoWStruct::describeShort\(\)](#).

Referenced by [stdair::FlightPeriodKey::toString\(\)](#).

32.122.3.7 `PeriodStruct stdair::PeriodStruct::addDateOffset( const DateOffset_T & iDateOffset ) const`

Build a period struct from this period struct by adding a date offset.

Definition at line 46 of file [PeriodStruct.cpp](#).

References [getDateRange\(\)](#), [getDoW\(\)](#), [PeriodStruct\(\)](#), and [stdair::DoWStruct::shift\(\)](#).

32.122.3.8 `PeriodStruct stdair::PeriodStruct::intersection( const PeriodStruct & iPeriodStruct ) const`

Build a new period struct which is the intersection of two period structs.

Definition at line 63 of file [PeriodStruct.cpp](#).

References [stdair::DoWStruct::intersection\(\)](#), and [PeriodStruct\(\)](#).

32.122.3.9 `const bool stdair::PeriodStruct::isValid( ) const`

Return if the period is valid (i.e., valid date range and valid DoW).

Definition at line 72 of file [PeriodStruct.cpp](#).

References [stdair::DoWStruct::isValid\(\)](#).

### 32.122.3.10 void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

### 32.122.3.11 virtual void stdair::StructAbstract::fromStream ( std::istream & ioin ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

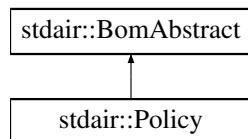
The documentation for this struct was generated from the following files:

- [stdair/bom/PeriodStruct.hpp](#)
- [stdair/bom/PeriodStruct.cpp](#)

## 32.123 stdair::Policy Class Reference

```
#include <stdair/bom/Policy.hpp>
```

Inheritance diagram for stdair::Policy:



#### Public Types

- [typedef PolicyKey Key\\_T](#)

#### Public Member Functions

- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- [const HolderMap\\_T & getHolderMap \(\) const](#)
- [const BookingClassList\\_T & getBookingClassList \(\) const](#)
- [const NbOfBookings\\_T & getDemand \(\) const](#)
- [const StdDevValue\\_T & getStdDev \(\) const](#)

- const `Yield_T & getYield () const`
- const `Revenue_T getTotalRevenue () const`
- void `setDemand (const NbOfBookings_T &iDemand)`
- void `setStdDev (const StdDevValue_T &iStdDev)`
- void `setYield (const Yield_T &iYield)`
- void `resetDemandForecast ()`
- void `addYieldDemand (const Yield_T &, const NbOfBookings_T &)`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- std::string `toString () const`
- const std::string `describeKey () const`
- template<class Archive>  
void `serialize (Archive &ar, const unsigned int iFileVersion)`

#### Protected Member Functions

- `Policy (const Key_T &)`
- virtual `~Policy ()`

#### Friends

- template<typename BOM>  
class `FacBom`
- class `FacBomManager`
- class `boost::serialization::access`

### 32.123.1 Detailed Description

Structure holding the elements of a policy. A policy is a set of booking classes, each booking class belongs to a different Fare Family.

Definition at line 30 of file [Policy.hpp](#).

### 32.123.2 Member Typedef Documentation

#### 32.123.2.1 `typedef PolicyKey stdair::Policy::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 40 of file [Policy.hpp](#).

### 32.123.3 Constructor & Destructor Documentation

#### 32.123.3.1 `stdair::Policy::Policy ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 31 of file [Policy.cpp](#).

#### 32.123.3.2 `stdair::Policy::~Policy ( ) [protected], [virtual]`

Destructor.

Definition at line 35 of file [Policy.cpp](#).

### 32.123.4 Member Function Documentation

32.123.4.1 `const Key_T& stdair::Policy::getKey( ) const [inline]`

Get the policy key.

Definition at line [45](#) of file [Policy.hpp](#).

32.123.4.2 `BomAbstract* const stdair::Policy::getParent( ) const [inline]`

Get the parent object.

Definition at line [50](#) of file [Policy.hpp](#).

32.123.4.3 `const HolderMap_T& stdair::Policy::getHolderMap( ) const [inline]`

Get the map of children holders.

Definition at line [57](#) of file [Policy.hpp](#).

32.123.4.4 `const BookingClassList_T & stdair::Policy::getBookingClassList( ) const`

Getter for the booking classes.

Definition at line [52](#) of file [Policy.cpp](#).

32.123.4.5 `const NbOfBookings_T& stdair::Policy::getDemand( ) const [inline]`

Getter for the demand.

Definition at line [65](#) of file [Policy.hpp](#).

32.123.4.6 `const StdDevValue_T& stdair::Policy::getStdDev( ) const [inline]`

Getter for the standard deviation demand.

Definition at line [70](#) of file [Policy.hpp](#).

32.123.4.7 `const Yield_T& stdair::Policy:: getYield( ) const [inline]`

Getter for the yield.

Definition at line [75](#) of file [Policy.hpp](#).

32.123.4.8 `const Revenue_T stdair::Policy::getTotalRevenue( ) const`

Get the total revenue of the policy.

Definition at line [57](#) of file [Policy.cpp](#).

32.123.4.9 `void stdair::Policy::setDemand( const NbOfBookings_T & iDemand ) [inline]`

Setter for the unconstraining demand.

Definition at line [85](#) of file [Policy.hpp](#).

32.123.4.10 `void stdair::Policy::setStdDev( const StdDevValue_T & iStdDev ) [inline]`

Setter for standard deviation demand.

Definition at line [90](#) of file [Policy.hpp](#).

32.123.4.11 `void stdair::Policy::setYield( const Yield_T & iYield ) [inline]`

Setter for the yield.

Definition at line [95](#) of file [Policy.hpp](#).

## 32.123.4.12 void stdair::Policy::resetDemandForecast( ) [inline]

Reset demand forecast.

Definition at line 100 of file [Policy.hpp](#).

## 32.123.4.13 void stdair::Policy::addYieldDemand ( const Yield\_T &amp; iYield, const NbOfBookings\_T &amp; iDemand )

Add the new pair (yield, demand) to the map.

Definition at line 70 of file [Policy.cpp](#).

## 32.123.4.14 void stdair::Policy::toStream ( std::ostream &amp; ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 116 of file [Policy.hpp](#).

References [toString\(\)](#).

## 32.123.4.15 void stdair::Policy::fromStream ( std::istream &amp; iIn ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 125 of file [Policy.hpp](#).

## 32.123.4.16 std::string stdair::Policy::toString ( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 39 of file [Policy.cpp](#).

References [describeKey\(\)](#).

Referenced by [stdair::SegmentCabin::describeConvexHull\(\)](#), and [toString\(\)](#).

## 32.123.4.17 const std::string stdair::Policy::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line 136 of file [Policy.hpp](#).

References [stdair::PolicyKey::toString\(\)](#).

Referenced by [toString\(\)](#).

## 32.123.4.18 template&lt;class Archive&gt; void stdair::Policy::serialize ( Archive &amp; ar, const unsigned int iFileVersion )

Serialisation.

## 32.123.5 Friends And Related Function Documentation

### 32.123.5.1 template<typename BOM > friend class **FacBom** [friend]

Definition at line 31 of file [Policy.hpp](#).

### 32.123.5.2 friend class **FacBomManager** [friend]

Definition at line 32 of file [Policy.hpp](#).

### 32.123.5.3 friend class boost::serialization::access [friend]

Definition at line 33 of file [Policy.hpp](#).

The documentation for this class was generated from the following files:

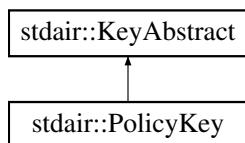
- stdair/bom/[Policy.hpp](#)
- stdair/bom/[Policy.cpp](#)

## 32.124 stdair::PolicyKey Struct Reference

Key of a given policy, made of a policy code.

```
#include <stdair/bom/PolicyKey.hpp>
```

Inheritance diagram for stdair::PolicyKey:



### Public Member Functions

- [PolicyKey](#) (const **PolicyCode\_T** &iPolicyCode)
- [PolicyKey](#) (const **PolicyKey** &)
- [~PolicyKey](#) ()
- const **PolicyCode\_T** & [getPolicyCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const
- template<class Archive >  
void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

### Friends

- class [boost::serialization::access](#)

### 32.124.1 Detailed Description

Key of a given policy, made of a policy code.

Definition at line 26 of file [PolicyKey.hpp](#).

### 32.124.2 Constructor & Destructor Documentation

#### 32.124.2.1 stdair::PolicyKey::PolicyKey ( const PolicyCode\_T & iPolicyCode )

Constructor.

Definition at line 28 of file [PolicyKey.cpp](#).

#### 32.124.2.2 stdair::PolicyKey::PolicyKey ( const PolicyKey & iPolicyKey )

Copy constructor.

Definition at line 23 of file [PolicyKey.cpp](#).

#### 32.124.2.3 stdair::PolicyKey::~PolicyKey ( )

Destructor.

Definition at line 33 of file [PolicyKey.cpp](#).

### 32.124.3 Member Function Documentation

#### 32.124.3.1 const PolicyCode\_T& stdair::PolicyKey::getPolicyCode ( ) const [inline]

Get the policy code.

Definition at line 56 of file [PolicyKey.hpp](#).

#### 32.124.3.2 void stdair::PolicyKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 37 of file [PolicyKey.cpp](#).

References [toString\(\)](#).

#### 32.124.3.3 void stdair::PolicyKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 42 of file [PolicyKey.cpp](#).

#### 32.124.3.4 const std::string stdair::PolicyKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 46 of file [PolicyKey.cpp](#).

Referenced by [stdair::Policy::describeKey\(\)](#), and [toString\(\)](#).

### 32.124.3.5 template<class Archive > void stdair::PolicyKey::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 68 of file [PolicyKey.cpp](#).

### 32.124.4 Friends And Related Function Documentation

#### 32.124.4.1 friend class boost::serialization::access [friend]

Definition at line 27 of file [PolicyKey.hpp](#).

The documentation for this struct was generated from the following files:

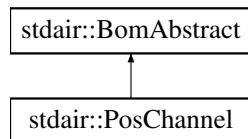
- stdair/bom/[PolicyKey.hpp](#)
- stdair/bom/[PolicyKey.cpp](#)

## 32.125 stdair::PosChannel Class Reference

Class representing the actual attributes for a fare point of sale.

```
#include <stdair/bom/PosChannel.hpp>
```

Inheritance diagram for stdair::PosChannel:



### Public Types

- [typedef PosChannelKey Key\\_T](#)

### Public Member Functions

- [void toStream \(std::ostream &ioOut\) const](#)
- [void fromStream \(std::istream &ioln\)](#)
- [std::string toString \(\) const](#)
- [const std::string describeKey \(\) const](#)
- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- [const stdair::HolderMap\\_T & getHolderMap \(\) const](#)
- [const CityCode\\_T & getPos \(\) const](#)
- [const ChannelLabel\\_T & getChannel \(\) const](#)

### Protected Member Functions

- [PosChannel \(const Key\\_T &\)](#)
- [virtual ~PosChannel \(\)](#)

### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`

### Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.125.1 Detailed Description

Class representing the actual attributes for a fare point of sale.

Definition at line 19 of file [PosChannel.hpp](#).

### 32.125.2 Member Typedef Documentation

#### 32.125.2.1 `typedef PosChannelKey stdair::PosChannel::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 29 of file [PosChannel.hpp](#).

### 32.125.3 Constructor & Destructor Documentation

#### 32.125.3.1 `stdair::PosChannel::PosChannel ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 28 of file [PosChannel.cpp](#).

#### 32.125.3.2 `stdair::PosChannel::~PosChannel ( ) [protected], [virtual]`

Destructor.

Definition at line 33 of file [PosChannel.cpp](#).

### 32.125.4 Member Function Documentation

#### 32.125.4.1 `void stdair::PosChannel::toStream ( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 38 of file [PosChannel.hpp](#).

References [toString\(\)](#).

**32.125.4.2 void stdair::PosChannel::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [47](#) of file [PosChannel.hpp](#).

**32.125.4.3 std::string stdair::PosChannel::toString( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [37](#) of file [PosChannel.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

**32.125.4.4 const std::string stdair::PosChannel::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line [58](#) of file [PosChannel.hpp](#).

References [\\_key](#), and [stdair::PosChannelKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.125.4.5 const Key\_T& stdair::PosChannel::getKey( ) const [inline]**

Get the primary key (pos, channel).

Definition at line [67](#) of file [PosChannel.hpp](#).

References [\\_key](#).

**32.125.4.6 BomAbstract\* const stdair::PosChannel::getParent( ) const [inline]**

Get a reference on the parent object instance.

Definition at line [74](#) of file [PosChannel.hpp](#).

References [\\_parent](#).

**32.125.4.7 const stdair::HolderMap\_T& stdair::PosChannel::getHolderMap( ) const [inline]**

Get a reference on the children holder.

Definition at line [81](#) of file [PosChannel.hpp](#).

References [\\_holderMap](#).

**32.125.4.8 const CityCode\_T& stdair::PosChannel::getPos( ) const [inline]**

Get the point-of-sale.

Definition at line [88](#) of file [PosChannel.hpp](#).

References [\\_key](#), and [stdair::PosChannelKey::getPos\(\)](#).

**32.125.4.9 const ChannelLabel\_T& stdair::PosChannel::getChannel( ) const [inline]**

Get the channel.

Definition at line [95](#) of file [PosChannel.hpp](#).

References [\\_key](#), and [stdair::PosChannelKey::getChannel\(\)](#).

### 32.125.5 Friends And Related Function Documentation

32.125.5.1 `template<typename BOM > friend class FacBom [friend]`

Definition at line 20 of file [PosChannel.hpp](#).

32.125.5.2 `template<typename BOM > friend class FacCloneBom [friend]`

Definition at line 21 of file [PosChannel.hpp](#).

32.125.5.3 `friend class FacBomManager [friend]`

Definition at line 22 of file [PosChannel.hpp](#).

### 32.125.6 Member Data Documentation

32.125.6.1 `Key_T stdair::PosChannel::_key [protected]`

Primary key (flight number and departure date).

Definition at line 127 of file [PosChannel.hpp](#).

Referenced by [describeKey\(\)](#), [getChannel\(\)](#), [getKey\(\)](#), and [getPos\(\)](#).

32.125.6.2 `BomAbstract* stdair::PosChannel::_parent [protected]`

Pointer on the parent class.

Definition at line 132 of file [PosChannel.hpp](#).

Referenced by [getParent\(\)](#).

32.125.6.3 `HolderMap_T stdair::PosChannel::_holderMap [protected]`

Map holding the children.

Definition at line 137 of file [PosChannel.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

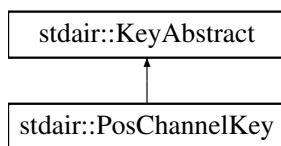
- stdair/bom/[PosChannel.hpp](#)
- stdair/bom/[PosChannel.cpp](#)

### 32.126 stdair::PosChannelKey Struct Reference

Key of point of sale and channel.

```
#include <stdair/bom/PosChannelKey.hpp>
```

Inheritance diagram for stdair::PosChannelKey:



#### Public Member Functions

- [PosChannelKey](#) (const `stdair::CityCode_T` &, const `stdair::ChannelLabel_T` &)

- `PosChannelKey (const PosChannelKey &)`
- `~PosChannelKey ()`
- `const stdair::CityCode_T & getPos () const`
- `const stdair::ChannelLabel_T & getChannel () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string toString () const`

### 32.126.1 Detailed Description

Key of point of sale and channel.

Definition at line 15 of file [PosChannelKey.hpp](#).

### 32.126.2 Constructor & Destructor Documentation

#### 32.126.2.1 stdair::PosChannelKey::PosChannelKey ( const stdair::CityCode\_T & iPos, const stdair::ChannelLabel\_T & iChannel )

Main constructor.

Definition at line 22 of file [PosChannelKey.cpp](#).

#### 32.126.2.2 stdair::PosChannelKey::PosChannelKey ( const PosChannelKey & iKey )

Copy constructor.

Definition at line 28 of file [PosChannelKey.cpp](#).

#### 32.126.2.3 stdair::PosChannelKey::~PosChannelKey ( )

Destructor.

Definition at line 33 of file [PosChannelKey.cpp](#).

### 32.126.3 Member Function Documentation

#### 32.126.3.1 const stdair::CityCode\_T& stdair::PosChannelKey::getPos ( ) const [inline]

Get the point of sale.

Definition at line 43 of file [PosChannelKey.hpp](#).

Referenced by [stdair::PosChannel::getPos\(\)](#).

#### 32.126.3.2 const stdair::ChannelLabel\_T& stdair::PosChannelKey::getChannel ( ) const [inline]

Get the channel.

Definition at line 50 of file [PosChannelKey.hpp](#).

Referenced by [stdair::PosChannel::getChannel\(\)](#).

#### 32.126.3.3 void stdair::PosChannelKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [37](#) of file [PosChannelKey.cpp](#).

References [toString\(\)](#).

### 32.126.3.4 void stdair::PosChannelKey::fromStream ( std::istream & *iIn* ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [42](#) of file [PosChannelKey.cpp](#).

### 32.126.3.5 const std::string stdair::PosChannelKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [46](#) of file [PosChannelKey.cpp](#).

References [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::PosChannel::describeKey\(\)](#), and [toString\(\)](#).

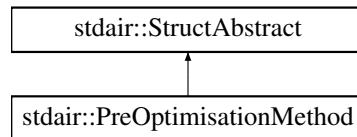
The documentation for this struct was generated from the following files:

- stdair/bom/[PosChannelKey.hpp](#)
- stdair/bom/[PosChannelKey.cpp](#)

## 32.127 stdair::PreOptimisationMethod Struct Reference

```
#include <stdair/basic/PreOptimisationMethod.hpp>
```

Inheritance diagram for stdair::PreOptimisationMethod:



### Public Types

- enum [EN\\_PreOptimisationMethod](#) { [NONE](#) = 0, [FA](#), [MRT](#), [LAST\\_VALUE](#) }

### Public Member Functions

- [EN\\_PreOptimisationMethod getMethod \(\) const](#)
- [std::string getMethodAsString \(\) const](#)
- [const std::string describe \(\) const](#)
- [bool operator== \(const EN\\_PreOptimisationMethod &\) const](#)

- `PreOptimisationMethod (const EN_PreOptimisationMethod &)`
- `PreOptimisationMethod (const char iMethod)`
- `PreOptimisationMethod (const PreOptimisationMethod &)`
- `void toStream (std::ostream &ioOut) const`
- `virtual void fromStream (std::istream &ioln)`

#### Static Public Member Functions

- `static const std::string & getLabel (const EN_PreOptimisationMethod &)`
- `static char getMethodLabel (const EN_PreOptimisationMethod &)`
- `static std::string getMethodLabelAsString (const EN_PreOptimisationMethod &)`
- `static std::string describeLabels ()`

#### 32.127.1 Detailed Description

Enumeration of PreOptimisation methods.

Definition at line 15 of file [PreOptimisationMethod.hpp](#).

#### 32.127.2 Member Enumeration Documentation

##### 32.127.2.1 enum stdair::PreOptimisationMethod::EN\_PreOptimisationMethod

Enumerator

**NONE**

**FA**

**MRT**

**LAST\_VALUE**

Definition at line 17 of file [PreOptimisationMethod.hpp](#).

#### 32.127.3 Constructor & Destructor Documentation

##### 32.127.3.1 stdair::PreOptimisationMethod::PreOptimisationMethod ( const EN\_PreOptimisationMethod & *iPreOptimisationMethod* )

Constructor.

Definition at line 36 of file [PreOptimisationMethod.cpp](#).

##### 32.127.3.2 stdair::PreOptimisationMethod::PreOptimisationMethod ( const char *iMethod* )

Constructor.

Definition at line 41 of file [PreOptimisationMethod.cpp](#).

References [describeLabels\(\)](#), [FA](#), [LAST\\_VALUE](#), [MRT](#), and [NONE](#).

##### 32.127.3.3 stdair::PreOptimisationMethod::PreOptimisationMethod ( const PreOptimisationMethod & *iPreOptimisationMethod* )

Default copy constructor.

Definition at line 30 of file [PreOptimisationMethod.cpp](#).

### 32.127.4 Member Function Documentation

32.127.4.1 `const std::string & stdair::PreOptimisationMethod::getLabel ( const EN_PreOptimisationMethod & iMethod ) [static]`

Get the label as a string (e.g., MRT or FA).

Definition at line 60 of file [PreOptimisationMethod.cpp](#).

32.127.4.2 `char stdair::PreOptimisationMethod::getMethodLabel ( const EN_PreOptimisationMethod & iMethod ) [static]`

Get the label as a single char (e.g., 'M' or 'E').

Definition at line 65 of file [PreOptimisationMethod.cpp](#).

32.127.4.3 `std::string stdair::PreOptimisationMethod::getMethodLabelAsString ( const EN_PreOptimisationMethod & iMethod ) [static]`

Get the label as a string of a single char (e.g., "M" or "E").

Definition at line 71 of file [PreOptimisationMethod.cpp](#).

32.127.4.4 `std::string stdair::PreOptimisationMethod::describeLabels ( ) [static]`

List the labels.

Definition at line 78 of file [PreOptimisationMethod.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [PreOptimisationMethod\(\)](#).

32.127.4.5 `PreOptimisationMethod::EN_PreOptimisationMethod stdair::PreOptimisationMethod::getMethod ( ) const`

Get the enumerated value.

Definition at line 90 of file [PreOptimisationMethod.cpp](#).

Referenced by [stdair::AirlineFeature::getPreOptimisationMethod\(\)](#).

32.127.4.6 `std::string stdair::PreOptimisationMethod::getMethodAsString ( ) const`

Get the enumerated value as a short string (e.g., "M" or "E").

Definition at line 95 of file [PreOptimisationMethod.cpp](#).

32.127.4.7 `const std::string stdair::PreOptimisationMethod::describe ( ) const [virtual]`

Give a description of the structure (e.g., MRT or FA).

Implements [stdair::StructAbstract](#).

Definition at line 102 of file [PreOptimisationMethod.cpp](#).

32.127.4.8 `bool stdair::PreOptimisationMethod::operator== ( const EN_PreOptimisationMethod & iMethod ) const`

Comparaison operator.

Definition at line 110 of file [PreOptimisationMethod.cpp](#).

32.127.4.9 `void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]`

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.127.4.10 virtual void stdair::StructAbstract::fromStream ( std::istream & *iIn* ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

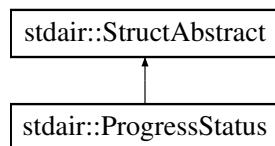
The documentation for this struct was generated from the following files:

- [stdair/basic/PreOptimisationMethod.hpp](#)
- [stdair/basic/PreOptimisationMethod.cpp](#)

**32.128 stdair::ProgressStatus Struct Reference**

```
#include <stdair/basic/ProgressStatus.hpp>
```

Inheritance diagram for stdair::ProgressStatus:

**Public Member Functions**

- const [Count\\_T & count \(\) const](#)
- const [Count\\_T & getCurrentNb \(\) const](#)
- const [Count\\_T & getExpectedNb \(\) const](#)
- const [Count\\_T & getActualNb \(\) const](#)
- const [ProgressPercentage\\_T progress \(\) const](#)
- void [setCurrentNb \(const Count\\_T &iCurrentNb\)](#)
- void [setExpectedNb \(const Count\\_T &iExpectedNb\)](#)
- void [setActualNb \(const Count\\_T &iActualNb\)](#)
- void [reset \(\)](#)
- [Count\\_T operator+=\(Count\\_T iIncrement\)](#)
- [Count\\_T operator++ \(\)](#)
- const std::string [describe \(\) const](#)
- const std::string [toString \(\) const](#)
- [ProgressStatus \(const Count\\_T &iCurrentNb, const Count\\_T &iExpectedNb, const Count\\_T &iActualNb\)](#)

- `ProgressStatus (const Count_T &iExpectedNb, const Count_T &iActualNb)`
- `ProgressStatus (const Count_T &iActualNb)`
- `ProgressStatus ()`
- `ProgressStatus (const ProgressStatus &)`
- `void toStream (std::ostream &ioOut) const`
- `virtual void fromStream (std::istream &ioln)`

### 32.128.1 Detailed Description

Structure holding the details of a progress status.

The progress status is given by the ratio between the "current" and the "expected" (or "actual") numbers. For instance, when the expected/actual number is 1000 and the current number is 200, then the progress status is 20% (= 200 / 1000).

Definition at line 27 of file [ProgressStatus.hpp](#).

### 32.128.2 Constructor & Destructor Documentation

#### 32.128.2.1 stdair::ProgressStatus::ProgressStatus ( const Count\_T & iCurrentNb, const Count\_T & iExpectedNb, const Count\_T & iActualNb )

Constructor.

##### Parameters

<code>const</code>	Count_T& The current number.
<code>const</code>	Count_T& The expected number.
<code>const</code>	Count_T& The actual number.

Definition at line 15 of file [ProgressStatus.cpp](#).

#### 32.128.2.2 stdair::ProgressStatus::ProgressStatus ( const Count\_T & iExpectedNb, const Count\_T & iActualNb )

Constructor.

As no current number is given, it is set to 0.

##### Parameters

<code>const</code>	Count_T& The expected number.
<code>const</code>	Count_T& The actual number.

Definition at line 23 of file [ProgressStatus.cpp](#).

#### 32.128.2.3 stdair::ProgressStatus::ProgressStatus ( const Count\_T & iActualNb )

Constructor.

As no expected number is given, it is assumed to be equal to the actual one. The current number is set to 0.

##### Parameters

<code>const</code>	Count_T& The actual number.
--------------------	-----------------------------

Definition at line 30 of file [ProgressStatus.cpp](#).

#### 32.128.2.4 stdair::ProgressStatus::ProgressStatus ( )

Constructor.

All the numbers are set to 0.

Definition at line 36 of file [ProgressStatus.cpp](#).

32.128.2.5 stdair::ProgressStatus::ProgressStatus ( const ProgressStatus & *iProgressStatus* )

Copy Constructor.

Definition at line 43 of file [ProgressStatus.cpp](#).

## 32.128.3 Member Function Documentation

## 32.128.3.1 const Count\_T&amp; stdair::ProgressStatus::count ( ) const [inline]

Get the current number.

Definition at line 31 of file [ProgressStatus.hpp](#).

## 32.128.3.2 const Count\_T&amp; stdair::ProgressStatus::getCurrentNb ( ) const [inline]

Get the current number.

Definition at line 36 of file [ProgressStatus.hpp](#).

Referenced by [stdair::ProgressStatusSet::describe\(\)](#).

## 32.128.3.3 const Count\_T&amp; stdair::ProgressStatus::getExpectedNb ( ) const [inline]

Get the expected number.

Definition at line 41 of file [ProgressStatus.hpp](#).

Referenced by [stdair::ProgressStatusSet::describe\(\)](#).

## 32.128.3.4 const Count\_T&amp; stdair::ProgressStatus::getActualNb ( ) const [inline]

Get the actual number.

Definition at line 46 of file [ProgressStatus.hpp](#).

Referenced by [stdair::ProgressStatusSet::describe\(\)](#).

## 32.128.3.5 const ProgressPercentage\_T stdair::ProgressStatus::progress ( ) const [inline]

Get the progress as a percentage.

Definition at line 51 of file [ProgressStatus.hpp](#).

References [stdair::MAXIMUM\\_PROGRESS\\_STATUS](#).

Referenced by [toString\(\)](#).

32.128.3.6 void stdair::ProgressStatus::setCurrentNb ( const Count\_T & *iCurrentNb* ) [inline]

Set the current number.

Definition at line 65 of file [ProgressStatus.hpp](#).

32.128.3.7 void stdair::ProgressStatus::setExpectedNb ( const Count\_T & *iExpectedNb* ) [inline]

Set the expected number.

Definition at line 70 of file [ProgressStatus.hpp](#).

32.128.3.8 void stdair::ProgressStatus::setActualNb ( const Count\_T & *iActualNb* ) [inline]

Set the actual number.

Definition at line 75 of file [ProgressStatus.hpp](#).

### 32.128.3.9 void stdair::ProgressStatus::reset( )

Reset the current number (to 0).

Definition at line 50 of file [ProgressStatus.cpp](#).

References [stdair::DEFAULT\\_PROGRESS\\_STATUS](#).

### 32.128.3.10 Count\_T stdair::ProgressStatus::operator+=( Count\_T *increment* ) [inline]

Increment the current number.

Definition at line 83 of file [ProgressStatus.hpp](#).

### 32.128.3.11 Count\_T stdair::ProgressStatus::operator++( ) [inline]

Increment the current number.

Definition at line 89 of file [ProgressStatus.hpp](#).

### 32.128.3.12 const std::string stdair::ProgressStatus::describe( ) const [virtual]

Give a description of the structure (e.g., "1 {99, 100}").

Implements [stdair::StructAbstract](#).

Definition at line 56 of file [ProgressStatus.cpp](#).

### 32.128.3.13 const std::string stdair::ProgressStatus::toString( ) const

Give a description of the structure (e.g., "1% (1/ 100)").

Definition at line 63 of file [ProgressStatus.cpp](#).

References [progress\(\)](#).

### 32.128.3.14 void stdair::StructAbstract::toStream( std::ostream & *ioOut* ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

### 32.128.3.15 virtual void stdair::StructAbstract::fromStream( std::istream & *ioIn* ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

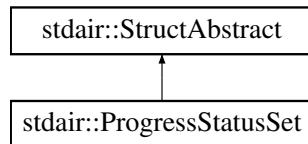
The documentation for this struct was generated from the following files:

- stdair/basic/ProgressStatus.hpp
- stdair/basic/ProgressStatus.cpp

## 32.129 stdair::ProgressStatusSet Struct Reference

```
#include <stdair/basic/ProgressStatusSet.hpp>
```

Inheritance diagram for stdair::ProgressStatusSet:



### Public Member Functions

- const ProgressStatus & `getTypeSpecificStatus () const`
- const ProgressStatus & `getSpecificGeneratorStatus () const`
- const ProgressStatus & `getOverallStatus () const`
- void `setTypeSpecificStatus (const ProgressStatus &iProgressStatus)`
- void `setSpecificGeneratorStatus (const ProgressStatus &iProgressStatus, const EventGeneratorKey_T &iKey)`
- void `setOverallStatus (const ProgressStatus &iProgressStatus)`
- void `fromStream (std::istream &iIn)`
- const std::string `describe () const`
- ProgressStatusSet (const EventType::EN\_EventType &)
- ProgressStatusSet (const ProgressStatusSet &)
- ~ProgressStatusSet ()
- void `toStream (std::ostream &iOut) const`

### 32.129.1 Detailed Description

Structure holding a set of progress status.

Definition at line 22 of file [ProgressStatusSet.hpp](#).

### 32.129.2 Constructor & Destructor Documentation

#### 32.129.2.1 stdair::ProgressStatusSet::ProgressStatusSet ( const EventType::EN\_EventType & iType )

Constructor .

Definition at line 20 of file [ProgressStatusSet.cpp](#).

#### 32.129.2.2 stdair::ProgressStatusSet::ProgressStatusSet ( const ProgressStatusSet & iProgressStatusSet )

Copy constructor.

Definition at line 27 of file [ProgressStatusSet.cpp](#).

#### 32.129.2.3 stdair::ProgressStatusSet::~ProgressStatusSet ( )

Destructor.

Definition at line 36 of file [ProgressStatusSet.cpp](#).

### 32.129.3 Member Function Documentation

**32.129.3.1 const ProgressStatus& stdair::ProgressStatusSet::getTypeSpecificStatus ( ) const [inline]**

Get the progress status specific to that event type.

Note that that progress status may not be up-to-date. That attribute is up-to-date only after a call to the popEvent() method of SEvMgr.

Definition at line 31 of file [ProgressStatusSet.hpp](#).

**32.129.3.2 const ProgressStatus& stdair::ProgressStatusSet::getSpecificGeneratorStatus ( ) const [inline]**

Get the progress status specific to the content key for that event.

Note that that progress status may not be up-to-date. That attribute is up-to-date only after a call to the popEvent() method of SEvMgr.

Definition at line 43 of file [ProgressStatusSet.hpp](#).

**32.129.3.3 const ProgressStatus& stdair::ProgressStatusSet::getOverallStatus ( ) const [inline]**

Get the overall progress status (absolute, for all the events).

Note that that progress status may not be up-to-date. That attribute is up-to-date only after a call to the popEvent() method of SEvMgr.

Definition at line 54 of file [ProgressStatusSet.hpp](#).

**32.129.3.4 void stdair::ProgressStatusSet::setTypeSpecificStatus ( const ProgressStatus & iProgressStatus ) [inline]**

Set/update the progress status specific to that event type.

Definition at line 62 of file [ProgressStatusSet.hpp](#).

**32.129.3.5 void stdair::ProgressStatusSet::setSpecificGeneratorStatus ( const ProgressStatus & iProgressStatus, const EventGeneratorKey\_T & iKey ) [inline]**

Set/update the progress status specific to the content key for that event.

Definition at line 68 of file [ProgressStatusSet.hpp](#).

**32.129.3.6 void stdair::ProgressStatusSet::setOverallStatus ( const ProgressStatus & iProgressStatus ) [inline]**

Set/update the overall progress status (absolute, for all the events).

Definition at line 76 of file [ProgressStatusSet.hpp](#).

**32.129.3.7 void stdair::ProgressStatusSet::fromStream ( std::istream & iIn ) [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 40 of file [ProgressStatusSet.cpp](#).

**32.129.3.8 const std::string stdair::ProgressStatusSet::describe ( ) const [virtual]**

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 44 of file [ProgressStatusSet.cpp](#).

References [stdair::ProgressStatus::getActualNb\(\)](#), [stdair::ProgressStatus::getCurrentNb\(\)](#), and [stdair::ProgressStatus::getExpectedNb\(\)](#).

### 32.129.3.9 void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

#### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

The documentation for this struct was generated from the following files:

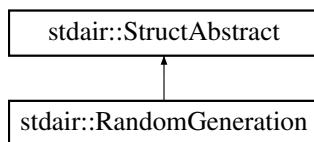
- [stdair/basic/ProgressStatusSet.hpp](#)
- [stdair/basic/ProgressStatusSet.cpp](#)

## 32.130 stdair::RandomGeneration Struct Reference

Class holding a random generator.

```
#include <stdair/basic/RandomGeneration.hpp>
```

Inheritance diagram for stdair::RandomGeneration:



#### Public Member Functions

- [RealNumber\\_T generateUniform01 \(\)](#)
- [RealNumber\\_T operator\(\) \(\)](#)
- [RealNumber\\_T generateUniform \(const RealNumber\\_T &, const RealNumber\\_T &\)](#)
- [RealNumber\\_T generateNormal \(const RealNumber\\_T &, const RealNumber\\_T &\)](#)
- [RealNumber\\_T generateExponential \(const RealNumber\\_T &\)](#)
- [BaseGenerator\\_T & getBaseGenerator \(\)](#)
- [const std::string describe \(\) const](#)
- [RandomGeneration \(const RandomSeed\\_T &\)](#)
- [RandomGeneration \(\)](#)
- [~RandomGeneration \(\)](#)
- [void init \(const RandomSeed\\_T &\)](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [virtual void fromStream \(std::istream &ioln\)](#)

#### Public Attributes

- [BaseGenerator\\_T \\_generator](#)

### 32.130.1 Detailed Description

Class holding a random generator.

Definition at line 17 of file [RandomGeneration.hpp](#).

### 32.130.2 Constructor & Destructor Documentation

#### 32.130.2.1 stdair::RandomGeneration::RandomGeneration ( const RandomSeed\_T & iSeed )

Main constructor.

Definition at line 27 of file [RandomGeneration.cpp](#).

#### 32.130.2.2 stdair::RandomGeneration::RandomGeneration ( )

Default constructor.

#### Note

As per Boost bug #3516 (<https://svn.boost.org/trac/boost/ticket/3516>) the seed should not be set to 0 (at least on versions of Boost lower than 1.44).

Definition at line 23 of file [RandomGeneration.cpp](#).

#### 32.130.2.3 stdair::RandomGeneration::~RandomGeneration ( )

Destructor.

Definition at line 37 of file [RandomGeneration.cpp](#).

### 32.130.3 Member Function Documentation

#### 32.130.3.1 RealNumber\_T stdair::RandomGeneration::generateUniform01 ( )

Generate a randomised number following a uniform distribution between 0 (included) and 1 (excluded).

Definition at line 53 of file [RandomGeneration.cpp](#).

References [\\_generator](#).

Referenced by [generateNormal\(\)](#), [generateUniform\(\)](#), and [operator\(\)\(\)](#).

#### 32.130.3.2 RealNumber\_T stdair::RandomGeneration::operator() ( ) [inline]

Same as [generateUniform01\(\)](#). That operator is provided for convenient reasons.

Definition at line 30 of file [RandomGeneration.hpp](#).

References [generateUniform01\(\)](#).

#### 32.130.3.3 RealNumber\_T stdair::RandomGeneration::generateUniform ( const RealNumber\_T & iMinValue, const RealNumber\_T & i.MaxValue )

Generate a randomized number following a uniform distribution between a minimum (included) and a maximum (excluded) value.

Definition at line 59 of file [RandomGeneration.cpp](#).

References [generateUniform01\(\)](#).

#### 32.130.3.4 RealNumber\_T stdair::RandomGeneration::generateNormal ( const RealNumber\_T & mu, const RealNumber\_T & sigma )

Generate a randomized number following a normal distribution specified by a mean and a standard deviation.

Definition at line 68 of file [RandomGeneration.cpp](#).

References [generateUniform01\(\)](#).

Referenced by [stdair::BookingClass::generateDemandSamples\(\)](#).

### 32.130.3.5 RealNumber\_T stdair::RandomGeneration::generateExponential ( const RealNumber\_T & lambda )

Generate a randomized number following an exponential distribution specified by a mean and a lambda parameter.

Definition at line 86 of file [RandomGeneration.cpp](#).

References [\\_generator](#).

### 32.130.3.6 BaseGenerator\_T& stdair::RandomGeneration::getBaseGenerator ( ) [inline]

Retrieve the base generator for initialising other random generators.

Definition at line 56 of file [RandomGeneration.hpp](#).

References [\\_generator](#).

### 32.130.3.7 const std::string stdair::RandomGeneration::describe ( ) const [virtual]

Give a description of the structure (for display purposes).

Implements [stdair::StructAbstract](#).

Definition at line 46 of file [RandomGeneration.cpp](#).

References [\\_generator](#).

### 32.130.3.8 void stdair::RandomGeneration::init ( const RandomSeed\_T & iSeed )

Initialise the random generator.

A uniform random number distribution is defined, which produces "real" values between 0 and 1 (0 inclusive, 1 exclusive).

Definition at line 41 of file [RandomGeneration.cpp](#).

References [\\_generator](#).

### 32.130.3.9 void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

### 32.130.3.10 virtual void stdair::StructAbstract::fromStream ( std::istream & iIn ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

### 32.130.4 Member Data Documentation

#### 32.130.4.1 `BaseGenerator_T stdair::RandomGeneration::_generator`

Random number generator engine.

The random number generator is currently based on boost::minstd\_rand. Alternates are boost::mt19937, boost::ecuyer1988.

Definition at line 112 of file [RandomGeneration.hpp](#).

Referenced by [describe\(\)](#), [generateExponential\(\)](#), [generateUniform01\(\)](#), [getBaseGenerator\(\)](#), and [init\(\)](#).

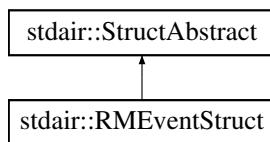
The documentation for this struct was generated from the following files:

- stdair/basic/[RandomGeneration.hpp](#)
- stdair/basic/[RandomGeneration.cpp](#)

### 32.131 stdair::RMEventStruct Struct Reference

```
#include <stdair/bom/RMEventStruct.hpp>
```

Inheritance diagram for stdair::RMEventStruct:



#### Public Member Functions

- const [AirlineCode\\_T & getAirlineCode \(\) const](#)
- const [KeyDescription\\_T & getFlightDateDescription \(\) const](#)
- const [DateTime\\_T & getRMEventTime \(\) const](#)
- void [toStream \(std::ostream &iOut\) const](#)
- void [fromStream \(std::istream &iIn\)](#)
- const std::string [describe \(\) const](#)
- [RMEventStruct \(const AirlineCode\\_T &, const KeyDescription\\_T &, const DateTime\\_T &\)](#)
- [RMEventStruct \(const RMEventStruct &\)](#)
- [RMEventStruct \(\)](#)
- [~RMEventStruct \(\)](#)

#### 32.131.1 Detailed Description

Structure holding the elements of a snapshot .

Definition at line 19 of file [RMEventStruct.hpp](#).

#### 32.131.2 Constructor & Destructor Documentation

##### 32.131.2.1 `stdair::RMEventStruct::RMEventStruct ( const AirlineCode_T & iAirlineCode, const KeyDescription_T & iFlightDateDescription, const DateTime_T & iRMEventTime )`

Constructor.

Definition at line 27 of file [RMEventStruct.cpp](#).

### 32.131.2.2 stdair::RMEventStruct::RMEventStruct ( const RMEventStruct & *iRMEvent* )

Copy constructor.

Definition at line 19 of file [RMEventStruct.cpp](#).

### 32.131.2.3 stdair::RMEventStruct::RMEventStruct ( )

Default constructor.

It is private so that it can not be used.

Definition at line 13 of file [RMEventStruct.cpp](#).

### 32.131.2.4 stdair::RMEventStruct::~RMEventStruct ( )

Destructor.

Definition at line 36 of file [RMEventStruct.cpp](#).

## 32.131.3 Member Function Documentation

### 32.131.3.1 const AirlineCode\_T& stdair::RMEventStruct::getAirlineCode ( ) const [inline]

Get the airline code.

Definition at line 23 of file [RMEventStruct.hpp](#).

### 32.131.3.2 const KeyDescription\_T& stdair::RMEventStruct::getFlightDateDescription ( ) const [inline]

Get the string describing the flight-date key.

Definition at line 28 of file [RMEventStruct.hpp](#).

### 32.131.3.3 const DateTime\_T& stdair::RMEventStruct::getRMEventTime ( ) const [inline]

Get the snapshot action time.

Definition at line 33 of file [RMEventStruct.hpp](#).

### 32.131.3.4 void stdair::RMEventStruct::toStream ( std::ostream & *ioOut* ) const

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 40 of file [RMEventStruct.cpp](#).

References [describe\(\)](#).

### 32.131.3.5 void stdair::RMEventStruct::fromStream ( std::istream & *ioIn* ) [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 45 of file [RMEventStruct.cpp](#).

### 32.131.3.6 const std::string stdair::RMEventStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 49 of file [RMEventStruct.cpp](#).

Referenced by [toStream\(\)](#).

The documentation for this struct was generated from the following files:

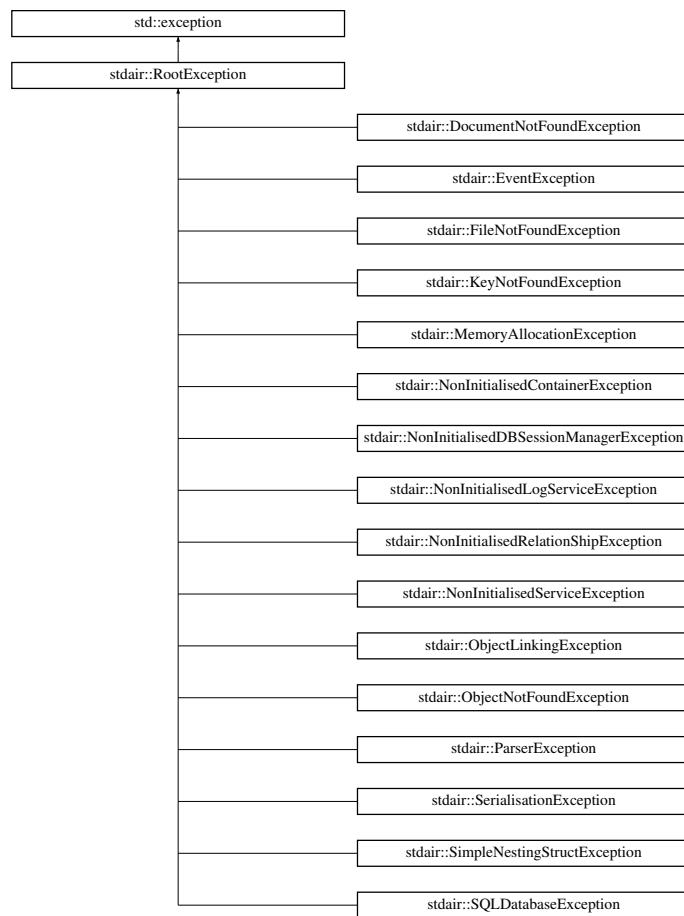
- stdair/bom/[RMEventStruct.hpp](#)
- stdair/bom/[RMEventStruct.cpp](#)

### 32.132 stdair::RootException Class Reference

Root of the stdair exceptions.

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::RootException:



#### Public Member Functions

- [RootException](#) (const std::string &iWhat)
- [RootException](#) ()
- virtual [~RootException](#) () throw ()
- const char \* [what](#) () const throw ()

#### Protected Attributes

- std::string [\\_what](#)

### 32.132.1 Detailed Description

Root of the stdair exceptions.

All the stdair exceptions inherit from that root, allowing to catch them and to spot them easily when arising in code wrapping the stdair library.

Definition at line 19 of file [stdair\\_exceptions.hpp](#).

### 32.132.2 Constructor & Destructor Documentation

#### 32.132.2.1 stdair::RootException::RootException ( const std::string & iWhat ) [inline]

Main Constructor.

Definition at line 24 of file [stdair\\_exceptions.hpp](#).

#### 32.132.2.2 stdair::RootException::RootException ( ) [inline]

Default constructor.

Definition at line 28 of file [stdair\\_exceptions.hpp](#).

#### 32.132.2.3 virtual stdair::RootException::~RootException ( ) throw [inline], [virtual]

Destructor.

Definition at line 33 of file [stdair\\_exceptions.hpp](#).

### 32.132.3 Member Function Documentation

#### 32.132.3.1 const char\* stdair::RootException::what ( ) const throw [inline]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.132.4 Member Data Documentation

#### 32.132.4.1 std::string stdair::RootException::\_what [protected]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [what\(\)](#).

The documentation for this class was generated from the following file:

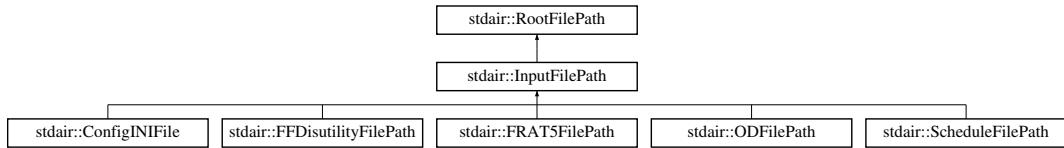
- stdair/[stdair\\_exceptions.hpp](#)

## 32.133 stdair::RootFilePath Class Reference

Root of the input and output files.

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::RootFilePath:



## Public Member Functions

- [RootFilePath \(const `Filename\_T` &\*iFilename\*\)](#)
- [RootFilePath \(\)](#)
- [virtual ~RootFilePath \(\)](#)
- [const char \\* name \(\) const](#)

## Protected Attributes

- [const `Filename\_T` \\_filename](#)

### 32.133.1 Detailed Description

Root of the input and output files.

All the files inherit from that root.

Definition at line [22](#) of file [stdair\\_file.hpp](#).

### 32.133.2 Constructor & Destructor Documentation

#### 32.133.2.1 `stdair::RootFilePath::RootFilePath ( const Filename_T & iFilename ) [inline]`

Main Constructor.

Definition at line [27](#) of file [stdair\\_file.hpp](#).

#### 32.133.2.2 `stdair::RootFilePath::RootFilePath ( ) [inline]`

Default constructor.

Definition at line [32](#) of file [stdair\\_file.hpp](#).

#### 32.133.2.3 `virtual stdair::RootFilePath::~RootFilePath ( ) [inline], [virtual]`

Destructor.

Definition at line [37](#) of file [stdair\\_file.hpp](#).

### 32.133.3 Member Function Documentation

#### 32.133.3.1 `const char* stdair::RootFilePath::name ( ) const [inline]`

Give the details of the exception.

Definition at line [42](#) of file [stdair\\_file.hpp](#).

References [\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

## 32.133.4 Member Data Documentation

32.133.4.1 const **Filename\_T** stdair::RootFilePath::\_filename [protected]

Name of the file.

Definition at line 50 of file [stdair\\_file.hpp](#).

Referenced by [name\(\)](#).

The documentation for this class was generated from the following file:

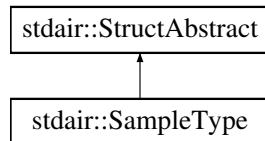
- stdair/[stdair\\_file.hpp](#)

## 32.134 stdair::SampleType Struct Reference

Enumeration of BOM sample types.

```
#include <stdair/basic/SampleType.hpp>
```

Inheritance diagram for stdair::SampleType:



## Public Types

- enum **EN\_SampleType** {
 **ALL** = 0, **A4P**, **RMS**, **INV**,  
**SCH**, **RAC**, **FQT**, **CRS**,  
**DEM**, **EVT**, **CCM**, **LAST\_VALUE** }

## Public Member Functions

- **EN\_SampleType getType () const**
- **std::string getTypeAsString () const**
- **const std::string describe () const**
- **bool operator== (const EN\_SampleType &) const**
- **SampleType (const EN\_SampleType &)**
- **SampleType (const char iType)**
- **SampleType (const SampleType &)**
- **void toStream (std::ostream &ioOut) const**
- **virtual void fromStream (std::istream &ioln)**

## Static Public Member Functions

- **static const std::string & getLabel (const EN\_SampleType &)**
- **static char getTypeLabel (const EN\_SampleType &)**
- **static std::string getTypeLabelAsString (const EN\_SampleType &)**
- **static std::string describeLabels ()**

### 32.134.1 Detailed Description

Enumeration of BOM sample types.

In order to test some components, it is often easier to fill the BOM tree with hard-coded structures than set up CSV input files and parsing them. That enumeration structure tells for which component(s) the sample BOM tree should be built. By default, a BOM sample tree is built for all the components, i.e., it contains StdAir objects for all the other components (AirInv, AirSched, etc).

Definition at line 25 of file [SampleType.hpp](#).

### 32.134.2 Member Enumeration Documentation

#### 32.134.2.1 enum stdair::SampleType::EN\_SampleType

Enumerator

**ALL**  
**A4P**  
**RMS**  
**INV**  
**SCH**  
**RAC**  
**FQT**  
**CRS**  
**DEM**  
**EVT**  
**CCM**  
**LAST\_VALUE**

Definition at line 27 of file [SampleType.hpp](#).

### 32.134.3 Constructor & Destructor Documentation

#### 32.134.3.1 stdair::SampleType::SampleType ( const EN\_SampleType & iSampleType )

Constructor.

Definition at line 36 of file [SampleType.cpp](#).

#### 32.134.3.2 stdair::SampleType::SampleType ( const char iType )

Constructor.

Definition at line 41 of file [SampleType.cpp](#).

References [A4P](#), [ALL](#), [CCM](#), [CRS](#), [DEM](#), [describeLabels\(\)](#), [EVT](#), [FQT](#), [INV](#), [LAST\\_VALUE](#), [RAC](#), [RMS](#), and [SCH](#).

#### 32.134.3.3 stdair::SampleType::SampleType ( const SampleType & iSampleType )

Default copy constructor.

Definition at line 31 of file [SampleType.cpp](#).

### 32.134.4 Member Function Documentation

## 32.134.4.1 const std::string &amp; stdair::SampleType::getLabel ( const EN\_SampleType &amp; iType ) [static]

Get the label as a string (e.g., "Inventory" or "Schedule").

Definition at line 67 of file [SampleType.cpp](#).

## 32.134.4.2 char stdair::SampleType::getTypeLabel ( const EN\_SampleType &amp; iType ) [static]

Get the label as a single char (e.g., 'I' or 'S').

Definition at line 72 of file [SampleType.cpp](#).

## 32.134.4.3 std::string stdair::SampleType::getTypeLabelAsString ( const EN\_SampleType &amp; iType ) [static]

Get the label as a string of a single char (e.g., "I" or "S").

Definition at line 77 of file [SampleType.cpp](#).

## 32.134.4.4 std::string stdair::SampleType::describeLabels ( ) [static]

List the labels.

Definition at line 84 of file [SampleType.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [SampleType\(\)](#).

## 32.134.4.5 SampleType::EN\_SampleType stdair::SampleType::getType ( ) const

Get the enumerated value.

Definition at line 96 of file [SampleType.cpp](#).

## 32.134.4.6 std::string stdair::SampleType::getTypeAsString ( ) const

Get the enumerated value as a short string (e.g., "I" or "S").

Definition at line 101 of file [SampleType.cpp](#).

## 32.134.4.7 const std::string stdair::SampleType::describe ( ) const [virtual]

Give a description of the structure (e.g., "Inventory" or "Schedule").

Implements [stdair::StructAbstract](#).

Definition at line 108 of file [SampleType.cpp](#).

## 32.134.4.8 bool stdair::SampleType::operator== ( const EN\_SampleType &amp; iType ) const

Comparison operator.

Definition at line 115 of file [SampleType.cpp](#).

## 32.134.4.9 void stdair::StructAbstract::toStream ( std::ostream &amp; ioOut ) const [inline], [inherited]

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

32.134.4.10 virtual void stdair::StructAbstract::fromStream ( std::istream & *iOlN* ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

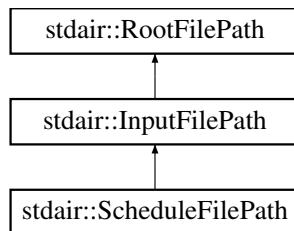
The documentation for this struct was generated from the following files:

- [stdair/basic/SampleType.hpp](#)
- [stdair/basic/SampleType.cpp](#)

**32.135 stdair::ScheduleFilePath Class Reference**

```
#include <stdair/stdair_file.hpp>
```

Inheritance diagram for stdair::ScheduleFilePath:

**Public Member Functions**

- [ScheduleFilePath \(const \*\*Filename\\_T\*\* &iFilename\)](#)
- [const char \\* name \(\) const](#)

**Protected Attributes**

- [const \*\*Filename\\_T\*\* \\_filename](#)

**32.135.1 Detailed Description**

Schedule input file.

Definition at line 64 of file [stdair\\_file.hpp](#).

**32.135.2 Constructor & Destructor Documentation****32.135.2.1 stdair::ScheduleFilePath::ScheduleFilePath ( const **Filename\_T** & iFilename ) [inline], [explicit]**

Constructor.

Definition at line 69 of file [stdair\\_file.hpp](#).

### 32.135.3 Member Function Documentation

#### 32.135.3.1 const char\* stdair::RootFilePath::name( ) const [inline], [inherited]

Give the details of the exception.

Definition at line 42 of file [stdair\\_file.hpp](#).

References [stdair::RootFilePath::\\_filename](#).

Referenced by [stdair::BomINIImport::importINIConfig\(\)](#).

### 32.135.4 Member Data Documentation

#### 32.135.4.1 const [Filename\\_T](#) stdair::RootFilePath::\_filename [protected], [inherited]

Name of the file.

Definition at line 50 of file [stdair\\_file.hpp](#).

Referenced by [stdair::RootFilePath::name\(\)](#).

The documentation for this class was generated from the following file:

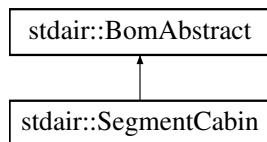
- [stdair/stdair\\_file.hpp](#)

## 32.136 stdair::SegmentCabin Class Reference

Class representing the actual attributes for an airline segment-cabin.

```
#include <stdair/bom/SegmentCabin.hpp>
```

Inheritance diagram for stdair::SegmentCabin:



### Public Types

- [typedef SegmentCabinKey Key\\_T](#)

### Public Member Functions

- const [Key\\_T & getKey\(\)](#) const
- [BomAbstract \\*const getParent\(\)](#) const
- const [HolderMap\\_T & getHolderMap\(\)](#) const
- const [CabinCode\\_T & getCabinCode\(\)](#) const
- const [MapKey\\_T getFullerKey\(\)](#) const
- const [SegmentSnapshotTable & getSegmentSnapshotTable\(\)](#) const
- const [CabinCapacity\\_T & getCapacity\(\)](#) const
- const [BlockSpace\\_T & getBlockSpace\(\)](#) const
- const [BlockSpace\\_T & getMIN\(\)](#) const
- const [UPR\\_T & getUPR\(\)](#) const
- const [NbOfBookings\\_T & getBookingCounter\(\)](#) const
- const [CommittedSpace\\_T & getCommittedSpace\(\)](#) const

- const `Availability_T & getAvailabilityPool () const`
- const `BidPrice_T & getCurrentBidPrice () const`
- const `BidPriceVector_T & getBidPriceVector () const`
- const `bool getFareFamilyStatus () const`
- const `PolicyList_T & getConvexHull () const`
- void `setSegmentSnapshotTable (SegmentSnapshotTable &iTable)`
- void `setCapacity (const CabinCapacity_T &iCapacity)`
- void `setBlockSpace (const BlockSpace_T &iBlockSpace)`
- void `setMIN (const BlockSpace_T &iMIN)`
- void `setUPR (const UPR_T &iUPR)`
- void `setBookingCounter (const NbOfBookings_T &iBookingCounter)`
- void `setCommittedSpace (const CommittedSpace_T &iCommittedSpace)`
- void `setAvailabilityPool (const Availability_T &iAvailabilityPool)`
- void `setBidPriceVector (const BidPriceVector_T &iBPV)`
- void `activateFareFamily ()`
- void `updateFromReservation (const NbOfBookings_T &)`
- void `resetConvexHull ()`
- void `addPolicy (Policy &)`
- void `toStream (std::ostream &iOut) const`
- void `fromStream (std::istream &iIn)`
- std::string `toString () const`
- const std::string `describeKey () const`
- const std::string `describeConvexHull () const`
- template<class Archive>  
void `serialize (Archive &ar, const unsigned int iFileVersion)`

#### Protected Member Functions

- `SegmentCabin (const Key_T &)`
- virtual `~SegmentCabin ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `SegmentSnapshotTable * _segmentSnapshotTable`
- `CabinCapacity_T _capacity`
- `BlockSpace_T _blockSpace`
- `BlockSpace_T _min`
- `UPR_T _upr`
- `NbOfBookings_T _bookingCounter`
- `CommittedSpace_T _committedSpace`
- `Availability_T _availabilityPool`
- `BidPriceVector_T _bidPriceVector`
- `BidPrice_T _currentBidPrice`
- `bool _fareFamilyActivation`
- `PolicyList_T _convexHull`

## Friends

- template<typename BOM >  
  class [FacBom](#)
- template<typename BOM >  
  class [FacCloneBom](#)
- class [FacBomManager](#)
- class [boost::serialization::access](#)

### 32.136.1 Detailed Description

Class representing the actual attributes for an airline segment-cabin.

Definition at line [33](#) of file [SegmentCabin.hpp](#).

### 32.136.2 Member Typedef Documentation

#### 32.136.2.1 `typedef SegmentCabinKey stdair::SegmentCabin::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [44](#) of file [SegmentCabin.hpp](#).

### 32.136.3 Constructor & Destructor Documentation

#### 32.136.3.1 `stdair::SegmentCabin::SegmentCabin ( const Key_T & iKey ) [protected]`

Constructor.

Definition at line [39](#) of file [SegmentCabin.cpp](#).

#### 32.136.3.2 `stdair::SegmentCabin::~SegmentCabin ( ) [protected], [virtual]`

Destructor.

Definition at line [52](#) of file [SegmentCabin.cpp](#).

### 32.136.4 Member Function Documentation

#### 32.136.4.1 `const Key_T& stdair::SegmentCabin::getKey ( ) const [inline]`

Get the segment-cabin key (cabin code).

Definition at line [52](#) of file [SegmentCabin.hpp](#).

References [\\_key](#).

#### 32.136.4.2 `BomAbstract* const stdair::SegmentCabin::getParent ( ) const [inline]`

Get the parent object.

Definition at line [59](#) of file [SegmentCabin.hpp](#).

References [\\_parent](#).

#### 32.136.4.3 `const HolderMap_T& stdair::SegmentCabin::getHolderMap ( ) const [inline]`

Get the map of children holders.

Definition at line [66](#) of file [SegmentCabin.hpp](#).

References [\\_holderMap](#).

32.136.4.4 const CabinCode\_T& stdair::SegmentCabin::getCabinCode( ) const [inline]

Get the cabin code (primary key).

Definition at line 73 of file [SegmentCabin.hpp](#).

References [\\_key](#), and [stdair::SegmentCabinKey::getCabinCode\(\)](#).

Referenced by [getFullerKey\(\)](#).

32.136.4.5 const MapKey\_T stdair::SegmentCabin::getFullerKey( ) const

Get the (segment-date, segment-cabin) key (board point, off point and cabin code).

#### Note

That method assumes that the parent object derives from the [SegmentDate](#) class, as it needs to have access to the [describeKey\(\)](#) method.

Definition at line 56 of file [SegmentCabin.cpp](#).

References [stdair::DEFAULT\\_KEY\\_FLD\\_DELIMITER](#), [stdair::SegmentDate::describeKey\(\)](#), and [getCabinCode\(\)](#).

32.136.4.6 const SegmentSnapshotTable& stdair::SegmentCabin::getSegmentSnapshotTable( ) const [inline]

Get the guillotine block.

Definition at line 88 of file [SegmentCabin.hpp](#).

References [\\_segmentSnapshotTable](#).

32.136.4.7 const CabinCapacity\_T& stdair::SegmentCabin::getCapacity( ) const [inline]

Get the cabin capacity.

Definition at line 94 of file [SegmentCabin.hpp](#).

References [\\_capacity](#).

32.136.4.8 const BlockSpace\_T& stdair::SegmentCabin::getBlockSpace( ) const [inline]

Get the blocked number of bookings.

Definition at line 99 of file [SegmentCabin.hpp](#).

References [\\_blockSpace](#).

32.136.4.9 const BlockSpace\_T& stdair::SegmentCabin::getMIN( ) const [inline]

Get the blocked number of bookings.

Definition at line 104 of file [SegmentCabin.hpp](#).

References [\\_min](#).

32.136.4.10 const UPR\_T& stdair::SegmentCabin::getUPR( ) const [inline]

Unsold Protection (UPR).

Definition at line 109 of file [SegmentCabin.hpp](#).

References [\\_upr](#).

32.136.4.11 const NbOfBookings\_T& stdair::SegmentCabin::getBookingCounter( ) const [inline]

Get the booking counter.

Definition at line 114 of file [SegmentCabin.hpp](#).

References [\\_bookingCounter](#).

32.136.4.12 `const CommittedSpace_T& stdair::SegmentCabin::getCommittedSpace( ) const [inline]`

Get the committed Space value.

Definition at line 119 of file [SegmentCabin.hpp](#).

References [\\_committedSpace](#).

32.136.4.13 `const Availability_T& stdair::SegmentCabin::getAvailabilityPool( ) const [inline]`

Get the availability pool value.

Definition at line 124 of file [SegmentCabin.hpp](#).

References [\\_availabilityPool](#).

32.136.4.14 `const BidPrice_T& stdair::SegmentCabin::getCurrentBidPrice( ) const [inline]`

Retrieve the current Bid-Price.

Definition at line 129 of file [SegmentCabin.hpp](#).

References [\\_currentBidPrice](#).

32.136.4.15 `const BidPriceVector_T& stdair::SegmentCabin::getBidPriceVector( ) const [inline]`

Retrieve the Bid-Price Vector.

Definition at line 134 of file [SegmentCabin.hpp](#).

References [\\_bidPriceVector](#).

32.136.4.16 `const bool stdair::SegmentCabin::getFareFamilyStatus( ) const [inline]`

Retrieve the status of fare family.

Definition at line 139 of file [SegmentCabin.hpp](#).

References [\\_fareFamilyActivation](#).

32.136.4.17 `const PolicyList_T& stdair::SegmentCabin::getConvexHull( ) const [inline]`

Retrieve the convex hull.

Definition at line 144 of file [SegmentCabin.hpp](#).

References [\\_convexHull](#).

32.136.4.18 `void stdair::SegmentCabin::setSegmentSnapshotTable( SegmentSnapshotTable & ioTable ) [inline]`

Set the snapshot table.

Definition at line 151 of file [SegmentCabin.hpp](#).

References [\\_segmentSnapshotTable](#).

32.136.4.19 `void stdair::SegmentCabin::setCapacity( const CabinCapacity_T & iCapacity ) [inline]`

Set the cabin capacity.

Definition at line 156 of file [SegmentCabin.hpp](#).

References [\\_capacity](#).

32.136.4.20 `void stdair::SegmentCabin::setBlockSpace( const BlockSpace_T & iBlockSpace ) [inline]`

Set the blocked number of seats.

Definition at line 161 of file [SegmentCabin.hpp](#).

References [\\_blockSpace](#).

32.136.4.21 void stdair::SegmentCabin::setMIN ( const BlockSpace\_T & iMIN ) [inline]

Set the blocked number of seats.

Definition at line 166 of file [SegmentCabin.hpp](#).

References [\\_min](#).

32.136.4.22 void stdair::SegmentCabin::setUPR ( const UPR\_T & iUPR ) [inline]

Set the Unsold Protection (UPR).

Definition at line 171 of file [SegmentCabin.hpp](#).

References [\\_upr](#).

32.136.4.23 void stdair::SegmentCabin::setBookingCounter ( const NbOfBookings\_T & iBookingCounter ) [inline]

Set the total number of bookings.

Definition at line 176 of file [SegmentCabin.hpp](#).

References [\\_bookingCounter](#).

32.136.4.24 void stdair::SegmentCabin::setCommittedSpace ( const CommittedSpace\_T & iCommittedSpace ) [inline]

Set the value of committed space.

Definition at line 181 of file [SegmentCabin.hpp](#).

References [\\_committedSpace](#).

32.136.4.25 void stdair::SegmentCabin::setAvailabilityPool ( const Availability\_T & iAvailabilityPool ) [inline]

Set the value of availability pool.

Definition at line 186 of file [SegmentCabin.hpp](#).

References [\\_availabilityPool](#).

32.136.4.26 void stdair::SegmentCabin::setBidPriceVector ( const BidPriceVector\_T & iBPV ) [inline]

Set the Bid-Price Vector.

Definition at line 191 of file [SegmentCabin.hpp](#).

References [\\_bidPriceVector](#).

32.136.4.27 void stdair::SegmentCabin::activateFareFamily ( ) [inline]

Activate fare family.

Definition at line 196 of file [SegmentCabin.hpp](#).

References [\\_fareFamilyActivation](#).

32.136.4.28 void stdair::SegmentCabin::updateFromReservation ( const NbOfBookings\_T & iNbOfBookings )

Register a sale.

Definition at line 85 of file [SegmentCabin.cpp](#).

References [\\_committedSpace](#).

**32.136.4.29 void stdair::SegmentCabin::resetConvexHull( ) [inline]**

Reset the convex hull.

Definition at line 206 of file [SegmentCabin.hpp](#).

References [\\_convexHull](#).

**32.136.4.30 void stdair::SegmentCabin::addPolicy( Policy & ioPolicy )**

Add a policy to the convex hull. Note: we do not use the [FacBomManager](#) here because the convex hull is not a list of children but a temporary list of policies.

Definition at line 90 of file [SegmentCabin.cpp](#).

References [\\_convexHull](#).

**32.136.4.31 void stdair::SegmentCabin::toStream( std::ostream & ioOut ) const [inline], [virtual]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 221 of file [SegmentCabin.hpp](#).

References [toString\(\)](#).

**32.136.4.32 void stdair::SegmentCabin::fromStream( std::istream & ioin ) [inline], [virtual]**

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 230 of file [SegmentCabin.hpp](#).

**32.136.4.33 std::string stdair::SegmentCabin::toString( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 65 of file [SegmentCabin.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.136.4.34 const std::string stdair::SegmentCabin::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line 241 of file [SegmentCabin.hpp](#).

References [\\_key](#), and [stdair::SegmentCabinKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.136.4.35 const std::string stdair::SegmentCabin::describeConvexHull( ) const**

Get a string describing the convex hull.

Definition at line 72 of file [SegmentCabin.cpp](#).

References [\\_convexHull](#), and [stdair::Policy::toString\(\)](#).

32.136.4.36 template<class Archive > void stdair::SegmentCabin::serialize ( Archive & ar, const unsigned int *iFileVersion* )

Serialisation.

Definition at line 229 of file [CmdBomSerialiser.cpp](#).

References [\\_key](#).

## 32.136.5 Friends And Related Function Documentation

32.136.5.1 template<typename BOM > friend class **FacBom** [friend]

Definition at line 34 of file [SegmentCabin.hpp](#).

32.136.5.2 template<typename BOM > friend class **FacCloneBom** [friend]

Definition at line 35 of file [SegmentCabin.hpp](#).

32.136.5.3 friend class **FacBomManager** [friend]

Definition at line 36 of file [SegmentCabin.hpp](#).

32.136.5.4 friend class boost::serialization::access [friend]

Definition at line 37 of file [SegmentCabin.hpp](#).

## 32.136.6 Member Data Documentation

32.136.6.1 **Key\_T** stdair::SegmentCabin::\_key [protected]

Primary key (cabin code).

Definition at line 300 of file [SegmentCabin.hpp](#).

Referenced by [describeKey\(\)](#), [get CabinCode\(\)](#), [getKey\(\)](#), and [serialize\(\)](#).

32.136.6.2 **BomAbstract\*** stdair::SegmentCabin::\_parent [protected]

Pointer on the parent class ([SegmentDate](#)).

Definition at line 305 of file [SegmentCabin.hpp](#).

Referenced by [getParent\(\)](#).

32.136.6.3 **HolderMap\_T** stdair::SegmentCabin::\_holderMap [protected]

Map holding the children ([FareFamily](#) or [BookingClass](#) objects).

Definition at line 310 of file [SegmentCabin.hpp](#).

Referenced by [getHolderMap\(\)](#).

32.136.6.4 **SegmentSnapshotTable\*** stdair::SegmentCabin::\_segmentSnapshotTable [protected]

The data table used for Revenue Management activities.

Definition at line 315 of file [SegmentCabin.hpp](#).

Referenced by [getSegmentSnapshotTable\(\)](#), and [setSegmentSnapshotTable\(\)](#).

**32.136.6.5 CabinCapacity\_T stdair::SegmentCabin::\_capacity [protected]**

Capacity of the cabin.

Definition at line 318 of file [SegmentCabin.hpp](#).

Referenced by [getCapacity\(\)](#), and [setCapacity\(\)](#).

**32.136.6.6 BlockSpace\_T stdair::SegmentCabin::\_blockSpace [protected]**

Blocked capacity.

Definition at line 321 of file [SegmentCabin.hpp](#).

Referenced by [getBlockSpace\(\)](#), and [setBlockSpace\(\)](#).

**32.136.6.7 BlockSpace\_T stdair::SegmentCabin::\_min [protected]**

Blocked number of seats.

Definition at line 324 of file [SegmentCabin.hpp](#).

Referenced by [getMIN\(\)](#), and [setMIN\(\)](#).

**32.136.6.8 UPR\_T stdair::SegmentCabin::\_upr [protected]**

Unsold Protection (UPR).

Definition at line 327 of file [SegmentCabin.hpp](#).

Referenced by [getUPR\(\)](#), and [setUPR\(\)](#).

**32.136.6.9 NbOfBookings\_T stdair::SegmentCabin::\_bookingCounter [protected]**

Aggregated number of bookings.

Definition at line 330 of file [SegmentCabin.hpp](#).

Referenced by [getBookingCounter\(\)](#), and [setBookingCounter\(\)](#).

**32.136.6.10 CommittedSpace\_T stdair::SegmentCabin::\_committedSpace [protected]**

Aggregated committed space.

Definition at line 333 of file [SegmentCabin.hpp](#).

Referenced by [getCommittedSpace\(\)](#), [setCommittedSpace\(\)](#), and [updateFromReservation\(\)](#).

**32.136.6.11 Availability\_T stdair::SegmentCabin::\_availabilityPool [protected]**

Aggregated availability pool.

Definition at line 336 of file [SegmentCabin.hpp](#).

Referenced by [getAvailabilityPool\(\)](#), and [setAvailabilityPool\(\)](#).

**32.136.6.12 BidPriceVector\_T stdair::SegmentCabin::\_bidPriceVector [protected]**

Bid-Price Vector (BPV).

Definition at line 339 of file [SegmentCabin.hpp](#).

Referenced by [getBidPriceVector\(\)](#), and [setBidPriceVector\(\)](#).

**32.136.6.13 BidPrice\_T stdair::SegmentCabin::\_currentBidPrice [protected]**

Current Bid-Price (BP).

Definition at line 342 of file [SegmentCabin.hpp](#).

Referenced by [getCurrentBidPrice\(\)](#).

#### 32.136.6.14 bool stdair::SegmentCabin::\_fareFamilyActivation [protected]

Indicate if fare family is in use.

Definition at line [345](#) of file [SegmentCabin.hpp](#).

Referenced by [activateFareFamily\(\)](#), and [getFareFamilyStatus\(\)](#).

#### 32.136.6.15 PolicyList\_T stdair::SegmentCabin::\_convexHull [protected]

The convex hull of MRT.

Definition at line [348](#) of file [SegmentCabin.hpp](#).

Referenced by [addPolicy\(\)](#), [describeConvexHull\(\)](#), [getConvexHull\(\)](#), and [resetConvexHull\(\)](#).

The documentation for this class was generated from the following files:

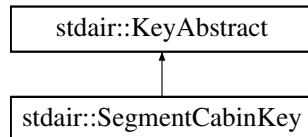
- stdair/bom/[SegmentCabin.hpp](#)
- stdair/bom/[SegmentCabin.cpp](#)
- stdair/command/[CmdBomSerialiser.cpp](#)

## 32.137 stdair::SegmentCabinKey Struct Reference

Key of a given segment-cabin, made of a cabin code (only).

```
#include <stdair/bom/SegmentCabinKey.hpp>
```

Inheritance diagram for stdair::SegmentCabinKey:



### Public Member Functions

- [SegmentCabinKey](#) (const [CabinCode\\_T](#) &iCabinCode)
- [SegmentCabinKey](#) (const [SegmentCabinKey](#) &)
- [~SegmentCabinKey](#) ()
- const [CabinCode\\_T](#) & [getCabinCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioIn)
- const std::string [toString](#) () const
- template<class Archive>  
void [serialize](#) (Archive &ar, const unsigned int iFileVersion)

### Friends

- class [boost::serialization::access](#)

#### 32.137.1 Detailed Description

Key of a given segment-cabin, made of a cabin code (only).

Definition at line [26](#) of file [SegmentCabinKey.hpp](#).

### 32.137.2 Constructor & Destructor Documentation

#### 32.137.2.1 stdair::SegmentCabinKey::SegmentCabinKey ( const CabinCode\_T & iCabinCode )

Constructor.

Definition at line 23 of file [SegmentCabinKey.cpp](#).

#### 32.137.2.2 stdair::SegmentCabinKey::SegmentCabinKey ( const SegmentCabinKey & iKey )

Copy constructor.

Definition at line 28 of file [SegmentCabinKey.cpp](#).

#### 32.137.2.3 stdair::SegmentCabinKey::~SegmentCabinKey ( )

Destructor.

Definition at line 33 of file [SegmentCabinKey.cpp](#).

### 32.137.3 Member Function Documentation

#### 32.137.3.1 const CabinCode\_T& stdair::SegmentCabinKey::getCabinCode ( ) const [inline]

Get the cabin code.

Definition at line 56 of file [SegmentCabinKey.hpp](#).

Referenced by [stdair::SegmentCabin::getCabinCode\(\)](#).

#### 32.137.3.2 void stdair::SegmentCabinKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 37 of file [SegmentCabinKey.cpp](#).

References [toString\(\)](#).

#### 32.137.3.3 void stdair::SegmentCabinKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

##### Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 42 of file [SegmentCabinKey.cpp](#).

#### 32.137.3.4 const std::string stdair::SegmentCabinKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 46 of file [SegmentCabinKey.cpp](#).

Referenced by [stdair::SegmentCabin::describeKey\(\)](#), [stdair::BomRetriever::retrieveDummySegmentCabin\(\)](#), and [toStream\(\)](#).

### 32.137.3.5 template<class Archive> void stdair::SegmentCabinKey::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line [68](#) of file [SegmentCabinKey.cpp](#).

### 32.137.4 Friends And Related Function Documentation

#### 32.137.4.1 friend class boost::serialization::access [friend]

Definition at line [27](#) of file [SegmentCabinKey.hpp](#).

The documentation for this struct was generated from the following files:

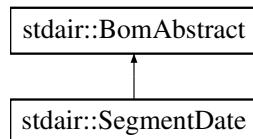
- stdair/bom/[SegmentCabinKey.hpp](#)
- stdair/bom/[SegmentCabinKey.cpp](#)

## 32.138 stdair::SegmentDate Class Reference

Class representing the actual attributes for an airline segment-date.

```
#include <stdair/bom/SegmentDate.hpp>
```

Inheritance diagram for stdair::SegmentDate:



### Public Types

- [typedef SegmentDateKey Key\\_T](#)

### Public Member Functions

- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- [const AirportCode\\_T & getBoardingPoint \(\) const](#)
- [const AirportCode\\_T & getOffPoint \(\) const](#)
- [const HolderMap\\_T & getHolderMap \(\) const](#)
- [const Date\\_T & getBoardingDate \(\) const](#)
- [const Duration\\_T & getBoardingTime \(\) const](#)
- [const Date\\_T & getOffDate \(\) const](#)
- [const Duration\\_T & getOffTime \(\) const](#)
- [const Duration\\_T & getElapsedTime \(\) const](#)
- [const Distance\\_T & getDistance \(\) const](#)
- [const DateOffset\\_T getDateOffset \(\) const](#)
- [const Duration\\_T getTimeOffset \(\) const](#)
- [SegmentDate \\* getOperatingSegmentDate \(\) const](#)
- [const SegmentDateList\\_T & getMarketingSegmentDateList \(\) const](#)
- [const RoutingLegKeyList\\_T & getLegKeyList \(\) const](#)

- void `setBoardingDate` (const `Date_T` &iBoardingDate)
- void `setBoardingTime` (const `Duration_T` &iBoardingTime)
- void `setOffDate` (const `Date_T` &iOffDate)
- void `setOffTime` (const `Duration_T` &iOffTime)
- void `setElapsedTime` (const `Duration_T` &iElapsedTime)
- void `setDistance` (const `Distance_T` &iDistance)
- void `addLegKey` (const std::string &iLegKey)
- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &ioln)
- std::string `toString` () const
- const std::string `describeKey` () const
- template<class Archive>  
void `serialize` (Archive &ar, const unsigned int iFileVersion)

#### Protected Member Functions

- `SegmentDate` (const `Key_T` &)
- virtual `~SegmentDate` ()

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `SegmentDate * _operatingSegmentDate`
- `SegmentDateList_T _marketingSegmentDateList`
- `Date_T _boardingDate`
- `Duration_T _boardingTime`
- `Date_T _offDate`
- `Duration_T _offTime`
- `Duration_T _elapsedTime`
- `Distance_T _distance`
- `RoutingLegKeyList_T _routingLegKeyList`

#### Friends

- template<typename BOM>  
class `FacBom`
- template<typename BOM>  
class `FacCloneBom`
- class `FacBomManager`
- class `boost::serialization::access`

#### 32.138.1 Detailed Description

Class representing the actual attributes for an airline segment-date.

Definition at line 36 of file `SegmentDate.hpp`.

#### 32.138.2 Member Typedef Documentation

##### 32.138.2.1 `typedef SegmentDateKey stdair::SegmentDate::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 47 of file `SegmentDate.hpp`.

### 32.138.3 Constructor & Destructor Documentation

32.138.3.1 stdair::SegmentDate::SegmentDate ( const Key\_T & iKey ) [protected]

Constructor.

Definition at line 38 of file [SegmentDate.cpp](#).

32.138.3.2 stdair::SegmentDate::~SegmentDate ( ) [protected], [virtual]

Destructor.

Definition at line 44 of file [SegmentDate.cpp](#).

### 32.138.4 Member Function Documentation

32.138.4.1 const Key\_T& stdair::SegmentDate::getKey ( ) const [inline]

Get the segment-date key.

Definition at line 55 of file [SegmentDate.hpp](#).

References [\\_key](#).

32.138.4.2 BomAbstract\* const stdair::SegmentDate::getParent ( ) const [inline]

Get the parent object.

Definition at line 62 of file [SegmentDate.hpp](#).

References [\\_parent](#).

32.138.4.3 const AirportCode\_T& stdair::SegmentDate::getBoardingPoint ( ) const [inline]

Get the boarding point (part of the primary key).

Definition at line 69 of file [SegmentDate.hpp](#).

References [\\_key](#), and [stdair::SegmentDateKey::getBoardingPoint\(\)](#).

32.138.4.4 const AirportCode\_T& stdair::SegmentDate::getOffPoint ( ) const [inline]

Get the off point (part of the primary key).

Definition at line 76 of file [SegmentDate.hpp](#).

References [\\_key](#), and [stdair::SegmentDateKey::getOffPoint\(\)](#).

32.138.4.5 const HolderMap\_T& stdair::SegmentDate::getHolderMap ( ) const [inline]

Get the map of children holders.

Definition at line 83 of file [SegmentDate.hpp](#).

References [\\_holderMap](#).

32.138.4.6 const Date\_T& stdair::SegmentDate::getBoardingDate ( ) const [inline]

Get the boarding date.

Definition at line 90 of file [SegmentDate.hpp](#).

References [\\_boardingDate](#).

32.138.4.7 const Duration\_T& stdair::SegmentDate::getBoardingTime ( ) const [inline]

Get the boarding time.

Definition at line 97 of file [SegmentDate.hpp](#).

References [\\_boardingTime](#).

32.138.4.8 `const Date_T& stdair::SegmentDate::getOffDate( ) const [inline]`

Get the off date.

Definition at line 104 of file [SegmentDate.hpp](#).

References [\\_offDate](#).

32.138.4.9 `const Duration_T& stdair::SegmentDate::getOffTime( ) const [inline]`

Get the off time.

Definition at line 111 of file [SegmentDate.hpp](#).

References [\\_offTime](#).

32.138.4.10 `const Duration_T& stdair::SegmentDate::getElapsedTime( ) const [inline]`

Get the elapsed time.

Definition at line 118 of file [SegmentDate.hpp](#).

References [\\_elapsedTime](#).

32.138.4.11 `const Distance_T& stdair::SegmentDate::getDistance( ) const [inline]`

Get the distance.

Definition at line 125 of file [SegmentDate.hpp](#).

References [\\_distance](#).

32.138.4.12 `const DateOffset_T stdair::SegmentDate::getDateOffset( ) const [inline]`

Get the date offset (off date - boarding date).

Definition at line 132 of file [SegmentDate.hpp](#).

References [\\_boardingDate](#), and [\\_offDate](#).

Referenced by [getTimeOffset\(\)](#).

32.138.4.13 `const Duration_T stdair::SegmentDate::getTimeOffset( ) const`

Get the time offset between boarding and off points.

It is defined as being:

TimeOffset = (OffTime - BoardingTime) + (OffDate - BoardingDate) \* 24

- ElapsedTime.

Definition at line 55 of file [SegmentDate.cpp](#).

References [\\_boardingTime](#), [\\_elapsedTime](#), [\\_offTime](#), and [getDateOffset\(\)](#).

32.138.4.14 `SegmentDate* stdair::SegmentDate::getOperatingSegmentDate( ) const [inline]`

Get the "operating" segment date.

Definition at line 149 of file [SegmentDate.hpp](#).

References [\\_operatingSegmentDate](#).

32.138.4.15 const SegmentDateList\_T& stdair::SegmentDate::getMarketingSegmentDateList ( ) const [inline]

Get the list of marketing segment dates.

Definition at line 156 of file [SegmentDate.hpp](#).

References [\\_marketingSegmentDateList](#).

32.138.4.16 const RoutingLegKeyList\_T& stdair::SegmentDate::getLegKeyList ( ) const [inline]

Get the list of routing leg keys.

Definition at line 163 of file [SegmentDate.hpp](#).

References [\\_routingLegKeyList](#).

32.138.4.17 void stdair::SegmentDate::setBoardingDate ( const Date\_T & iBoardingDate ) [inline]

Set the boarding date.

Definition at line 172 of file [SegmentDate.hpp](#).

References [\\_boardingDate](#).

32.138.4.18 void stdair::SegmentDate::setBoardingTime ( const Duration\_T & iBoardingTime ) [inline]

Set the boarding time.

Definition at line 179 of file [SegmentDate.hpp](#).

References [\\_boardingTime](#).

32.138.4.19 void stdair::SegmentDate::setOffDate ( const Date\_T & iOffDate ) [inline]

Set the off date.

Definition at line 186 of file [SegmentDate.hpp](#).

References [\\_offDate](#).

32.138.4.20 void stdair::SegmentDate::setOffTime ( const Duration\_T & iOffTime ) [inline]

Set the off time.

Definition at line 193 of file [SegmentDate.hpp](#).

References [\\_offTime](#).

32.138.4.21 void stdair::SegmentDate::setElapsedTime ( const Duration\_T & iElapsedTime ) [inline]

Set the elapsed time.

Definition at line 200 of file [SegmentDate.hpp](#).

References [\\_elapsedTime](#).

32.138.4.22 void stdair::SegmentDate::setDistance ( const Distance\_T & iDistance ) [inline]

Set the distance.

Definition at line 207 of file [SegmentDate.hpp](#).

References [\\_distance](#).

32.138.4.23 void stdair::SegmentDate::addLegKey ( const std::string & iLegKey ) [inline]

Add a routing leg key to the list.

Definition at line 214 of file [SegmentDate.hpp](#).

References [\\_routingLegKeyList](#).

**32.138.4.24 void stdair::SegmentDate::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [233](#) of file [SegmentDate.hpp](#).

References [toString\(\)](#).

**32.138.4.25 void stdair::SegmentDate::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [242](#) of file [SegmentDate.hpp](#).

**32.138.4.26 std::string stdair::SegmentDate::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [48](#) of file [SegmentDate.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.138.4.27 const std::string stdair::SegmentDate::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line [253](#) of file [SegmentDate.hpp](#).

References [\\_key](#), and [stdair::SegmentDateKey::toString\(\)](#).

Referenced by [stdair::SegmentCabin::getFullerKey\(\)](#), [stdair::BomRetriever::retrieveFullKeyFromSegmentDate\(\)](#), and [toString\(\)](#).

**32.138.4.28 template<class Archive> void stdair::SegmentDate::serialize ( Archive & *ar*, const unsigned int *iFileVersion* )**

Serialisation.

Definition at line [208](#) of file [CmdBomSerialiser.cpp](#).

References [\\_key](#).

## 32.138.5 Friends And Related Function Documentation

**32.138.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line [37](#) of file [SegmentDate.hpp](#).

**32.138.5.2 template<typename BOM> friend class FacCloneBom [friend]**

Definition at line [38](#) of file [SegmentDate.hpp](#).

**32.138.5.3 friend class FacBomManager [friend]**

Definition at line 39 of file [SegmentDate.hpp](#).

**32.138.5.4 friend class boost::serialization::access [friend]**

Definition at line 40 of file [SegmentDate.hpp](#).

**32.138.6 Member Data Documentation****32.138.6.1 Key\_T stdair::SegmentDate::\_key [protected]**

Primary key (origin and destination).

Definition at line 307 of file [SegmentDate.hpp](#).

Referenced by [describeKey\(\)](#), [getBoardingPoint\(\)](#), [getKey\(\)](#), [getOffPoint\(\)](#), and [serialize\(\)](#).

**32.138.6.2 BomAbstract\* stdair::SegmentDate::\_parent [protected]**

Pointer on the parent class ([FlightDate](#)).

Definition at line 312 of file [SegmentDate.hpp](#).

Referenced by [getParent\(\)](#).

**32.138.6.3 HolderMap\_T stdair::SegmentDate::\_holderMap [protected]**

Map holding the children ([SegmentCabin](#) objects).

Definition at line 317 of file [SegmentDate.hpp](#).

Referenced by [getHolderMap\(\)](#).

**32.138.6.4 SegmentDate\* stdair::SegmentDate::\_operatingSegmentDate [protected]**

Pointer on the operating [SegmentDate](#). Nota:

1. "operating" refers to the codeshare contract seller.
2. the pointer will be NULL if the segment date is itself the "operating" one.

Definition at line 325 of file [SegmentDate.hpp](#).

Referenced by [getOperatingSegmentDate\(\)](#).

**32.138.6.5 SegmentDateList\_T stdair::SegmentDate::\_marketingSegmentDateList [protected]**

List holding the marketing segment dates. Nota:

1. "marketing" refers to the codeshare contract seller.
2. the list will be empty if the segment date is itself the "marketing" one.

Definition at line 333 of file [SegmentDate.hpp](#).

Referenced by [stdair::FacBomManager::addToList\(\)](#), and [getMarketingSegmentDateList\(\)](#).

**32.138.6.6 Date\_T stdair::SegmentDate::\_boardingDate [protected]**

Boarding date.

Definition at line 338 of file [SegmentDate.hpp](#).

Referenced by [getBoardingDate\(\)](#), [getDateOffset\(\)](#), and [setBoardingDate\(\)](#).

### 32.138.6.7 Duration\_T stdair::SegmentDate::\_boardingTime [protected]

Boarding time.

Definition at line 343 of file [SegmentDate.hpp](#).

Referenced by [getBoardingTime\(\)](#), [getTimeOffset\(\)](#), and [setBoardingTime\(\)](#).

### 32.138.6.8 Date\_T stdair::SegmentDate::\_offDate [protected]

Landing date.

Definition at line 348 of file [SegmentDate.hpp](#).

Referenced by [getDateOffset\(\)](#), [getOffDate\(\)](#), and [setOffDate\(\)](#).

### 32.138.6.9 Duration\_T stdair::SegmentDate::\_offTime [protected]

Landing time.

Definition at line 353 of file [SegmentDate.hpp](#).

Referenced by [getOffTime\(\)](#), [getTimeOffset\(\)](#), and [setOffTime\(\)](#).

### 32.138.6.10 Duration\_T stdair::SegmentDate::\_elapsedTime [protected]

Trip elapsed time.

Definition at line 358 of file [SegmentDate.hpp](#).

Referenced by [getElapsedTime\(\)](#), [getTimeOffset\(\)](#), and [setElapsedTime\(\)](#).

### 32.138.6.11 Distance\_T stdair::SegmentDate::\_distance [protected]

Trip distance.

Definition at line 363 of file [SegmentDate.hpp](#).

Referenced by [getDistance\(\)](#), and [setDistance\(\)](#).

### 32.138.6.12 RoutingLegKeyList\_T stdair::SegmentDate::\_routingLegKeyList [protected]

List of routing leg keys.

Definition at line 368 of file [SegmentDate.hpp](#).

Referenced by [addLegKey\(\)](#), and [getLegKeyList\(\)](#).

The documentation for this class was generated from the following files:

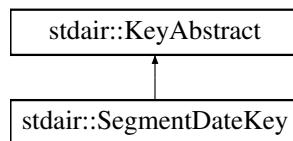
- stdair/bom/[SegmentDate.hpp](#)
- stdair/bom/[SegmentDate.cpp](#)
- stdair/command/[CmdBomSerialiser.cpp](#)

## 32.139 stdair::SegmentDateKey Struct Reference

Key of a given segment-date, made of an origin and a destination airports.

```
#include <stdair/bom/SegmentDateKey.hpp>
```

Inheritance diagram for stdair::SegmentDateKey:



### Public Member Functions

- `SegmentDateKey (const AirportCode_T &, const AirportCode_T &)`
- `SegmentDateKey (const SegmentDateKey &)`
- `~SegmentDateKey ()`
- `const AirportCode_T & getBoardingPoint () const`
- `const AirportCode_T & getOffPoint () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `const std::string toString () const`
- template<class Archive>  
  `void serialize (Archive &ar, const unsigned int iFileVersion)`

### Friends

- class `boost::serialization::access`

#### 32.139.1 Detailed Description

Key of a given segment-date, made of an origin and a destination airports.

Definition at line 24 of file [SegmentDateKey.hpp](#).

#### 32.139.2 Constructor & Destructor Documentation

##### 32.139.2.1 stdair::SegmentDateKey::SegmentDateKey ( const AirportCode\_T & iBoardingPoint, const AirportCode\_T & iOffPoint )

Main constructor.

Definition at line 25 of file [SegmentDateKey.cpp](#).

##### 32.139.2.2 stdair::SegmentDateKey::SegmentDateKey ( const SegmentDateKey & iKey )

Copy constructor.

Definition at line 31 of file [SegmentDateKey.cpp](#).

##### 32.139.2.3 stdair::SegmentDateKey::~SegmentDateKey ( )

Destructor.

Definition at line 36 of file [SegmentDateKey.cpp](#).

#### 32.139.3 Member Function Documentation

##### 32.139.3.1 const AirportCode\_T& stdair::SegmentDateKey::getBoardingPoint ( ) const [inline]

Get the boarding point.

Definition at line 51 of file [SegmentDateKey.hpp](#).

Referenced by [stdair::SegmentDate::getBoardingPoint\(\)](#), and [stdair::OnDDateKey::getOrigin\(\)](#).

### 32.139.3.2 const AirportCode\_T& stdair::SegmentDateKey::getOffPoint( ) const [inline]

Get the arrival point.

Definition at line 56 of file [SegmentDateKey.hpp](#).

Referenced by [stdair::OnDDateKey::getDestination\(\)](#), and [stdair::SegmentDate::getOffPoint\(\)](#).

### 32.139.3.3 void stdair::SegmentDateKey::toStream( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 40 of file [SegmentDateKey.cpp](#).

References [toString\(\)](#).

### 32.139.3.4 void stdair::SegmentDateKey::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 45 of file [SegmentDateKey.cpp](#).

### 32.139.3.5 const std::string stdair::SegmentDateKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 49 of file [SegmentDateKey.cpp](#).

References [stdair::DEFAULT\\_KEY\\_SUB\\_FLD\\_DELIMITER](#).

Referenced by [stdair::SegmentDate::describeKey\(\)](#), [stdair::FlightDate::getSegmentDate\(\)](#), [stdair::BomRetriever::retrieveSegmentDateFromLongKey\(\)](#), and [toString\(\)](#).

### 32.139.3.6 template<class Archive> void stdair::SegmentDateKey::serialize( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 72 of file [SegmentDateKey.cpp](#).

## 32.139.4 Friends And Related Function Documentation

### 32.139.4.1 friend class boost::serialization::access [friend]

Definition at line 25 of file [SegmentDateKey.hpp](#).

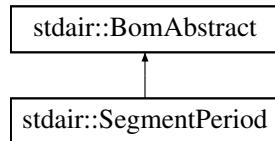
The documentation for this struct was generated from the following files:

- stdair/bom/[SegmentDateKey.hpp](#)
- stdair/bom/[SegmentDateKey.cpp](#)

## 32.140 stdair::SegmentPeriod Class Reference

```
#include <stdair/bom/SegmentPeriod.hpp>
```

Inheritance diagram for stdair::SegmentPeriod:



### Public Types

- `typedef SegmentPeriodKey Key_T`

### Public Member Functions

- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const AirportCode_T & getBoardingPoint () const`
- `const AirportCode_T & getOffPoint () const`
- `const Duration_T & getBoardingTime () const`
- `const Duration_T & getOffTime () const`
- `const DateOffset_T & getBoardingDateOffset () const`
- `const DateOffset_T & getOffDateOffset () const`
- `const Duration_T & getElapsedTime () const`
- `const CabinBookingClassMap_T & getCabinBookingClassMap () const`
- `const HolderMap_T & getHolderMap () const`
- `void setBoardingTime (const Duration_T &iBoardingTime)`
- `void setOffTime (const Duration_T &iOffTime)`
- `void setBoardingDateOffset (const DateOffset_T &iDateOffset)`
- `void setOffDateOffset (const DateOffset_T &iDateOffset)`
- `void setElapsedTime (const Duration_T &iElapsedTime)`
- `void addCabinBookingClassList (const CabinCode_T &, const ClassList_String_T &)`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`

### Protected Member Functions

- `SegmentPeriod (const Key_T &)`
- `virtual ~SegmentPeriod ()`

## Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `Duration_T _boardingTime`
- `Duration_T _offTime`
- `DateOffset_T _boardingDateOffset`
- `DateOffset_T _offDateOffset`
- `Duration_T _elapsedTime`
- `CabinBookingClassMap_T _cabinBookingClassMap`
- `HolderMap_T _holderMap`

## Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.140.1 Detailed Description

Class representing the actual attributes for an airline segment-period.

Definition at line 15 of file [SegmentPeriod.hpp](#).

### 32.140.2 Member Typedef Documentation

#### 32.140.2.1 `typedef SegmentPeriodKey stdair::SegmentPeriod::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 23 of file [SegmentPeriod.hpp](#).

### 32.140.3 Constructor & Destructor Documentation

#### 32.140.3.1 `stdair::SegmentPeriod::SegmentPeriod ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 13 of file [SegmentPeriod.cpp](#).

#### 32.140.3.2 `stdair::SegmentPeriod::~SegmentPeriod ( ) [protected], [virtual]`

Destructor.

Definition at line 29 of file [SegmentPeriod.cpp](#).

### 32.140.4 Member Function Documentation

#### 32.140.4.1 `const Key_T& stdair::SegmentPeriod::getKey ( ) const [inline]`

Get the segment-period key.

Definition at line 28 of file [SegmentPeriod.hpp](#).

References [\\_key](#).

32.140.4.2 **BomAbstract\* const stdair::SegmentPeriod::getParent( ) const [inline]**

Get the parent object.

Definition at line 31 of file [SegmentPeriod.hpp](#).

References [\\_parent](#).

32.140.4.3 **const AirportCode\_T& stdair::SegmentPeriod::getBoardingPoint( ) const [inline]**

Get the boarding point (part of the primary key).

Definition at line 34 of file [SegmentPeriod.hpp](#).

References [\\_key](#), and [stdair::SegmentPeriodKey::getBoardingPoint\(\)](#).

32.140.4.4 **const AirportCode\_T& stdair::SegmentPeriod::getOffPoint( ) const [inline]**

Get the off point (part of the primary key).

Definition at line 39 of file [SegmentPeriod.hpp](#).

References [\\_key](#), and [stdair::SegmentPeriodKey::getOffPoint\(\)](#).

32.140.4.5 **const Duration\_T& stdair::SegmentPeriod::getBoardingTime( ) const [inline]**

Get the boarding time.

Definition at line 42 of file [SegmentPeriod.hpp](#).

References [\\_boardingTime](#).

32.140.4.6 **const Duration\_T& stdair::SegmentPeriod::getOffTime( ) const [inline]**

Get the off time.

Definition at line 45 of file [SegmentPeriod.hpp](#).

References [\\_offTime](#).

32.140.4.7 **const DateOffset\_T& stdair::SegmentPeriod::getBoardingDateOffset( ) const [inline]**

Get the boarding date offset.

Definition at line 48 of file [SegmentPeriod.hpp](#).

References [\\_boardingDateOffset](#).

32.140.4.8 **const DateOffset\_T& stdair::SegmentPeriod::getOffDateOffset( ) const [inline]**

Get the off date offset.

Definition at line 53 of file [SegmentPeriod.hpp](#).

References [\\_offDateOffset](#).

32.140.4.9 **const Duration\_T& stdair::SegmentPeriod::getElapsedTime( ) const [inline]**

Get the elapsed time.

Definition at line 56 of file [SegmentPeriod.hpp](#).

References [\\_elapsedTime](#).

32.140.4.10 **const CabinBookingClassMap\_T& stdair::SegmentPeriod::getCabinBookingClassMap( ) const [inline]**

Get the cabin booking class map.

Definition at line 59 of file [SegmentPeriod.hpp](#).

References [\\_cabinBookingClassMap](#).

32.140.4.11 `const HolderMap_T& stdair::SegmentPeriod::getHolderMap( ) const [inline]`

Get the map of children holders.

Definition at line 64 of file [SegmentPeriod.hpp](#).

References [\\_holderMap](#).

32.140.4.12 `void stdair::SegmentPeriod::setBoardingTime( const Duration_T & iBoardingTime ) [inline]`

Set the boarding time.

Definition at line 69 of file [SegmentPeriod.hpp](#).

References [\\_boardingTime](#).

32.140.4.13 `void stdair::SegmentPeriod::setOffTime( const Duration_T & iOffTime ) [inline]`

Set the off time.

Definition at line 74 of file [SegmentPeriod.hpp](#).

References [\\_offTime](#).

32.140.4.14 `void stdair::SegmentPeriod::setBoardingDateOffset( const DateOffset_T & iDateOffset ) [inline]`

Set the boarding date offset.

Definition at line 77 of file [SegmentPeriod.hpp](#).

References [\\_boardingDateOffset](#).

32.140.4.15 `void stdair::SegmentPeriod::setOffDateOffset( const DateOffset_T & iDateOffset ) [inline]`

Set the off date offset.

Definition at line 82 of file [SegmentPeriod.hpp](#).

References [\\_offDateOffset](#).

32.140.4.16 `void stdair::SegmentPeriod::setElapsedTime( const Duration_T & iElapsedTime ) [inline]`

Set the elapsed time.

Definition at line 87 of file [SegmentPeriod.hpp](#).

References [\\_elapsedTime](#).

32.140.4.17 `void stdair::SegmentPeriod::addCabinBookingClassList( const CabinCode_T & iCabinCode, const ClassList_String_T & iClassCodeList )`

Add a pair cabin code and list of class codes within the cabin to the cabin booking class map.

Definition at line 41 of file [SegmentPeriod.cpp](#).

References [\\_cabinBookingClassMap](#).

32.140.4.18 `void stdair::SegmentPeriod::toStream( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 100 of file [SegmentPeriod.hpp](#).

References [toString\(\)](#).

**32.140.4.19 void stdair::SegmentPeriod::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 104 of file [SegmentPeriod.hpp](#).

**32.140.4.20 std::string stdair::SegmentPeriod::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 33 of file [SegmentPeriod.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.140.4.21 const std::string stdair::SegmentPeriod::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line 110 of file [SegmentPeriod.hpp](#).

References [\\_key](#), and [stdair::SegmentPeriodKey::toString\(\)](#).

Referenced by [toString\(\)](#).

## 32.140.5 Friends And Related Function Documentation

**32.140.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line 16 of file [SegmentPeriod.hpp](#).

**32.140.5.2 template<typename BOM> friend class FacCloneBom [friend]**

Definition at line 17 of file [SegmentPeriod.hpp](#).

**32.140.5.3 friend class FacBomManager [friend]**

Definition at line 18 of file [SegmentPeriod.hpp](#).

## 32.140.6 Member Data Documentation

**32.140.6.1 Key\_T stdair::SegmentPeriod::\_key [protected]**

Definition at line 135 of file [SegmentPeriod.hpp](#).

Referenced by [describeKey\(\)](#), [getBoardingPoint\(\)](#), [getKey\(\)](#), and [getOffPoint\(\)](#).

### 32.140.6.2 **BomAbstract\* stdair::SegmentPeriod::\_parent** [protected]

Definition at line 136 of file [SegmentPeriod.hpp](#).

Referenced by [getParent\(\)](#).

### 32.140.6.3 **Duration\_T stdair::SegmentPeriod::\_boardingTime** [protected]

Definition at line 137 of file [SegmentPeriod.hpp](#).

Referenced by [getBoardingTime\(\)](#), and [setBoardingTime\(\)](#).

### 32.140.6.4 **Duration\_T stdair::SegmentPeriod::\_offTime** [protected]

Definition at line 138 of file [SegmentPeriod.hpp](#).

Referenced by [getOffTime\(\)](#), and [setOffTime\(\)](#).

### 32.140.6.5 **DateOffset\_T stdair::SegmentPeriod::\_boardingDateOffset** [protected]

Definition at line 139 of file [SegmentPeriod.hpp](#).

Referenced by [getBoardingDateOffset\(\)](#), and [setBoardingDateOffset\(\)](#).

### 32.140.6.6 **DateOffset\_T stdair::SegmentPeriod::\_offDateOffset** [protected]

Definition at line 140 of file [SegmentPeriod.hpp](#).

Referenced by [getOffDateOffset\(\)](#), and [setOffDateOffset\(\)](#).

### 32.140.6.7 **Duration\_T stdair::SegmentPeriod::\_elapsedTime** [protected]

Definition at line 141 of file [SegmentPeriod.hpp](#).

Referenced by [getElapsedTime\(\)](#), and [setElapsedTime\(\)](#).

### 32.140.6.8 **CabinBookingClassMap\_T stdair::SegmentPeriod::\_cabinBookingClassMap** [protected]

Definition at line 142 of file [SegmentPeriod.hpp](#).

Referenced by [addCabinBookingClassList\(\)](#), and [getCabinBookingClassMap\(\)](#).

### 32.140.6.9 **HolderMap\_T stdair::SegmentPeriod::\_holderMap** [protected]

Definition at line 143 of file [SegmentPeriod.hpp](#).

Referenced by [getHolderMap\(\)](#).

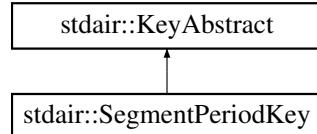
The documentation for this class was generated from the following files:

- stdair/bom/[SegmentPeriod.hpp](#)
- stdair/bom/[SegmentPeriod.cpp](#)

## 32.141 stdair::SegmentPeriodKey Struct Reference

```
#include <stdair/bom/SegmentPeriodKey.hpp>
```

Inheritance diagram for stdair::SegmentPeriodKey:



## Public Member Functions

- [SegmentPeriodKey \(const AirportCode\\_T &, const AirportCode\\_T &\)](#)
- [SegmentPeriodKey \(const SegmentPeriodKey &\)](#)
- [~SegmentPeriodKey \(\)](#)
- [const AirportCode\\_T & getBoardingPoint \(\) const](#)
- [const AirportCode\\_T & getOffPoint \(\) const](#)
- [void toStream \(std::ostream &ioOut\) const](#)
- [void fromStream \(std::istream &ioln\)](#)
- [const std::string toString \(\) const](#)

### 32.141.1 Detailed Description

Key of segment-period.

Definition at line [14](#) of file [SegmentPeriodKey.hpp](#).

### 32.141.2 Constructor & Destructor Documentation

#### 32.141.2.1 stdair::SegmentPeriodKey::SegmentPeriodKey ( const AirportCode\_T & iBoardingPoint, const AirportCode\_T & iOffPoint )

Constructors.

Definition at line [12](#) of file [SegmentPeriodKey.cpp](#).

#### 32.141.2.2 stdair::SegmentPeriodKey::SegmentPeriodKey ( const SegmentPeriodKey & iKey )

Definition at line [18](#) of file [SegmentPeriodKey.cpp](#).

#### 32.141.2.3 stdair::SegmentPeriodKey::~SegmentPeriodKey ( )

Destructor.

Definition at line [23](#) of file [SegmentPeriodKey.cpp](#).

### 32.141.3 Member Function Documentation

#### 32.141.3.1 const AirportCode\_T& stdair::SegmentPeriodKey::getBoardingPoint ( ) const [inline]

Get the boarding point.

Definition at line [29](#) of file [SegmentPeriodKey.hpp](#).

Referenced by [stdair::SegmentPeriod::getBoardingPoint\(\)](#).

#### 32.141.3.2 const AirportCode\_T& stdair::SegmentPeriodKey::getOffPoint ( ) const [inline]

Get the arrival point.

Definition at line [34](#) of file [SegmentPeriodKey.hpp](#).

Referenced by [stdair::SegmentPeriod::getOffPoint\(\)](#).

#### 32.141.3.3 void stdair::SegmentPeriodKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [27](#) of file [SegmentPeriodKey.cpp](#).

References [toString\(\)](#).

### 32.141.3.4 void stdair::SegmentPeriodKey::fromStream ( std::istream & *ioIn* ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [32](#) of file [SegmentPeriodKey.cpp](#).

### 32.141.3.5 const std::string stdair::SegmentPeriodKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-period.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [36](#) of file [SegmentPeriodKey.cpp](#).

Referenced by [stdair::SegmentPeriod::describeKey\(\)](#), and [toString\(\)](#).

The documentation for this struct was generated from the following files:

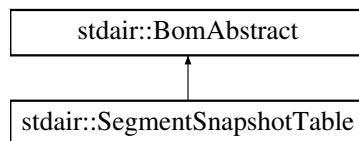
- stdair/bom/[SegmentPeriodKey.hpp](#)
- stdair/bom/[SegmentPeriodKey.cpp](#)

## 32.142 stdair::SegmentSnapshotTable Class Reference

Class representing the actual attributes for an airline segment data tables.

```
#include <stdair/bom/SegmentSnapshotTable.hpp>
```

Inheritance diagram for stdair::SegmentSnapshotTable:



### Public Types

- [typedef SegmentSnapshotTableKey Key\\_T](#)

### Public Member Functions

- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)

- const `TableID_T & getTableID () const`
- const `HolderMap_T & getHolderMap () const`
- const `SegmentCabinIndexMap_T & getSegmentCabinIndexMap () const`
- const `ClassIndexMap_T & getClassIndexMap () const`
- const `ClassIndex_T & getClassIndex (const MapKey_T &) const`
- const `SegmentDataID_T & getSegmentDataID (const SegmentCabin &) const`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangeBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangeBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDCancellationSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangeCancellationSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDCancellationSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangeCancellationSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDProductOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDProductOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDPriceOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDPriceOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDProductOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDPriceOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`

- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `ConstSegmentCabinDTDSnapshotView_T getConstSegmentCabinDTDAvailabilitySnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T) const`
- `ConstSegmentCabinDTDRangeSnapshotView_T getConstSegmentCabinDTDRangeAvailabilitySnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T) const`
- `SegmentCabinDTDSnapshotView_T getSegmentCabinDTDAvailabilitySnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T)`
- `SegmentCabinDTDRangeSnapshotView_T getSegmentCabinDTDRangeAvailabilitySnapshotView (const SegmentDataID_T, const SegmentDataID_T, const DTD_T, const DTD_T)`
- `void initSnapshotBlocks (const SegmentCabinIndexMap_T &, const ClassIndexMap_T &)`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- template<class Archive>  
  `void serialize (Archive &ar, const unsigned int iFileVersion)`

#### Protected Member Functions

- `SegmentSnapshotTable (const Key_T &)`
- `virtual ~SegmentSnapshotTable ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`
- `SegmentCabinIndexMap_T _segmentCabinIndexMap`
- `ClassIndexMap_T _classIndexMap`
- `SnapshotBlock_T _bookingSnapshotBlock`
- `SnapshotBlock_T _cancellationSnapshotBlock`
- `SnapshotBlock_T _productOrientedNetBookingSnapshotBlock`
- `SnapshotBlock_T _priceOrientedNetBookingSnapshotBlock`
- `SnapshotBlock_T _productOrientedGrossBookingSnapshotBlock`
- `SnapshotBlock_T _priceOrientedGrossBookingSnapshotBlock`
- `SnapshotBlock_T _availabilitySnapshotBlock`

#### Friends

- template<typename BOM>  
  `class FacBom`
- `class FacBomManager`
- `class boost::serialization::access`

#### 32.142.1 Detailed Description

Class representing the actual attributes for an airline segment data tables.

Definition at line 31 of file [SegmentSnapshotTable.hpp](#).

### 32.142.2 Member Typedef Documentation

#### 32.142.2.1 `typedef SegmentSnapshotTableKey stdair::SegmentSnapshotTable::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 41 of file [SegmentSnapshotTable.hpp](#).

### 32.142.3 Constructor & Destructor Documentation

#### 32.142.3.1 `stdair::SegmentSnapshotTable::SegmentSnapshotTable ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 34 of file [SegmentSnapshotTable.cpp](#).

#### 32.142.3.2 `stdair::SegmentSnapshotTable::~SegmentSnapshotTable ( ) [protected], [virtual]`

Destructor.

Definition at line 38 of file [SegmentSnapshotTable.cpp](#).

### 32.142.4 Member Function Documentation

#### 32.142.4.1 `const Key_T& stdair::SegmentSnapshotTable::getKey ( ) const [inline]`

Get the segment data table key.

Definition at line 47 of file [SegmentSnapshotTable.hpp](#).

References [\\_key](#).

#### 32.142.4.2 `BomAbstract* const stdair::SegmentSnapshotTable::getParent ( ) const [inline]`

Get the parent object.

Definition at line 52 of file [SegmentSnapshotTable.hpp](#).

References [\\_parent](#).

#### 32.142.4.3 `const TableID_T& stdair::SegmentSnapshotTable::getTableID ( ) const [inline]`

Get the table ID (part of the primary key).

Definition at line 57 of file [SegmentSnapshotTable.hpp](#).

References [\\_key](#), and [stdair::SegmentSnapshotTableKey::getTableID\(\)](#).

#### 32.142.4.4 `const HolderMap_T& stdair::SegmentSnapshotTable::getHolderMap ( ) const [inline]`

Get the map of children holders.

Definition at line 64 of file [SegmentSnapshotTable.hpp](#).

References [\\_holderMap](#).

#### 32.142.4.5 `const SegmentCabinIndexMap_T& stdair::SegmentSnapshotTable::getSegmentCabinIndexMap ( ) const [inline]`

Get the segment-cabin index map.

Definition at line 69 of file [SegmentSnapshotTable.hpp](#).

References [\\_segmentCabinIndexMap](#).

32.142.4.6 `const ClassIndexMap_T& stdair::SegmentSnapshotTable::getClassIndexMap( ) const [inline]`

Get the class index map.

Definition at line 74 of file [SegmentSnapshotTable.hpp](#).

References [\\_classIndexMap](#).

32.142.4.7 `const ClassIndex_T & stdair::SegmentSnapshotTable::getClassIndex( const MapKey_T & iKey ) const`

Get the index corresponding to the given class.

Definition at line 88 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#).

32.142.4.8 `const SegmentDataID_T & stdair::SegmentSnapshotTable::getSegmentDataID( const SegmentCabin & iSegmentCabin ) const`

Get the segment data ID corresponding to the givent segment-cabin.

Definition at line 97 of file [SegmentSnapshotTable.cpp](#).

References [\\_segmentCabinIndexMap](#).

32.142.4.9 `ConstSegmentCabinDTDSnapshotView_T stdair::SegmentSnapshotTable::getConstSegmentCabinDTD← BookingSnapshotView( const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd, const DTD_T iDTD ) const`

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 106 of file [SegmentSnapshotTable.cpp](#).

References [\\_bookingSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.10 `ConstSegmentCabinDTDRangeSnapshotView_T stdair::SegmentSnapshotTable::getConstSegment← CabinDTDRangeBookingSnapshotView( const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd, const DTD_T iDTDBegin, const DTD_T iDTDEnd ) const`

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 119 of file [SegmentSnapshotTable.cpp](#).

32.142.4.11 `SegmentCabinDTDSnapshotView_T stdair::SegmentSnapshotTable::getSegmentCabinDTDBooking← SnapshotView( const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd, const DTD_T iDTD )`

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 130 of file [SegmentSnapshotTable.cpp](#).

References [\\_bookingSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.12 `SegmentCabinDTDRangeSnapshotView_T stdair::SegmentSnapshotTable::getSegmentCabinDTDRange← BookingSnapshotView( const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd, const DTD_T iDTDBegin, const DTD_T iDTDEnd )`

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 142 of file [SegmentSnapshotTable.cpp](#).

References [\\_bookingSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.13 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTD  
CancellationSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*,  
const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 155 of file [SegmentSnapshotTable.cpp](#).

References [\\_cancellationSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.14 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConst  
SegmentCabinDTDRangeCancellationSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const  
SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 168 of file [SegmentSnapshotTable.cpp](#).

32.142.4.15 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDCancellation  
SnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T  
*iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 179 of file [SegmentSnapshotTable.cpp](#).

References [\\_cancellationSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.16 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRange  
CancellationSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*,  
const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 191 of file [SegmentSnapshotTable.cpp](#).

References [\\_cancellationSnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.17 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegment  
CabinDTDProductOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const  
SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 204 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedNetBookingSnapshotBlock](#).

32.142.4.18 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegment  
CabinDTDRangeProductOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const  
SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 217 of file [SegmentSnapshotTable.cpp](#).

32.142.4.19 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDProduct  
OrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T  
*iSCIdxEnd*, const DTD\_T *iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 228 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedNetBookingSnapshotBlock](#).

32.142.4.20 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 240 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedNetBookingSnapshotBlock](#).

32.142.4.21 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDPriceOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 254 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_priceOrientedNetBookingSnapshotBlock](#).

32.142.4.22 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 267 of file [SegmentSnapshotTable.cpp](#).

32.142.4.23 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDPriceOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 278 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_priceOrientedNetBookingSnapshotBlock](#).

32.142.4.24 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 290 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_priceOrientedNetBookingSnapshotBlock](#).

32.142.4.25 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 303 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedGrossBookingSnapshotBlock](#).

32.142.4.26 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 316 of file [SegmentSnapshotTable.cpp](#).

32.142.4.27 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDProductOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 327 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedGrossBookingSnapshotBlock](#).

32.142.4.28 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 339 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_productOrientedGrossBookingSnapshotBlock](#).

32.142.4.29 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 353 of file [SegmentSnapshotTable.cpp](#).

References [\\_classIndexMap](#), and [\\_priceOrientedGrossBookingSnapshotBlock](#).

32.142.4.30 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 366 of file [SegmentSnapshotTable.cpp](#).

32.142.4.31 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDPriceOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 378 of file [SegmentSnapshotTable.cpp](#).

32.142.4.32 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 390 of file [SegmentSnapshotTable.cpp](#).

32.142.4.33 **ConstSegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDAvailabilitySnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* ) const

Get the const view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 402 of file [SegmentSnapshotTable.cpp](#).

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32.142.4.34 **ConstSegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getConstSegmentCabinDTDRangeAvailabilitySnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* ) const

Get the const view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 414 of file [SegmentSnapshotTable.cpp](#).

32.142.4.35 **SegmentCabinDTDSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDAvailabilitySnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTD* )

Get the view of snapshots for a given DTD and a range of segment-cabins.

Definition at line 425 of file [SegmentSnapshotTable.cpp](#).

References [\\_availabilitySnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.36 **SegmentCabinDTDRangeSnapshotView\_T** stdair::SegmentSnapshotTable::getSegmentCabinDTDRangeAvailabilitySnapshotView ( const SegmentDataID\_T *iSCIdxBegin*, const SegmentDataID\_T *iSCIdxEnd*, const DTD\_T *iDTDBegin*, const DTD\_T *iDTDEnd* )

Get the view of snapshots for a given range of DTD and a range of segment-cabins.

Definition at line 437 of file [SegmentSnapshotTable.cpp](#).

References [\\_availabilitySnapshotBlock](#), and [\\_classIndexMap](#).

32.142.4.37 void stdair::SegmentSnapshotTable::initSnapshotBlocks ( const SegmentCabinIndexMap\_T & *iSegmentCabinIndexMap*, const ClassIndexMap\_T & *iClassIndexMap* )

Set the segment-cabin and value type index maps and initialise the snapshot blocks.

Definition at line 50 of file [SegmentSnapshotTable.cpp](#).

References [\\_availabilitySnapshotBlock](#), [\\_bookingSnapshotBlock](#), [\\_cancellationSnapshotBlock](#), [\\_classIndexMap](#), [\\_priceOrientedGrossBookingSnapshotBlock](#), [\\_priceOrientedNetBookingSnapshotBlock](#), [\\_productOrientedGrossBookingSnapshotBlock](#), [\\_productOrientedNetBookingSnapshotBlock](#), [\\_segmentCabinIndexMap](#), and [stdair::DEFAULT\\_MAX\\_DTD](#).

32.142.4.38 void stdair::SegmentSnapshotTable::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 283 of file [SegmentSnapshotTable.hpp](#).

References [toString\(\)](#).

32.142.4.39 void stdair::SegmentSnapshotTable::fromStream ( std::istream & *ioIn* ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 292 of file [SegmentSnapshotTable.hpp](#).

32.142.4.40 std::string stdair::SegmentSnapshotTable::toString ( ) const [virtual]

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 42 of file [SegmentSnapshotTable.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

32.142.4.41 const std::string stdair::SegmentSnapshotTable::describeKey ( ) const [inline]

Get a string describing the key.

Definition at line 303 of file [SegmentSnapshotTable.hpp](#).

References [\\_key](#), and [stdair::SegmentSnapshotTableKey::toString\(\)](#).

Referenced by [toString\(\)](#).

32.142.4.42 template<class Archive> void stdair::SegmentSnapshotTable::serialize ( Archive & ar, const unsigned int iFileVersion )

Serialisation.

Definition at line 464 of file [SegmentSnapshotTable.cpp](#).

References [\\_key](#).

### 32.142.5 Friends And Related Function Documentation

32.142.5.1 template<typename BOM> friend class **FacBom** [friend]

Definition at line 32 of file [SegmentSnapshotTable.hpp](#).

32.142.5.2 friend class **FacBomManager** [friend]

Definition at line 33 of file [SegmentSnapshotTable.hpp](#).

32.142.5.3 friend class boost::serialization::access [friend]

Definition at line 34 of file [SegmentSnapshotTable.hpp](#).

### 32.142.6 Member Data Documentation

32.142.6.1 **Key\_T** stdair::SegmentSnapshotTable::\_key [protected]

Primary key (table ID and departure block).

Definition at line 352 of file [SegmentSnapshotTable.hpp](#).

Referenced by [describeKey\(\)](#), [getKey\(\)](#), [getTableID\(\)](#), and [serialize\(\)](#).

32.142.6.2 **BomAbstract\*** stdair::SegmentSnapshotTable::\_parent [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line 355 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getParent\(\)](#).

32.142.6.3 **HolderMap\_T** stdair::SegmentSnapshotTable::\_holderMap [protected]

Map holding the children.

Definition at line 358 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getHolderMap\(\)](#).

#### 32.142.6.4 SegmentCabinIndexMap\_T stdair::SegmentSnapshotTable::\_segmentCabinIndexMap [protected]

Map holding the segment-cabin position within the snapshot blocks.

Definition at line 361 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getSegmentCabinIndexMap\(\)](#), [getSegmentDataID\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.5 ClassIndexMap\_T stdair::SegmentSnapshotTable::\_classIndexMap [protected]

Map holding the value type (class, etc) within a segment-cabin inside the snapshot blocks.

Definition at line 365 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getClassIndex\(\)](#), [getClassIndexMap\(\)](#), [getConstSegmentCabinDTDBookingSnapshotView\(\)](#), [getConstSegmentCabinDTDCancellationSnapshotView\(\)](#), [getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView\(\)](#), [getConstSegmentCabinDTDPriceOrientedNetBookingSnapshotView\(\)](#), [getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView\(\)](#), [getConstSegmentCabinDTDProductOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDAvailabilitySnapshotView\(\)](#), [getSegmentCabinDTDBookingSnapshotView\(\)](#), [getSegmentCabinDTDCancellationSnapshotView\(\)](#), [getSegmentCabinDTDPriceOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDProductOrientedGrossBookingSnapshotView\(\)](#), [getSegmentCabinDTDProductOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeAvailabilitySnapshotView\(\)](#), [getSegmentCabinDTDRangeBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeCancellationSnapshotView\(\)](#), [getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.6 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_bookingSnapshotBlock [protected]

Booking snapshot block.

Definition at line 368 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDBookingSnapshotView\(\)](#), [getSegmentCabinDTDBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.7 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_cancellationSnapshotBlock [protected]

Cancellation snapshot block.

Definition at line 371 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDCancellationSnapshotView\(\)](#), [getSegmentCabinDTDCancellationSnapshotView\(\)](#), [getSegmentCabinDTDRangeCancellationSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.8 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_productOrientedNetBookingSnapshotBlock [protected]

Product oriented net booking block.

Definition at line 374 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDProductOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDProductOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.9 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_priceOrientedNetBookingSnapshotBlock [protected]

Price oriented net booking block.

Definition at line 377 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDPriceOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDPriceOrientedNetBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.10 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_productOrientedGrossBookingSnapshotBlock [protected]

Product oriented gross booking block.

Definition at line 380 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView\(\)](#), [getSegmentCabinDTDProductOrientedGrossBookingSnapshotView\(\)](#), [getSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.11 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_priceOrientedGrossBookingSnapshotBlock [protected]

Price oriented gross booking block.

Definition at line 383 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

#### 32.142.6.12 SnapshotBlock\_T stdair::SegmentSnapshotTable::\_availabilitySnapshotBlock [protected]

Availability block.

Definition at line 386 of file [SegmentSnapshotTable.hpp](#).

Referenced by [getSegmentCabinDTDAvailabilitySnapshotView\(\)](#), [getSegmentCabinDTDRangeAvailabilitySnapshotView\(\)](#), and [initSnapshotBlocks\(\)](#).

The documentation for this class was generated from the following files:

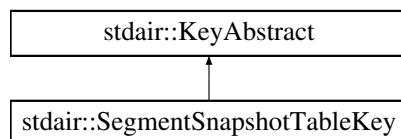
- stdair/bom/[SegmentSnapshotTable.hpp](#)
- stdair/bom/[SegmentSnapshotTable.cpp](#)

## 32.143 stdair::SegmentSnapshotTableKey Struct Reference

Key of a given guillotine block, made of a guillotine number.

```
#include <stdair/bom/SegmentSnapshotTableKey.hpp>
```

Inheritance diagram for stdair::SegmentSnapshotTableKey:



### Public Member Functions

- [SegmentSnapshotTableKey](#) (const [TableID\\_T](#) &)
- [SegmentSnapshotTableKey](#) (const [SegmentSnapshotTableKey](#) &)
- [~SegmentSnapshotTableKey](#) ()
- const [TableID\\_T](#) & [getTableID](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const

- template<class Archive >  
void **serialize** (Archive &ar, const unsigned int iFileVersion)

## Friends

- class [boost::serialization::access](#)

### 32.143.1 Detailed Description

Key of a given guillotine block, made of a guillotine number.

Definition at line [26](#) of file [SegmentSnapshotTableKey.hpp](#).

### 32.143.2 Constructor & Destructor Documentation

#### 32.143.2.1 stdair::SegmentSnapshotTableKey::SegmentSnapshotTableKey ( const TableID\_T & iTableID )

Constructor.

Definition at line [26](#) of file [SegmentSnapshotTableKey.cpp](#).

#### 32.143.2.2 stdair::SegmentSnapshotTableKey::SegmentSnapshotTableKey ( const SegmentSnapshotTableKey & iKey )

Copy constructor.

Definition at line [31](#) of file [SegmentSnapshotTableKey.cpp](#).

#### 32.143.2.3 stdair::SegmentSnapshotTableKey::~SegmentSnapshotTableKey ( )

Destructor.

Definition at line [36](#) of file [SegmentSnapshotTableKey.cpp](#).

### 32.143.3 Member Function Documentation

#### 32.143.3.1 const TableID\_T& stdair::SegmentSnapshotTableKey::getTableID ( ) const [inline]

Get the table ID.

Definition at line [56](#) of file [SegmentSnapshotTableKey.hpp](#).

Referenced by [stdair::SegmentSnapshotTable::getTableID\(\)](#).

#### 32.143.3.2 void stdair::SegmentSnapshotTableKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [40](#) of file [SegmentSnapshotTableKey.cpp](#).

References [toString\(\)](#).

#### 32.143.3.3 void stdair::SegmentSnapshotTableKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 45 of file [SegmentSnapshotTableKey.cpp](#).

**32.143.3.4 const std::string stdair::SegmentSnapshotTableKey::toString ( ) const [virtual]**

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-block.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 49 of file [SegmentSnapshotTableKey.cpp](#).

Referenced by [stdair::SegmentSnapshotTable::describeKey\(\)](#), and [toStream\(\)](#).

**32.143.3.5 template<class Archive> void stdair::SegmentSnapshotTableKey::serialize ( Archive & ar, const unsigned int iFileVersion )**

Serialisation.

Definition at line 71 of file [SegmentSnapshotTableKey.cpp](#).

**32.143.4 Friends And Related Function Documentation****32.143.4.1 friend class boost::serialization::access [friend]**

Definition at line 27 of file [SegmentSnapshotTableKey.hpp](#).

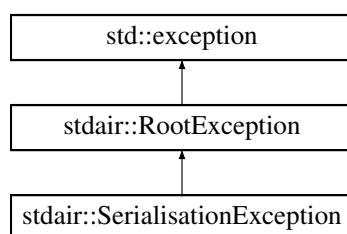
The documentation for this struct was generated from the following files:

- stdair/bom/[SegmentSnapshotTableKey.hpp](#)
- stdair/bom/[SegmentSnapshotTableKey.cpp](#)

**32.144 stdair::SerialisationException Class Reference**

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::SerialisationException:

**Public Member Functions**

- [SerialisationException](#) (const std::string &iWhat)
- const char \* [what \(\)](#) const throw ()

## Protected Attributes

- std::string [\\_what](#)

### 32.144.1 Detailed Description

Serialisation.

Definition at line [119](#) of file [stdair\\_exceptions.hpp](#).

### 32.144.2 Constructor & Destructor Documentation

#### 32.144.2.1 stdair::SerialisationException::SerialisationException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [122](#) of file [stdair\\_exceptions.hpp](#).

### 32.144.3 Member Function Documentation

#### 32.144.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.144.4 Member Data Documentation

#### 32.144.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

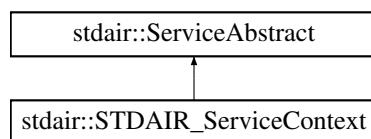
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.145 stdair::ServiceAbstract Class Reference

```
#include <stdair/service/ServiceAbstract.hpp>
```

Inheritance diagram for stdair::ServiceAbstract:



### Public Member Functions

- virtual [~ServiceAbstract \(\)](#)
- virtual void [toStream \(std::ostream &ioOut\) const](#)
- virtual void [fromStream \(std::istream &ioln\)](#)

### Protected Member Functions

- [ServiceAbstract \(\)](#)

#### 32.145.1 Detailed Description

Base class for the Service layer.

Definition at line 15 of file [ServiceAbstract.hpp](#).

#### 32.145.2 Constructor & Destructor Documentation

##### 32.145.2.1 virtual stdair::ServiceAbstract::~ServiceAbstract( ) [inline], [virtual]

Destructor.

Definition at line 21 of file [ServiceAbstract.hpp](#).

##### 32.145.2.2 stdair::ServiceAbstract::ServiceAbstract( ) [inline], [protected]

Display of the structure. Protected Default Constructor to ensure this class is abstract.

Definition at line 46 of file [ServiceAbstract.hpp](#).

#### 32.145.3 Member Function Documentation

##### 32.145.3.1 virtual void stdair::ServiceAbstract::toStream ( std::ostream & ioOut ) const [inline], [virtual]

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 28 of file [ServiceAbstract.hpp](#).

##### 32.145.3.2 virtual void stdair::ServiceAbstract::fromStream ( std::istream & ioln ) [inline], [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Definition at line 35 of file [ServiceAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

The documentation for this class was generated from the following file:

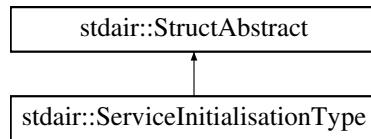
- stdair/service/[ServiceAbstract.hpp](#)

### 32.146 stdair::ServiceInitialisationType Struct Reference

Enumeration of service initialisation types.

```
#include <stdair/basic/ServiceInitialisationType.hpp>
```

Inheritance diagram for stdair::ServiceInitialisationType:



#### Public Types

- enum `EN_ServiceInitialisationType` { `NOT_YET_INITIALISED` = 0, `FILE_PARSING`, `BUILTIN_SAMPLE`, `LAST_VALUE` }

#### Public Member Functions

- `EN_ServiceInitialisationType getType () const`
- `char getTypeAsChar () const`
- `std::string getTypeAsString () const`
- `const std::string describe () const`
- `bool operator== (const EN_ServiceInitialisationType &) const`
- `ServiceInitialisationType (const EN_ServiceInitialisationType &)`
- `ServiceInitialisationType (const char iType)`
- `ServiceInitialisationType (const std::string &iType)`
- `ServiceInitialisationType (const ServiceInitialisationType &)`
- `void toStream (std::ostream &ioOut) const`
- `virtual void fromStream (std::istream &ioIn)`

#### Static Public Member Functions

- `static const std::string & getLabel (const EN_ServiceInitialisationType &)`
- `static EN_ServiceInitialisationType getType (const char)`
- `static char getTypeLabel (const EN_ServiceInitialisationType &)`
- `static std::string getTypeLabelAsString (const EN_ServiceInitialisationType &)`
- `static std::string describeLabels ()`

#### 32.146.1 Detailed Description

Enumeration of service initialisation types.

Definition at line 17 of file `ServiceInitialisationType.hpp`.

#### 32.146.2 Member Enumeration Documentation

##### 32.146.2.1 enum stdair::ServiceInitialisationType::EN\_ServiceInitialisationType

Enumerator

**`NOT_YET_INITIALISED`**

**`FILE_PARSING`**

**BUILTIN\_SAMPLE**

**LAST\_VALUE**

Definition at line 19 of file [ServiceInitialisationType.hpp](#).

### 32.146.3 Constructor & Destructor Documentation

32.146.3.1 stdair::ServiceInitialisationType::ServiceInitialisationType ( const EN\_ServiceInitialisationType & *iServiceInitialisationType* )

Main constructor.

Definition at line 36 of file [ServiceInitialisationType.cpp](#).

32.146.3.2 stdair::ServiceInitialisationType::ServiceInitialisationType ( const char *iType* )

Alternative constructor.

Definition at line 65 of file [ServiceInitialisationType.cpp](#).

32.146.3.3 stdair::ServiceInitialisationType::ServiceInitialisationType ( const std::string & *iType* )

Alternative constructor.

Definition at line 71 of file [ServiceInitialisationType.cpp](#).

References [getType\(\)](#).

32.146.3.4 stdair::ServiceInitialisationType::ServiceInitialisationType ( const ServiceInitialisationType & *iServiceInitialisationType* )

Default copy constructor.

Definition at line 30 of file [ServiceInitialisationType.cpp](#).

### 32.146.4 Member Function Documentation

32.146.4.1 const std::string & stdair::ServiceInitialisationType::getLabel ( const EN\_ServiceInitialisationType & *iType* ) [static]

Get the label as a string (e.g., "Not yet initialised", "File parsing" or "Built-in sample BOM").

Definition at line 81 of file [ServiceInitialisationType.cpp](#).

32.146.4.2 ServiceInitialisationType::EN\_ServiceInitialisationType stdair::ServiceInitialisationType::getType ( const char *iTypeChar* ) [static]

Get the type value from parsing a single char (e.g., 'N', 'F', 'B').

Definition at line 42 of file [ServiceInitialisationType.cpp](#).

References [BUILTIN\\_SAMPLE](#), [describeLabels\(\)](#), [FILE\\_PARSING](#), [LAST\\_VALUE](#), and [NOT\\_YET\\_INITIALISED](#).

32.146.4.3 char stdair::ServiceInitialisationType::getTypeLabel ( const EN\_ServiceInitialisationType & *iType* ) [static]

Get the label as a single char (e.g., 'N', 'F', 'B').

Definition at line 87 of file [ServiceInitialisationType.cpp](#).

---

**32.146.4.4 std::string stdair::ServiceInitialisationType::getTypeLabelAsString ( const EN\_ServiceInitialisationType & iType ) [static]**

Get the label as a string of a single char (e.g., "N", "F", "B").

Definition at line 93 of file [ServiceInitialisationType.cpp](#).

**32.146.4.5 std::string stdair::ServiceInitialisationType::describeLabels ( ) [static]**

List the labels.

Definition at line 100 of file [ServiceInitialisationType.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [getType\(\)](#).

**32.146.4.6 ServiceInitialisationType::EN\_ServiceInitialisationType stdair::ServiceInitialisationType::getType ( ) const**

Get the enumerated value.

Definition at line 113 of file [ServiceInitialisationType.cpp](#).

Referenced by [ServiceInitialisationType\(\)](#).

**32.146.4.7 char stdair::ServiceInitialisationType::getTypeAsChar ( ) const**

Get the enumerated value as a short string (e.g., 'N', 'F', 'B').

Definition at line 118 of file [ServiceInitialisationType.cpp](#).

**32.146.4.8 std::string stdair::ServiceInitialisationType::getTypeAsString ( ) const**

Get the enumerated value as a short string (e.g., "N", "F", "B").

Definition at line 124 of file [ServiceInitialisationType.cpp](#).

**32.146.4.9 const std::string stdair::ServiceInitialisationType::describe ( ) const [virtual]**

Give a description of the structure (e.g., "Not yet initialised", "File parsing" or "Built-in sample BOM").

Implements [stdair::StructAbstract](#).

Definition at line 131 of file [ServiceInitialisationType.cpp](#).

**32.146.4.10 bool stdair::ServiceInitialisationType::operator== ( const EN\_ServiceInitialisationType & iType ) const**

Comparison operator.

Definition at line 139 of file [ServiceInitialisationType.cpp](#).

**32.146.4.11 void stdair::StructAbstract::toStream ( std::ostream & ioOut ) const [inline], [inherited]**

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.146.4.12 virtual void stdair::StructAbstract::fromStream ( std::istream & ioIn ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

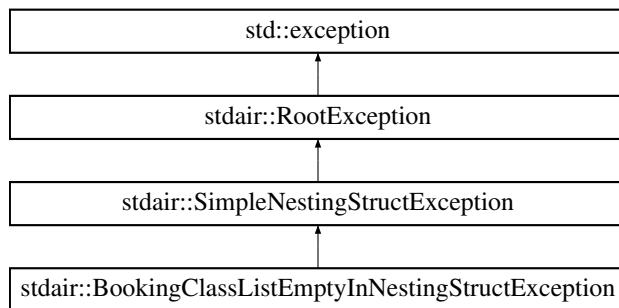
The documentation for this struct was generated from the following files:

- [stdair/basic/ServiceInitialisationType.hpp](#)
- [stdair/basic/ServiceInitialisationType.cpp](#)

**32.147 stdair::SimpleNestingStructException Class Reference**

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::SimpleNestingStructException:

**Public Member Functions**

- [SimpleNestingStructException](#) (const std::string &iWhat)
- const char \* [what \(\)](#) const throw ()

**Protected Attributes**

- std::string [\\_what](#)

**32.147.1 Detailed Description**

Simple Nesting Structure.

Definition at line 211 of file [stdair\\_exceptions.hpp](#).

**32.147.2 Constructor & Destructor Documentation****32.147.2.1 stdair::SimpleNestingStructException::SimpleNestingStructException ( const std::string & iWhat ) [inline]**

Constructor.

Definition at line 214 of file [stdair\\_exceptions.hpp](#).

### 32.147.3 Member Function Documentation

#### 32.147.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.147.4 Member Data Documentation

#### 32.147.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

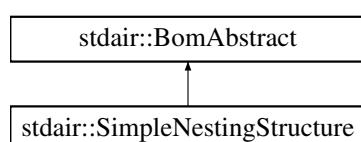
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.148 stdair::SimpleNestingStructure Class Reference

```
#include <stdair/bom/SimpleNestingStructure.hpp>
```

Inheritance diagram for stdair::SimpleNestingStructure:



### Public Types

- [typedef NestingStructureKey Key\\_T](#)

### Public Member Functions

- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- [const HolderMap\\_T & getHolderMap \(\) const](#)
- [const NestingNodeList\\_T & getNestingNodeList \(\) const](#)
- [void toStream \(std::ostream &iOOut\) const](#)
- [void fromStream \(std::istream &iOlIn\)](#)
- [std::string toString \(\) const](#)
- [const std::string describeKey \(\) const](#)
- [template<class Archive> void serialize \(Archive &ar, const unsigned int iFileVersion\)](#)
- [SimpleNestingStructure \(const Key\\_T &\)](#)
- [virtual ~SimpleNestingStructure \(\)](#)

## Friends

- template<typename BOM >  
class [FacBom](#)
- class [FacBomManager](#)
- class [boost::serialization::access](#)

### 32.148.1 Detailed Description

Structure holding a nesting node map according to the yield.

Definition at line [26](#) of file [SimpleNestingStructure.hpp](#).

### 32.148.2 Member Typedef Documentation

#### 32.148.2.1 `typedef NestingStructureKey stdair::SimpleNestingStructure::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [36](#) of file [SimpleNestingStructure.hpp](#).

### 32.148.3 Constructor & Destructor Documentation

#### 32.148.3.1 `stdair::SimpleNestingStructure::SimpleNestingStructure ( const Key_T & iKey )`

Main constructor.

Definition at line [36](#) of file [SimpleNestingStructure.cpp](#).

#### 32.148.3.2 `stdair::SimpleNestingStructure::~SimpleNestingStructure ( ) [virtual]`

Destructor.

Definition at line [41](#) of file [SimpleNestingStructure.cpp](#).

### 32.148.4 Member Function Documentation

#### 32.148.4.1 `const Key_T& stdair::SimpleNestingStructure::getKey ( ) const [inline]`

Get the nesting key.

Definition at line [41](#) of file [SimpleNestingStructure.hpp](#).

#### 32.148.4.2 `BomAbstract* const stdair::SimpleNestingStructure::getParent ( ) const [inline]`

Get the parent object.

Definition at line [46](#) of file [SimpleNestingStructure.hpp](#).

#### 32.148.4.3 `const HolderMap_T& stdair::SimpleNestingStructure::getHolderMap ( ) const [inline]`

Get the map of children holders.

Definition at line [53](#) of file [SimpleNestingStructure.hpp](#).

#### 32.148.4.4 `const NestingNodeList_T & stdair::SimpleNestingStructure::getNestingNodeList ( ) const`

Get the nesting node list

Definition at line [115](#) of file [SimpleNestingStructure.cpp](#).

32.148.4.5 void stdair::SimpleNestingStructure::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 69 of file [SimpleNestingStructure.hpp](#).

References [toString\(\)](#).

**32.148.4.6 void stdair::SimpleNestingStructure::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 78 of file [SimpleNestingStructure.hpp](#).

**32.148.4.7 std::string stdair::SimpleNestingStructure::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 107 of file [SimpleNestingStructure.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.148.4.8 const std::string stdair::SimpleNestingStructure::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line 89 of file [SimpleNestingStructure.hpp](#).

References [stdair::NestingStructureKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.148.4.9 template<class Archive> void stdair::SimpleNestingStructure::serialize ( Archive & *ar*, const unsigned int *iFileVersion* )**

Serialisation.

## 32.148.5 Friends And Related Function Documentation

**32.148.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line 27 of file [SimpleNestingStructure.hpp](#).

**32.148.5.2 friend class FacBomManager [friend]**

Definition at line 28 of file [SimpleNestingStructure.hpp](#).

**32.148.5.3 friend class boost::serialization::access [friend]**

Definition at line 29 of file [SimpleNestingStructure.hpp](#).

The documentation for this class was generated from the following files:

- stdair/bom/[SimpleNestingStructure.hpp](#)
- stdair/bom/[SimpleNestingStructure.cpp](#)

## 32.149 swift::SKeymap Class Reference

The readline keymap wrapper.

```
#include <stdair/ui/cmdline/SReadline.hpp>
```

### Public Member Functions

- **SKeymap** (bool PrintableBound=false)  
*Creates a new keymap.*
- **SKeymap** (Keymap Pattern)  
*Creates a new keymap which is a copy of Pattern.*
- **~SKeymap** ()  
*Frees the allocated keymap.*
- void **Bind** (int Key, KeyCallback Callback)  
*Binds the given key to a function.*
- void **Unbind** (int Key)  
*Unbinds the given key.*
- **SKeymap** (const SKeymap &rhs)  
*Copy constructor.*
- **SKeymap & operator=** (const SKeymap &rhs)  
*operator=*

### Friends

- class **SReadline**

### 32.149.1 Detailed Description

The readline keymap wrapper.

Attention: It is not thread safe! Supports: key binding, key unbinding

Definition at line 307 of file [SReadline.hpp](#).

### 32.149.2 Constructor & Destructor Documentation

#### 32.149.2.1 swift::SKeymap::SKeymap ( bool *PrintableBound* = false ) [inline], [explicit]

Creates a new keymap.

##### Parameters

<i>PrintableBound</i>	if true - the printable characters are bound if false - the keymap is empty
-----------------------	---

Definition at line 319 of file [SReadline.hpp](#).

#### 32.149.2.2 swift::SKeymap::SKeymap ( Keymap Pattern ) [inline], [explicit]

Creates a new keymap which is a copy of Pattern.

##### Parameters

<i>Pattern</i>	A keymap to be copied.
----------------	------------------------

Definition at line 342 of file [SReadline.hpp](#).

### 32.149.2.3 swift::SKeymap::~SKeymap( ) [inline]

Frees the allocated keymap.

Definition at line 354 of file [SReadline.hpp](#).

### 32.149.2.4 swift::SKeymap::SKeymap( const SKeymap & rhs ) [inline]

Copy constructor.

#### Parameters

<i>rhs</i>	Right hand side object of <a href="#">SKeymap</a>
------------	---

Definition at line 395 of file [SReadline.hpp](#).

## 32.149.3 Member Function Documentation

### 32.149.3.1 void swift::SKeymap::Bind( int Key, KeyCallback Callback ) [inline]

Binds the given key to a function.

#### Parameters

<i>Key</i>	A key to be bound
<i>Callback</i>	A function to be called when the Key is pressed

Definition at line 366 of file [SReadline.hpp](#).

### 32.149.3.2 void swift::SKeymap::Unbind( int Key ) [inline]

Unbinds the given key.

#### Parameters

<i>Key</i>	A key to be unbound
------------	---------------------

Definition at line 381 of file [SReadline.hpp](#).

### 32.149.3.3 SKeymap& swift::SKeymap::operator=( const SKeymap & rhs ) [inline]

operator=

#### Parameters

<i>rhs</i>	Right hand side object of <a href="#">SKeymap</a>
------------	---

Definition at line 407 of file [SReadline.hpp](#).

## 32.149.4 Friends And Related Function Documentation

### 32.149.4.1 friend class SReadline [friend]

Definition at line 415 of file [SReadline.hpp](#).

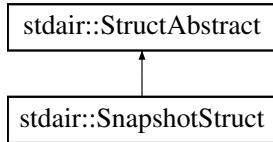
The documentation for this class was generated from the following file:

- stdair/ui/cmdline/[SReadline.hpp](#)

### 32.150 stdair::SnapshotStruct Struct Reference

```
#include <stdair/bom/SnapshotStruct.hpp>
```

Inheritance diagram for stdair::SnapshotStruct:



#### Public Member Functions

- const `AirlineCode_T & getAirlineCode () const`
- const `DateTime_T & getSnapshotTime () const`
- void `toStream (std::ostream &ioOut) const`
- void `fromStream (std::istream &ioln)`
- const std::string `describe () const`
- `SnapshotStruct (const AirlineCode_T &, const DateTime_T &)`
- `SnapshotStruct (const SnapshotStruct &)`
- `~SnapshotStruct ()`

#### 32.150.1 Detailed Description

Structure holding the elements of a snapshot .

Definition at line 19 of file [SnapshotStruct.hpp](#).

#### 32.150.2 Constructor & Destructor Documentation

##### 32.150.2.1 stdair::SnapshotStruct::SnapshotStruct ( const AirlineCode\_T & iAirlineCode, const DateTime\_T & iSnapshotTime )

Constructor.

Definition at line 26 of file [SnapshotStruct.cpp](#).

##### 32.150.2.2 stdair::SnapshotStruct::SnapshotStruct ( const SnapshotStruct & iSnapshot )

Copy constructor.

Definition at line 19 of file [SnapshotStruct.cpp](#).

##### 32.150.2.3 stdair::SnapshotStruct::~SnapshotStruct ( )

Destructor.

Definition at line 32 of file [SnapshotStruct.cpp](#).

#### 32.150.3 Member Function Documentation

##### 32.150.3.1 const AirlineCode\_T& stdair::SnapshotStruct::getAirlineCode ( ) const [inline]

Get the airline code.

Definition at line 23 of file [SnapshotStruct.hpp](#).

## 32.150.3.2 const DateTime\_T&amp; stdair::SnapshotStruct::getSnapshotTime( ) const [inline]

Get the snapshot action time.

Definition at line 28 of file [SnapshotStruct.hpp](#).

## 32.150.3.3 void stdair::SnapshotStruct::toStream( std::ostream &amp; ioOut ) const

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 36 of file [SnapshotStruct.cpp](#).

References [describe\(\)](#).

## 32.150.3.4 void stdair::SnapshotStruct::fromStream( std::istream &amp; ioIn ) [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 41 of file [SnapshotStruct.cpp](#).

## 32.150.3.5 const std::string stdair::SnapshotStruct::describe( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 45 of file [SnapshotStruct.cpp](#).

Referenced by [toStream\(\)](#).

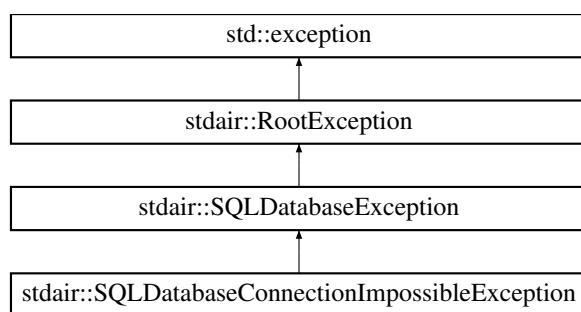
The documentation for this struct was generated from the following files:

- stdair/bom/[SnapshotStruct.hpp](#)
- stdair/bom/[SnapshotStruct.cpp](#)

## 32.151 stdair::SQLDatabaseConnectionImpossibleException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::SQLDatabaseConnectionImpossibleException:



## Public Member Functions

- [SQLDatabaseConnectionImpossibleException](#) (const std::string &iWhat)
- const char \* [what \(\) const throw \(\)](#)

## Protected Attributes

- std::string [\\_what](#)

### 32.151.1 Detailed Description

Database connection.

Definition at line [196](#) of file [stdair\\_exceptions.hpp](#).

### 32.151.2 Constructor & Destructor Documentation

#### 32.151.2.1 stdair::SQLDatabaseConnectionImpossibleException::SQLDatabaseConnectionImpossibleException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line [199](#) of file [stdair\\_exceptions.hpp](#).

### 32.151.3 Member Function Documentation

#### 32.151.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line [38](#) of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

### 32.151.4 Member Data Documentation

#### 32.151.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line [46](#) of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

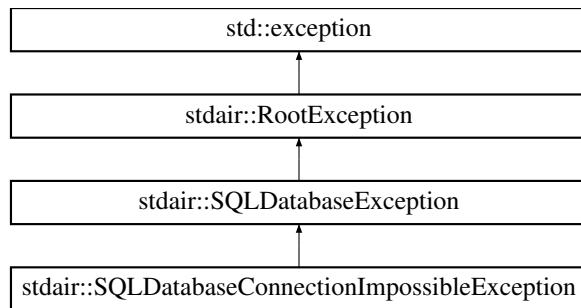
The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

## 32.152 stdair::SQLDatabaseException Class Reference

```
#include <stdair/stdair_exceptions.hpp>
```

Inheritance diagram for stdair::SQLDatabaseException:



### Public Member Functions

- [SQLDatabaseException](#) (const std::string &*iWhat*)
- const char \* [what \(\) const throw \(\)](#)

### Protected Attributes

- std::string [\\_what](#)

#### 32.152.1 Detailed Description

Database.

Definition at line 181 of file [stdair\\_exceptions.hpp](#).

#### 32.152.2 Constructor & Destructor Documentation

##### 32.152.2.1 stdair::SQLDatabaseException::SQLDatabaseException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line 184 of file [stdair\\_exceptions.hpp](#).

#### 32.152.3 Member Function Documentation

##### 32.152.3.1 const char\* stdair::RootException::what ( ) const throw () [inline], [inherited]

Give the details of the exception.

Definition at line 38 of file [stdair\\_exceptions.hpp](#).

References [stdair::RootException::\\_what](#).

Referenced by [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

#### 32.152.4 Member Data Documentation

##### 32.152.4.1 std::string stdair::RootException::\_what [protected], [inherited]

Details for the exception.

Definition at line 46 of file [stdair\\_exceptions.hpp](#).

Referenced by [stdair::RootException::what\(\)](#).

The documentation for this class was generated from the following file:

- stdair/[stdair\\_exceptions.hpp](#)

### 32.153 swift::SReadline Class Reference

The readline library wrapper.

```
#include <stdair/ui/cmdline/SReadline.hpp>
```

#### Public Member Functions

- **SReadline** (const size\_t Limit=DefaultHistoryLimit)  
*Constructs the object, sets the completion function.*
- **SReadline** (const std::string &historyFileName, const size\_t Limit=DefaultHistoryLimit)  
*Constructs the object, sets the completion function, loads history.*
- **~SReadline** ()  
*Saves the session history (if the file name was provided) and destroys the object.*
- std::string **GetLine** (const std::string &Prompt)  
*Gets a single line from a user.*
- template<typename Container>  
 std::string **GetLine** (const std::string &Prompt, Container &ReadTokens)  
*Gets a single line from a user.*
- template<typename Container>  
 std::string **GetLine** (const std::string &Prompt, Container &ReadTokens, bool &BreakOut)  
*Gets a single line from a user.*
- std::string **GetLine** (const std::string &Prompt, bool &BreakOut)  
*Gets a single line from a user.*
- template<typename ContainerType>  
 void **GetHistory** (ContainerType &Container)  
*Fills the given container with the current history list.*
- bool **SaveHistory** (std::ostream &OS)  
*Saves the history to the given file stream.*
- bool **SaveHistory** (const std::string &FileName)  
*Saves the history to the given file.*
- void **ClearHistory** ()  
*Clears the history. Does not affect the file where the previous session history is saved.*
- bool **LoadHistory** (std::istream &IS)  
*Loads a history from a file stream.*
- bool **LoadHistory** (const std::string &FileName)  
*Loads a history from the given file.*
- template<typename ContainerType>  
 void **RegisterCompletions** (const ContainerType &Container)  
*Allows to register custom completers.*
- void **SetKeymap** (SKeymap &NewKeymap)  
*Sets the given keymap.*

#### 32.153.1 Detailed Description

The readline library wrapper.

Attention: It is not thread safe! Supports: editing, history, custom completers

Definition at line 424 of file [SReadline.hpp](#).

### 32.153.2 Constructor & Destructor Documentation

#### 32.153.2.1 swift::SReadline::SReadline ( const size\_t *Limit* = DefaultHistoryLimit ) [inline]

Constructs the object, sets the completion function.

**Parameters**

<i>Limit</i>	History size
--------------	--------------

Definition at line 431 of file [SReadline.hpp](#).

**32.153.2.2** `swift::SReadline::SReadline ( const std::string & historyFileName, const size_t Limit = DefaultHistoryLimit ) [inline]`

Constructs the object, sets the completion function, loads history.

**Parameters**

<i>historyFileName</i>	File name to load history from
<i>Limit</i>	History size

Definition at line 446 of file [SReadline.hpp](#).

References [LoadHistory\(\)](#).

**32.153.2.3** `swift::SReadline::~SReadline ( ) [inline]`

Saves the session history (if the file name was provided) and destroys the object.

Definition at line 462 of file [SReadline.hpp](#).

References [SaveHistory\(\)](#).

**32.153.3 Member Function Documentation**

**32.153.3.1** `std::string swift::SReadline::GetLine ( const std::string & Prompt ) [inline]`

Gets a single line from a user.

**Parameters**

<i>Prompt</i>	A printed prompt
---------------	------------------

**Returns**

A string which was actually inputed

Definition at line 473 of file [SReadline.hpp](#).

Referenced by [GetLine\(\)](#).

**32.153.3.2** `template<typename Container> std::string swift::SReadline::GetLine ( const std::string & Prompt, Container & ReadTokens ) [inline]`

Gets a single line from a user.

**Parameters**

<i>Prompt</i>	A printed prompt
<i>ReadTokens</i>	A user inputed string splitted into tokens. The container is cleared first

**Returns**

A string which was actually inputed

Definition at line 487 of file [SReadline.hpp](#).

References [GetLine\(\)](#).

32.153.3.3 template<typename Container> std::string swift::SReadline::GetLine( const std::string & *Prompt*, Container & *ReadTokens*, bool & *BreakOut* ) [inline]

Gets a single line from a user.

**Parameters**

<i>Prompt</i>	A printed prompt
<i>BreakOut</i>	it is set to true if the EOF found
<i>ReadTokens</i>	A user inputed string splitted into tokens. The container is cleared first

**Returns**

A string which was actually inputed

Definition at line 502 of file [SReadline.hpp](#).

References [GetLine\(\)](#).

**32.153.3.4 std::string swift::SReadline::GetLine ( const std::string & *Prompt*, bool & *BreakOut* ) [inline]**

Gets a single line from a user.

**Parameters**

<i>Prompt</i>	A printed prompt
<i>BreakOut</i>	it is set to true if the EOF found

**Returns**

A string which was actually inputed

Definition at line 517 of file [SReadline.hpp](#).

**32.153.3.5 template<typename ContainerType> void swift::SReadline::GetHistory ( ContainerType & *Container* ) [inline]**

Fills the given container with the current history list.

Does not clear the given container

Definition at line 552 of file [SReadline.hpp](#).

**32.153.3.6 bool swift::SReadline::SaveHistory ( std::ostream & *OS* ) [inline]**

Saves the history to the given file stream.

**Parameters**

<i>OS</i>	output file stream
-----------	--------------------

**Returns**

true if success

Definition at line 564 of file [SReadline.hpp](#).

Referenced by [SaveHistory\(\)](#), and [~SReadline\(\)](#).

**32.153.3.7 bool swift::SReadline::SaveHistory ( const std::string & *FileName* ) [inline]**

Saves the history to the given file.

**Parameters**

<i>FileName</i>	File name to save the history to
-----------------	----------------------------------

**Returns**

true if success

Definition at line 581 of file [SReadline.hpp](#).

References [SaveHistory\(\)](#).

**32.153.3.8 void swift::SReadline::ClearHistory( ) [inline]**

Clears the history. Does not affect the file where the previous session history is saved.

Definition at line 594 of file [SReadline.hpp](#).

Referenced by [LoadHistory\(\)](#).

**32.153.3.9 bool swift::SReadline::LoadHistory( std::istream & IS ) [inline]**

Loads a history from a file stream.

**Parameters**

<i>IS</i>	Input file stream
-----------	-------------------

**Returns**

true if success

Definition at line 604 of file [SReadline.hpp](#).

References [ClearHistory\(\)](#).

Referenced by [LoadHistory\(\)](#), and [SReadline\(\)](#).

**32.153.3.10 bool swift::SReadline::LoadHistory( const std::string & FileName ) [inline]**

Loads a history from the given file.

**Parameters**

<i>FileName</i>	File name to be load from
-----------------	---------------------------

**Returns**

true if success

Definition at line 629 of file [SReadline.hpp](#).

References [LoadHistory\(\)](#).

**32.153.3.11 template<typename ContainerType > void swift::SReadline::RegisterCompletions( const ContainerType & Container ) [inline]**

Allows to register custom completers.

Supports a special keyword: file. It means to use the standard file name completer.

For example the given container elements could be as follows:

- command1 opt1
- command1 opt2 file
- command2

- command2 opt1

Each container element must describe a single possible command line. The container element must have a conversion to std::string operator.

#### Parameters

<i>Container</i>	A container which has all the user possible commands.
------------------	---

Definition at line 658 of file [SReadline.hpp](#).

**32.153.3.12 void swift::SReadline::SetKeymap ( SKeymap & NewKeymap ) [inline]**

Sets the given keymap.

#### Parameters

<i>NewKeymap</i>	The keymap that should be used from now.
------------------	--

Definition at line 675 of file [SReadline.hpp](#).

The documentation for this class was generated from the following file:

- stdair/ui/cmdline/[SReadline.hpp](#)

## 32.154 stdair::STDAIR\_Service Class Reference

Interface for the STDAIR Services.

```
#include <stdair/STDAIR_Service.hpp>
```

#### Public Member Functions

- [STDAIR\\_Service \(\)](#)  
*Default constructor.*
- [STDAIR\\_Service \(const BasLogParams &\)](#)  
*Constructor.*
- [STDAIR\\_Service \(const BasLogParams &, const BasDBParams &\)](#)  
*Constructor.*
- [~STDAIR\\_Service \(\)](#)  
*Destructor.*
- void [buildSampleBom \(\)](#)
- void [buildDummyInventory \(const CabinCapacity\\_T &iCabinCapacity\)](#)
- void [buildDummyLegSegmentAccesses \(BomRoot &\)](#)
- void [buildSampleTravelSolutionForPricing \(TravelSolutionList\\_T &\)](#)
- void [buildSampleTravelSolutions \(TravelSolutionList\\_T &\)](#)
- [BookingRequestStruct buildSampleBookingRequest \(const bool isForCRS=false\)](#)
- void [clonePersistentBom \(\)](#)  
*Clone the persistent Bom.*
- std::string [jsonExportFlightDateList \(const AirlineCode\\_T &iAirlineCode="all", const FlightNumber\\_T &iFlightNumber=0\) const](#)
- std::string [jsonExportFlightDateObjects \(const AirlineCode\\_T &, const FlightNumber\\_T &, const Date\\_T &iDepartureDate\) const](#)
- std::string [jsonExportEventObject \(const EventStruct &\) const](#)
- std::string [jsonExportConfiguration \(\) const](#)
- bool [jsonImportConfiguration \(const JSONString &\) const](#)
- std::string [list \(const AirlineCode\\_T &iAirlineCode="all", const FlightNumber\\_T &iFlightNumber=0\) const](#)
- std::string [listAirportPairDateRange \(\) const](#)

- bool `check` (const `AirlineCode_T` &, const `FlightNumber_T` &, const `Date_T` &`iDepartureDate`) const
- bool `check` (const `AirportCode_T` &, const `AirportCode_T` &, const `Date_T` &`iDepartureDate`) const
- std::string `configDisplay` () const
- std::string `csvDisplay` () const
- std::string `csvDisplay` (const `BomRoot` &) const
- std::string `csvDisplay` (const `AirlineCode_T` &, const `FlightNumber_T` &, const `Date_T` &`iDepartureDate`) const
- std::string `csvDisplay` (const `TravelSolutionList_T` &) const
- std::string `csvDisplay` (const `AirportCode_T` &, const `AirportCode_T` &, const `Date_T` &`iDepartureDate`) const
- `BomRoot` & `getBomRoot` () const
 

*Get a reference on the `BomRoot` object.*
- `BomRoot` & `getPersistentBomRoot` () const
 

*Get a reference on the `BomRoot` object.*
- `BasLogParams` `getLogParams` () const
- const `BasDBParams` & `getDBParams` () const
- const `ServiceInitialisationType` & `getServiceInitialisationType` () const
- void `importINIConfig` (const `ConfigINIFile` &)
 

*Import the configuration INI input file (format cfg).*
- void `importConfigValue` (const std::string &`iValue`, const std::string &`iPath`)
- template<typename `ValueType`>
 bool `exportConfigValue` (`ValueType` &`ioValue`, const std::string &`iPath`)
- void `updateAirlineFeatures` ()
 

*Update the airline features objects thanks to the configuration holder.*

#### 32.154.1 Detailed Description

Interface for the STDAIR Services.

Definition at line 44 of file [STDAIR\\_Service.hpp](#).

#### 32.154.2 Constructor & Destructor Documentation

##### 32.154.2.1 stdair::STDAIR\_Service::STDAIR\_Service( )

Default constructor.

Definition at line 45 of file [STDAIR\\_Service.cpp](#).

##### 32.154.2.2 stdair::STDAIR\_Service::STDAIR\_Service( const BasLogParams & iLogParams )

Constructor.

The init() method is called; see the corresponding documentation for more details.

Moreover, a reference on an output stream is given, so that log outputs can be directed onto that stream.

###### Parameters

in	const	<code>BasLogParams</code> & Parameters for the output log stream.
----	-------	---

Definition at line 61 of file [STDAIR\\_Service.cpp](#).

##### 32.154.2.3 stdair::STDAIR\_Service::STDAIR\_Service( const BasLogParams & iLogParams, const BasDBParams & iDBParams )

Constructor.

The init() method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

Moreover, database connection parameters are given, so that database events can use the corresponding access.

**Parameters**

in	const	<a href="#">BasLogParams</a> & Parameters for the output log stream.
in	const	<a href="#">BasDBParams</a> & Parameters for the database session.

Definition at line 75 of file [STDAIR\\_Service.cpp](#).

## 32.154.2.4 stdair::STDAIR\_Service::~STDAIR\_Service ( )

Destructor.

Definition at line 93 of file [STDAIR\\_Service.cpp](#).

## 32.154.3 Member Function Documentation

## 32.154.3.1 void stdair::STDAIR\_Service::buildSampleBom ( )

Build a sample BOM tree, and attach it to the [BomRoot](#) instance.

As for now, a single sample BOM tree is built, with objects for all the simulator-related components, i.e.:

- schedule (e.g., [AirSched](#)),
- inventory (e.g., [AirlInv](#)),
- revenue management (e.g., [RMOL](#)),
- pricing (e.g., [SimFQT](#)),
- revenue accounting (e.g., [AirRAC](#)),
- demand generation (e.g., [TraDemGen](#)),
- customer choice (e.g., [TravelCCM](#)),
- event manager (e.g., [SEvMgr](#))

Most of the inventories just contain one flight. One of those flights has two legs (and therefore three segments).

Definition at line 172 of file [STDAIR\\_Service.cpp](#).

## 32.154.3.2 void stdair::STDAIR\_Service::buildDummyInventory ( const CabinCapacity\_T &amp; iCabinCapacity )

Build a dummy inventory, containing a dummy flight-date with a single leg-cabin and some virtual booking classes. That structure is the bare minimum required to perform an optimisation on a leg-cabin.

As for now, that method is called only by RMOL. Indeed, the revenue management component (RMOL) needs very basic set up in order to perform optimisation at leg-level. Hence, there are:

- a dedicated inventory ('XX'),
- the corresponding flight-date (#9999, departing 01/01/1900),
- a leg-date (departing and arriving from/to 'XXX' airport),
- 
- a leg-cabin ('X').
- 

Most of the data is dummy because RMOL uses only the cabin capacity from that part of the BOM tree.

**Parameters**

<i>const</i>	CabinCapacity_T& Cabin capacity for revenue management optimisation.
--------------	--

Definition at line 187 of file [STDAIR\\_Service.cpp](#).

**32.154.3.3 void stdair::STDAIR\_Service::buildDummyLegSegmentAccesses ( BomRoot & iBomRoot )**

Build the direct accesses between the dummy segment cabins and the dummy leg cabins within the dummy flight dates (the dummy fare family flight date and the classic dummy flight date).

As for now (May 2012), that method is called only by RMOL. It is a substitute for the code doing it automatically located in AirInv. See the AIRINV::InventoryManager::createDirectAccesses command.

**Parameters**

<i>BomRoot&amp;</i>	Top of the BOM tree, to which the sample should be attached.
---------------------	--

Definition at line 204 of file [STDAIR\\_Service.cpp](#).

**32.154.3.4 void stdair::STDAIR\_Service::buildSampleTravelSolutionForPricing ( TravelSolutionList\_T & ioTravelSolutionList )**

Build a sample list of travel solutions.

As of now (March 2011), that list is made of the following travel solutions:

- BA9
- LHR-SYD
- 2011-06-10

**Parameters**

<i>TravelSolutionList_T&amp;</i>	Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.
----------------------------------	--

Definition at line 215 of file [STDAIR\\_Service.cpp](#).

**32.154.3.5 void stdair::STDAIR\_Service::buildSampleTravelSolutions ( TravelSolutionList\_T & ioTravelSolutionList )**

Build a sample list of travel solutions.

As of now (March 2011), that list is made of the following travel solutions:

- BA9
- LHR-SYD
- 2011-06-10
- Q
- WTP: 900
- Change fee: 20; Non refundable; Saturday night stay

**Parameters**

<i>TravelSolutionList_T&amp;</i>	Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.
----------------------------------	--

Definition at line 222 of file [STDAIR\\_Service.cpp](#).

---

**32.154.3.6 BookingRequestStruct stdair::STDAIR\_Service::buildSampleBookingRequest ( const bool *isForCRS* = false )**

Build a sample booking request structure.

As of now (March 2011), the sample booking request is made of the following parameters:

- Return trip (inbound): LHR-SYD (POS: LHR, Channel: DN),
- Departing 10-JUN-2011 around 8:00, staying 7 days
- Requested on 15-MAY-2011 at 10:00
- Economy cabin, 3 persons, FF member
- WTP: 1000.0 EUR
- Dis-utility: 100.0 EUR/hour

As of now (March 2011), the CRS-related booking request is made of the following parameters:

- Return trip (inbound): SIN-BKK (POS: SIN, Channel: IN),
- Departing 30-JAN-2010 around 10:00, staying 7 days
- Requested on 22-JAN-2010 at 10:00
- Economy cabin, 3 persons, FF member
- WTP: 1000.0 EUR
- Dis-utility: 100.0 EUR/hour

#### Parameters

<i>const</i>	bool <i>isForCRS</i> Whether the sample booking request is for CRS.
--------------	---

#### Returns

[BookingRequestStruct](#)& Sample booking request structure.

Definition at line [229](#) of file [STDAIR\\_Service.cpp](#).

**32.154.3.7 void stdair::STDAIR\_Service::clonePersistentBom ( )**

Clone the persistent Bom.

Definition at line [635](#) of file [STDAIR\\_Service.cpp](#).

References [stdair::FacSupervisor::cleanCloneBomLayer\(\)](#), and [stdair::FacSupervisor::instance\(\)](#).

**32.154.3.8 std::string stdair::STDAIR\_Service::jsonExportFlightDateList ( const AirlineCode\_T & *iAirlineCode* = "all", const FlightNumber\_T & *iFlightNumber* = 0 ) const**

Recursively dump, in the returned string and in JSON format, the flight-date list corresponding to the parameters given as input.

#### Parameters

<i>const</i>	AirlineCode& Airline for which the flight-dates should be displayed. If set to "all" (default), all the inventories will be displayed.
<i>const</i>	FlightNumber_T& Flight number for which all the departure dates should be displayed. If set to 0 (the default), all the flight numbers will be displayed.

Definition at line [242](#) of file [STDAIR\\_Service.cpp](#).

References [stdair::BomJSONExport::jsonExportFlightDateList\(\)](#).

```
32.154.3.9 std::string stdair::STDAIR_Service::jsonExportFlightDateObjects ( const AirlineCode_T & iAirlineCode, const FlightNumber_T & iFlightNumber, const Date_T & iDepartureDate ) const
```

Recursively dump, in the returned string and in JSON format, the detailed flight-date (leg, segments, cabins, classes, ...) corresponding to the parameters given as input.

**Parameters**

<i>const</i>	AirlineCode_T& Airline code of the flight to dump.
<i>const</i>	FlightNumber_T& Flight number of the flight to dump.
<i>const</i>	Date_T& Departure date of the flight to dump.

**Returns**

std::string Output string in which the BOM tree is JSON-ified.

Definition at line 262 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomJSONExport::jsonExportFlightDateObjects\(\)](#), and [stdair::BomRetriever::retrieveFlightFromKeySet\(\)](#).

**32.154.3.10 std::string stdair::STDAIR\_Service::jsonExportEventObject ( const EventStruct & iEventStruct ) const**

Recursively dump, in the returned string and in JSON format, the event object.

**Returns**

std::string Output string in which the event is JSON-ified.

Definition at line 312 of file [STDAIR\\_Service.cpp](#).

References [stdair::EventType::BKG\\_REQ](#), [stdair::EventType::BRK\\_PT](#), [stdair::EventType::CX](#), [stdair::EventStruct::getEventType\(\)](#), [stdair::BomJSONExport::jsonExportBookingRequestObject\(\)](#), [stdair::BomJSONExport::jsonExportBreakPointObject\(\)](#), [stdair::EventType::OPT\\_NOT\\_4\\_FD](#), [stdair::EventType::OPT\\_NOT\\_4\\_NE](#), [stdair::EventType::RM](#), [stdair::EventType::SKD\\_CHG](#), and [stdair::EventType::SNAPSHOT](#).

**32.154.3.11 std::string stdair::STDAIR\_Service::jsonExportConfiguration ( ) const**

Dump, in the returned string and in JSON format, the configuration.

**Returns**

std::string Output string in which the configuration tree is JSON-ified.

Definition at line 359 of file [STDAIR\\_Service.cpp](#).

References [stdair::ConfigHolderStruct::jsonExport\(\)](#).

**32.154.3.12 bool stdair::STDAIR\_Service::jsonImportConfiguration ( const JSONString & iJSONString ) const**

Extract the configuration ptree from the given JSON-formatted string and add it to the configuration holder

**Parameters**

<i>const</i>	<a href="#">JSONString</a> & JSON-formatted string.
--------------	---

**Returns**

bool State whether the extracting has been successful.

Definition at line 342 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomJSONImport::jsonImportConfig\(\)](#).

**32.154.3.13 std::string stdair::STDAIR\_Service::list ( const AirlineCode\_T & iAirlineCode = "all", const FlightNumber\_T & iFlightNumber = 0 ) const**

Display the list of flight-dates (contained within the BOM tree) corresponding to the parameters given as input.

**Parameters**

<i>const</i>	AirlineCode& Airline for which the flight-dates should be displayed. If set to "all" (the default), all the inventories will be displayed.
<i>const</i>	FlightNumber_T& Flight number for which all the departure dates should be displayed. If set to 0 (the default), all the flight numbers will be displayed.

**Returns**

`std::string` Output string in which the BOM tree is logged/dumped.

Definition at line 428 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::list\(\)](#).

**32.154.3.14 std::string stdair::STDAIR\_Service::listAirportPairDateRange ( ) const**

Display the list of aiports pairs and date ranges (contained within the BOM tree)

**Parameters**

<code>std::ostream&amp;</code>	Output stream in which the airport pairs and date ranges are logged/dumped.
--------------------------------	---

Definition at line 446 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::listAirportPairDateRange\(\)](#).

**32.154.3.15 bool stdair::STDAIR\_Service::check ( const AirlineCode\_T & iAirlineCode, const FlightNumber\_T & iFlightNumber, const Date\_T & iDepartureDate ) const**

Check whether the given flight-date is a valid one.

**Parameters**

<i>const</i>	<code>stdair::AirlineCode_T&amp;</code> Airline code of the flight to check.
<i>const</i>	<code>stdair::FlightNumber_T&amp;</code> Flight number of the flight to check.
<i>const</i>	<code>stdair::Date_T&amp;</code> Departure date of the flight to check.

**Returns**

`bool` Whether or not the given flight date is valid.

Definition at line 463 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomRetriever::retrieveFlightDateFromKeySet\(\)](#).

**32.154.3.16 bool stdair::STDAIR\_Service::check ( const AirportCode\_T & ioOrigin, const AirportCode\_T & ioDestination, const Date\_T & iDepartureDate ) const**

Check whether the given couple airportpair-date is a valid one.

**Parameters**

<i>const</i>	<code>stdair::AirportCode_T&amp;</code> Origin airport of the fare rule to check.
<i>const</i>	<code>stdair::AirportCode_T&amp;</code> Destination airport of the fare rule to check.
<i>const</i>	<code>stdair::Date_T&amp;</code> Departure date of the fare rule to check.

**Returns**

`bool` Whether or not the given airportpair-date couple is a valid one.

Definition at line 485 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomRetriever::retrieveDatePeriodListFromKeySet\(\)](#).

## 32.154.3.17 std::string stdair::STDAIR\_Service::configDisplay( ) const

Display (dump in the returned string) the configuration.

**Returns**

std::string Output string in which the configuration is logged/dumped.

Definition at line 508 of file [STDAIR\\_Service.cpp](#).

References [stdair::ConfigHolderStruct::describe\(\)](#).

## 32.154.3.18 std::string stdair::STDAIR\_Service::csvDisplay( ) const

Recursively display (dump in the returned string) the objects of the persistent BOM tree.

**Returns**

std::string Output string in which the persistent BOM tree is logged/dumped.

Definition at line 525 of file [STDAIR\\_Service.cpp](#).

## 32.154.3.19 std::string stdair::STDAIR\_Service::csvDisplay( const BomRoot &amp; iBomRoot ) const

Recursively display (dump in the returned string) the objects of the BOM tree.

**Parameters**

<i>const</i>	<a href="#">BomRoot&amp;</a> Reference on the <a href="#">BomRoot</a> to display.
--------------	---

**Returns**

std::string Output string in which the BOM tree is logged/dumped.

Definition at line 541 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::csvDisplay\(\)](#).

## 32.154.3.20 std::string stdair::STDAIR\_Service::csvDisplay( const AirlineCode\_T &amp; iAirlineCode, const FlightNumber\_T &amp; iFlightNumber, const Date\_T &amp; iDepartureDate ) const

Recursively display (dump in the returned string) the flight-date corresponding to the parameters given as input.

**Parameters**

<i>const</i>	AirlineCode_T& Airline code of the flight to display.
<i>const</i>	FlightNumber_T& Flight number of the flight to display.
<i>const</i>	Date_T& Departure date of the flight to display.

**Returns**

std::string Output string in which the BOM tree is logged/dumped.

Definition at line 555 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::csvDisplay\(\)](#), and [stdair::BomRetriever::retrieveFlightDateFromKeySet\(\)](#).

## 32.154.3.21 std::string stdair::STDAIR\_Service::csvDisplay( const TravelSolutionList\_T &amp; iTravelSolutionList ) const

Display (dump in the returned string) the full list of travel solution structures.

**Returns**

`std::string` Output string in which the list of travel solutions is logged/dumped.

Definition at line 587 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::csvDisplay\(\)](#).

**32.154.3.22** `std::string stdair::STDAIR_Service::csvDisplay ( const AirportCode_T & iOrigin, const AirportCode_T & iDestination, const Date_T & iDepartureDate ) const`

Recursively display (dump in the returned string) the fare-rules corresponding to the parameters given as input.

**Parameters**

<code>const</code>	AirportCode_T& Origin airport of the fare-rules to display
<code>const</code>	AirportCode_T& Destination airport of the fare-rules to display.
<code>const</code>	Date_T& Departure date of the fare-rules to display.

**Returns**

`std::string` Output string in which the BOM tree is logged/dumped.

Definition at line 598 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomDisplay::csvDisplay\(\)](#), and [stdair::BomRetriever::retrieveDatePeriodListFromKeySet\(\)](#).

**32.154.3.23** `BomRoot & stdair::STDAIR_Service::getBomRoot ( ) const`

Get a reference on the [BomRoot](#) object.

If the service context has not been initialised, that method throws an exception (failing assertion).

**Returns**

[BomRoot&](#) Reference on the [BomRoot](#).

Definition at line 128 of file [STDAIR\\_Service.cpp](#).

**32.154.3.24** `BomRoot & stdair::STDAIR_Service::getPersistentBomRoot ( ) const`

Get a reference on the [BomRoot](#) object.

If the service context has not been initialised, that method throws an exception (failing assertion).

**Returns**

[BomRoot&](#) Reference on the [BomRoot](#).

Definition at line 138 of file [STDAIR\\_Service.cpp](#).

**32.154.3.25** `BasLogParams stdair::STDAIR_Service::getLogParams ( ) const`

Get the log parameters.

**Returns**

[BasLogParams](#) Copy of the structure holding the log parameters.

Definition at line 148 of file [STDAIR\\_Service.cpp](#).

**32.154.3.26** `const BasDBParams & stdair::STDAIR_Service::getDBParams ( ) const`

Get the database parameters.

**Returns**

const [BasDBParams&](#) Reference on the structure holding the database parameters.

Definition at line 153 of file [STDAIR\\_Service.cpp](#).

**32.154.3.27 const ServiceInitialisationType & stdair::STDAIR\_Service::getServiceInitialisationType ( ) const**

Get the type of initialisation (e.g., not yet, file parsing, sample BOM) which the component (owner of the current [STDAIR\\_Service](#) instance) has gone through.

**Returns**

const [ServiceInitialisationType&](#) Reference on the type of initialisation (enumeration structure).

Definition at line 163 of file [STDAIR\\_Service.cpp](#).

**32.154.3.28 void stdair::STDAIR\_Service::importINIConfig ( const ConfigINIFile & iConfigINIFile )**

Import the configuration INI input file (format cfg).

**Parameters**

<i>const</i>	<a href="#">ConfigINIFile&amp;</a> INI input file.
--------------	--

Definition at line 375 of file [STDAIR\\_Service.cpp](#).

References [stdair::BomINIImport::importINIConfig\(\)](#).

**32.154.3.29 void stdair::STDAIR\_Service::importConfigValue ( const std::string & iValue, const std::string & iPath )**

Create the given specified path in the configuration tree and add the corresponding given value (or replace the value if the path already exists).

**Parameters**

<i>const</i>	std::string& Value to add in the configuration tree.
<i>const</i>	std::string& Path to create (or to look for).

Definition at line 391 of file [STDAIR\\_Service.cpp](#).

References [stdair::ConfigHolderStruct::addValue\(\)](#).

**32.154.3.30 template<typename ValueType> bool stdair::STDAIR\_Service::exportConfigValue ( ValueType & ioValue, const std::string & iPath )**

Look for the specified path in the configuration tree and, if existing, try to extract the corresponding value. The type of the value to extract is a template parameter.

**Parameters**

<i>ValueType&amp;</i>	Value to add in the configuration tree.
<i>const</i>	std::string& Path to look for.

Definition at line 552 of file [STDAIR\\_Service.hpp](#).

References [stdair::ConfigHolderStruct::exportValue\(\)](#).

**32.154.3.31 void stdair::STDAIR\_Service::updateAirlineFeatures ( )**

Update the airline features objects thanks to the configuration holder.

Definition at line 408 of file [STDAIR\\_Service.cpp](#).

References [stdair::ConfigHolderStruct::updateAirlineFeatures\(\)](#).

The documentation for this class was generated from the following files:

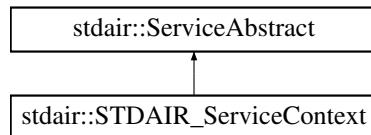
- stdair/[STDAIR\\_Service.hpp](#)
- stdair/service/[STDAIR\\_Service.cpp](#)

### 32.155 stdair::STDAIR\_ServiceContext Class Reference

Class holding the context of the Stdair services.

```
#include <stdair/service/STDAIR_ServiceContext.hpp>
```

Inheritance diagram for stdair::STDAIR\_ServiceContext:



#### Public Member Functions

- virtual void [toStream](#) (std::ostream &ioOut) const
- virtual void [fromStream](#) (std::istream &ioln)

#### Friends

- class [STDAIR\\_Service](#)
- class [FacSTDAIRServiceContext](#)

#### 32.155.1 Detailed Description

Class holding the context of the Stdair services.

Definition at line [25](#) of file [STDAIR\\_ServiceContext.hpp](#).

#### 32.155.2 Member Function Documentation

**32.155.2.1** virtual void stdair::ServiceAbstract::[toStream](#) ( std::ostream & *ioOut* ) const [inline], [virtual], [inherited]

Dump a Business Object into an output stream.

##### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line [28](#) of file [ServiceAbstract.hpp](#).

**32.155.2.2** virtual void stdair::ServiceAbstract::[fromStream](#) ( std::istream & *ioln* ) [inline], [virtual], [inherited]

Read a Business Object from an input stream.

##### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Definition at line [35](#) of file [ServiceAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

### 32.155.3 Friends And Related Function Documentation

#### 32.155.3.1 friend class [STDAIR\\_Service](#) [friend]

The [STDAIR\\_Service](#) class should be the sole class to get access to ServiceContext content: general users do not want to bother with a context interface.

Definition at line 29 of file [STDAIR\\_ServiceContext.hpp](#).

#### 32.155.3.2 friend class [FacSTDAIRServiceContext](#) [friend]

Definition at line 30 of file [STDAIR\\_ServiceContext.hpp](#).

The documentation for this class was generated from the following file:

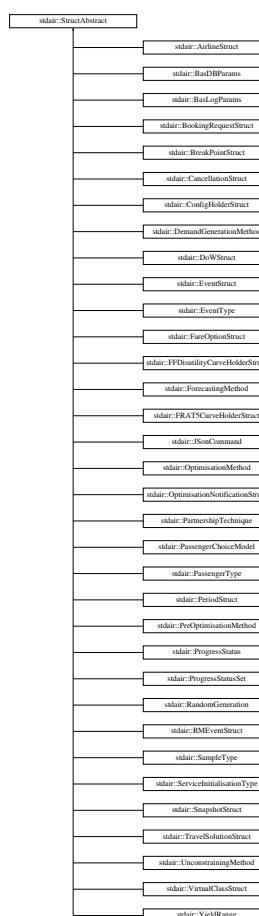
- stdair/service/[STDAIR\\_ServiceContext.hpp](#)

## 32.156 stdair::StructAbstract Struct Reference

Base class for the light structures.

```
#include <stdair/basic/StructAbstract.hpp>
```

Inheritance diagram for stdair::StructAbstract:



### Public Member Functions

- virtual [~StructAbstract](#) ()
- void [toStream](#) (std::ostream &ioOut) const

- virtual void [fromStream](#) (std::istream &ioIn)
- virtual const std::string [describe](#) () const =0

### Protected Member Functions

- [StructAbstract](#) ()

#### 32.156.1 Detailed Description

Base class for the light structures.

Definition at line [16](#) of file [StructAbstract.hpp](#).

#### 32.156.2 Constructor & Destructor Documentation

##### 32.156.2.1 virtual stdair::StructAbstract::~StructAbstract( ) [inline], [virtual]

Destructor.

Definition at line [22](#) of file [StructAbstract.hpp](#).

##### 32.156.2.2 stdair::StructAbstract::StructAbstract( ) [inline], [protected]

Protected Default Constructor to ensure this class is abstract.

Definition at line [49](#) of file [StructAbstract.hpp](#).

#### 32.156.3 Member Function Documentation

##### 32.156.3.1 void stdair::StructAbstract::toStream( std::ostream & ioOut ) const [inline]

Dump a Business Object into an output stream.

###### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line [29](#) of file [StructAbstract.hpp](#).

References [describe\(\)](#).

##### 32.156.3.2 virtual void stdair::StructAbstract::fromStream( std::istream & ioIn ) [inline], [virtual]

Read a Business Object from an input stream.

###### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDUtilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line [38](#) of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

##### 32.156.3.3 virtual const std::string stdair::StructAbstract::describe( ) const [pure virtual]

Display of the structure.

Implemented in `stdair::BookingRequestStruct`, `stdair::EventStruct`, `stdair::TravelSolutionStruct`, `stdair::ConfigHolderStruct`, `stdair::FareOptionStruct`, `stdair::VirtualClassStruct`, `stdair::OptimisationNotificationStruct`, `stdair::ProgressStatus`, `stdair::BasDBParams`, `stdair::ProgressStatusSet`, `stdair::YieldRange`, `stdair::PartnershipTechnique`, `stdair::SampleType`, `stdair::ServiceInitialisationType`, `stdair::DemandGenerationMethod`, `stdair::CancellationStruct`, `stdair::BasLogParams`, `stdair::RandomGeneration`, `stdair::EventType`, `stdair::JsonCommand`, `stdair::AirlineStruct`, `stdair::ForecastingMethod`, `stdair::RMEventStruct`, `stdair::PassengerChoiceModel`, `stdair::OptimisationMethod`, `stdair::PassengerType`, `stdair::PreOptimisationMethod`, `stdair::UnconstrainingMethod`, `stdair::SnapshotStruct`, `stdair::PeriodStruct`, `stdair::DoWStruct`, `stdair::FFDisutilityCurveHolderStruct`, `stdair::FRAT5CurveHolderStruct`, and `stdair::BreakPointStruct`.

Referenced by `toStream()`.

The documentation for this struct was generated from the following file:

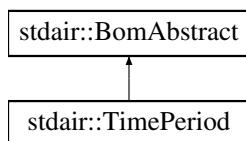
- `stdair/basic/StructAbstract.hpp`

## 32.157 stdair::TimePeriod Class Reference

Class representing the actual attributes for a fare time-period.

```
#include <stdair/bom/TimePeriod.hpp>
```

Inheritance diagram for stdair::TimePeriod:



### Public Types

- `typedef TimePeriodKey Key_T`

### Public Member Functions

- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioln)`
- `std::string toString () const`
- `const std::string describeKey () const`
- `const Key_T & getKey () const`
- `BomAbstract *const getParent () const`
- `const HolderMap_T & getHolderMap () const`
- `const Time_T & getTimeRangeStart () const`
- `const Time_T & getTimeRangeEnd () const`
- `bool isDepartureTimeValid (const Time_T &) const`

### Protected Member Functions

- `TimePeriod (const Key_T &)`
- `virtual ~TimePeriod ()`

### Protected Attributes

- `Key_T _key`
- `BomAbstract *_parent`
- `HolderMap_T _holderMap`

## Friends

- template<typename BOM >  
class [FacBom](#)
- template<typename BOM >  
class [FacCloneBom](#)
- class [FacBomManager](#)

### 32.157.1 Detailed Description

Class representing the actual attributes for a fare time-period.

Definition at line [18](#) of file [TimePeriod.hpp](#).

### 32.157.2 Member Typedef Documentation

#### 32.157.2.1 `typedef TimePeriodKey stdair::TimePeriod::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line [28](#) of file [TimePeriod.hpp](#).

### 32.157.3 Constructor & Destructor Documentation

#### 32.157.3.1 `stdair::TimePeriod::TimePeriod ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line [27](#) of file [TimePeriod.cpp](#).

#### 32.157.3.2 `stdair::TimePeriod::~TimePeriod ( ) [protected], [virtual]`

Destructor.

Definition at line [32](#) of file [TimePeriod.cpp](#).

### 32.157.4 Member Function Documentation

#### 32.157.4.1 `void stdair::TimePeriod::toStream ( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

##### Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [38](#) of file [TimePeriod.hpp](#).

References [toString\(\)](#).

#### 32.157.4.2 `void stdair::TimePeriod::fromStream ( std::istream & iIn ) [inline], [virtual]`

Read a Business Object from an input stream.

##### Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 47 of file [TimePeriod.hpp](#).

32.157.4.3 `std::string stdair::TimePeriod::toString( ) const [virtual]`

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 36 of file [TimePeriod.cpp](#).

References [describeKey\(\)](#).

Referenced by [toStream\(\)](#).

32.157.4.4 `const std::string stdair::TimePeriod::describeKey( ) const [inline]`

Get a string describing the key.

Definition at line 58 of file [TimePeriod.hpp](#).

References [\\_key](#), and [stdair::TimePeriodKey::toString\(\)](#).

Referenced by [toString\(\)](#).

32.157.4.5 `const Key_T& stdair::TimePeriod::getKey( ) const [inline]`

Get the primary key (time range start, time range end).

Definition at line 67 of file [TimePeriod.hpp](#).

References [\\_key](#).

32.157.4.6 `BomAbstract* const stdair::TimePeriod::getParent( ) const [inline]`

Get a reference on the parent object instance.

Definition at line 74 of file [TimePeriod.hpp](#).

References [\\_parent](#).

32.157.4.7 `const HolderMap_T& stdair::TimePeriod::getHolderMap( ) const [inline]`

Get a reference on the children holder.

Definition at line 81 of file [TimePeriod.hpp](#).

References [\\_holderMap](#).

32.157.4.8 `const Time_T& stdair::TimePeriod::getTimeRangeStart( ) const [inline]`

Get the time range start.

Definition at line 88 of file [TimePeriod.hpp](#).

References [\\_key](#), and [stdair::TimePeriodKey::getTimeRangeStart\(\)](#).

Referenced by [isDepartureTimeValid\(\)](#).

32.157.4.9 `const Time_T& stdair::TimePeriod::getTimeRangeEnd( ) const [inline]`

Get the time range end

Definition at line 95 of file [TimePeriod.hpp](#).

References [\\_key](#), and [stdair::TimePeriodKey::getTimeRangeEnd\(\)](#).

Referenced by [isDepartureTimeValid\(\)](#).

### 32.157.4.10 bool stdair::TimePeriod::isDepartureTimeValid ( const Time\_T & iFlightTime ) const

Check if the given departure time is included in the departure period of the segment path.

Definition at line 44 of file [TimePeriod.cpp](#).

References [getTimeRangeEnd\(\)](#), [getTimeRangeStart\(\)](#), and [STDAIR\\_LOG\\_DEBUG](#).

## 32.157.5 Friends And Related Function Documentation

### 32.157.5.1 template<typename BOM > friend class FacBom [friend]

Definition at line 19 of file [TimePeriod.hpp](#).

### 32.157.5.2 template<typename BOM > friend class FacCloneBom [friend]

Definition at line 20 of file [TimePeriod.hpp](#).

### 32.157.5.3 friend class FacBomManager [friend]

Definition at line 21 of file [TimePeriod.hpp](#).

## 32.157.6 Member Data Documentation

### 32.157.6.1 Key\_T stdair::TimePeriod::\_key [protected]

Primary key (flight number and departure date).

Definition at line 133 of file [TimePeriod.hpp](#).

Referenced by [describeKey\(\)](#), [getKey\(\)](#), [getTimeRangeEnd\(\)](#), and [getTimeRangeStart\(\)](#).

### 32.157.6.2 BomAbstract\* stdair::TimePeriod::\_parent [protected]

Pointer on the parent class ([Inventory](#)).

Definition at line 138 of file [TimePeriod.hpp](#).

Referenced by [getParent\(\)](#).

### 32.157.6.3 HolderMap\_T stdair::TimePeriod::\_holderMap [protected]

Map holding the children.

Definition at line 143 of file [TimePeriod.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

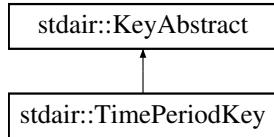
- stdair/bom/[TimePeriod.hpp](#)
- stdair/bom/[TimePeriod.cpp](#)

## 32.158 stdair::TimePeriodKey Struct Reference

Key of time-period.

```
#include <stdair/bom/TimePeriodKey.hpp>
```

Inheritance diagram for stdair::TimePeriodKey:



### Public Member Functions

- `TimePeriodKey (const Time_T &, const Time_T &)`
- `TimePeriodKey (const TimePeriodKey &)`
- `~TimePeriodKey ()`
- `const Time_T & getTimeRangeStart () const`
- `const Time_T & getTimeRangeEnd () const`
- `void toStream (std::ostream &ioOut) const`
- `void fromStream (std::istream &ioIn)`
- `const std::string toString () const`

#### 32.158.1 Detailed Description

Key of time-period.

Definition at line 15 of file [TimePeriodKey.hpp](#).

#### 32.158.2 Constructor & Destructor Documentation

##### 32.158.2.1 stdair::TimePeriodKey ( const Time\_T & iTimeRangeStart, const Time\_T & iTimeRangeEnd )

Main constructor.

Definition at line 21 of file [TimePeriodKey.cpp](#).

##### 32.158.2.2 stdair::TimePeriodKey::TimePeriodKey ( const TimePeriodKey & iKey )

Copy constructor.

Definition at line 28 of file [TimePeriodKey.cpp](#).

##### 32.158.2.3 stdair::TimePeriodKey::~TimePeriodKey ( )

Destructor.

Definition at line 34 of file [TimePeriodKey.cpp](#).

#### 32.158.3 Member Function Documentation

##### 32.158.3.1 const Time\_T& stdair::TimePeriodKey::getTimeRangeStart ( ) const [inline]

Get the time period start.

Definition at line 35 of file [TimePeriodKey.hpp](#).

Referenced by [stdair::TimePeriod::getTimeRangeStart\(\)](#).

##### 32.158.3.2 const Time\_T& stdair::TimePeriodKey::getTimeRangeEnd ( ) const [inline]

Get the time period end.

Definition at line 42 of file [TimePeriodKey.hpp](#).

Referenced by [stdair::TimePeriod::getTimeRangeEnd\(\)](#).

### 32.158.3.3 void stdair::TimePeriodKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 38 of file [TimePeriodKey.cpp](#).

References [toString\(\)](#).

### 32.158.3.4 void stdair::TimePeriodKey::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 43 of file [TimePeriodKey.cpp](#).

### 32.158.3.5 const std::string stdair::TimePeriodKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 47 of file [TimePeriodKey.cpp](#).

Referenced by [stdair::TimePeriod::describeKey\(\)](#), and [toString\(\)](#).

The documentation for this struct was generated from the following files:

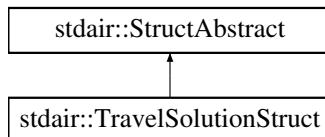
- stdair/bom/[TimePeriodKey.hpp](#)
- stdair/bom/[TimePeriodKey.cpp](#)

## 32.159 stdair::TravelSolutionStruct Struct Reference

Structure holding the elements of a travel solution.

```
#include <stdair/bom/TravelSolutionStruct.hpp>
```

Inheritance diagram for stdair::TravelSolutionStruct:



#### Public Member Functions

- const [SegmentPath\\_T](#) & [getSegmentPath](#) () const
- const [ClassAvailabilityMapHolder\\_T](#) & [getClassAvailabilityMapHolder](#) () const
- const [ClassObjectIDMapHolder\\_T](#) & [getClassObjectIDMapHolder](#) () const
- const [ClassYieldMapHolder\\_T](#) & [getClassYieldMapHolder](#) () const
- const [BidPriceVectorHolder\\_T](#) & [getBidPriceVectorHolder](#) () const

- const [ClassBpvMapHolder\\_T & getClassBpvMapHolder \(\) const](#)
- const [FareOptionList\\_T & getFareOptionList \(\) const](#)
- [FareOptionList\\_T & getFareOptionListRef \(\)](#)
- const [FareOptionStruct & getChosenFareOption \(\) const](#)
- void [addSegment \(const std::string &\)](#)
- void [addClassAvailabilityMap \(const ClassAvailabilityMap\\_T &\)](#)
- void [addClassObjectIDMap \(const ClassObjectIDMap\\_T &\)](#)
- void [addClassYieldMap \(const ClassYieldMap\\_T &\)](#)
- void [addBidPriceVector \(const BidPriceVector\\_T &\)](#)
- void [addClassBpvMap \(const ClassBpvMap\\_T &\)](#)
- void [addFareOption \(const FareOptionStruct &\)](#)
- void [setChosenFareOption \(const FareOptionStruct &iChosenFO\)](#)
- void [toStream \(std::ostream &ioOut\) const](#)
- void [fromStream \(std::istream &iIn\)](#)
- const std::string [describe \(\) const](#)
- const std::string [display \(\) const](#)
- const std::string [describeSegmentPath \(\) const](#)
- [TravelSolutionStruct \(\)](#)
- [~TravelSolutionStruct \(\)](#)

### 32.159.1 Detailed Description

Structure holding the elements of a travel solution.

Definition at line [24](#) of file [TravelSolutionStruct.hpp](#).

### 32.159.2 Constructor & Destructor Documentation

#### 32.159.2.1 stdair::TravelSolutionStruct::TravelSolutionStruct ( )

Default constructor.

Definition at line [15](#) of file [TravelSolutionStruct.cpp](#).

#### 32.159.2.2 stdair::TravelSolutionStruct::~TravelSolutionStruct ( )

Destructor.

Definition at line [19](#) of file [TravelSolutionStruct.cpp](#).

### 32.159.3 Member Function Documentation

#### 32.159.3.1 const SegmentPath\_T& stdair::TravelSolutionStruct::getSegmentPath ( ) const [inline]

Get the segment path.

Definition at line [28](#) of file [TravelSolutionStruct.hpp](#).

#### 32.159.3.2 const ClassAvailabilityMapHolder\_T& stdair::TravelSolutionStruct::getClassAvailabilityMapHolder ( ) const [inline]

Get the holder of availabilities.

Definition at line [33](#) of file [TravelSolutionStruct.hpp](#).

32.159.3.3 `const ClassObjectIDMapHolder_T& stdair::TravelSolutionStruct::getClassObjectIDMapHolder( ) const [inline]`

Get the holder of object ID's.

Definition at line 38 of file [TravelSolutionStruct.hpp](#).

32.159.3.4 `const ClassYieldMapHolder_T& stdair::TravelSolutionStruct::getClassYieldMapHolder( ) const [inline]`

Get the holder of yields.

Definition at line 43 of file [TravelSolutionStruct.hpp](#).

32.159.3.5 `const BidPriceVectorHolder_T& stdair::TravelSolutionStruct::getBidPriceVectorHolder( ) const [inline]`

Get the holder of bid price vectors.

Definition at line 48 of file [TravelSolutionStruct.hpp](#).

32.159.3.6 `const ClassBpvMapHolder_T& stdair::TravelSolutionStruct::getClassBpvMapHolder( ) const [inline]`

Get the holder of class - bid price reference.

Definition at line 53 of file [TravelSolutionStruct.hpp](#).

32.159.3.7 `const FareOptionList_T& stdair::TravelSolutionStruct::getFareOptionList( ) const [inline]`

Get the list of fare options.

Definition at line 58 of file [TravelSolutionStruct.hpp](#).

32.159.3.8 `FareOptionList_T& stdair::TravelSolutionStruct::getFareOptionListRef( ) [inline]`

Get the non-const list of fare options.

Definition at line 63 of file [TravelSolutionStruct.hpp](#).

32.159.3.9 `const FareOptionStruct& stdair::TravelSolutionStruct::getChosenFareOption( ) const [inline]`

Get the chosen fare option.

Definition at line 68 of file [TravelSolutionStruct.hpp](#).

32.159.3.10 `void stdair::TravelSolutionStruct::addSegment( const std::string & iKey )`

Add a segment key to the segment path.

Definition at line 154 of file [TravelSolutionStruct.cpp](#).

32.159.3.11 `void stdair::TravelSolutionStruct::addClassAvailabilityMap( const ClassAvailabilityMap_T & iMap )`

Add a class availability map.

Definition at line 160 of file [TravelSolutionStruct.cpp](#).

32.159.3.12 `void stdair::TravelSolutionStruct::addClassObjectIDMap( const ClassObjectIDMap_T & iMap )`

Add a class object ID map.

Definition at line 166 of file [TravelSolutionStruct.cpp](#).

32.159.3.13 `void stdair::TravelSolutionStruct::addClassYieldMap( const ClassYieldMap_T & iMap )`

Add a class yield map.

Definition at line 172 of file [TravelSolutionStruct.cpp](#).

32.159.3.14 void stdair::TravelSolutionStruct::addBidPriceVector ( const BidPriceVector\_T & iBpv )

Add a bid price vector.

Definition at line 178 of file [TravelSolutionStruct.cpp](#).

32.159.3.15 void stdair::TravelSolutionStruct::addClassBpvMap ( const ClassBpvMap\_T & iMap )

Add a class bpv reference map.

Definition at line 184 of file [TravelSolutionStruct.cpp](#).

32.159.3.16 void stdair::TravelSolutionStruct::addFareOption ( const FareOptionStruct & iFareOption )

Add a fare option.

Definition at line 190 of file [TravelSolutionStruct.cpp](#).

32.159.3.17 void stdair::TravelSolutionStruct::setChosenFareOption ( const FareOptionStruct & iChosenFO )  
[inline]

Set the chosen fare option.

Definition at line 97 of file [TravelSolutionStruct.hpp](#).

32.159.3.18 void stdair::TravelSolutionStruct::toStream ( std::ostream & ioOut ) const

Dump a Business Object into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 23 of file [TravelSolutionStruct.cpp](#).

References [describe\(\)](#).

32.159.3.19 void stdair::TravelSolutionStruct::fromStream ( std::istream & ioIn ) [virtual]

Read a Business Object from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 28 of file [TravelSolutionStruct.cpp](#).

32.159.3.20 const std::string stdair::TravelSolutionStruct::describe ( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 53 of file [TravelSolutionStruct.cpp](#).

References [stdair::FareOptionStruct::describe\(\)](#), [stdair::BomKeyManager::extractKeys\(\)](#), and [stdair::ParsedKey::toString\(\)](#).

Referenced by [toStream\(\)](#).

32.159.3.21 const std::string stdair::TravelSolutionStruct::display ( ) const

Display of the structure.

Definition at line 95 of file [TravelSolutionStruct.cpp](#).

References [stdair::FareOptionStruct::display\(\)](#), [stdair::BomKeyManager::extractKeys\(\)](#), and [stdair::ParsedKey::toString\(\)](#).

### 32.159.3.22 const std::string stdair::TravelSolutionStruct::describeSegmentPath ( ) const

Display only the segment path.

Definition at line 32 of file [TravelSolutionStruct.cpp](#).

References [stdair::BomKeyManager::extractKeys\(\)](#), and [stdair::ParsedKey::toString\(\)](#).

The documentation for this struct was generated from the following files:

- [stdair/bom/TravelSolutionStruct.hpp](#)
- [stdair/bom/TravelSolutionStruct.cpp](#)

## 32.160 [soci::type\\_conversion< stdair::AirlineStruct >](#) Struct Template Reference

```
#include <stdair/dbadaptor/DbaAirline.hpp>
```

### Public Types

- [typedef values base\\_type](#)

### Static Public Member Functions

- [static void from\\_base \(values const &iAirlineValues, indicator, stdair::AirlineStruct &ioAirline\)](#)
- [static void to\\_base \(const stdair::AirlineStruct &iAirline, values &ioAirlineValues, indicator &iIndicator\)](#)

### 32.160.1 Detailed Description

```
template<>struct soci::type_conversion< stdair::AirlineStruct >
```

Specify how the AirlineStruct struct can be converted to (resp. from) values stored into (resp. retrieved from) database, using the SOCI framework.

Definition at line 25 of file [DbaAirline.hpp](#).

### 32.160.2 Member Typedef Documentation

#### 32.160.2.1 [typedef values soci::type\\_conversion< stdair::AirlineStruct >::base\\_type](#)

Definition at line 27 of file [DbaAirline.hpp](#).

### 32.160.3 Member Function Documentation

#### 32.160.3.1 [void soci::type\\_conversion< stdair::AirlineStruct >::from\\_base \( values const & iAirlineValues, indicator , stdair::AirlineStruct & ioAirline \) \[static\]](#)

Fill an Airline object from the database values.

Definition at line 17 of file [DbaAirline.cpp](#).

References [stdair::AirlineStruct::setAirlineCode\(\)](#), and [stdair::AirlineStruct::setAirlineName\(\)](#).

32.160.3.2 void `soci::type_conversion< stdair::AirlineStruct >::to_base ( const stdair::AirlineStruct & iAirline, values & ioAirlineValues, indicator & ioIndicator ) [static]`

Fill the database values from an Airline object.

Definition at line 30 of file [DbaAirline.cpp](#).

References [stdair::AirlineStruct::getAirlineCode\(\)](#), and [stdair::AirlineStruct::getAirlineName\(\)](#).

The documentation for this struct was generated from the following files:

- stdair/dbadaptor/[DbaAirline.hpp](#)
- stdair/dbadaptor/[DbaAirline.cpp](#)

## 32.161 TypeWithSize< size > Class Template Reference

```
#include <stdair/basic/float_utils_google.hpp>
```

### Public Types

- `typedef void UInt`

#### 32.161.1 Detailed Description

```
template<size_t size>class TypeWithSize< size >
```

Definition at line 54 of file [float\\_utils\\_google.hpp](#).

#### 32.161.2 Member Typedef Documentation

##### 32.161.2.1 template<size\_t size> `typedef void TypeWithSize< size >::UInt`

Definition at line 58 of file [float\\_utils\\_google.hpp](#).

The documentation for this class was generated from the following file:

- stdair/basic/[float\\_utils\\_google.hpp](#)

## 32.162 TypeWithSize< 4 > Class Template Reference

```
#include <stdair/basic/float_utils_google.hpp>
```

### Public Types

- `typedef int Int`
- `typedef unsigned int UInt`

#### 32.162.1 Detailed Description

```
template<>class TypeWithSize< 4 >
```

Definition at line 63 of file [float\\_utils\\_google.hpp](#).

### 32.162.2 Member Typedef Documentation

#### 32.162.2.1 `typedef int TypeWithSize< 4 >::Int`

Definition at line 69 of file [float\\_utils\\_google.hpp](#).

#### 32.162.2.2 `typedef unsigned int TypeWithSize< 4 >::UInt`

Definition at line 70 of file [float\\_utils\\_google.hpp](#).

The documentation for this class was generated from the following file:

- stdair/basic/[float\\_utils\\_google.hpp](#)

## 32.163 `TypeWithSize< 8 >` Class Template Reference

```
#include <stdair/basic/float_utils_google.hpp>
```

### Public Types

- `typedef long long Int`
- `typedef unsigned long long UInt`

### 32.163.1 Detailed Description

```
template<>class TypeWithSize< 8 >
```

Definition at line 75 of file [float\\_utils\\_google.hpp](#).

### 32.163.2 Member Typedef Documentation

#### 32.163.2.1 `typedef long long TypeWithSize< 8 >::Int`

Definition at line 81 of file [float\\_utils\\_google.hpp](#).

#### 32.163.2.2 `typedef unsigned long long TypeWithSize< 8 >::UInt`

Definition at line 82 of file [float\\_utils\\_google.hpp](#).

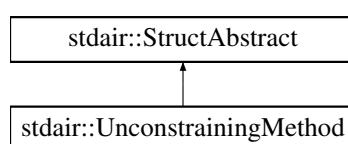
The documentation for this class was generated from the following file:

- stdair/basic/[float\\_utils\\_google.hpp](#)

## 32.164 `stdair::UnconstrainingMethod` Struct Reference

```
#include <stdair/basic/UnconstrainingMethod.hpp>
```

Inheritance diagram for `stdair::UnconstrainingMethod`:



## Public Types

- enum `EN_UnconstrainingMethod` { `EM` = 0, `LAST_VALUE` }

## Public Member Functions

- `EN_UnconstrainingMethod getMethod () const`
- `std::string getMethodAsString () const`
- `const std::string describe () const`
- `bool operator== (const EN_UnconstrainingMethod &) const`
- `UnconstrainingMethod (const EN_UnconstrainingMethod &)`
- `UnconstrainingMethod (const char iMethod)`
- `UnconstrainingMethod (const UnconstrainingMethod &)`
- `void toStream (std::ostream &iOut) const`
- `virtual void fromStream (std::istream &iIn)`

## Static Public Member Functions

- `static const std::string & getLabel (const EN_UnconstrainingMethod &)`
- `static char getMethodLabel (const EN_UnconstrainingMethod &)`
- `static std::string getMethodLabelAsString (const EN_UnconstrainingMethod &)`
- `static std::string describeLabels ()`

### 32.164.1 Detailed Description

Enumeration of unconstraining methods.

Definition at line 15 of file [UnconstrainingMethod.hpp](#).

### 32.164.2 Member Enumeration Documentation

#### 32.164.2.1 enum stdair::UnconstrainingMethod::EN\_UnconstrainingMethod

Enumerator

**`EM`**

**`LAST_VALUE`**

Definition at line 17 of file [UnconstrainingMethod.hpp](#).

### 32.164.3 Constructor & Destructor Documentation

#### 32.164.3.1 stdair::UnconstrainingMethod::UnconstrainingMethod ( const EN\_UnconstrainingMethod & *iUnconstrainingMethod* )

Constructor.

Definition at line 36 of file [UnconstrainingMethod.cpp](#).

#### 32.164.3.2 stdair::UnconstrainingMethod::UnconstrainingMethod ( const char *iMethod* )

Constructor.

Definition at line 41 of file [UnconstrainingMethod.cpp](#).

References [describeLabels\(\)](#), `EM`, and `LAST_VALUE`.

---

32.164.3.3 `stdair::UnconstrainingMethod::UnconstrainingMethod ( const UnconstrainingMethod & iUnconstrainingMethod )`

Default copy constructor.

Definition at line 30 of file [UnconstrainingMethod.cpp](#).

#### 32.164.4 Member Function Documentation

32.164.4.1 `const std::string & stdair::UnconstrainingMethod::getLabel ( const EN_UnconstrainingMethod & iMethod ) [static]`

Get the label as a string (e.g., "Expectation-Maximisation")

Definition at line 58 of file [UnconstrainingMethod.cpp](#).

32.164.4.2 `char stdair::UnconstrainingMethod::getMethodLabel ( const EN_UnconstrainingMethod & iMethod ) [static]`

Get the label as a single char (e.g., 'T' or 'B').

Definition at line 63 of file [UnconstrainingMethod.cpp](#).

32.164.4.3 `std::string stdair::UnconstrainingMethod::getMethodLabelAsString ( const EN_UnconstrainingMethod & iMethod ) [static]`

Get the label as a string of a single char (e.g., "T" or "B").

Definition at line 69 of file [UnconstrainingMethod.cpp](#).

32.164.4.4 `std::string stdair::UnconstrainingMethod::describeLabels ( ) [static]`

List the labels.

Definition at line 76 of file [UnconstrainingMethod.cpp](#).

References [LAST\\_VALUE](#).

Referenced by [UnconstrainingMethod\(\)](#).

32.164.4.5 `EN_UnconstrainingMethod stdair::UnconstrainingMethod::getMethod ( ) const`

Get the enumerated value.

Definition at line 88 of file [UnconstrainingMethod.cpp](#).

Referenced by [stdair::AirlineFeature::getUnconstrainingMethod\(\)](#).

32.164.4.6 `std::string stdair::UnconstrainingMethod::getMethodAsString ( ) const`

Get the enumerated value as a short string (e.g., "T" or "B").

Definition at line 93 of file [UnconstrainingMethod.cpp](#).

32.164.4.7 `const std::string stdair::UnconstrainingMethod::describe ( ) const [virtual]`

Give a description of the structure (e.g., "Expectation-Maximisation").

Implements [stdair::StructAbstract](#).

Definition at line 100 of file [UnconstrainingMethod.cpp](#).

32.164.4.8 `bool stdair::UnconstrainingMethod::operator== ( const EN_UnconstrainingMethod & iMethod ) const`

Comparison operator.

Definition at line 108 of file [UnconstrainingMethod.cpp](#).

**32.164.4.9 void stdair::StructAbstract::toStream ( std::ostream & *ioOut* ) const [inline], [inherited]**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 29 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::describe\(\)](#).

**32.164.4.10 virtual void stdair::StructAbstract::fromStream ( std::istream & *ioIn* ) [inline], [virtual], [inherited]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented in [stdair::BookingRequestStruct](#), [stdair::EventStruct](#), [stdair::TravelSolutionStruct](#), [stdair::VirtualClassStruct](#), [stdair::ConfigHolderStruct](#), [stdair::FareOptionStruct](#), [stdair::OptimisationNotificationStruct](#), [stdair::ProgressStatusSet](#), [stdair::YieldRange](#), [stdair::CancellationStruct](#), [stdair::AirlineStruct](#), [stdair::RMEventStruct](#), [stdair::SnapshotStruct](#), [stdair::FFDisutilityCurveHolderStruct](#), [stdair::FRAT5CurveHolderStruct](#), and [stdair::BreakPointStruct](#).

Definition at line 38 of file [StructAbstract.hpp](#).

Referenced by [operator>>\(\)](#).

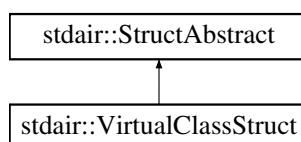
The documentation for this struct was generated from the following files:

- [stdair/basic/UnconstrainingMethod.hpp](#)
- [stdair/basic/UnconstrainingMethod.cpp](#)

## 32.165 stdair::VirtualClassStruct Struct Reference

```
#include <stdair/bom/VirtualClassStruct.hpp>
```

Inheritance diagram for stdair::VirtualClassStruct:



### Public Member Functions

- const [BookingClassList\\_T](#) & [getBookingClassList](#) () const
- const [Yield\\_T](#) &  [getYield](#) () const
- const [MeanValue\\_T](#) &  [getMean](#) () const
- const [StdDevValue\\_T](#) &  [getStdDev](#) () const
- const [BookingLimit\\_T](#) &  [getCumulatedBookingLimit](#) () const
- const [ProtectionLevel\\_T](#) &  [getCumulatedProtection](#) () const
- const [GeneratedDemandVector\\_T](#) [getGeneratedDemandVector](#) () const
- void [setYield](#) (const [Yield\\_T](#) &iYield)
- void [setMean](#) (const [MeanValue\\_T](#) &iMean)

- void `setStdDev` (const `StdDevValue_T` &iStdDev)
- void `setCumulatedBookingLimit` (const `BookingLimit_T` &iBL)
- void `setCumulatedProtection` (const `ProtectionLevel_T` &iP)
- void `addBookingClass` (`BookingClass` &iBookingClass)
- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &ioln)
- const std::string `describe` () const
- `VirtualClassStruct` (const `VirtualClassStruct` &)
- `VirtualClassStruct` (const `BookingClassList_T` &)
- `~VirtualClassStruct` ()

### 32.165.1 Detailed Description

Structure holding the elements of a virtual class.

Definition at line 24 of file [VirtualClassStruct.hpp](#).

### 32.165.2 Constructor & Destructor Documentation

#### 32.165.2.1 `stdair::VirtualClassStruct::VirtualClassStruct ( const VirtualClassStruct & iVC )`

Default copy constructor.

Definition at line 19 of file [VirtualClassStruct.cpp](#).

#### 32.165.2.2 `stdair::VirtualClassStruct::VirtualClassStruct ( const BookingClassList_T & ioBookingClassList )`

Constructor.

Definition at line 26 of file [VirtualClassStruct.cpp](#).

#### 32.165.2.3 `stdair::VirtualClassStruct::~VirtualClassStruct ( )`

Destructor.

Definition at line 31 of file [VirtualClassStruct.cpp](#).

### 32.165.3 Member Function Documentation

#### 32.165.3.1 `const BookingClassList_T& stdair::VirtualClassStruct::getBookingClassList ( ) const [inline]`

Get the list of booking class.

Definition at line 28 of file [VirtualClassStruct.hpp](#).

#### 32.165.3.2 `const Yield_T& stdair::VirtualClassStruct::getYield ( ) const [inline]`

Get the yield (average price paid for that virtual class).

Definition at line 33 of file [VirtualClassStruct.hpp](#).

Referenced by [stdair::LegCabin::displayVirtualClassList\(\)](#).

#### 32.165.3.3 `const MeanValue_T& stdair::VirtualClassStruct::getMean ( ) const [inline]`

Get the mean value of the demand distribution.

Definition at line 38 of file [VirtualClassStruct.hpp](#).

32.165.3.4 const StdDevValue\_T& stdair::VirtualClassStruct::getStdDev( ) const [inline]

Get the standard deviation of the demand distribution.

Definition at line 43 of file [VirtualClassStruct.hpp](#).

32.165.3.5 const BookingLimit\_T& stdair::VirtualClassStruct::getCumulatedBookingLimit( ) const [inline]

Get the booking limit of the class.

Definition at line 48 of file [VirtualClassStruct.hpp](#).

Referenced by [stdair::LegCabin::displayVirtualClassList\(\)](#).

32.165.3.6 const ProtectionLevel\_T& stdair::VirtualClassStruct::getCumulatedProtection( ) const [inline]

Get the protection level of the class.

Definition at line 53 of file [VirtualClassStruct.hpp](#).

Referenced by [stdair::LegCabin::displayVirtualClassList\(\)](#).

32.165.3.7 const GeneratedDemandVector\_T stdair::VirtualClassStruct::getGeneratedDemandVector( ) const

Get the generated demand sample vector for Monte-Carlo method.

Definition at line 54 of file [VirtualClassStruct.cpp](#).

References [stdair::BookingClass::getGeneratedDemandVector\(\)](#).

32.165.3.8 void stdair::VirtualClassStruct::setYield( const Yield\_T & iYield ) [inline]

Set the yield (average price paid for that virtual class).

Definition at line 63 of file [VirtualClassStruct.hpp](#).

32.165.3.9 void stdair::VirtualClassStruct::setMean( const MeanValue\_T & iMean ) [inline]

Set the mean value of the demand distribution.

Definition at line 68 of file [VirtualClassStruct.hpp](#).

32.165.3.10 void stdair::VirtualClassStruct::setStdDev( const StdDevValue\_T & iStdDev ) [inline]

Set the standard deviation of the demand distribution.

Definition at line 73 of file [VirtualClassStruct.hpp](#).

32.165.3.11 void stdair::VirtualClassStruct::setCumulatedBookingLimit( const BookingLimit\_T & iBL ) [inline]

Set the booking limit of the class.

Definition at line 78 of file [VirtualClassStruct.hpp](#).

32.165.3.12 void stdair::VirtualClassStruct::setCumulatedProtection( const ProtectionLevel\_T & iP ) [inline]

Set the protection level of the class.

Definition at line 83 of file [VirtualClassStruct.hpp](#).

32.165.3.13 void stdair::VirtualClassStruct::addBookingClass( BookingClass & iBookingClass ) [inline]

Add a booking class to the list of booking classes. Note: it is not a link Parent/Child so we don't use the [FacBom](#). The Virtual Classes are not bom objects because the optimiser needs to build them before each optimisation.

Definition at line 92 of file [VirtualClassStruct.hpp](#).

**32.165.3.14 void stdair::VirtualClassStruct::toStream ( std::ostream & *ioOut* ) const**

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 36 of file [VirtualClassStruct.cpp](#).

References [describe\(\)](#).

**32.165.3.15 void stdair::VirtualClassStruct::fromStream ( std::istream & *ioIn* ) [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 41 of file [VirtualClassStruct.cpp](#).

**32.165.3.16 const std::string stdair::VirtualClassStruct::describe ( ) const [virtual]**

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line 45 of file [VirtualClassStruct.cpp](#).

Referenced by [toStream\(\)](#).

The documentation for this struct was generated from the following files:

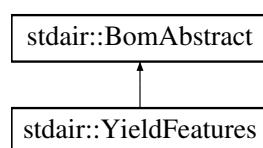
- stdair/bom/[VirtualClassStruct.hpp](#)
- stdair/bom/[VirtualClassStruct.cpp](#)

**32.166 stdair::YieldFeatures Class Reference**

Class representing the actual attributes for a yield date-period.

```
#include <stdair/bom/YieldFeatures.hpp>
```

Inheritance diagram for stdair::YieldFeatures:

**Public Types**

- [typedef YieldFeaturesKey Key\\_T](#)

**Public Member Functions**

- [void toStream \(std::ostream &ioOut\) const](#)
- [void fromStream \(std::istream &ioIn\)](#)
- [std::string toString \(\) const](#)
- [const std::string describeKey \(\) const](#)
- [const Key\\_T & getKey \(\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)

- const `HolderMap_T & getHolderMap () const`
- const `CabinCode_T & getCabinCode () const`
- const `TripType_T & getTripType () const`
- bool `isTripTypeValid (const TripType_T &) const`

#### Protected Member Functions

- `YieldFeatures (const Key_T &)`
- virtual `~YieldFeatures ()`

#### Protected Attributes

- `Key_T _key`
- `BomAbstract * _parent`
- `HolderMap_T _holderMap`

#### Friends

- template<typename BOM >  
class `FacBom`
- template<typename BOM >  
class `FacCloneBom`
- class `FacBomManager`

### 32.166.1 Detailed Description

Class representing the actual attributes for a yield date-period.

Definition at line 19 of file [YieldFeatures.hpp](#).

### 32.166.2 Member Typedef Documentation

#### 32.166.2.1 `typedef YieldFeaturesKey stdair::YieldFeatures::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 29 of file [YieldFeatures.hpp](#).

### 32.166.3 Constructor & Destructor Documentation

#### 32.166.3.1 `stdair::YieldFeatures::YieldFeatures ( const Key_T & iKey ) [protected]`

Main constructor.

Definition at line 28 of file [YieldFeatures.cpp](#).

#### 32.166.3.2 `stdair::YieldFeatures::~YieldFeatures ( ) [protected], [virtual]`

Destructor.

Definition at line 33 of file [YieldFeatures.cpp](#).

### 32.166.4 Member Function Documentation

32.166.4.1 void stdair::YieldFeatures::toStream ( std::ostream & *ioOut* ) const [inline], [virtual]

Dump a Business Object into an output stream.

**Parameters**

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line [38](#) of file [YieldFeatures.hpp](#).

References [toString\(\)](#).

**32.166.4.2 void stdair::YieldFeatures::fromStream ( std::istream & *ioIn* ) [inline], [virtual]**

Read a Business Object from an input stream.

**Parameters**

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line [47](#) of file [YieldFeatures.hpp](#).

**32.166.4.3 std::string stdair::YieldFeatures::toString ( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line [37](#) of file [YieldFeatures.cpp](#).

References [describeKey\(\)](#).

Referenced by [toString\(\)](#).

**32.166.4.4 const std::string stdair::YieldFeatures::describeKey ( ) const [inline]**

Get a string describing the key.

Definition at line [58](#) of file [YieldFeatures.hpp](#).

References [\\_key](#), and [stdair::YieldFeaturesKey::toString\(\)](#).

Referenced by [toString\(\)](#).

**32.166.4.5 const Key\_T& stdair::YieldFeatures::getKey ( ) const [inline]**

Get the primary key (trip type, cabin code).

Definition at line [67](#) of file [YieldFeatures.hpp](#).

References [\\_key](#).

**32.166.4.6 BomAbstract\* const stdair::YieldFeatures::getParent ( ) const [inline]**

Get a reference on the parent object instance.

Definition at line [74](#) of file [YieldFeatures.hpp](#).

References [\\_parent](#).

**32.166.4.7 const HolderMap\_T& stdair::YieldFeatures::getHolderMap ( ) const [inline]**

Get a reference on the children holder.

Definition at line [81](#) of file [YieldFeatures.hpp](#).

References [\\_holderMap](#).

32.166.4.8 const CabinCode\_T& stdair::YieldFeatures::getCabinCode( ) const [inline]

Get the cabin code.

Definition at line 88 of file [YieldFeatures.hpp](#).

References [\\_key](#), and [stdair::YieldFeaturesKey::getCabinCode\(\)](#).

32.166.4.9 const TripType\_T& stdair::YieldFeatures::getTripType( ) const [inline]

Get the trip type.

Definition at line 95 of file [YieldFeatures.hpp](#).

References [\\_key](#), and [stdair::YieldFeaturesKey::getTripType\(\)](#).

Referenced by [isTripTypeValid\(\)](#).

32.166.4.10 bool stdair::YieldFeatures::isTripTypeValid ( const TripType\_T & iBookingRequestTripType ) const

Check whether the fare rule trip type corresponds to the booking request trip type.

Definition at line 45 of file [YieldFeatures.cpp](#).

References [getTripType\(\)](#), [stdair::TRIP\\_TYPE\\_INBOUND](#), [stdair::TRIP\\_TYPE\\_OUTBOUND](#), and [stdair::TRIP\\_TYPE\\_ROUND\\_TRIP](#).

## 32.166.5 Friends And Related Function Documentation

32.166.5.1 template<typename BOM > friend class **FacBom** [friend]

Definition at line 20 of file [YieldFeatures.hpp](#).

32.166.5.2 template<typename BOM > friend class **FacCloneBom** [friend]

Definition at line 21 of file [YieldFeatures.hpp](#).

32.166.5.3 friend class **FacBomManager** [friend]

Definition at line 22 of file [YieldFeatures.hpp](#).

## 32.166.6 Member Data Documentation

32.166.6.1 **Key\_T** stdair::YieldFeatures::\_key [protected]

Primary key (flight number and departure date).

Definition at line 138 of file [YieldFeatures.hpp](#).

Referenced by [describeKey\(\)](#), [getCabinCode\(\)](#), [getKey\(\)](#), and [getTripType\(\)](#).

32.166.6.2 **BomAbstract\*** stdair::YieldFeatures::\_parent [protected]

Pointer on the parent class.

Definition at line 143 of file [YieldFeatures.hpp](#).

Referenced by [getParent\(\)](#).

32.166.6.3 **HolderMap\_T** stdair::YieldFeatures::\_holderMap [protected]

Map holding the children.

Definition at line 148 of file [YieldFeatures.hpp](#).

Referenced by [getHolderMap\(\)](#).

The documentation for this class was generated from the following files:

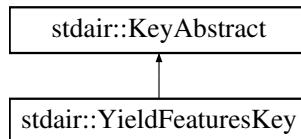
- stdair/bom/YieldFeatures.hpp
- stdair/bom/YieldFeatures.cpp

### 32.167 stdair::YieldFeaturesKey Struct Reference

Key of date-period.

```
#include <stdair/bom/YieldFeaturesKey.hpp>
```

Inheritance diagram for stdair::YieldFeaturesKey:



#### Public Member Functions

- YieldFeaturesKey (const `TripType_T` &, const `CabinCode_T` &)
- YieldFeaturesKey (const `YieldFeaturesKey` &)
- `~YieldFeaturesKey` ()
- const `TripType_T` & `getTripType` () const
- const `CabinCode_T` & `getCabinCode` () const
- void `toStream` (std::ostream &ioOut) const
- void `fromStream` (std::istream &ioln)
- const std::string `toString` () const

#### 32.167.1 Detailed Description

Key of date-period.

Definition at line 18 of file `YieldFeaturesKey.hpp`.

#### 32.167.2 Constructor & Destructor Documentation

##### 32.167.2.1 stdair::YieldFeaturesKey::YieldFeaturesKey ( const `TripType_T` & *iTripType*, const `CabinCode_T` & *iCabin* )

Main constructor.

Definition at line 21 of file `YieldFeaturesKey.cpp`.

##### 32.167.2.2 stdair::YieldFeaturesKey::YieldFeaturesKey ( const `YieldFeaturesKey` & *iKey* )

Copy constructor.

Definition at line 27 of file `YieldFeaturesKey.cpp`.

##### 32.167.2.3 stdair::YieldFeaturesKey::~YieldFeaturesKey ( )

Destructor.

Definition at line 32 of file `YieldFeaturesKey.cpp`.

## 32.167.3 Member Function Documentation

32.167.3.1 const TripType\_T& stdair::YieldFeaturesKey::getTripType( ) const [inline]

Get the fare trip type.

Definition at line 44 of file [YieldFeaturesKey.hpp](#).

Referenced by [stdair::YieldFeatures::getTripType\(\)](#).

32.167.3.2 const CabinCode\_T& stdair::YieldFeaturesKey::getCabinCode( ) const [inline]

Get the cabin.

Definition at line 51 of file [YieldFeaturesKey.hpp](#).

Referenced by [stdair::YieldFeatures::getCabinCode\(\)](#).

32.167.3.3 void stdair::YieldFeaturesKey::toStream( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 36 of file [YieldFeaturesKey.cpp](#).

References [toString\(\)](#).

32.167.3.4 void stdair::YieldFeaturesKey::fromStream( std::istream & ioIn ) [virtual]

Read a Business Object Key from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 41 of file [YieldFeaturesKey.cpp](#).

32.167.3.5 const std::string stdair::YieldFeaturesKey::toString( ) const [virtual]

Get the serialised version of the Business Object Key. That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line 45 of file [YieldFeaturesKey.cpp](#).

Referenced by [stdair::YieldFeatures::describeKey\(\)](#), and [toString\(\)](#).

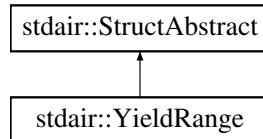
The documentation for this struct was generated from the following files:

- stdair/bom/[YieldFeaturesKey.hpp](#)
- stdair/bom/[YieldFeaturesKey.cpp](#)

## 32.168 stdair::YieldRange Class Reference

```
#include <stdair/basic/YieldRange.hpp>
```

Inheritance diagram for stdair::YieldRange:



## Public Member Functions

- `YieldRange ()`
- `YieldRange (const YieldRange &)`
- `YieldRange (const Yield_T iUpperYield)`
- `YieldRange (const Yield_T iUpperYield, const Yield_T iAverageYield)`
- `YieldRange (const Yield_T iUpperYield, const Yield_T iAverageYield, const Yield_T iLowerYield)`
- `virtual ~YieldRange ()`
- `Yield_T getUpperYield () const`
- `Yield_T getAverageYield () const`
- `Yield_T getLowerYield () const`
- `void setUpperYield (const Yield_T iUpperYield)`
- `void setAverageYield (const Yield_T iAverageYield)`
- `void setLowerYield (const Yield_T iLowerYield)`
- `void toStream (std::ostream &)` const
- `void fromStream (std::istream &)`
- `const std::string describe () const`

### 32.168.1 Detailed Description

Class representing a range of yields.

Typically, bookings are priced according to rules (e.g., fare rules), leading to slight variations of revenues for a given product. The "yield range" captures the extent of revenues earned for a given product.

When no average and lower yields are defined, they are assumed to be equal to the upper yield.

Note that the lower yield is generally not defined, as it corresponds to the upper yield of the lower yield range.

Definition at line 23 of file [YieldRange.hpp](#).

### 32.168.2 Constructor & Destructor Documentation

#### 32.168.2.1 stdair::YieldRange::YieldRange ( )

Constructors.

Definition at line 13 of file [YieldRange.cpp](#).

#### 32.168.2.2 stdair::YieldRange::YieldRange ( const YieldRange & iYieldRange )

Definition at line 20 of file [YieldRange.cpp](#).

#### 32.168.2.3 stdair::YieldRange::YieldRange ( const Yield\_T iUpperYield )

Definition at line 27 of file [YieldRange.cpp](#).

#### 32.168.2.4 stdair::YieldRange::YieldRange ( const Yield\_T iUpperYield, const Yield\_T iAverageYield )

Definition at line 33 of file [YieldRange.cpp](#).

#### 32.168.2.5 stdair::YieldRange::YieldRange ( const Yield\_T iUpperYield, const Yield\_T iAverageYield, const Yield\_T iLowerYield )

Definition at line 40 of file [YieldRange.cpp](#).

## 32.168.2.6 stdair::YieldRange::~YieldRange( ) [virtual]

Constructors.

Definition at line 48 of file [YieldRange.cpp](#).

## 32.168.3 Member Function Documentation

## 32.168.3.1 Yield\_T stdair::YieldRange::getUpperYield( ) const [inline]

Getter for the upper yield of the range.

Definition at line 39 of file [YieldRange.hpp](#).

## 32.168.3.2 Yield\_T stdair::YieldRange::getAverageYield( ) const [inline]

Getter for the average yield of the range.

Definition at line 43 of file [YieldRange.hpp](#).

## 32.168.3.3 Yield\_T stdair::YieldRange::getLowerYield( ) const [inline]

Getter for the lower yield of the range.

Definition at line 47 of file [YieldRange.hpp](#).

## 32.168.3.4 void stdair::YieldRange::setUpperYield( const Yield\_T iUpperYield ) [inline]

Setter for the upper yield of the range.

Definition at line 53 of file [YieldRange.hpp](#).

## 32.168.3.5 void stdair::YieldRange::setAverageYield( const Yield\_T iAverageYield ) [inline]

Setter for the average yield of the range.

Definition at line 57 of file [YieldRange.hpp](#).

## 32.168.3.6 void stdair::YieldRange::setLowerYield( const Yield\_T iLowerYield ) [inline]

Setter for the lower yield of the range.

Definition at line 61 of file [YieldRange.hpp](#).

## 32.168.3.7 void stdair::YieldRange::toStream( std::ostream &amp; ioOut ) const

Dump a Business Object into an output stream.

Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Definition at line 52 of file [YieldRange.cpp](#).

## 32.168.3.8 void stdair::YieldRange::fromStream( std::istream &amp; iIn ) [virtual]

Read a Business Object from an input stream.

Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::StructAbstract](#).

Definition at line 58 of file [YieldRange.cpp](#).

### 32.168.3.9 const std::string stdair::YieldRange::describe( ) const [virtual]

Display of the structure.

Implements [stdair::StructAbstract](#).

Definition at line [62](#) of file [YieldRange.cpp](#).

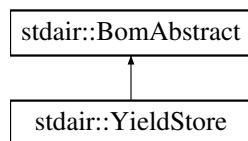
The documentation for this class was generated from the following files:

- [stdair/basic/YieldRange.hpp](#)
- [stdair/basic/YieldRange.cpp](#)

## 32.169 stdair::YieldStore Class Reference

```
#include <stdair/bom/YieldStore.hpp>
```

Inheritance diagram for stdair::YieldStore:



### Public Types

- [typedef YieldStoreKey Key\\_T](#)

### Public Member Functions

- [void toStream \(std::ostream &ioOut\) const](#)
- [BomAbstract \\*const getParent \(\) const](#)
- [void fromStream \(std::istream &ioln\)](#)
- [std::string toString \(\) const](#)
- [const std::string describeKey \(\) const](#)
- [const Key\\_T & getKey \(\) const](#)
- [const AirlineCode\\_T & getAirlineCode \(\) const](#)

### Protected Member Functions

- [YieldStore \(const Key\\_T &\)](#)
- [YieldStore \(const YieldStore &\)](#)
- [~YieldStore \(\)](#)

### Protected Attributes

- [Key\\_T \\_key](#)
- [BomAbstract \\* \\_parent](#)

### Friends

- [template<typename BOM > class FacBom](#)
- [class FacBomManager](#)

### 32.169.1 Detailed Description

Class representing the actual attributes for an airline [YieldStore](#).

Definition at line 18 of file [YieldStore.hpp](#).

### 32.169.2 Member Typedef Documentation

#### 32.169.2.1 `typedef YieldStoreKey stdair::YieldStore::Key_T`

Definition allowing to retrieve the associated BOM key type.

Definition at line 25 of file [YieldStore.hpp](#).

### 32.169.3 Constructor & Destructor Documentation

#### 32.169.3.1 `stdair::YieldStore::YieldStore ( const Key_T & iKey ) [protected]`

Default constructors.

Definition at line 13 of file [YieldStore.cpp](#).

#### 32.169.3.2 `stdair::YieldStore::YieldStore ( const YieldStore & ) [protected]`

#### 32.169.3.3 `stdair::YieldStore::~YieldStore ( ) [protected]`

Destructor.

Definition at line 17 of file [YieldStore.cpp](#).

### 32.169.4 Member Function Documentation

#### 32.169.4.1 `void stdair::YieldStore::toStream ( std::ostream & ioOut ) const [inline], [virtual]`

Dump a Business Object into an output stream.

Parameters

<code>ostream&amp;</code>	the output stream.
---------------------------	--------------------

Implements [stdair::BomAbstract](#).

Definition at line 31 of file [YieldStore.hpp](#).

References [toString\(\)](#).

#### 32.169.4.2 `BomAbstract* const stdair::YieldStore::getParent ( ) const [inline]`

Get the parent object.

Definition at line 34 of file [YieldStore.hpp](#).

References [\\_parent](#).

#### 32.169.4.3 `void stdair::YieldStore::fromStream ( std::istream & ioIn ) [inline], [virtual]`

Read a Business Object from an input stream.

Parameters

<code>istream&amp;</code>	the input stream.
---------------------------	-------------------

Implements [stdair::BomAbstract](#).

Definition at line 38 of file [YieldStore.hpp](#).

**32.169.4.4 std::string stdair::YieldStore::toString( ) const [virtual]**

Get the serialised version of the Business Object.

Implements [stdair::BomAbstract](#).

Definition at line 21 of file [YieldStore.cpp](#).

References [\\_key](#), and [stdair::YieldStoreKey::toString\(\)](#).

Referenced by [toStream\(\)](#).

**32.169.4.5 const std::string stdair::YieldStore::describeKey( ) const [inline]**

Get a string describing the key.

Definition at line 44 of file [YieldStore.hpp](#).

References [\\_key](#), and [stdair::YieldStoreKey::toString\(\)](#).

**32.169.4.6 const Key\_T& stdair::YieldStore::getKey( ) const [inline]**

Get the [YieldStore](#) key.

Definition at line 49 of file [YieldStore.hpp](#).

References [\\_key](#).

**32.169.4.7 const AirlineCode\_T& stdair::YieldStore::getAirlineCode( ) const [inline]**

Get the airline code.

Definition at line 52 of file [YieldStore.hpp](#).

References [\\_key](#), and [stdair::YieldStoreKey::getAirlineCode\(\)](#).

## 32.169.5 Friends And Related Function Documentation

**32.169.5.1 template<typename BOM> friend class FacBom [friend]**

Definition at line 19 of file [YieldStore.hpp](#).

**32.169.5.2 friend class FacBomManager [friend]**

Definition at line 20 of file [YieldStore.hpp](#).

## 32.169.6 Member Data Documentation

**32.169.6.1 Key\_T stdair::YieldStore::\_key [protected]**

The key of both structure and objects.

Definition at line 66 of file [YieldStore.hpp](#).

Referenced by [describeKey\(\)](#), [getAirlineCode\(\)](#), [getKey\(\)](#), and [toString\(\)](#).

**32.169.6.2 BomAbstract\* stdair::YieldStore::\_parent [protected]**

Definition at line 67 of file [YieldStore.hpp](#).

Referenced by [getParent\(\)](#).

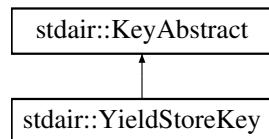
The documentation for this class was generated from the following files:

- stdair/bom/[YieldStore.hpp](#)
- stdair/bom/[YieldStore.cpp](#)

## 32.170 stdair::YieldStoreKey Struct Reference

#include <stdair/bom/YieldStoreKey.hpp>

Inheritance diagram for stdair::YieldStoreKey:



### Public Member Functions

- [YieldStoreKey](#) (const [AirlineCode\\_T](#) &iAirlineCode)
- [YieldStoreKey](#) (const [YieldStoreKey](#) &)
- [~YieldStoreKey](#) ()
- const [AirlineCode\\_T](#) & [getAirlineCode](#) () const
- void [toStream](#) (std::ostream &ioOut) const
- void [fromStream](#) (std::istream &ioln)
- const std::string [toString](#) () const

#### 32.170.1 Detailed Description

Key of [YieldStore](#).

Definition at line 14 of file [YieldStoreKey.hpp](#).

#### 32.170.2 Constructor & Destructor Documentation

##### 32.170.2.1 stdair::YieldStoreKey::YieldStoreKey ( const [AirlineCode\\_T](#) & iAirlineCode )

Constructors.

Definition at line 10 of file [YieldStoreKey.cpp](#).

##### 32.170.2.2 stdair::YieldStoreKey::YieldStoreKey ( const [YieldStoreKey](#) & iKey )

Definition at line 14 of file [YieldStoreKey.cpp](#).

##### 32.170.2.3 stdair::YieldStoreKey::~YieldStoreKey ( )

Destructor.

Definition at line 19 of file [YieldStoreKey.cpp](#).

#### 32.170.3 Member Function Documentation

##### 32.170.3.1 const [AirlineCode\\_T](#)& stdair::YieldStoreKey::getAirlineCode ( ) const [inline]

Get the airline code.

Definition at line 30 of file [YieldStoreKey.hpp](#).

Referenced by [stdair::YieldStore::getAirlineCode\(\)](#).

### 32.170.3.2 void stdair::YieldStoreKey::toStream ( std::ostream & ioOut ) const [virtual]

Dump a Business Object Key into an output stream.

#### Parameters

<i>ostream&amp;</i>	the output stream.
---------------------	--------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [23](#) of file [YieldStoreKey.cpp](#).

References [toString\(\)](#).

### 32.170.3.3 void stdair::YieldStoreKey::fromStream ( std::istream & iIn ) [virtual]

Read a Business Object Key from an input stream.

#### Parameters

<i>istream&amp;</i>	the input stream.
---------------------	-------------------

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [28](#) of file [YieldStoreKey.cpp](#).

### 32.170.3.4 const std::string stdair::YieldStoreKey::toString ( ) const [virtual]

Get the serialised version of the Business Object Key.

That string is unique, at the level of a given Business Object, when among children of a given parent Business Object.

For instance, "H" and "K" allow to differentiate among two marketing classes for the same segment-date.

Reimplemented from [stdair::KeyAbstract](#).

Definition at line [32](#) of file [YieldStoreKey.cpp](#).

Referenced by [stdair::YieldStore::describeKey\(\)](#), [toString\(\)](#), and [stdair::YieldStore::toString\(\)](#).

The documentation for this struct was generated from the following files:

- stdair/bom/[YieldStoreKey.hpp](#)
- stdair/bom/[YieldStoreKey.cpp](#)

## 33 File Documentation

### 33.1 batches/stdair.cpp File Reference

### 33.2 stdair.cpp

```

00001
00005 // STL
00006 #include <cassert>
00007 #include <iostream>
00008 #include <sstream>
00009 #include <fstream>
00010 #include <string>
00011 // Boost (Extended STL)
00012 #include <boost/date_time posix_time posix_time.hpp>
00013 #include <boost/date_time/gregorian/gregorian.hpp>
00014 #include <boost/program_options.hpp>
00015 #include <boost/tokenizer.hpp>
00016 #include <boost/lexical_cast.hpp>
00017 // StdAir
00018 #include <stdair/stdair_types.hpp>
00019 #include <stdair/bom/BomArchive.hpp>
00020 #include <stdair/bom/BookingRequestStruct.hpp>
00021 #include <stdair/bom/TravelSolutionStruct.hpp>
00022 #include <stdair/service/Logger.hpp>

```

```

00023 #include <stdair/STDAIR_Service.hpp>
00024 #include <stdair/config/stdair-paths.hpp>
00025
00026 // ////////// Constants //////////
00027 const std::string K_STDAIR_DEFAULT_LOG_FILENAME ("stdair.log");
00028
00029 const std::string K_STDAIR_DEFAULT_INPUT_FILENAME (STDAIR_SAMPLE_DIR
00030                                     "/schedule01.csv");
00031
00032
00033 const bool K_STDAIR_DEFAULT_BUILT_IN_INPUT = false;
00034
00035 const bool K_STDAIR_DEFAULT_BUILT_FOR_RMOL = false;
00036
00037 const bool K_STDAIR_DEFAULT_BUILT_FOR_CRS = false;
00038
00039
00040 const int K_STDAIR_EARLY_RETURN_STATUS = 99;
00041
00042
00043
00044
00045
00046 // ////////// Parsing of Options & Configuration //////////
00047 // A helper function to simplify the main part.
00048 template<class T> std::ostream& operator<< (std::ostream& os,
00049                                                 const std::vector<T>& v) {
00050     std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00051     return os;
00052 }
00053
00054
00055
00056
00057
00058
00059
00060
00061
00062
00063
00064 // Default for the built-in input
00065 ioIsBuiltin = K_STDAIR_DEFAULT_BUILT_IN_INPUT;
00066
00067
00068
00069
00070
00071
00072
00073 int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
00074                           bool& ioIsForRMOL, bool& ioIsForCRS,
00075                           stdair::Filename_T& ioInputFilename,
00076                           std::string& ioLogFilename) {
00077     // Default for the built-in input
00078     ioIsBuiltin = K_STDAIR_DEFAULT_BUILT_IN_INPUT;
00079
00080     // Default for the RMOL input
00081     ioIsForRMOL = K_STDAIR_DEFAULT_BUILT_FOR_RMOL;
00082
00083     // Default for the CRS input
00084     ioIsForCRS = K_STDAIR_DEFAULT_BUILT_FOR_CRS;
00085
00086     // Declare a group of options that will be allowed only on command line
00087     boost::program_options::options_description generic ("Generic options");
00088     generic.add_options()
00089         ("prefix", "print installation prefix")
00090         ("version,v", "print version string")
00091         ("help,h", "produce help message");
00092
00093     // Declare a group of options that will be allowed both on command
00094     // line and in config file
00095
00096     boost::program_options::options_description config ("Configuration");
00097     config.add_options()
00098         ("builtin,b",
00099             "The sample BOM tree can be either built-in or parsed from an input file. That latter must then be
00100             given with the -i/--input option")
00101         ("rmol,r",
00102             "Build a sample BOM tree for RMOL (i.e., a dummy flight-date with a single leg-cabin)")
00103         ("crs,c",
00104             "Build a sample BOM tree for CRS")
00105         ("input,i",
00106             boost::program_options::value< std::string >(&ioInputFilename)->default_value(
00107                 K_STDAIR_DEFAULT_INPUT_FILENAME),
00108             "(CVS) input file for the demand distributions")
00109         ("log,l",
00110             boost::program_options::value< std::string >(&ioLogFilename)->default_value(
00111                 K_STDAIR_DEFAULT_LOG_FILENAME),
00112             "Filename for the logs")
00113         ;
00114
00115     // Hidden options, will be allowed both on command line and
00116     // in config file, but will not be shown to the user.
00117     boost::program_options::options_description hidden ("Hidden options");
00118     hidden.add_options()
00119         ("copyright",
00120             boost::program_options::value< std::vector<std::string> >(),
00121             "Show the copyright (license)");
00122
00123     boost::program_options::options_description cmdline_options;
00124     cmdline_options.add(generic).add(config).add(hidden);
00125
00126     boost::program_options::options_description config_file_options;
00127     config_file_options.add(config).add(hidden);
00128     boost::program_options::options_description visible ("Allowed options");
00129     visible.add(generic).add(config);
00130
00131     boost::program_options::positional_options_description p;
00132     p.add ("copyright", -1);
00133
00134     boost::program_options::variables_map vm;

```

```

00132 boost::program_options::
00133     store (boost::program_options::command_line_parser (argc, argv).
00134         options (cmdline_options).positional(p).run(), vm);
00135
00136 std::ifstream ifs ("stdair.cfg");
00137 boost::program_options::store (parse_config_file (ifs, config_file_options),
00138     vm);
00139 boost::program_options::notify (vm);
00140
00141 if (vm.count ("help")) {
00142     std::cout << visible << std::endl;
00143     return K_STDAIR_EARLY_RETURN_STATUS;
00144 }
00145
00146 if (vm.count ("version")) {
00147     std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
00148     return K_STDAIR_EARLY_RETURN_STATUS;
00149 }
00150
00151 if (vm.count ("prefix")) {
00152     std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00153     return K_STDAIR_EARLY_RETURN_STATUS;
00154 }
00155
00156 if (vm.count ("builtin")) {
00157     ioIsBuiltin = true;
00158 }
00159
00160 if (vm.count ("rmol")) {
00161     ioIsForRMOL = true;
00162
00163     // The RMOL sample tree takes precedence over the default built-in BOM tree
00164     ioIsBuiltin = false;
00165 }
00166
00167 if (vm.count ("crs")) {
00168     ioIsForCRS = true;
00169
00170     // The RMOL sample tree takes precedence over the default built-in BOM tree
00171     ioIsBuiltin = false;
00172 }
00173
00174 const std::string isBuiltinStr = (ioIsBuiltin == true)?"yes":"no";
00175 std::cout << "The BOM should be built-in? " << isBuiltinStr << std::endl;
00176
00177 const std::string isForRMOLStr = (ioIsForRMOL == true)?"yes":"no";
00178 std::cout << "The BOM should be built-in for RMOL? " << isForRMOLStr
00179     << std::endl;
00180
00181 const std::string isForCRSStr = (ioIsForCRS == true)?"yes":"no";
00182 std::cout << "The BOM should be built-in for CRS? " << isForCRSStr
00183     << std::endl;
00184
00185 if (ioIsBuiltin == false && ioIsForRMOL == false && ioIsForCRS == false) {
00186     if (vm.count ("input")) {
00187         ioInputFilename = vm["input"].as< std::string >();
00188         std::cout << "Input filename is: " << ioInputFilename << std::endl;
00189
00190     } else {
00191         std::cerr << "Either one among the -b/--builtin, -r/--rmol, -c/--crs "
00192             << "or -i/--input options must be specified" << std::endl;
00193     }
00194 }
00195
00196 if (vm.count ("log")) {
00197     ioLogFilename = vm["log"].as< std::string >();
00198     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00199 }
00200
00201 return 0;
00202 }
00203
00204
00205 // //////////////////// M A I N ///////////////////
00206 int main (int argc, char* argv[]) {
00207
00208     // State whether the BOM tree should be built-in or parsed from an
00209     // input file
00210     bool isBuiltin;
00211
00212     // State whether a sample BOM tree should be built for RMOL.
00213     bool isForRMOL;
00214
00215     // State whether a sample BOM tree should be built for the CRS.
00216     bool isForCRS;
00217
00218     // Input file name

```

```
00219     stdair::Filename_T lInputFilename;
00220
00221     // Output log File
00222     std::string lLogFilename;
00223
00224     // Call the command-line option parser
00225     const int lOptionParserStatus =
00226         readConfiguration (argc, argv, isBuiltin, isForRMOL, isForCRS,
00227                             lInputFilename, lLogFilename);
00228
00229     if (lOptionParserStatus == K_STDAIR_EARLY_RETURN_STATUS) {
00230         return 0;
00231     }
00232
00233     // Set the log parameters
00234     std::ofstream logOutputFile;
00235     // Open and clean the log outputfile
00236     logOutputFile.open (lLogFilename.c_str());
00237     logOutputFile.clear();
00238
00239     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00240                                         logOutputFile);
00241     stdair::STDAIR_Service stdairService (lLogParams);
00242
00243     // DEBUG
00244     STDAIR_LOG_DEBUG ("Welcome to stdair");
00245
00246     // Check wether or not a (CSV) input file should be read
00247     if (isBuiltin == true || isForRMOL == true || isForCRS == true) {
00248
00249         if (isForRMOL == true) {
00250             // Build the sample BOM tree for RMOL
00251             stdairService.buildDummyInventory (300);
00252
00253         } else if (isForCRS == true) {
00254             //
00255             stdair::TravelSolutionList_T lTravelSolutionList;
00256             stdairService.buildSampleTravelSolutions (lTravelSolutionList);
00257
00258             // Build the sample BOM tree for CRS
00259             const stdair::BookingRequestStruct& lBookingRequest =
00260                 stdairService.buildSampleBookingRequest();
00261
00262             // DEBUG: Display the travel solution and booking request
00263             STDAIR_LOG_DEBUG ("Booking request: " << lBookingRequest.
00264             display());
00265
00266             const std::string& lCSVDump =
00267                 stdairService.csvDisplay (lTravelSolutionList);
00268             STDAIR_LOG_DEBUG (lCSVDump);
00269
00270         } else {
00271             assert (isBuiltin == true);
00272
00273             // Build a sample BOM tree
00274             stdairService.buildSampleBom();
00275
00276         } else {
00277             // Read the input file
00278             //stdairService.readFromFile (lInputFilename);
00279
00280             // DEBUG
00281             STDAIR_LOG_DEBUG ("StdAir will parse " << lInputFilename
00282                             << " and build the corresponding BOM tree.");
00283
00284             // DEBUG: Display the whole persistent BOM tree
00285             const std::string& lCSVDump = stdairService.csvDisplay ();
00286             STDAIR_LOG_DEBUG (lCSVDump);
00287
00288             // Close the Log outputFile
00289             logOutputFile.close();
00290
00291         /*
00292             Note: as that program is not intended to be run on a server in
00293             production, it is better not to catch the exceptions. When it
00294             happens (that an exception is thrown), that way we get the
00295             call stack.
00296         */
00297
00298         return 0;
00299     }
00300 }
```

- 33.3 doc/local/authors.doc File Reference
- 33.4 doc/local/codingrules.doc File Reference
- 33.5 doc/local/copyright.doc File Reference
- 33.6 doc/local/documentation.doc File Reference
- 33.7 doc/local/features.doc File Reference
- 33.8 doc/local/help\_wanted.doc File Reference
- 33.9 doc/local/howto\_release.doc File Reference
- 33.10 doc/local/index.doc File Reference
- 33.11 doc/local/installation.doc File Reference
- 33.12 doc/local/linking.doc File Reference
- 33.13 doc/local/test.doc File Reference
- 33.14 doc/local/users\_guide.doc File Reference
- 33.15 doc/local/verification.doc File Reference
- 33.16 doc/tutorial/tutorial.doc File Reference
- 33.17 stdair/basic/BasChronometer.cpp File Reference

```
#include <cassert>
#include <stdair/basic/BasChronometer.hpp>
```

## Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.18 BasChronometer.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Stdair
00007 #include <stdair/basic/BasChronometer.hpp>
00008
00009 namespace stdair {
00010
00011 // /////////////////////////////////
00012 BasChronometer::BasChronometer () : _startTimeLaunched (false) {
00013 }
00014
00015 // /////////////////////////////////
00016 void BasChronometer::start () {
00017     // Get the time-stamp of now, and store it for later use
00018     _startTime = boost::posix_time::microsec_clock::local_time();
```

```

00019
00020     // Update the boolean which states whether the chronometer
00021     // is launched
00022     _startTimeLaunched = true;
00023 }
00024
00025 // /////////////////////////////////
00026 double BasChronometer::elapsed () const {
00027     assert (_startTimeLaunched == true);
00028
00029     // Get the time-stamp of now
00030     const boost::posix_time::ptime lStopTime =
00031         boost::posix_time::microsec_clock::local_time();
00032
00033     // Calculate the time elapsed since the last time-stamp
00034     const boost::posix_time::time_duration lElapsedTime =
00035         lStopTime - _startTime;
00036
00037     // Derived the corresponding number of milliseconds
00038     const double lElapsedTimeInMicroSeconds =
00039         static_cast<const double> (lElapsedTime.total_microseconds());
00040
00041     // The elapsed time given in return is expressed in seconds
00042     return (lElapsedTimeInMicroSeconds / 1e6);
00043 }
00044
00045 }
```

### 33.19 stdair/basic/BasChronometer.hpp File Reference

```
#include <boost/date_time posix_time.hpp>
```

#### Classes

- struct **stdair::BasChronometer**

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.20 BasChronometer.hpp

```

00001 #ifndef __STDAIR_BAS_BASCHRONOMETER_HPP
00002 #define __STDAIR_BAS_BASCHRONOMETER_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // Boost (STL Extension)
00008 // Boost Date-Time (http://boost.org/doc/html/date\_time posix\_time.html)
00009 #include <boost/date_time posix_time.hpp>
0010
0011 namespace stdair {
0012
0014     struct BasChronometer {
0016         BasChronometer();
0017
0021         void start ();
0022
0024         std::string getStart () const {
0025             return boost::posix_time::to_simple_string (_startTime);
0026         }
0027
0030         double elapsed () const;
0031
0032     private:
0034         boost::posix_time::ptime _startTime;
0035
0037         bool _startTimeLaunched;
0038     };
0039 }
```

```
00040 }
00041 #endif // __STDAIR_BAS_BASCHRONOMETER_HPP
```

### 33.21 stdair/basic/BasConst.cpp File Reference

```
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/basic/BasConst_Yield.hpp>
#include <stdair/basic/BasConst_DefaultObject.hpp>
#include <stdair/basic/BasConst_Period_BOM.hpp>
#include <stdair/basic/BasConst_TravelSolution.hpp>
#include <stdair/basic/BasConst_SellUpCurves.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- const std::string **stdair::DEFAULT\_BOM\_ROOT\_KEY** (" -- ROOT -- ")
- const double **stdair::DEFAULT\_EPSILON\_VALUE** (0.0001)
- const unsigned int **stdair::DEFAULT\_FLIGHT\_SPEED** (900)
- const NbOfFlightDates\_T **stdair::DEFAULT\_NB\_OF\_FLIGHTDATES** (0.0)
- const Duration\_T **stdair::NULL\_BOOST\_TIME\_DURATION** (-1,-1,-1)
- const Duration\_T **stdair::DEFAULT\_NULL\_DURATION** (0, 0, 0)
- const unsigned int **stdair::DEFAULT\_NB\_OF\_DAYS\_IN\_A\_YEAR** (365)
- const unsigned int **stdair::DEFAULT\_NUMBER\_OF\_SUBDIVISIONS** (1000)
- const DayDuration\_T **stdair::DEFAULT\_DAY\_DURATION** (0)
- const DatePeriod\_T **stdair::BOOST\_DEFAULT\_DATE\_PERIOD** (Date\_T(2007, 1, 1), Date\_T(2007, 1, 1))
- const DOW\_String\_T **stdair::DEFAULT\_DOW\_STRING** ("0000000")
- const DateOffset\_T **stdair::DEFAULT\_DATE\_OFFSET** (0)
- const Date\_T **stdair::DEFAULT\_DATE** (2010, boost::gregorian::Jan, 1)
- const DateTime\_T **stdair::DEFAULT\_DATETIME** (DEFAULT\_DATE, NULL\_BOOST\_TIME\_DURATION)
- const Duration\_T **stdair::DEFAULT\_EPSILON\_DURATION** (0, 0, 0, 1)
- const Count\_T **stdair::SECONDS\_IN\_ONE\_DAY** (86400)
- const Count\_T **stdair::MILLISECONDS\_IN\_ONE\_SECOND** (1000)
- const RandomSeed\_T **stdair::DEFAULT\_RANDOM\_SEED** (120765987)
- const AirportCode\_T **stdair::AIRPORT\_LHR** ("LHR")
- const AirportCode\_T **stdair::AIRPORT\_SYD** ("SYD")
- const CityCode\_T **stdair::POS\_LHR** ("LHR")
- const Date\_T **stdair::DATE\_20110115** (2011, boost::gregorian::Jan, 15)
- const Date\_T **stdair::DATE\_20111231** (2011, boost::gregorian::Dec, 31)
- const DayDuration\_T **stdair::NO\_ADVANCE\_PURCHASE** (0)
- const SaturdayStay\_T **stdair::SATURDAY\_STAY** (true)
- const SaturdayStay\_T **stdair::NO\_SATURDAY\_STAY** (false)
- const ChangeFees\_T **stdair::CHANGE\_FEES** (true)
- const ChangeFees\_T **stdair::NO\_CHANGE\_FEES** (false)
- const NonRefundable\_T **stdair::NON\_REFUNDABLE** (true)

- const NonRefundable\_T `stdair::NO_NON_REFUNDABLE` (false)
- const SaturdayStay\_T `stdair::DEFAULT_BOM_TREE_SATURDAY_STAY` (true)
- const ChangeFees\_T `stdair::DEFAULT_BOM_TREE_CHANGE_FEES` (true)
- const NonRefundable\_T `stdair::DEFAULT_BOM_TREE_NON_REFUNDABLE` (true)
- const DayDuration\_T `stdair::NO_STAY_DURATION` (0)
- const AirlineCode\_T `stdair::AIRLINE_CODE_BA` ("BA")
- const CabinCode\_T `stdair::CABIN_Y` ("Y")
- const ClassCode\_T `stdair::CLASS_CODE_Y` ("Y")
- const ClassCode\_T `stdair::CLASS_CODE_Q` ("Q")
- const AirportCode\_T `stdair::AIRPORT_SIN` ("SIN")
- const AirportCode\_T `stdair::AIRPORT_BKK` ("BKK")
- const CityCode\_T `stdair::POS_SIN` ("SIN")
- const CabinCode\_T `stdair::CABIN_ECO` ("Eco")
- const FrequentFlyer\_T `stdair::FREQUENT_FLYER_MEMBER` ("M")
- const FamilyCode\_T `stdair::DEFAULT_FAMILY_CODE` ("0")
- const PolicyCode\_T `stdair::DEFAULT_POLICY_CODE` ("0")
- const NestingStructureCode\_T `stdair::DEFAULT_NESTING_STRUCTURE_CODE` ("DEFAULT")
- const NestingStructureCode\_T `stdair::DISPLAY_NESTING_STRUCTURE_CODE` ("Display Nesting")
- const NestingStructureCode\_T `stdair::YIELD_BASED_NESTING_STRUCTURE_CODE` ("Yield-Based Nesting")
- const NestingNodeCode\_T `stdair::DEFAULT_NESTING_NODE_CODE` ("0")
- const NbOfAirlines\_T `stdair::DEFAULT_NBOFAIRLINES` (0)
- const FlightPathCode\_T `stdair::DEFAULT_FLIGHTPATH_CODE` ("")
- const Distance\_T `stdair::DEFAULT_DISTANCE_VALUE` (0)
- const ClassCode\_T `stdair::DEFAULT_CLOSED_CLASS_CODE` ("CC")
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_NB_OF_BOOKINGS` (0)
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS` (0)
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_UNCONSTRAINED_DEMAND` (0)
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_REMAINING_DEMAND_MEAN` (0)
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION` (0)
- const NbOfCancellations\_T `stdair::DEFAULT_CLASS_NB_OF_CANCELLATIONS` (0)
- const NbOfNoShows\_T `stdair::DEFAULT_CLASS_NB_OF_NOSHOWS` (0)
- const CabinCapacity\_T `stdair::DEFAULT_CABIN_CAPACITY` (100.0)
- const CommittedSpace\_T `stdair::DEFAULT_COMMITED_SPACE` (0.0)
- const BlockSpace\_T `stdair::DEFAULT_BLOCK_SPACE` (0.0)
- const Availability\_T `stdair::DEFAULT_NULL_AVAILABILITY` (0.0)
- const Availability\_T `stdair::DEFAULT_AVAILABILITY` (9.0)
- const Availability\_T `stdair::MAXIMAL_AVAILABILITY` (9999.0)
- const CensorshipFlag\_T `stdair::DEFAULT_CLASS_CENSORSHIPFLAG` (false)
- const BookingLimit\_T `stdair::DEFAULT_CLASS_BOOKING_LIMIT` (9999.0)
- const AuthorizationLevel\_T `stdair::DEFAULT_CLASS_AUTHORIZATION_LEVEL` (9999.0)
- const AuthorizationLevel\_T `stdair::DEFAULT_CLASS_MAX_AUTHORIZATION_LEVEL` (9999.0)
- const AuthorizationLevel\_T `stdair::DEFAULT_CLASS_MIN_AUTHORIZATION_LEVEL` (0.0)
- const OverbookingRate\_T `stdair::DEFAULT_CLASS_OVERBOOKING_RATE` (0.0)
- const BookingRatio\_T `stdair::DEFAULT_OND_BOOKING_RATE` (0.0)
- const Fare\_T `stdair::DEFAULT_FARE_VALUE` (0.0)
- const Yield\_T `stdair::DEFAULT_CLASS_YIELD_VALUE` (0.0)
- const Revenue\_T `stdair::DEFAULT_REVENUE_VALUE` (0.0)
- const Percentage\_T `stdair::DEFAULT_LOAD_FACTOR_VALUE` (100.0)
- const Yield\_T `stdair::DEFAULT_YIELD_VALUE` (0.0)
- const Yield\_T `stdair::DEFAULT_YIELD_MAX_VALUE` (`std::numeric_limits< double >::max()`)
- const NbOfBookings\_T `stdair::DEFAULT_YIELD_NB_OF_BOOKINGS` (0.0)
- const Identity\_T `stdair::DEFAULT_BOOKING_NUMBER` (0)
- const NbOfCancellations\_T `stdair::DEFAULT_YIELD_NB_OF_CANCELLATIONS` (0.0)
- const NbOfNoShows\_T `stdair::DEFAULT_YIELD_NB_OF_NOSHOWS` (0.0)

- const Availability\_T `stdair::DEFAULT_YIELD_AVAILABILITY` (0.0)
- const CensorshipFlag\_T `stdair::DEFAULT_YIELD_CENSORSHIPFLAG` (false)
- const BookingLimit\_T `stdair::DEFAULT_YIELD_BOOKING_LIMIT` (0.0)
- const OverbookingRate\_T `stdair::DEFAULT_YIELD_OVERBOOKING_RATE` (0.0)
- const Fare\_T `stdair::DEFAULT_OND_FARE_VALUE` (0.0)
- const Count\_T `stdair::DEFAULT_PROGRESS_STATUS` (0)
- const Percentage\_T `stdair::MAXIMUM_PROGRESS_STATUS` (100)
- const Date\_T `stdair::DEFAULT_EVENT_OLEDEST_DATE` (2008, boost::gregorian::Jan, 1)
- const DateTime\_T `stdair::DEFAULT_EVENT_OLEDEST_DATETIME` (DEFAULT\_EVENT\_OLEDEST\_DATE, NULL\_BOOST\_TIME\_DURATION)
- const PartySize\_T `stdair::DEFAULT_PARTY_SIZE` (1)
- const DayDuration\_T `stdair::DEFAULT_STAY_DURATION` (7)
- const WTP\_T `stdair::DEFAULT_WTP` (1000.0)
- const Date\_T `stdair::DEFAULT_PREFERRED_DEPARTURE_DATE` (DEFAULT\_DEPARTURE\_DATE)
- const Duration\_T `stdair::DEFAULT_PREFERRED_DEPARTURE_TIME` (8, 0, 0)
- const DateTimeOffset\_T `stdair::DEFAULT_ADVANCE_PURCHASE` (22)
- const Date\_T `stdair::DEFAULT_REQUEST_DATE` (DEFAULT\_PREFERRED\_DEPARTURE\_DATE-DEFAULT\_ADVANCE\_PURCHASE)
- const Duration\_T `stdair::DEFAULT_REQUEST_TIME` (8, 0, 0)
- const DateTime\_T `stdair::DEFAULT_REQUEST_DATE_TIME` (DEFAULT\_REQUEST\_DATE, DEFAULT\_REQUEST\_TIME)
- const CabinCode\_T `stdair::DEFAULT_PREFERRED_CABIN` ("M")
- const CityCode\_T `stdair::DEFAULT_POS` ("ALL")
- const ChannelLabel\_T `stdair::DEFAULT_CHANNEL` ("DC")
- const ChannelLabel\_T `stdair::CHANNEL_DN` ("DN")
- const ChannelLabel\_T `stdair::CHANNEL_IN` ("IN")
- const TripType\_T `stdair::TRIP_TYPE_ONE WAY` ("OW")
- const TripType\_T `stdair::TRIP_TYPE_ROUND_TRIP` ("RT")
- const TripType\_T `stdair::TRIP_TYPE_INBOUND` ("RI")
- const TripType\_T `stdair::TRIP_TYPE_OUTBOUND` ("RO")
- const FrequentFlyer\_T `stdair::DEFAULT_FF_TIER` ("N")
- const PriceValue\_T `stdair::DEFAULT_VALUE_OF_TIME` (100.0)
- const IntDuration\_T `stdair::HOUR_CONVERTED_IN_SECONDS` (3600)
- const Duration\_T `stdair::DEFAULT_MINIMAL_CONNECTION_TIME` (0, 30, 0)
- const Duration\_T `stdair::DEFAULT_MAXIMAL_CONNECTION_TIME` (24, 0, 0)
- const MatchingIndicator\_T `stdair::DEFAULT_MATCHING_INDICATOR` (0.0)
- const PriceCurrency\_T `stdair::DEFAULT_CURRENCY` ("EUR")
- const AvailabilityStatus\_T `stdair::DEFAULT_AVAILABILITY_STATUS` (false)
- const AirlineCode\_T `stdair::DEFAULT_AIRLINE_CODE` ("XX")
- const AirlineCode\_T `stdair::DEFAULT_NULL_AIRLINE_CODE` ("")
- const FlightNumber\_T `stdair::DEFAULT_FLIGHT_NUMBER` (9999)
- const FlightNumber\_T `stdair::DEFAULT_FLIGHT_NUMBER_FF` (255)
- const TableID\_T `stdair::DEFAULT_TABLE_ID` (9999)
- const Date\_T `stdair::DEFAULT_DEPARTURE_DATE` (1900, boost::gregorian::Jan, 1)
- const AirportCode\_T `stdair::DEFAULT_AIRPORT_CODE` ("XXX")
- const AirportCode\_T `stdair::DEFAULT_NULL_AIRPORT_CODE` ("")
- const AirportCode\_T `stdair::DEFAULT_ORIGIN` ("XXX")
- const AirportCode\_T `stdair::DEFAULT_DESTINATION` ("YYY")
- const CabinCode\_T `stdair::DEFAULT_CABIN_CODE` ("X")
- const FamilyCode\_T `stdair::DEFAULT_FARE_FAMILY_CODE` ("EcoSaver")
- const FamilyCode\_T `stdair::DEFAULT_NULL_FARE_FAMILY_CODE` ("NoFF")
- const ClassCode\_T `stdair::DEFAULT_CLASS_CODE` ("X")
- const ClassCode\_T `stdair::DEFAULT_NULL_CLASS_CODE` ("")
- const BidPrice\_T `stdair::DEFAULT_BID_PRICE` (0.0)
- const unsigned short `stdair::MAXIMAL_NUMBER_OF_LEGS_IN_FLIGHT` (7)

- const unsigned short stdair::MAXIMAL\_NUMBER\_OF\_SEGMENTS\_IN\_OND (3)
- const SeatIndex\_T stdair::DEFAULT\_SEAT\_INDEX (1)
- const NbOfSeats\_T stdair::DEFAULT\_NULL\_BOOKING\_NUMBER (0)
- const CapacityAdjustment\_T stdair::DEFAULT\_NULL\_CAPACITY\_ADJUSTMENT (0)
- const UPR\_T stdair::DEFAULT\_NULL\_UPR (0)
- const std::string stdair::DEFAULT\_FARE\_FAMILY\_VALUE\_TYPE ("FF")
- const std::string stdair::DEFAULT\_SEGMENT\_CABIN\_VALUE\_TYPE ("SC")
- const std::string stdair::DEFAULT\_KEY\_FLD\_DELIMITER (";")
- const std::string stdair::DEFAULT\_KEY\_SUB\_FLD\_DELIMITER (",")
- const boost::char\_separator< char > stdair::DEFAULT\_KEY\_TOKEN\_DELIMITER (";, ")

## Variables

- const std::string stdair::DOW\_STR []
- const UnconstrainingMethod stdair::DEFAULT\_UNCONSTRAINING\_METHOD ('E')
- const PartnershipTechnique stdair::DEFAULT\_PARTNERSHIP\_TECHNIQUE ('N')
- const ForecastingMethod stdair::DEFAULT\_FORECASTING\_METHOD ('Q')
- const PreOptimisationMethod stdair::DEFAULT\_PREOPTIMISATION\_METHOD ('N')
- const OptimisationMethod stdair::DEFAULT\_OPTIMISATION\_METHOD ('M')
- const CensorshipFlagList\_T stdair::DEFAULT\_CLASS\_CENSORSHIPFLAG\_LIST
- const Date\_T stdair::DEFAULT\_DICO\_STUDIED\_DATE
- const AirlineCodeList\_T stdair::DEFAULT\_AIRLINE\_CODE\_LIST
- const ClassList\_StringList\_T stdair::DEFAULT\_CLASS\_CODE\_LIST
- const BidPriceVector\_T stdair::DEFAULT\_BID\_PRICE\_VECTOR = std::vector<BidPrice\_T>()
- const int stdair::DEFAULT\_MAX\_DTD = 365
- const DCPList\_T stdair::DEFAULT\_DCP\_LIST = DefaultDCPList::init()
- const FRAT5Curve\_T stdair::FRAT5\_CURVE\_A
- const FRAT5Curve\_T stdair::FRAT5\_CURVE\_B
- const FRAT5Curve\_T stdair::FRAT5\_CURVE\_C
- const FRAT5Curve\_T stdair::FRAT5\_CURVE\_D
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_A
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_B
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_C
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_D
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_E
- const FFDisutilityCurve\_T stdair::FF\_DISUTILITY\_CURVE\_F
- const DTDMap\_T stdair::DEFAULT\_DTD\_FRAT5COEF\_MAP
- const DTDProbMap\_T stdair::DEFAULT\_DTD\_PROB\_MAP
- const OnDStringList\_T stdair::DEFAULT\_OND\_STRING\_LIST
- const std::string stdair::DISPLAY\_LEVEL\_STRING\_ARRAY [51]

## 33.22 BasConst.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // StdAir
00005 #include <stdair/basic/BasConst_General.hpp>
00006 #include <stdair/basic/BasConst_BomDisplay.hpp>
00007 #include <stdair/basic/BasConst_Event.hpp>
00008 #include <stdair/basic/BasConst_Request.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/basic/BasConst_BookingClass.hpp>
00011 #include <stdair/basic/BasConst_Yield.hpp>
00012 #include <stdair/basic/BasConst_DefaultObject.hpp>
00013 #include <stdair/basic/BasConst_Period_BOM.hpp>
00014 #include <stdair/basic/BasConst_TravelSolution.hpp>
00015 #include <stdair/basic/BasConst_SellUpCurves.hpp>
00016
00017 namespace stdair {

```

```

00018
00019 // ////////// General //////////
00020 const std::string DEFAULT_BOM_ROOT_KEY (" -- ROOT -- ");
00021
00022 const double DEFAULT_EPSILON_VALUE (0.0001);
00023
00024 const unsigned int DEFAULT_FLIGHT_SPEED (900);
00025
00026 const NbOfFlightDates_T DEFAULT_NB_OF_FLIGHTDATES (0.0);
00027
00028 const Duration_T NULL_BOOST_TIME_DURATION (-1, -1, -1);
00029
00030 const Duration_T DEFAULT_NULL_DURATION (0, 0, 0);
00031
00032 const unsigned int DEFAULT_NB_OF_DAYS_IN_A_YEAR (365);
00033
00034 const unsigned int DEFAULT_NUMBER_OF_SUBDIVISIONS (1000);
00035
00036 // ////////// (Flight-)Period-related BOM //////////
00037 const DayDuration_T DEFAULT_DAY_DURATION (0);
00038
00039 const DatePeriod_T BOOST_DEFAULT_DATE_PERIOD (
00040     Date_T (2007, 1, 1),
00041                               Date_T (2007, 1, 1));
00042
00043 const std::string DOW_STR[] =
00044     {"Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"};
00045
00046 const DOW_String_T DEFAULT_DOW_STRING ("0000000");
00047
00048 const DateOffset_T DEFAULT_DATE_OFFSET (0);
00049
00050 // // ////////// General //////////
00051 const Date_T DEFAULT_DATE (2010, boost::gregorian::Jan, 1);
00052
00053 const DateTime_T DEFAULT_DATETIME (DEFAULT_DATE,
00054     NULL_BOOST_TIME_DURATION);
00055
00056 const Duration_T DEFAULT_EPSILON_DURATION (0, 0, 0, 1);
00057
00058 const Count_T SECONDS_IN_ONE_DAY (86400);
00059
00060 const Count_T MILLISECONDS_IN_ONE_SECOND (1000);
00061
00062 const RandomSeed_T DEFAULT_RANDOM_SEED (120765987);
00063
00064 // ////////// Default BOM tree objects //////////
00065 const AirportCode_T AIRPORT_LHR ("LHR");
00066
00067 const AirportCode_T AIRPORT_SYD ("SYD");
00068
00069 const CityCode_T POS_LHR ("LHR");
00070
00071 const Date_T DATE_20110115 (2011, boost::gregorian::Jan, 15);
00072 const Date_T DATE_20111231 (2011, boost::gregorian::Dec, 31);
00073
00074 const DayDuration_T NO_ADVANCE_PURCHASE (0);
00075
00076 const SaturdayStay_T SATURDAY_STAY (true);
00077
00078 const SaturdayStay_T NO_SATURDAY_STAY (false);
00079
00080 const ChangeFees_T CHANGE_FEES (true);
00081
00082 const ChangeFees_T NO_CHANGE_FEES (false);
00083
00084 const NonRefundable_T NON_REFUNDABLE (true);
00085
00086 const NonRefundable_T NO_NON_REFUNDABLE (false);
00087
00088 const SaturdayStay_T DEFAULT_BOM_TREE_SATURDAY_STAY (true);
00089
00090 const ChangeFees_T DEFAULT_BOM_TREE_CHANGE_FEES (true);
00091
00092 const NonRefundable_T DEFAULT_BOM_TREE_NON_REFUNDABLE (true
00093 );
00094
00095 const DayDuration_T NO_STAY_DURATION (0);
00096
00097 const AirlineCode_T AIRLINE_CODE_BA ("BA");
00098
00099 const CabinCode_T CABIN_Y ("Y");
00100
00101 const ClassCode_T CLASS_CODE_Y ("Y");
00102
00103 // ////////// Travel solutions related objects/////////

```

```

00140 const ClassCode_T CLASS_CODE_Q ("Q");
00141 // ////////// Booking request related objects////////
00142 const AirportCode_T AIRPORT_SIN ("SIN");
00143 const AirportCode_T AIRPORT_BKK ("BKK");
00144 const CityCode_T POS_SIN ("SIN");
00145 const CabinCode_T CABIN_ECO ("Eco");
00146 const FrequentFlyer_T FREQUENT_FLYER_MEMBER ("M");
00147 // ////////// Default //////////
00148 const FamilyCode_T DEFAULT_FAMILY_CODE ("0");
00149 const PolicyCode_T DEFAULT_POLICY_CODE ("0");
00150 const NestingStructureCode_T
00151 DEFAULT_NESTING_STRUCTURE_CODE ("DEFAULT");
00152 const NestingStructureCode_T
00153 DISPLAY_NESTING_STRUCTURE_CODE ("Display Nesting");
00154 const NestingStructureCode_T
00155 YIELD_BASED_NESTING_STRUCTURE_CODE ("Yield-Based Nesting");
00156 const NestingNodeCode_T DEFAULT_NESTING_NODE_CODE ("0");
00157 const NbOfAirlines_T DEFAULT_NBOFAIRLINES (0);
00158 const FlightPathCode_T DEFAULT_FLIGHTPATH_CODE ("");
00159 // ////////// Booking-class-related BOM //////////
00160 const Distance_T DEFAULT_DISTANCE_VALUE (0);
00161 const ClassCode_T DEFAULT_CLOSED_CLASS_CODE ("CC");
00162 const NbOfBookings_T DEFAULT_CLASS_NB_OF_BOOKINGS (0);
00163 const NbOfBookings_T DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS (
0);
00164 const NbOfBookings_T DEFAULT_CLASS_UNCONSTRAINED_DEMAND (
0);
00165 const NbOfBookings_T DEFAULT_CLASS_REMAINING_DEMAND_MEAN
(0);
00166 const NbOfBookings_T
00167 DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION (0);
00168 const NbOfCancellations_T DEFAULT_CLASS_NB_OF_CANCELLATIONS
(0);
00169 const NbOfNoShows_T DEFAULT_CLASS_NB_OF_NOSHOWS (0);
00170 const CabinCapacity_T DEFAULT_CABIN_CAPACITY (100.0);
00171 const CommittedSpace_T DEFAULT_COMMITTED_SPACE (0.0);
00172 const BlockSpace_T DEFAULT_BLOCK_SPACE (0.0);
00173 const Availability_T DEFAULT_NULL_AVAILABILITY (0.0);
00174 const Availability_T DEFAULT_AVAILABILITY (9.0);
00175 const Availability_T MAXIMAL_AVAILABILITY (9999.0);
00176 const UnconstrainingMethod DEFAULT_UNCONSTRAINING_METHOD ('E');
00177 const PartnershipTechnique DEFAULT_PARTNERSHIP_TECHNIQUE ('N');
00178 const ForecastingMethod DEFAULT_FORECASTING_METHOD ('Q');
00179 const PreOptimisationMethod DEFAULT_PREOPTIMISATION_METHOD ('N');
00180 const OptimisationMethod DEFAULT_OPTIMISATION_METHOD ('M');
00181 // ////////// (Segment-)Class-related BOM //////////
00182 const CensorshipFlag_T DEFAULT_CLASS_CENSORSHIPFLAG (false);
00183 const CensorshipFlagList_T
00184 DEFAULT_CLASS_CENSORSHIPFLAG_LIST =
00185 std::vector<CensorshipFlag_T>();
00186 const BookingLimit_T DEFAULT_CLASS_BOOKING_LIMIT (9999.0);

```

```

00258
00260     const AuthorizationLevel_T
00261         DEFAULT_CLASS_AUTHORIZATION_LEVEL (9999.0);
00263     const AuthorizationLevel_T
00264         DEFAULT_CLASS_MAX_AUTHORIZATION_LEVEL (9999.0);
00266     const AuthorizationLevel_T
00267         DEFAULT_CLASS_MIN_AUTHORIZATION_LEVEL (0.0);
00269     const OverbookingRate_T DEFAULT_CLASS_OVERBOOKING_RATE (0.
0);
00270
00272     const BookingRatio_T DEFAULT_OND_BOOKING_RATE (0.0);
00273
00275     const Fare_T DEFAULT_FARE_VALUE (0.0);
00276
00278     const Yield_T DEFAULT_CLASS_YIELD_VALUE (0.0);
00279
00281     const Revenue_T DEFAULT_REVENUE_VALUE (0.0);
00282
00284     const Percentage_T DEFAULT_LOAD_FACTOR_VALUE (100.0);
00285
00286
00287 // ////////// (Leg-)YieldRange-related BOM //////////
00289     const Yield_T DEFAULT_YIELD_VALUE (0.0);
00290
00292     const Yield_T DEFAULT_YIELD_MAX_VALUE (std::numeric_limits<double>::max());
00293
00295     const NbOfBookings_T DEFAULT_YIELD_NB_OF_BOOKINGS (0.0);
00296
00298     const Identity_T DEFAULT_BOOKING_NUMBER (0);
00299
00301     const NbOfCancellations_T DEFAULT_YIELD_NB_OF_CANCELLATIONS
00302 (0.0);
00304
00305     const NbOfNoShows_T DEFAULT_YIELD_NB_OF_NOSHOWS (0.0);
00307
00308     const Availability_T DEFAULT_YIELD_AVAILABILITY (0.0);
00311
00312     const CensorshipFlag_T DEFAULT_YIELD_CENSORSHIPFLAG (false);
00314
00315     const BookingLimit_T DEFAULT_YIELD_BOOKING_LIMIT (0.0);
00317
00318     const OverbookingRate_T DEFAULT_YIELD_OVERBOOKING_RATE (0.
0);
00319
00320
00321 // ////////// OnD-related BOM //////////
00322     const Fare_T DEFAULT_OND_FARE_VALUE (0.0);
00323
00324
00325 // ////////// Event Generation //////////
00326
00328     const Count_T DEFAULT_PROGRESS_STATUS (0);
00329
00331     const Percentage_T MAXIMUM_PROGRESS_STATUS (100);
00332
00335     const Date_T DEFAULT_EVENT_OLEDEST_DATE (2008, boost::gregorian::Jan, 1);
00336
00339     const DateTime_T DEFAULT_EVENT_OLEDEST_DATETIME (
00340             DEFAULT_EVENT_OLEDEST_DATE,
00341                                     NULL_BOOST_TIME_DURATION);
00342
00343
00345     const PartySize_T DEFAULT_PARTY_SIZE (1);
00346
00348     const DayDuration_T DEFAULT_STAY_DURATION (7);
00349
00351     const WTP_T DEFAULT_WTP (1000.0);
00352
00354     const Date_T DEFAULT_PREFERRED_DEPARTURE_DATE (
00355             DEFAULT_DEPARTURE_DATE);
00357
00358     const Duration_T DEFAULT_PREFERRED_DEPARTURE_TIME (8, 0, 0);
00360
00361     const DateOffset_T DEFAULT_ADVANCE_PURCHASE (22);
00363
00364     const Date_T DEFAULT_REQUEST_DATE (
00365             DEFAULT_PREFERRED_DEPARTURE_DATE
00366                                     - DEFAULT_ADVANCE_PURCHASE);
00367
00368     const Duration_T DEFAULT_REQUEST_TIME (8, 0, 0);
00370
00371     const DateTime_T DEFAULT_REQUEST_DATE_TIME (
00372             DEFAULT_REQUEST_DATE,

```

```

00371                               DEFAULT_REQUEST_TIME);
00372
00374 const CabinCode_T DEFAULT_PREFERRED_CABIN ("M");
00375
00377 const CityCode_T DEFAULT_POS ("ALL");
00378
00380 const ChannelLabel_T DEFAULT_CHANNEL ("DC");
00381
00383 const ChannelLabel_T CHANNEL_DN ("DN");
00384
00386 const ChannelLabel_T CHANNEL_IN ("IN");
00387
00389 const TripType_T TRIP_TYPE_ONE_WAY ("OW");
00390
00392 const TripType_T TRIP_TYPE_ROUND_TRIP ("RT");
00393
00395 const TripType_T TRIP_TYPE_INBOUND ("RI");
00396
00398 const TripType_T TRIP_TYPE_OUTBOUND ("RO");
00399
00401 const FrequentFlyer_T DEFAULT_FF_TIER ("N");
00402
00404 const PriceValue_T DEFAULT_VALUE_OF_TIME (100.0);
00405
00407 const IntDuration_T HOUR_CONVERTED_IN_SECONDS (3600);
00408
00409 // ////////// Travel Solutions //////////
00411 const Duration_T DEFAULT_MINIMAL_CONNECTION_TIME (0, 30, 0);
00412
00414 const Duration_T DEFAULT_MAXIMAL_CONNECTION_TIME (24, 0, 0);
00415
00417 const MatchingIndicator_T DEFAULT_MATCHING_INDICATOR (0.0);
00418
00420 const PriceCurrency_T DEFAULT_CURRENCY ("EUR");
00421
00423 const AvailabilityStatus_T DEFAULT_AVAILABILITY_STATUS (
    false);
00424
00426 const Date_T DEFAULT_DICO_STUDIED_DATE;
00427
00428 // ////////// Inventory-related BOM //////////
00430 const AirlineCode_T DEFAULT_AIRLINE_CODE ("XX");
00431
00433 const AirlineCode_T DEFAULT_NULL_AIRLINE_CODE ("");
00434
00436 const AirlineCodeList_T DEFAULT_AIRLINE_CODE_LIST;
00437
00439 const FlightNumber_T DEFAULT_FLIGHT_NUMBER (9999);
00440
00442 const FlightNumber_T DEFAULT_FLIGHT_NUMBER_FF (255);
00443
00445 const TableID_T DEFAULT_TABLE_ID (9999);
00446
00448 const Date_T DEFAULT_DEPARTURE_DATE (1900, boost::gregorian::Jan, 1);
00449
00451 const AirportCode_T DEFAULT_AIRPORT_CODE ("XXX");
00452
00454 const AirportCode_T DEFAULT_NULL_AIRPORT_CODE ("");
00455
00457 const AirportCode_T DEFAULT_ORIGIN ("XXX");
00458
00460 const AirportCode_T DEFAULT_DESTINATION ("YYY");
00461
00463 const CabinCode_T DEFAULT_CABIN_CODE ("X");
00464
00466 const FamilyCode_T DEFAULT_FARE_FAMILY_CODE ("EcoSaver");
00467
00469 const FamilyCode_T DEFAULT_NULL_FARE_FAMILY_CODE ("NoFF");
00470
00472 const ClassCode_T DEFAULT_CLASS_CODE ("X");
00473
00475 const ClassCode_T DEFAULT_NULL_CLASS_CODE ("");
00476
00478 const ClassList_StringList_T DEFAULT_CLASS_CODE_LIST;
00479
00481 const BidPrice_T DEFAULT_BID_PRICE (0.0);
00482
00484 const BidPriceVector_T DEFAULT_BID_PRICE_VECTOR =
    std::vector<BidPrice_T>();
00485
00489 const unsigned short MAXIMAL_NUMBER_OF_LEGS_IN_FLIGHT (7);
00490
00493 const unsigned short MAXIMAL_NUMBER_OF_SEGMENTS_IN_OND (3);
00494
00496 const SeatIndex_T DEFAULT_SEAT_INDEX (1);
00497
00499 const NbOfSeats_T DEFAULT_NULL_BOOKING_NUMBER (0);

```

```

00500
00502     const CapacityAdjustment_T
00503         DEFAULT_NULL_CAPACITY_ADJUSTMENT (0);
00505
00506     const UPR_T DEFAULT_NULL_UPR (0);
00508     const std::string DEFAULT_FARE_FAMILY_VALUE_TYPE ("FF");
00509
00511     const std::string DEFAULT_SEGMENT_CABIN_VALUE_TYPE ("SC");
00512
00514     const int DEFAULT_MAX_DTD = 365;
00515
00517     const DCPList_T DEFAULT_DCP_LIST =
00518         DefaultDCPList::init();
00519     DCPList_T DefaultDCPList::init() {
00520         DCPList_T oDCPList;
00521         //oDCPList.push_back (72);
00522         oDCPList.push_back (63);oDCPList.push_back (56);oDCPList.push_back (49);
00523         oDCPList.push_back (42);oDCPList.push_back (35);oDCPList.push_back (31);
00524         oDCPList.push_back (27);oDCPList.push_back (23);oDCPList.push_back (19);
00525         oDCPList.push_back (16);oDCPList.push_back (13);oDCPList.push_back (10);
00526         oDCPList.push_back (7); oDCPList.push_back (5); oDCPList.push_back (3);
00527         oDCPList.push_back (1); oDCPList.push_back (0);
00528     }
00529
00531     const FRAT5Curve_T FRAT5_CURVE_A =
00532         DefaultMap::createFRAT5CurveA();
00533     FRAT5Curve_T DefaultMap::createFRAT5CurveA() {
00534         FRAT5Curve_T oCurve;
00535         oCurve[63] = 1.05; oCurve[56] = 1.07; oCurve[49] = 1.09;
00536         oCurve[42] = 1.11; oCurve[35] = 1.14; oCurve[31] = 1.16;
00537         oCurve[27] = 1.18; oCurve[23] = 1.21; oCurve[19] = 1.24;
00538         oCurve[16] = 1.27; oCurve[13] = 1.30; oCurve[10] = 1.33;
00539         oCurve[7] = 1.37; oCurve[5] = 1.40; oCurve[3] = 1.45;
00540         oCurve[1] = 1.50;
00541     }
00542     return oCurve;
00543
00544     const FRAT5Curve_T FRAT5_CURVE_B =
00545         DefaultMap::createFRAT5CurveB();
00546     FRAT5Curve_T DefaultMap::createFRAT5CurveB() {
00547         FRAT5Curve_T oCurve;
00548         oCurve[63] = 1.20; oCurve[56] = 1.23; oCurve[49] = 1.26;
00549         oCurve[42] = 1.30; oCurve[35] = 1.35; oCurve[31] = 1.40;
00550         oCurve[27] = 1.50; oCurve[23] = 1.60; oCurve[19] = 1.80;
00551         oCurve[16] = 2.10; oCurve[13] = 2.20; oCurve[10] = 2.30;
00552         oCurve[7] = 2.40; oCurve[5] = 2.44; oCurve[3] = 2.47;
00553         oCurve[1] = 2.50;
00554     }
00555     return oCurve;
00556 }
00557
00559     const FRAT5Curve_T FRAT5_CURVE_C =
00560         DefaultMap::createFRAT5CurveC();
00561     FRAT5Curve_T DefaultMap::createFRAT5CurveC() {
00562         FRAT5Curve_T oCurve;
00563         oCurve[63] = 1.40; oCurve[56] = 1.45; oCurve[49] = 1.50;
00564         oCurve[42] = 1.55; oCurve[35] = 1.60; oCurve[31] = 1.70;
00565         oCurve[27] = 1.80; oCurve[23] = 2.00; oCurve[19] = 2.30;
00566         oCurve[16] = 2.60; oCurve[13] = 3.00; oCurve[10] = 3.30;
00567         oCurve[7] = 3.40; oCurve[5] = 3.44; oCurve[3] = 3.47;
00568         oCurve[1] = 3.50;
00569     }
00570     return oCurve;
00571 }
00572
00573     const FRAT5Curve_T FRAT5_CURVE_D =
00574         DefaultMap::createFRAT5CurveD();
00575     FRAT5Curve_T DefaultMap::createFRAT5CurveD() {
00576         FRAT5Curve_T oCurve;
00577         oCurve[63] = 1.60; oCurve[56] = 1.67; oCurve[49] = 1.74;
00578         oCurve[42] = 1.81; oCurve[35] = 1.88; oCurve[31] = 2.00;
00579         oCurve[27] = 2.15; oCurve[23] = 2.45; oCurve[19] = 2.75;
00580         oCurve[16] = 3.20; oCurve[13] = 3.80; oCurve[10] = 4.25;
00581         oCurve[7] = 4.35; oCurve[5] = 4.40; oCurve[3] = 4.45;
00582         oCurve[1] = 4.50;
00583     }
00584     return oCurve;
00585 }
00586
00587     const FFDisutilityCurve_T FF_DISUTILITY_CURVE_A =
00588         DefaultMap::createFFDisutilityCurveA();
00589     FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveA
00590 () {
00591         FFDisutilityCurve_T oCurve;
00592         oCurve[63] = 0.0098; oCurve[56] = 0.0096; oCurve[49] = 0.0093;
00593         oCurve[42] = 0.0090; oCurve[35] = 0.0086; oCurve[31] = 0.0082;
00594         oCurve[27] = 0.0077; oCurve[23] = 0.0071; oCurve[19] = 0.0065;
00595         oCurve[16] = 0.0059; oCurve[13] = 0.0052; oCurve[10] = 0.0045;

```

```

00599     oCurve[7] = 0.0039; oCurve[5] = 0.0036; oCurve[3] = 0.0033;
00600     oCurve[1] = 0.0030;
00601     return oCurve;
00602 }
00603
00609 const FFDisutilityCurve_T FF_DISUTILITY_CURVE_B =
00610     DefaultMap::createFFDisutilityCurveB();
00611 FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveB
() {
00612     FFDisutilityCurve_T oCurve;
00613     oCurve[63] = 0.0082; oCurve[56] = 0.0080; oCurve[49] = 0.0078;
00614     oCurve[42] = 0.0075; oCurve[35] = 0.0072; oCurve[31] = 0.0068;
00615     oCurve[27] = 0.0064; oCurve[23] = 0.0059; oCurve[19] = 0.0054;
00616     oCurve[16] = 0.0049; oCurve[13] = 0.0044; oCurve[10] = 0.0038;
00617     oCurve[7] = 0.0033; oCurve[5] = 0.0030; oCurve[3] = 0.0028;
00618     oCurve[1] = 0.0025;
00619     return oCurve;
00620 }
00621
00627 const FFDisutilityCurve_T FF_DISUTILITY_CURVE_C =
00628     DefaultMap::createFFDisutilityCurveC();
00629 FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveC
() {
00630     FFDisutilityCurve_T oCurve;
00631     oCurve[63] = 0.0065; oCurve[56] = 0.0064; oCurve[49] = 0.0062;
00632     oCurve[42] = 0.0060; oCurve[35] = 0.0057; oCurve[31] = 0.0054;
00633     oCurve[27] = 0.0051; oCurve[23] = 0.0047; oCurve[19] = 0.0043;
00634     oCurve[16] = 0.0039; oCurve[13] = 0.0035; oCurve[10] = 0.0030;
00635     oCurve[7] = 0.0026; oCurve[5] = 0.0024; oCurve[3] = 0.0022;
00636     oCurve[1] = 0.0020;
00637     return oCurve;
00638 }
00639
00645 const FFDisutilityCurve_T FF_DISUTILITY_CURVE_D =
00646     DefaultMap::createFFDisutilityCurveD();
00647 FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveD
() {
00648     FFDisutilityCurve_T oCurve;
00649     oCurve[63] = 0.0050; oCurve[56] = 0.0049; oCurve[49] = 0.0047;
00650     oCurve[42] = 0.0045; oCurve[35] = 0.0043; oCurve[31] = 0.0040;
00651     oCurve[27] = 0.0037; oCurve[23] = 0.0034; oCurve[19] = 0.0030;
00652     oCurve[16] = 0.0026; oCurve[13] = 0.0022; oCurve[10] = 0.0017;
00653     oCurve[7] = 0.0013; oCurve[5] = 0.0012; oCurve[3] = 0.0011;
00654     oCurve[1] = 0.0010;
00655     return oCurve;
00656 }
00657
00663 const FFDisutilityCurve_T FF_DISUTILITY_CURVE_E =
00664     DefaultMap::createFFDisutilityCurveE();
00665 FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveE
() {
00666     FFDisutilityCurve_T oCurve;
00667     oCurve[63] = 0.0043; oCurve[56] = 0.0042; oCurve[49] = 0.0041;
00668     oCurve[42] = 0.0039; oCurve[35] = 0.0037; oCurve[31] = 0.0035;
00669     oCurve[27] = 0.0032; oCurve[23] = 0.0029; oCurve[19] = 0.0025;
00670     oCurve[16] = 0.0021; oCurve[13] = 0.0018; oCurve[10] = 0.0013;
00671     oCurve[7] = 0.0011; oCurve[5] = 0.0010; oCurve[3] = 0.0009;
00672     oCurve[1] = 0.0008;
00673     return oCurve;
00674 }
00675
00681 const FFDisutilityCurve_T FF_DISUTILITY_CURVE_F =
00682     DefaultMap::createFFDisutilityCurveF();
00683 FFDisutilityCurve_T DefaultMap::createFFDisutilityCurveF
() {
00684     FFDisutilityCurve_T oCurve;
00685     oCurve[63] = 0.0032; oCurve[56] = 0.0031; oCurve[49] = 0.0030;
00686     oCurve[42] = 0.0029; oCurve[35] = 0.0027; oCurve[31] = 0.0025;
00687     oCurve[27] = 0.0022; oCurve[23] = 0.0019; oCurve[19] = 0.0016;
00688     oCurve[16] = 0.0013; oCurve[13] = 0.0010; oCurve[10] = 0.0008;
00689     oCurve[7] = 0.0007; oCurve[5] = 0.0006; oCurve[3] = 0.0005;
00690     oCurve[1] = 0.0004;
00691     return oCurve;
00692 }
00693
00695 const DTDfratMap_T DEFAULT_DTD_FRAT5COEF_MAP =
00696     DefaultDtdFratMap::init();
00697 DTDfratMap_T DefaultDtdFratMap::init() {
00698     DTDfratMap_T oDFCMap;
00699     oDFCMap[71] = 2.50583571429; oDFCMap[63] = 2.55994571429;
00700     oDFCMap[56] = 2.60841857143; oDFCMap[49] = 2.68888;
00701     oDFCMap[42] = 2.78583714286; oDFCMap[35] = 2.89091428571;
00702     oDFCMap[31] = 2.97871428571; oDFCMap[28] = 3.05521428571;
00703     oDFCMap[24] = 3.15177142857; oDFCMap[21] = 3.22164285714;
00704     oDFCMap[17] = 3.32237142857; oDFCMap[14] = 3.38697142857;
00705     oDFCMap[10] = 3.44204285714; oDFCMap[7] = 3.46202857143;
00706     oDFCMap[5] = 3.47177142857; oDFCMap[3] = 3.4792;

```

```

00707     oDFCMap[1] = 3.48947142857; // oDFCMap[0] = 3.49111428571;
00708     return oDFCMap;
00709 }
00710
00712 const DTDProbMap_T DEFAULT_DTD_PROB_MAP =
00713     DefaultDtdProbMap::init();
00714 DTDProbMap_T DefaultDtdProbMap::init() {
00715     DTDProbMap_T oDPMp;
00716     oDPMp[-330] = 0; oDPMp[-150] = 0.1; oDPMp[-92] = 0.2;
00717     oDPMp[-55] = 0.3; oDPMp[-34] = 0.4; oDPMp[-21] = 0.5;
00718     oDPMp[-12] = 0.6; oDPMp[-6] = 0.7; oDPMp[-3] = 0.8;
00719     oDPMp[-1] = 0.9; oDPMp[0] = 1.0;
00720     return oDPMp;
00721 }
00722
00723 // /////////// Key and display related ///////////
00724 const std::string DEFAULT_KEY_FLD_DELIMITER (";");
00725
00726 const std::string DEFAULT_KEY_SUB_FLD_DELIMITER (" , ");
00727
00728 const boost::char_separator<char> DEFAULT_KEY_TOKEN_DELIMITER (";, ");
00729
00730 const OnDStringList_T DEFAULT_OND_STRING_LIST;
00731
00732
00733 // /////////// BomManager-related constants ///////////
00734 const std::string DISPLAY_LEVEL_STRING_ARRAY[51] =
00735 {
00736     " ", " ", " ", " ", " ",
00737     " ", " ", " ", " ", " ",
00738     " ", " ", " ", " ", " ",
00739     " ", " ", " ", " ", " ",
00740     " ", " ", " ", " ", " ",
00741     " ", " ", " ", " ", " ",
00742     " ", " ", " ", " ", " ",
00743     " ", " ", " ", " ", " ",
00744     " ", " ", " ", " ", " ",
00745     " ", " ", " ", " ", " ",
00746     " ", " ", " ", " ", " ",
00747     " ", " ", " ", " ", " ",
00748     " ", " ", " ", " ", " ",
00749     " ", " ", " ", " ", " ",
00750     " ", " ", " ", " ", " ",
00751     " ", " ", " ", " ", " ",
00752     " ", " ", " ", " ", " ",
00753     " ", " ", " ", " ", " ",
00754     " ", " ", " ", " ", " ",
00755     " ", " ", " ", " ", " ",
00756     " ", " ", " ", " ", " ",
00757     " ", " ", " ", " ", " ",
00758     " ", " ", " ", " ", " ",
00759     " ", " ", " ", " ", " ",
00760     " ", " ", " ", " ", " ",
00761     " ", " ", " ", " ", " ",
00762     " ", " ", " ", " ", " ",
00763     " ", " ", " ", " ", " ",
00764     " ", " ", " ", " ", " ",
00765     " ", " ", " ", " ", " ",
00766     " ", " ", " ", " ", " ",
00767     " ", " ", " ", " ", " ",
00768     " ", " ", " ", " ", " ",
00769     " ", " ", " ", " ", " ",
00770     " ", " ", " ", " ", " ",
00771     " ", " ", " ", " ", " ",
00772     " ", " ", " ", " ", " ",
00773     " ", " ", " ", " ", " ",
00774     " ", " ", " ", " ", " ",
00775     " ", " ", " ", " ", " ",
00776     " ", " ", " ", " ", " ",
00777     " ", " ", " ", " ", " ",
00778     " ", " ", " ", " ", " ",
00779     " ", " ", " ", " ", " ",
00780     " ", " ", " ", " ", " ",
00781     " ", " ", " ", " ", " ",
00782     " ", " ",
00783 }
00784
00785 }
```

### 33.23 stdair/basic/BasConst\_BomDisplay.hpp File Reference

```
#include <string>
#include <boost/tokenizer.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Variables

- const std::string `stdair::DEFAULT_KEY_FLD_DELIMITER`
- const std::string `stdair::DEFAULT_KEY_SUB_FLD_DELIMITER`
- const boost::char\_separator< char > `stdair::DEFAULT_KEY_TOKEN_DELIMITER`

## 33.24 BasConst\_BomDisplay.hpp

```
00001 #ifndef __STDAIR_BAS_BASCONST_BOMMANAGER_HPP
00002 #define __STDAIR_BAS_BASCONST_BOMMANAGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost
00010 #include <boost/tokenizer.hpp>
00011
00012 namespace stdair {
00013
00016   extern const std::string DISPLAY_LEVEL_STRING_ARRAY[51];
00017
00020   extern const std::string DEFAULT_KEY_FLD_DELIMITER;
00021
00024   extern const std::string DEFAULT_KEY_SUB_FLD_DELIMITER;
00025
00027   extern const boost::char_separator<char> DEFAULT_KEY_TOKEN_DELIMITER;
00028
00029 }
00030 #endif // __STDAIR_BAS_BASCONST_BOMMANAGER_HPP
```

## 33.25 stdair/basic/BasConst\_BookingClass.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_fare_types.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Variables

- const Distance\_T `stdair::DEFAULT_DISTANCE_VALUE`
- const ClassCode\_T `stdair::DEFAULT_CLOSED_CLASS_CODE`
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_NB_OF_BOOKINGS`
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS`
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_UNCONSTRAINED_DEMAND`
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_REMAINING_DEMAND_MEAN`
- const NbOfBookings\_T `stdair::DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION`
- const NbOfCancellations\_T `stdair::DEFAULT_CLASS_NB_OF_CANCELLATIONS`
- const NbOfNoShows\_T `stdair::DEFAULT_CLASS_NB_OF_NOSHOWS`

- const CabinCapacity\_T stdair::DEFAULT\_CABIN\_CAPACITY
- const CommittedSpace\_T stdair::DEFAULT\_COMMITED\_SPACE
- const BlockSpace\_T stdair::DEFAULT\_BLOCK\_SPACE
- const Availability\_T stdair::DEFAULT\_NULL\_AVAILABILITY
- const Availability\_T stdair::DEFAULT\_AVAILABILITY
- const CensorshipFlag\_T stdair::DEFAULT\_CLASS\_CENSORSHIPFLAG
- const BookingLimit\_T stdair::DEFAULT\_CLASS\_BOOKING\_LIMIT
- const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_AUTHORIZATION\_LEVEL
- const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_MAX\_AUTHORIZATION\_LEVEL
- const AuthorizationLevel\_T stdair::DEFAULT\_CLASS\_MIN\_AUTHORIZATION\_LEVEL
- const OverbookingRate\_T stdair::DEFAULT\_CLASS\_OVERBOOKING\_RATE
- const Fare\_T stdair::DEFAULT\_FARE\_VALUE
- const Revenue\_T stdair::DEFAULT\_REVENUE\_VALUE
- const PriceCurrency\_T stdair::DEFAULT\_CURRENCY
- const Percentage\_T stdair::DEFAULT\_LOAD\_FACTOR\_VALUE
- const DayDuration\_T stdair::DEFAULT\_DAY\_DURATION
- const double stdair::DEFAULT\_EPSILON\_VALUE

### 33.26 BasConst\_BookingClass.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_BOOKINGCLASS_HPP
00002 #define __STDAIR_BAS_BASCONST_BOOKINGCLASS_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_inventory_types.hpp>
00010 #include <stdair/stdair_demand_types.hpp>
00011 #include <stdair/stdair_fare_types.hpp>
00012
00013 namespace stdair {
00014
00015 // ////////// (Segment-)Class-related BOM //////////
00017 extern const Distance_T DEFAULT_DISTANCE_VALUE;
00018
00020 extern const ClassCode_T DEFAULT_CLOSED_CLASS_CODE;
00021
00024 extern const NbOfBookings_T DEFAULT_CLASS_NB_OF_BOOKINGS;
00025
00028 extern const NbOfBookings_T DEFAULT_CLASS_TOTAL_NB_OF_BOOKINGS
00029 ;
00031 extern const NbOfBookings_T DEFAULT_CLASS_UNCONSTRAINED_DEMAND
00032 ;
00034 extern const NbOfBookings_T DEFAULT_CLASS_REMAINING_DEMAND_MEAN
00035 ;
00038 extern const NbOfBookings_T
00039   DEFAULT_CLASS_REMAINING_DEMAND_STANDARD_DEVIATION;
00041
00042 extern const NbOfCancellations_T
00043   DEFAULT_CLASS_NB_OF_CANCELLATIONS;
00044
00045 extern const CabinCapacity_T DEFAULT_CABIN_CAPACITY;
00047
00048 extern const CommittedSpace_T DEFAULT_COMMITED_SPACE;
00050
00051 extern const BlockSpace_T DEFAULT_BLOCK_SPACE;
00053
00054 extern const Availability_T DEFAULT_NULL_AVAILABILITY;
00056
00057 extern const Availability_T DEFAULT_AVAILABILITY;
00059
00060 extern const CensorshipFlag_T DEFAULT_CLASS_CENSORSHIPFLAG;
00063
00064 extern const CensorshipFlagList_T
00065   DEFAULT_CLASS_CENSORSHIPFLAG_LIST;
00067
00068 extern const BookingLimit_T DEFAULT_CLASS_BOOKING_LIMIT;
00070

```

```

00071
00073     extern const AuthorizationLevel_T
00074         DEFAULT_CLASS_AUTHORIZATION_LEVEL;
00076     extern const AuthorizationLevel_T
00077         DEFAULT_CLASS_MAX_AUTHORIZATION_LEVEL;
00078
00079     extern const AuthorizationLevel_T
00080         DEFAULT_CLASS_MIN_AUTHORIZATION_LEVEL;
00081
00082     extern const OverbookingRate_T DEFAULT_CLASS_OVERBOOKING_RATE
00083 ;
00084
00085     extern const Fare_T DEFAULT_FARE_VALUE;
00086
00087     extern const Revenue_T DEFAULT_REVENUE_VALUE;
00088
00089     extern const PriceCurrency_T DEFAULT_CURRENCY;
00090
00091     extern const Percentage_T DEFAULT_LOAD_FACTOR_VALUE;
00092
00093     extern const DayDuration_T DEFAULT_DAY_DURATION;
00094
00095     extern const double DEFAULT_EPSILON_VALUE;
00096
00097 }
00098
00099 #endif // __STDAIR_BAS_BASCONST_BOOKINGCLASS_HPP

```

### 33.27 stdair/basic/BasConst\_DefaultObject.hpp File Reference

```
#include <stdair/stdair_types.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Variables

- const AirportCode\_T [stdair::AIRPORT\\_LHR](#)
- const AirportCode\_T [stdair::AIRPORT\\_SYD](#)
- const CityCode\_T [stdair::POS\\_LHR](#)
- const DayDuration\_T [stdair::NO\\_ADVANCE\\_PURCHASE](#)
- const SaturdayStay\_T [stdair::SATURDAY\\_STAY](#)
- const SaturdayStay\_T [stdair::NO\\_SATURDAY\\_STAY](#)
- const ChangeFees\_T [stdair::CHANGE\\_FEES](#)
- const ChangeFees\_T [stdair::NO\\_CHANGE\\_FEES](#)
- const NonRefundable\_T [stdair::NON\\_REFUNDABLE](#)
- const NonRefundable\_T [stdair::NO\\_NON\\_REFUNDABLE](#)
- const DayDuration\_T [stdair::NO\\_STAY\\_DURATION](#)
- const CabinCode\_T [stdair::CABIN\\_Y](#)
- const AirlineCode\_T [stdair::AIRLINE\\_CODE\\_BA](#)
- const ClassCode\_T [stdair::CLASS\\_CODE\\_Y](#)
- const ClassCode\_T [stdair::CLASS\\_CODE\\_Q](#)
- const AirportCode\_T [stdair::AIRPORT\\_SIN](#)
- const AirportCode\_T [stdair::AIRPORT\\_BKK](#)
- const CityCode\_T [stdair::POS\\_SIN](#)
- const CabinCode\_T [stdair::CABIN\\_ECO](#)
- const FrequentFlyer\_T [stdair::FREQUENT\\_FLYER\\_MEMBER](#)

### 33.28 BasConst\_DefaultObject.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_DEFAULTOBJECT_HPP
00002 #define __STDAIR_BAS_BASCONST_DEFAULTOBJECT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_types.hpp>
00009
00010 namespace stdair {
00011
00012 // ////////// Fare and Yield related BOM Tree/////////
00014 extern const AirportCode_T AIRPORT_LHR;
00015
00017 extern const AirportCode_T AIRPORT_SYD;
00018
00020 extern const CityCode_T POS_LHR;
00021
00023 extern const DayDuration_T NO_ADVANCE_PURCHASE;
00024
00026 extern const SaturdayStay_T SATURDAY_STAY;
00027
00029 extern const SaturdayStay_T NO_SATURDAY_STAY;
00030
00032 extern const ChangeFees_T CHANGE_FEES;
00033
00035 extern const ChangeFees_T NO_CHANGE_FEES;
00036
00038 extern const NonRefundable_T NON_REFUNDABLE;
00039
00041 extern const NonRefundable_T NO_NON_REFUNDABLE;
00042
00044 extern const DayDuration_T NO_STAY_DURATION;
00045
00047 extern const CabinCode_T CABIN_Y;
00048
00050 extern const AirlineCode_T AIRLINE_CODE_BA;
00051
00053 extern const ClassCode_T CLASS_CODE_Y;
00054
00055 // ////////// Travel Solution related objects/////////
00057 extern const ClassCode_T CLASS_CODE_Q;
00058
00059 // ////////// Booking request related objects/////////
00061 extern const AirportCode_T AIRPORT_SIN;
00062
00064 extern const AirportCode_T AIRPORT_BKK;
00065
00067 extern const CityCode_T POS_SIN;
00068
00070 extern const CabinCode_T CABIN_ECO;
00071
00073 extern const FrequentFlyer_T FREQUENT_FLYER_MEMBER;
00074
00075 }
00076 #endif // __STDAIR_BAS_BASCONST_DEFAULTOBJECT_HPP

```

### 33.29 stdair/basic/BasConst\_Event.hpp File Reference

```

#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_event_types.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Variables

- [const Count\\_T stdair::DEFAULT\\_PROGRESS\\_STATUS](#)

- const Date\_T stdair::DEFAULT\_EVENT\_OLEDEST\_DATE
- const DateTime\_T stdair::DEFAULT\_EVENT\_OLEDEST\_DATETIME
- const Percentage\_T stdair::MAXIMUM\_PROGRESS\_STATUS

### 33.30 BasConst\_Event.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_EVENT_HPP
00002 #define __STDAIR_BAS_BASCONST_EVENT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
00010 #include <stdair/stdair_event_types.hpp>
00011
00012 namespace stdair {
00013
00015   extern const Count_T DEFAULT_PROGRESS_STATUS;
00016
00019   extern const Date_T DEFAULT_EVENT_OLEDEST_DATE;
00020
00023   extern const DateTime_T DEFAULT_EVENT_OLEDEST_DATETIME;
00024
00026   extern const Percentage_T MAXIMUM_PROGRESS_STATUS;
00027
00028 }
00029 #endif // __STDAIR_BAS_BASCONST_EVENT_HPP

```

### 33.31 stdair/basic/BasConst\_General.hpp File Reference

```
#include <string>
#include <stdair/stdair_types.hpp>
```

#### Namespaces

- stdair  
*Handle on the StdAir library context.*

#### Variables

- const std::string stdair::DEFAULT\_BOM\_ROOT\_KEY
- const NbOfFlightDates\_T stdair::DEFAULT\_NB\_OF\_FLIGHTDATES
- const unsigned int stdair::DEFAULT\_FLIGHT\_SPEED
- const BookingRatio\_T stdair::DEFAULT\_OND\_BOOKING\_RATE
- const Count\_T stdair::SECONDS\_IN\_ONE\_DAY
- const Count\_T stdair::MILLISECONDS\_IN\_ONE\_SECOND
- const Date\_T stdair::DEFAULT\_DATE
- const DateTime\_T stdair::DEFAULT\_DATETIME
- const Duration\_T stdair::DEFAULT\_EPSILON\_DURATION
- const RandomSeed\_T stdair::DEFAULT\_RANDOM\_SEED
- const Duration\_T stdair::NULL\_BOOST\_TIME\_DURATION
- const Duration\_T stdair::DEFAULT\_NULL\_DURATION
- const Fare\_T stdair::DEFAULT\_CLASS\_FARE\_VALUE
- const NbOfAirlines\_T stdair::DEFAULT\_NBOFAIRLINES
- const unsigned int stdair::DEFAULT\_NB\_OF\_DAYS\_IN\_A\_YEAR
- const ChannelLabel\_T stdair::DEFAULT\_CHANNEL
- const unsigned int stdair::DEFAULT\_NUMBER\_OF\_SUBDIVISIONS

### 33.32 BasConst\_General.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_GENERAL_HPP
00002 #define __STDAIR_BAS_BASCONST_GENERAL_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_types.hpp>
00011
00012 namespace stdair {
00013
00015   extern const std::string DEFAULT_BOM_ROOT_KEY;
00016
00018   extern const double DEFAULT_EPSILON_VALUE;
00019
00021   extern const CabinCapacity_T DEFAULT_CABIN_CAPACITY;
00022
00024   extern const NbOfFlightDates_T DEFAULT_NB_OF_FLIGHTDATES;
00025
00027   extern const NbOfBookings_T DEFAULT_CLASS_NB_OF_BOOKINGS;
00028
00030   extern const Distance_T DEFAULT_DISTANCE_VALUE;
00031
00033   extern const unsigned int DEFAULT_FLIGHT_SPEED;
00034
00036   extern const Fare_T DEFAULT_FARE_VALUE;
00037
00039   extern const PriceCurrency_T DEFAULT_CURRENCY;
00040
00042   extern const Revenue_T DEFAULT_REVENUE_VALUE;
00043
00045   extern const BookingRatio_T DEFAULT_OND_BOOKING_RATE;
00046
00048   extern const Count_T SECONDS_IN_ONE_DAY;
00049
00051   extern const Count_T MILLISECONDS_IN_ONE_SECOND;
00052
00054   extern const Date_T DEFAULT_DATE;
00055
00057   extern const DateTime_T DEFAULT_DATETIME;
00058
00060   extern const Duration_T DEFAULT_EPSILON_DURATION;
00061
00063   extern const RandomSeed_T DEFAULT_RANDOM_SEED;
00064
00066   extern const Duration_T NULL_BOOST_TIME_DURATION;
00067
00069   extern const Duration_T DEFAULT_NULL_DURATION;
00070
00072   extern const Fare_T DEFAULT_CLASS_FARE_VALUE;
00073
00075   extern const NbOfAirlines_T DEFAULT_NBOFAIRLINES;
00076
00078   extern const unsigned int DEFAULT_NB_OF_DAYS_IN_A_YEAR;
00079
00081   extern const NbOfBookings_T DEFAULT_CLASS_NB_OF_BOOKINGS;
00082
00084   extern const ChannelLabel_T DEFAULT_CHANNEL;
00085
00087   extern const OnDStringList_T DEFAULT_OND_STRING_LIST;
00088
00090   extern const unsigned int DEFAULT_NUMBER_OF_SUBDIVISIONS;
00091
00092 }
00093 #endif // __STDAIR_BAS_BASCONST_GENERAL_HPP

```

### 33.33 stdair/basic/BasConst\_Inventory.hpp File Reference

```

#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/ForecastingMethod.hpp>
#include <stdair/basic/UnconstrainingMethod.hpp>
#include <stdair/basic/PreOptimisationMethod.hpp>
#include <stdair/basic/OptimisationMethod.hpp>
#include <stdair/basic/PartnershipTechnique.hpp>

```

## Classes

- struct `stdair::DefaultDCPList`
- struct `stdair::DefaultDtdFratMap`
- struct `stdair::DefaultDtdProbMap`

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Variables

- const `AirlineCode_T stdair::DEFAULT_AIRLINE_CODE`
- const `AirlineCode_T stdair::DEFAULT_NULL_AIRLINE_CODE`
- const `FlightNumber_T stdair::DEFAULT_FLIGHT_NUMBER`
- const `FlightNumber_T stdair::DEFAULT_FLIGHT_NUMBER_FF`
- const `TableID_T stdair::DEFAULT_TABLE_ID`
- const `Date_T stdair::DEFAULT_DEPARTURE_DATE`
- const `AirportCode_T stdair::DEFAULT_AIRPORT_CODE`
- const `AirportCode_T stdair::DEFAULT_NULL_AIRPORT_CODE`
- const `AirportCode_T stdair::DEFAULT_ORIGIN`
- const `AirportCode_T stdair::DEFAULT_DESTINATION`
- const `CabinCode_T stdair::DEFAULT_CABIN_CODE`
- const `FamilyCode_T stdair::DEFAULT_FAIR_FAMILY_CODE`
- const `FamilyCode_T stdair::DEFAULT_NULL_FAIR_FAMILY_CODE`
- const `PolicyCode_T stdair::DEFAULT_POLICY_CODE`
- const `NestingStructureCode_T stdair::DEFAULT_NESTING_STRUCTURE_CODE`
- const `NestingStructureCode_T stdair::DISPLAY_NESTING_STRUCTURE_CODE`
- const `NestingStructureCode_T stdair::YIELD_BASED_NESTING_STRUCTURE_CODE`
- const `NestingNodeCode_T stdair::DEFAULT_NESTING_NODE_CODE`
- const `ClassCode_T stdair::DEFAULT_CLASS_CODE`
- const `ClassCode_T stdair::DEFAULT_NULL_CLASS_CODE`
- const `BidPrice_T stdair::DEFAULT_BID_PRICE`
- const `unsigned short stdair::MAXIMAL_NUMBER_OF_LEGS_IN_FLIGHT`
- const `unsigned short stdair::MAXIMAL_NUMBER_OF_SEGMENTS_IN_OND`
- const `Availability_T stdair::MAXIMAL_AVAILABILITY`
- const `SeatIndex_T stdair::DEFAULT_SEAT_INDEX`
- const `NbOfSeats_T stdair::DEFAULT_NULL_BOOKING_NUMBER`
- const `CapacityAdjustment_T stdair::DEFAULT_NULL_CAPACITY_ADJUSTMENT`
- const `UPR_T stdair::DEFAULT_NULL_UPR`
- const `std::string stdair::DEFAULT_FAIR_FAMILY_VALUE_TYPE`
- const `std::string stdair::DEFAULT_SEGMENT_CABIN_VALUE_TYPE`

## 33.34 BasConst\_Inventory.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_INVENTORY_HPP
00002 #define __STDAIR_BAS_BASCONST_INVENTORY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_inventory_types.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
0010 #include <stdair/basic/ForecastingMethod.hpp>
0011 #include <stdair/basic/UnconstrainingMethod.hpp>
0012 #include <stdair/basic/PreOptimisationMethod.hpp>

```

```
00013 #include <stdair/basic/OptimisationMethod.hpp>
00014 #include <stdair/basic/PartnershipTechnique.hpp>
00015
00016 namespace stdair {
00017
00018 // ////////// Inventory-related BOM //////////
00019 extern const AirlineCode_T DEFAULT_AIRLINE_CODE;
00020
00021 extern const AirlineCode_T DEFAULT_NULL_AIRLINE_CODE;
00022
00023 extern const AirlineCodeList_T DEFAULT_AIRLINE_CODE_LIST;
00024
00025 extern const FlightNumber_T DEFAULT_FLIGHT_NUMBER;
00026
00027 extern const FlightNumber_T DEFAULT_FLIGHT_NUMBER_FF;
00028
00029 extern const TableID_T DEFAULT_TABLE_ID;
00030
00031 extern const Date_T DEFAULT_DEPARTURE_DATE;
00032
00033 extern const AirportCode_T DEFAULT_AIRPORT_CODE;
00034
00035 extern const AirportCode_T DEFAULT_NULL_AIRPORT_CODE;
00036
00037 extern const AirportCode_T DEFAULT_ORIGIN;
00038
00039 extern const AirportCode_T DEFAULT_DESTINATION;
00040
00041 extern const CabinCode_T DEFAULT_CABIN_CODE;
00042
00043 extern const FamilyCode_T DEFAULT_FARE_FAMILY_CODE;
00044
00045 extern const FamilyCode_T DEFAULT_NULL_FARE_FAMILY_CODE;
00046
00047 extern const PolicyCode_T DEFAULT_POLICY_CODE;
00048
00049 extern const NestingStructureCode_T
00050     DEFAULT_NESTING_STRUCTURE_CODE;
00051
00052 extern const NestingStructureCode_T
00053     DISPLAY_NESTING_STRUCTURE_CODE;
00054
00055 extern const NestingStructureCode_T
00056     YIELD_BASED_NESTING_STRUCTURE_CODE;
00057
00058 extern const NestingNodeCode_T DEFAULT_NESTING_NODE_CODE;
00059
00060 extern const ClassCode_T DEFAULT_CLASS_CODE;
00061
00062 extern const ClassCode_T DEFAULT_NULL_CLASS_CODE;
00063
00064 extern const ClassList_StringList_T
00065     DEFAULT_CLASS_CODE_LIST;
00066
00067 extern const BidPrice_T DEFAULT_BID_PRICE;
00068
00069 extern const BidPriceVector_T DEFAULT_BID_PRICE_VECTOR;
00070
00071 extern const unsigned short MAXIMAL_NUMBER_OF_LEGS_IN_FLIGHT;
00072
00073 extern const unsigned short MAXIMAL_NUMBER_OF_SEGMENTS_IN_OND;
00074
00075 extern const Availability_T MAXIMAL_AVAILABILITY;
00076
00077 extern const SeatIndex_T DEFAULT_SEAT_INDEX;
00078
00079 extern const NbOfSeats_T DEFAULT_NULL_BOOKING_NUMBER;
00080
00081 extern const CapacityAdjustment_T
00082     DEFAULT_NULL_CAPACITY_ADJUSTMENT;
00083
00084 extern const UPR_T DEFAULT_NULL_UPR;
00085
00086 extern const std::string DEFAULT_FARE_FAMILY_VALUE_TYPE;
00087
00088 extern const std::string DEFAULT_SEGMENT_CABIN_VALUE_TYPE;
00089
00090 extern const int DEFAULT_MAX_DTD;
00091
00092 extern const DCPList_T DEFAULT_DCP_LIST;
00093 struct DefaultDCPList { static DCPList_T init(); };
00094
00095 extern const DTDFratMap_T DEFAULT_DTD_FRAT5COEF_MAP;
00096 struct DefaultDtdFratMap { static DTDFratMap_T
00097     init(); };
00098
00099 extern const DTDPProbMap_T DEFAULT_DTD_PROB_MAP;
```

```

00134     struct DefaultDtdProbMap { static DTDPromap_T
00135         init(); };
00136
00137     extern const ForecastingMethod DEFAULT_FORECASTING_METHOD;
00138
00139     extern const UnconstrainingMethod
00140         DEFAULT_UNCONSTRAINING_METHOD;
00141
00142     extern const PreOptimisationMethod
00143         DEFAULT_PREOPTIMISATION_METHOD;
00144
00145     extern const OptimisationMethod DEFAULT_OPTIMISATION_METHOD;
00146
00147     extern const PartnershipTechnique
00148         DEFAULT_PARTNERSHIP_TECHNIQUE;
00149
00150 }
00151
00152 #endif // __STDAIR_BAS_BASCONST_INVENTORY_HPP

```

### 33.35 stdair/basic/BasConst\_Period\_BOM.hpp File Reference

```
#include <stdair/stdair_types.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### Variables

- const DatePeriod\_T stdair::BOOST\_DEFAULT\_DATE\_PERIOD
- const DOW\_String\_T stdair::DEFAULT\_DOW\_STRING
- const DateOffset\_T stdair::DEFAULT\_DATE\_OFFSET

### 33.36 BasConst\_Period\_BOM.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_PERIOD_BOM_HPP
00002 #define __STDAIR_BAS_BASCONST_PERIOD_BOM_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_types.hpp>
00009
00010 namespace stdair {
00011
00012 // ////////////// (Flight-)Period-related BOM //////////
00013
00014     extern const DatePeriod_T BOOST_DEFAULT_DATE_PERIOD;
00015
00016     extern const std::string DOW_STR[];
00017
00018     extern const DOW_String_T DEFAULT_DOW_STRING;
00019
00020     extern const DateOffset_T DEFAULT_DATE_OFFSET;
00021
00022     extern const DayDuration_T DEFAULT_DAY_DURATION;
00023
00024 }
00025
00026 #endif // __STDAIR_BAS_BASCONST_PERIOD_BOM_HPP

```

### 33.37 stdair/basic/BasConst\_Request.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Variables

- `const PartySize_T stdair::DEFAULT_PARTY_SIZE`
- `const DayDuration_T stdair::DEFAULT_STAY_DURATION`
- `const WTP_T stdair::DEFAULT_WTP`
- `const CityCode_T stdair::DEFAULT_POS`
- `const Date_T stdair::DEFAULT_PREFERRED_DEPARTURE_DATE`
- `const Duration_T stdair::DEFAULT_PREFERRED_DEPARTURE_TIME`
- `const DateOffset_T stdair::DEFAULT_ADVANCE_PURCHASE`
- `const Date_T stdair::DEFAULT_REQUEST_DATE`
- `const Duration_T stdair::DEFAULT_REQUEST_TIME`
- `const DateTime_T stdair::DEFAULT_REQUEST_DATE_TIME`
- `const CabinCode_T stdair::DEFAULT_PREFERRED_CABIN`
- `const ChannelLabel_T stdair::CHANNEL_DN`
- `const ChannelLabel_T stdair::CHANNEL_IN`
- `const TripType_T stdair::TRIP_TYPE_ONE WAY`
- `const TripType_T stdair::TRIP_TYPE_ROUND_TRIP`
- `const TripType_T stdair::TRIP_TYPE_INBOUND`
- `const TripType_T stdair::TRIP_TYPE_OUTBOUND`
- `const FrequentFlyer_T stdair::DEFAULT_FF_TIER`
- `const PriceValue_T stdair::DEFAULT_VALUE_OF_TIME`
- `const IntDuration_T stdair::HOUR_CONVERTED_IN_SECONDS`

### 33.38 BasConst\_Request.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_REQUEST_HPP
00002 #define __STDAIR_BAS_BASCONST_REQUEST_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_demand_types.hpp>
00010 #include <stdair/stdair_date_time_types.hpp>
00011
00012 namespace stdair {
00013
00015   extern const PartySize_T DEFAULT_PARTY_SIZE;
00016
00018   extern const DayDuration_T DEFAULT_STAY_DURATION;
00019
00021   extern const WTP_T DEFAULT_WTP;
00022
00024   extern const CityCode_T DEFAULT_POS;
00025
00027   extern const Date_T DEFAULT_PREFERRED_DEPARTURE_DATE;
00028
00030   extern const Duration_T DEFAULT_PREFERRED_DEPARTURE_TIME;
00031
00033   extern const DateOffset_T DEFAULT_ADVANCE_PURCHASE;
00034
00036   extern const Date_T DEFAULT_REQUEST_DATE;
00037
00039   extern const Duration_T DEFAULT_REQUEST_TIME;
00040
00042   extern const DateTime_T DEFAULT_REQUEST_DATE_TIME;
00043
00045   extern const CabinCode_T DEFAULT_PREFERRED_CABIN;
00046
00048   extern const ChannelLabel_T DEFAULT_CHANNEL;
00049
00051   extern const ChannelLabel_T CHANNEL_DN;

```

```

00052
00054     extern const ChannelLabel_T CHANNEL_IN;
00055
00057     extern const TripType_T TRIP_TYPE_ONE_WAY;
00058
00060     extern const TripType_T TRIP_TYPE_ROUND_TRIP;
00061
00063     extern const TripType_T TRIP_TYPE_INBOUND;
00064
00066     extern const TripType_T TRIP_TYPE_OUTBOUND;
00067
00069     extern const FrequentFlyer_T DEFAULT_FF_TIER;
00070
00072     extern const PriceValue_T DEFAULT_VALUE_OF_TIME;
00073
00075     extern const IntDuration_T HOUR_CONVERTED_IN_SECONDS;
00076
00077 }
00078 #endif // __STDAIR_BAS_BASCONST_REQUEST_HPP

```

### 33.39 stdair/basic/BasConst\_SellUpCurves.hpp File Reference

```
#include <stdair/stdair_types.hpp>
```

#### Classes

- struct [stdair::DefaultMap](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.40 BasConst\_SellUpCurves.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_SELLUPCURVES_HPP
00002 #define __STDAIR_BAS_BASCONST_SELLUPCURVES_HPP
00003
00004 ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 ///////////////////////////////////////////////////////////////////
00007 // STDAIR
00008 #include <stdair/stdair_types.hpp>
00009
00010 namespace stdair {
00011
00013     extern const FRAT5Curve_T FRAT5_CURVE_A;
00014     extern const FRAT5Curve_T FRAT5_CURVE_B;
00015     extern const FRAT5Curve_T FRAT5_CURVE_C;
00016     extern const FRAT5Curve_T FRAT5_CURVE_D;
00017
00019     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_A;
00020     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_B;
00021     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_C;
00022     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_D;
00023     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_E;
00024     extern const FFDisutilityCurve_T FF_DISUTILITY_CURVE_F;
00025
00027     struct DefaultMap {
00028         static FRAT5Curve_T createFRAT5CurveA();
00029         static FRAT5Curve_T createFRAT5CurveB();
00030         static FRAT5Curve_T createFRAT5CurveC();
00031         static FRAT5Curve_T createFRAT5CurveD();
00032         static FFDisutilityCurve_T createFFDisutilityCurveA();
00033         static FFDisutilityCurve_T createFFDisutilityCurveB();
00034         static FFDisutilityCurve_T createFFDisutilityCurveC();
00035         static FFDisutilityCurve_T createFFDisutilityCurveD();
00036         static FFDisutilityCurve_T createFFDisutilityCurveE();
00037         static FFDisutilityCurve_T createFFDisutilityCurveF();
00038     };
00039 }
00040 #endif // __STDAIR_BAS_BASCONST_SELLUPCURVES_HPP

```

### 33.41 stdair/basic/BasConst\_TravelSolution.hpp File Reference

```
#include <stdair/stdair_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Variables

- const Duration\_T stdair::DEFAULT\_MINIMAL\_CONNECTION\_TIME
- const Duration\_T stdair::DEFAULT\_MAXIMAL\_CONNECTION\_TIME
- const FlightPathCode\_T stdair::DEFAULT\_FLIGHTPATH\_CODE
- const Availability\_T stdair::DEFAULT\_CLASS\_AVAILABILITY
- const AvailabilityStatus\_T stdair::DEFAULT\_AVAILABILITY\_STATUS
- const unsigned short stdair::DEFAULT\_NUMBER\_OF\_REQUIRED\_SEATS
- const MatchingIndicator\_T stdair::DEFAULT\_MATCHING\_INDICATOR
- const AirlineCode\_T stdair::DEFAULT\_DICO\_STUDIED\_AIRLINE

### 33.42 BasConst\_TravelSolution.hpp

```
00001 #ifndef __STDAIR_BAS_BASCONST_TRAVELSOLUTION_HPP
00002 #define __STDAIR_BAS_BASCONST_TRAVELSOLUTION_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_types.hpp>
00009
00010 namespace stdair {
00011
00012 // ////////// Travel Solutions //////////
00013 extern const Distance_T DEFAULT_DISTANCE_VALUE;
00015
00017 extern const Duration_T DEFAULT_MINIMAL_CONNECTION_TIME;
00018
00020 extern const Duration_T DEFAULT_MAXIMAL_CONNECTION_TIME;
00021
00023 extern const Duration_T NULL_BOOST_TIME_DURATION;
00024
00026 extern const FlightPathCode_T DEFAULT_FLIGHTPATH_CODE;
00027
00029 extern const Availability_T DEFAULT_CLASS_AVAILABILITY;
00030
00032 extern const AvailabilityStatus_T
    DEFAULT_AVAILABILITY_STATUS;
00033
00035 extern const unsigned short DEFAULT_NUMBER_OF_REQUIRED_SEATS;
00036
00039 extern const MatchingIndicator_T DEFAULT_MATCHING_INDICATOR;
00040
00042 extern const Revenue_T DEFAULT_REVENUE_VALUE;
00043
00045 extern const AirlineCode_T DEFAULT_DICO_STUDIED_AIRLINE;
00046
00048 extern const Date_T DEFAULT_DICO_STUDIED_DATE;
00049
00050 }
00051 #endif // __STDAIR_BAS_BASCONST_TRAVELSOLUTION_HPP
```

### 33.43 stdair/basic/BasConst\_Yield.hpp File Reference

```
#include <stdair/stdair_types.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Variables

- const Yield\_T **stdair::DEFAULT\_YIELD\_VALUE**
- const Yield\_T **stdair::DEFAULT\_YIELD\_MAX\_VALUE**

## 33.44 BasConst\_Yield.hpp

```

00001 #ifndef __STDAIR_BAS_BASCONST_YIELD_HPP
00002 #define __STDAIR_BAS_BASCONST_YIELD_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_types.hpp>
00009
00010 namespace stdair {
00011
00012 // ////////// (Leg-)Yield-related BOM //////////
00014 extern const Yield_T DEFAULT_YIELD_VALUE;
00015
00017 extern const Yield_T DEFAULT_YIELD_MAX_VALUE;
00018
00019 }
00020 #endif // __STDAIR_BAS_BASCONST_YIELD_HPP

```

## 33.45 stdair/basic/BasDBParams.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasDBParams.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.46 BasDBParams.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasDBParams.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 BasDBParams::BasDBParams() {
00014 }
00015
00016 // /////////////////////////////////
00017 BasDBParams::BasDBParams (const BasDBParams& iDBParams)
00018   : _user (iDBParams._user), _passwd (iDBParams._passwd),
00019   _host (iDBParams._host), _port (iDBParams._port),
00020   _dbname (iDBParams._dbname) {
00021 }
00022

```

```

00023 // ///////////////////////////////////////////////////////////////////
00024 BasDBParams::BasDBParams (const std::string& iDBUser,
00025             const std::string& iDBPasswd,
00026             const std::string& iDBHost,
00027             const std::string& iDBPort,
00028             const std::string& iDBName)
00029     : _user (iDBUser), _passwd (iDBPasswd), _host (iDBHost), _port (iDBPort),
00030     _dbname (iDBName) {
00031 }
00032
00033 // ///////////////////////////////////////////////////////////////////
00034 BasDBParams::~BasDBParams () {
00035 }
00036
00037 // ///////////////////////////////////////////////////////////////////
00038 const std::string BasDBParams::describe () const {
00039     return toString ();
00040 }
00041
00042 // ///////////////////////////////////////////////////////////////////
00043 std::string BasDBParams::toShortString () const {
00044     std::ostringstream oStr;
00045     oStr << _dbname << "." << _user << "@" << _host << ":" << _port;
00046     return oStr.str ();
00047 }
00048
00049 // ///////////////////////////////////////////////////////////////////
00050 std::string BasDBParams::toString () const {
00051     std::ostringstream oStr;
00052     oStr << _dbname << "." << _user << "@" << _host << ":" << _port;
00053     return oStr.str ();
00054 }
00055
00056 // ///////////////////////////////////////////////////////////////////
00057 bool BasDBParams::check () const {
00058     if (_user.empty () == true || _passwd.empty () == true
00059         || _host.empty () == true || _port.empty ()
00060         || _dbname.empty () == true) {
00061         return false;
00062     }
00063     return true;
00064 }
00065
00066 }

```

### 33.47 stdair/basic/BasDBParams.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_db.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::BasDBParams**  
*Structure holding the parameters for connection to a database.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.48 BasDBParams.hpp

```

00001 #ifndef __STDAIR_BAS_BASDBPARAMS_HPP
00002 #define __STDAIR_BAS_BASDBPARAMS_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////

```

```
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // Stdair
00011 #include <stdair/stdair_db.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013
00014 namespace stdair {
00015
00016 struct BasDBParams : public StructAbstract {
00017 public:
00018     // ////////// Getters //////////
00019     const std::string& getUser() const {
00020         return _user;
00021     }
00022
00023     const std::string& getPassword() const {
00024         return _passwd;
00025     }
00026
00027     const std::string& getHost() const {
00028         return _host;
00029     }
00030
00031     const std::string& getPort() const {
00032         return _port;
00033     }
00034
00035     const std::string& getDBName() const {
00036         return _dbname;
00037     }
00038
00039     // ////////// Setters //////////
00040     void setUser (const std::string& iUser) {
00041         _user = iUser;
00042     }
00043
00044     void setPassword (const std::string& iPasswd) {
00045         _passwd = iPasswd;
00046     }
00047
00048     void setHost (const std::string& iHost) {
00049         _host = iHost;
00050     }
00051
00052     void setPort (const std::string& iPort) {
00053         _port = iPort;
00054     }
00055
00056     void setDBName (const std::string& iDBName) {
00057         _dbname = iDBName;
00058     }
00059
00060     public:
00061     // ////////// Business methods //////////
00062     bool check() const;
00063
00064     public:
00065     // ////////// Display methods //////////
00066     const std::string describe() const;
00067
00068     std::string toShortString() const;
00069
00070     std::string toString() const;
00071
00072     public:
00073     BasDBParams (const std::string& iDBUser, const std::string& iDBPasswd,
00074                  const std::string& iDBHost, const std::string& iDBPort,
00075                  const std::string& iDBName);
00076
00077     BasDBParams ();
00078
00079     BasDBParams (const BasDBParams&);
00080
00081     ~BasDBParams ();
00082
00083     private:
00084     // ////////// Attributes //////////
00085     std::string _user;
00086     std::string _passwd;
00087     std::string _host;
00088     std::string _port;
```

```

00136     std::string _dbname;
00137 };
00138
00139 }
00140 #endif // __STDAIR_BAS_BASDBPARAMS_HPP

```

### 33.49 stdair/basic/BasFileMgr.cpp File Reference

```

#include <cassert>
#include <boost/version.hpp>
#include <boost/filesystem/path.hpp>
#include <boost/filesystem/operations.hpp>
#include <stdair/basic/BasFileMgr.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.50 BasFileMgr.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Boost (STL Extension)
00007 // Boost Filesystem (http://www.boost.org/doc/libs/1\_41\_0/libs/filesystem/doc/index.htm)
00008 #include <boost/version.hpp>
00009 #if BOOST_VERSION >= 103500
00010 #include <boost/filesystem.hpp>
00011 #else // BOOST_VERSION >= 103500
00012 #include <boost/filesystem/path.hpp>
00013 #include <boost/filesystem/operations.hpp>
00014 #endif // BOOST_VERSION >= 103500
00015 // StdAir
00016 #include <stdair/basic/BasFileMgr.hpp>
00017
00018 namespace boostfs = boost::filesystem;
00019
00020 namespace stdair {
00021
00022 // ///////////////////////////////////////////////////////////////////
00023 bool BasFileMgr::doesExistAndIsReadable (const std::string& ifilepath)
00024 {
00025     bool oFine = false;
00026
00027     boostfs::path lPath (ifilepath);
00028
00029     if (boostfs::exists (lPath) == false) {
00030         return oFine;
00031     }
00032
00033 #if BOOST_VERSION >= 103500
00034     if (boostfs::is_regular (lPath) == true) {
00035         oFine = true;
00036     }
00037
00038     return oFine;
00039 }
00040
00041 }

```

### 33.51 stdair/basic/BasFileMgr.hpp File Reference

```
#include <string>
```

## Classes

- struct `stdair::BasFileMgr`

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.52 BasFileMgr.hpp

```
00001 #ifndef __STDAIR_BAS_BASFILEMGR_HPP
00002 #define __STDAIR_BAS_BASFILEMGR_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009
00010 namespace stdair {
00011
00012     struct BasFileMgr {
00013         public:
00014
00015         // ////////////////// Functional Support Methods //////////////////
00016         static bool doesExistAndIsReadable (const std::string& ifilepath);
00017
00018     };
00019 }
00020
00021 }
00022 #endif // __STDAIR_BAS_BASFILEMGR_HPP
```

## 33.53 stdair/basic/BasLogParams.cpp File Reference

```
#include <cassert>
#include <iostream>
#include <sstream>
#include <stdair/basic/BasLogParams.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.54 BasLogParams.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 #include <sstream>
00008 // StdAir
00009 #include <stdair/basic/BasLogParams.hpp>
00010
00011 namespace stdair {
00012
00013     // /////////////////////////////////
00014     BasLogParams::BasLogParams()
00015         : _logLevel (LOG::DEBUG), _logStream (std::cout),
00016           _forceMultipleInit (false) {
00017         assert (_forceMultipleInit == false);
00018     }
00019 }
```

```

00020 // ///////////////////////////////////////////////////////////////////
00021 BasLogParams::BasLogParams (const BasLogParams& iLogParams)
00022   : _logLevel (iLogParams._logLevel), _logStream (iLogParams._logStream),
00023   _forceMultipleInit (iLogParams._forceMultipleInit) {
00024 }
00025
00026 // ///////////////////////////////////////////////////////////////////
00027 BasLogParams::BasLogParams (const LOG::EN_LogLevel iLogLevel,
00028                           std::ostream& ioLogOutputStream,
00029                           const bool iForceMultipleInstance)
00030   : _logLevel (iLogLevel), _logStream (ioLogOutputStream),
00031   _forceMultipleInit (iForceMultipleInstance) {
00032 }
00033
00034 // ///////////////////////////////////////////////////////////////////
00035 BasLogParams::~BasLogParams () {
00036 }
00037
00038 // ///////////////////////////////////////////////////////////////////
00039 const std::string BasLogParams::describe() const {
00040   return toString();
00041 }
00042
00043 // ///////////////////////////////////////////////////////////////////
00044 std::string BasLogParams::toShortString() const {
00045   const std::string isForcedStr = (_forceMultipleInit == true)?" (forced)": "";
00046   std::ostringstream oStr;
00047   oStr << LOG::_logLevels[_logLevel] << isForcedStr;
00048   return oStr.str();
00049 }
00050
00051 // ///////////////////////////////////////////////////////////////////
00052 std::string BasLogParams::toString() const {
00053   std::ostringstream oStr;
00054   oStr << LOG::_logLevels[_logLevel];
00055   return oStr.str();
00056 }
00057
00058 }

```

### 33.55 stdair/basic/BasLogParams.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_log.hpp>
#include <stdair/basic/StructAbstract.hpp>

```

#### Classes

- struct [stdair::BasLogParams](#)

*Structure holding parameters for logging.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.56 BasLogParams.hpp

```

00001 #ifndef __STDAIR_BAS_BASLOGPARAMS_HPP
00002 #define __STDAIR_BAS_BASLOGPARAMS_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // Stdair
00011 #include <stdair/stdair_log.hpp>

```

```

00012 #include <stdair/basic/StructAbstract.hpp>
00013
00014 namespace stdair {
00015
00019 struct BasLogParams : public StructAbstract {
00020     friend class Logger;
00021 public:
00022     // ////////// Getters //////////
00026     const LOG::EN_LogLevel& getLogLevel() const {
00027         return _logLevel;
00028     }
00029
00033     std::ostream& getLogStream() const {
00034         return _logStream;
00035     }
00036
00040     const bool getForcedInitialisationFlag() const {
00041         return _forceMultipleInit;
00042     }
00043
00044
00045     // ////////// Setters //////////
00049     void setForcedInitialisationFlag (const bool iForceMultipleInstance) {
00050         _forceMultipleInit = iForceMultipleInstance;
00051     }
00052
00053
00054 public:
00055     // ////////// Business methods //////////
00056     bool check() const;
00057
00058
00062 public:
00063     // ////////// Display methods //////////
00064     const std::string describe() const;
00065
00072     std::string toShortString() const;
00073
00077     std::string toString() const;
00078
00079
00080 public:
00089     BasLogParams (const LOG::EN_LogLevel iLogLevel,
00090                 std::ostream& ioLogOutputStream,
00091                 const bool iForceMultipleInstance = false);
00092
00096     BasLogParams (const BasLogParams&);
00097
00101     ~BasLogParams();
00102
00103 private:
00107     BasLogParams();
00108
00109
00110 private:
00111     // ////////// Attributes //////////
00115     const LOG::EN_LogLevel _logLevel;
00116
00120     std::ostream& _logStream;
00121
00135     bool _forceMultipleInit;
00136 };
00137
00138 }
00139 #endif // __STDAIR_BAS_BASLOGPARAMS_HPP

```

## 33.57 stdair/basic/BasParserHelperTypes.hpp File Reference

```

#include <string>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/service/Logger.hpp>

```

### Classes

- struct `stdair::date_time_element< MIN, MAX >`

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## TypeDefs

- **typedef date\_time\_element< 0, 23 > stdair::hour\_t**
- **typedef date\_time\_element< 0, 59 > stdair::minute\_t**
- **typedef date\_time\_element< 0, 59 > stdair::second\_t**
- **typedef date\_time\_element< 1900, 2100 > stdair::year\_t**
- **typedef date\_time\_element< 1, 12 > stdair::month\_t**
- **typedef date\_time\_element< 1, 31 > stdair::day\_t**

## Functions

- **template<int MIN, int MAX>**  
**date\_time\_element< MIN, MAX > stdair::operator\*** (const date\_time\_element< MIN, MAX > &o1, const date\_time\_element< MIN, MAX > &o2)
- **template<int MIN, int MAX>**  
**date\_time\_element< MIN, MAX > stdair::operator+** (const date\_time\_element< MIN, MAX > &o1, const date\_time\_element< MIN, MAX > &o2)

## 33.58 BasParserHelperTypes.hpp

```

00001 #ifndef __STDAIR_BAS_BASCOMPARSERHELPERTYPES_HPP
00002 #define __STDAIR_BAS_BASCOMPARSERHELPERTYPES_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <iostream>
00010 // StdAir
00011 #include <stdair/stdair_exceptions.hpp>
00012 #include <stdair/service/Logger.hpp>
00013
00014 namespace stdair {
00015
00016 // ///////////////////////////////////////////////////////////////////
00017 //
00018 // Parser structure helper
00019 //
00020 // ///////////////////////////////////////////////////////////////////
00022 template <int MIN = 0, int MAX = 0>
00023 struct date_time_element {
00024     unsigned int _value;
00025
00026     // /////////////////////////////////////////////////////////////////// Constructors ///////////////////////////////////////////////////////////////////
00028     date_time_element () { }
00029     date_time_element (const date_time_element& t) : _value (t._value) {
00030
00032         date_time_element (int i) : _value (i) { }
00034     void check () const {
00035         if (_value < MIN || _value > MAX) {
00036             std::ostringstream oMessage;
00037             oMessage << "The value: " << _value << " is out of range (" << MIN << ", " << MAX << ")";
00038             throw stdair::ParserException (oMessage.str());
00039         }
00040     }
00041 }
00042 };
00043
00045 template <int MIN, int MAX>
00046 inline date_time_element<MIN,
00047                         MAX> operator* (const
00048                         date_time_element<MIN, MAX>& o1,
00049                         const date_time_element<MIN, MAX>& o2)
00050 {
00049     return date_time_element<MIN, MAX> (o1._value * o2.

```

```

00050     _value);
00051 }
00052 template <int MIN, int MAX>
00053     inline date_time_element<MIN,
00054                                         MAX> operator+(const
00055         date_time_element<MIN, MAX>& o1,
00056                                         const date_time_element<MIN, MAX>& o2)
00057 {
00058     return date_time_element<MIN, MAX> (o1._value + o2.
00059     _value);
00060 }
00061 typedef date_time_element<0, 23> hour_t;
00062 typedef date_time_element<0, 59> minute_t;
00063 typedef date_time_element<0, 59> second_t;
00064 typedef date_time_element<1900, 2100> year_t;
00065 typedef date_time_element<1, 12> month_t;
00066 typedef date_time_element<1, 31> day_t;
00067
00068 }
00069 #endif // __STDAIR_BAS_BASCOMPARSERHELPERTYPES_HPP

```

### 33.59 stdair/basic/BasParserTypes.hpp File Reference

```

#include <string>
#include <boost/spirit/include/qi.hpp>
#include <boost/spirit/include/phoenix_core.hpp>
#include <boost/spirit/include/phoenix_operator.hpp>
#include <boost/spirit/include/support_multi_pass.hpp>
#include <stdair/basic/BasParserHelperTypes.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::istreambuf\_iterator< char > stdair::base\_iterator\_t**
- **typedef boost::spirit::multi\_pass< base\_iterator\_t > stdair::iterator\_t**
- **typedef boost::spirit::qi::int\_parser< unsigned int, 10, 1, 1 > stdair::int1\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< int, 10, 2, 2 > stdair::uint2\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< int, 10, 4, 4 > stdair::uint4\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< int, 10, 1, 4 > stdair::uint1\_4\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< hour\_t, 10, 2, 2 > stdair::hour\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< minute\_t, 10, 2, 2 > stdair::minute\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< second\_t, 10, 2, 2 > stdair::second\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< year\_t, 10, 4, 4 > stdair::year\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< month\_t, 10, 2, 2 > stdair::month\_p\_t**
- **typedef boost::spirit::qi::uint\_parser< day\_t, 10, 2, 2 > stdair::day\_p\_t**

### 33.60 BasParserTypes.hpp

```

00001 #ifndef __STDAIR_BAS_BASCOMPARSERTYPES_HPP
00002 #define __STDAIR_BAS_BASCOMPARSERTYPES_HPP
00003
00004 // ////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost Spirit (Parsing)

```

```

00010 #include <boost/spirit/include/qi.hpp>
00011 #include <boost/spirit/include/phoenix_core.hpp>
00012 #include <boost/spirit/include/phoenix_operator.hpp>
00013 #include <boost/spirit/include/support_multi_pass.hpp>
00014 // STDAIR
00015 #include <stdair/basic/BasParserHelperTypes.hpp>
00016
00017 namespace stdair {
00018
00019 // ///////////////////////////////////////////////////////////////////
00020 //
00021 // Definition of Basic Types
00022 //
00023 // ///////////////////////////////////////////////////////////////////
00024 // The types of iterator, scanner and rule are then derived from
00025 // the parsing unit.
00026 typedef std::istreambuf_iterator<char> base_iterator_t;
00027 typedef boost::spirit::multi_pass<base_iterator_t> iterator_t;
00028
00029 // ///////////////////////////////////////////////////////////////////
00030 //
00031 // Parser related types
00032 //
00033 // ///////////////////////////////////////////////////////////////////
00035 typedef boost::spirit::qi::int_parser<unsigned int, 10, 1, 1> int1_p_t;
00036
00038 typedef boost::spirit::qi::uint_parser<int, 10, 2, 2> uint2_p_t;
00039
00041 typedef boost::spirit::qi::uint_parser<int, 10, 4, 4> uint4_p_t;
00042
00044 typedef boost::spirit::qi::uint_parser<int, 10, 1, 4> uint1_4_p_t;
00045
00047 typedef boost::spirit::qi::uint_parser<hour_t, 10, 2, 2> hour_p_t;
00048 typedef boost::spirit::qi::uint_parser<minute_t, 10, 2, 2> minute_p_t;
00049 typedef boost::spirit::qi::uint_parser<second_t, 10, 2, 2> second_p_t;
00050 typedef boost::spirit::qi::uint_parser<year_t, 10, 4, 4> year_p_t;
00051 typedef boost::spirit::qi::uint_parser<month_t, 10, 2, 2> month_p_t;
00052 typedef boost::spirit::qi::uint_parser<day_t, 10, 2, 2> day_p_t;
00053 }
00054 #endif // __STDAIR_BAS_BASCOMPARTYPES_HPP

```

### 33.61 stdair/basic/BasTypes.hpp File Reference

```
#include <string>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.62 BasTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BAS_BASTYPES_HPP
00003 #define __STDAIR_BAS_BASTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <string>
00010
00011 namespace stdair {
00012
00013 }
00014 #endif // __STDAIR_BAS_BASTYPES_HPP

```

### 33.63 stdair/basic/ContinuousAttributeLite.hpp File Reference

```
#include <cassert>
```

```
#include <iostream>
#include <string>
#include <vector>
#include <map>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/DictionaryManager.hpp>
```

## Classes

- struct **stdair::ContinuousAttributeLite< T >**

*Class modeling the distribution of values that can be taken by a continuous attribute.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.64 ContinuousAttributeLite.hpp

```
00001 #ifndef __STDAIR_BAS_CONTINUOUSATTRIBUTELITE_HPP
00002 #define __STDAIR_BAS_CONTINUOUSATTRIBUTELITE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <cassert>
00009 #include <iostream>
00010 #include <string>
00011 #include <vector>
00012 #include <map>
00013 // StdAir
00014 #include <stdair/stdair_basic_types.hpp>
00015 // TraDemGen
00016 #include <stdair/stdair_exceptions.hpp>
00017 #include <stdair/basic/DictionaryManager.hpp>
00018
00019 namespace stdair {
00020
00025 template <typename T>
00026 struct ContinuousAttributeLite {
00027 public:
00028     // /////////////////////////////// Type definitions ///////////////////////
00029     typedef std::map<T, stdair::Probability_T> ContinuousDistribution_T;
00033
00034 public:
00035     // /////////////////////////////// Business Methods /////////////////////
00036     const T getValue(const stdair::Probability_T& iCumulativeProbability)
00039     const{
00040         const DictionaryKey_T& lKey =
00041             DictionaryManager::valueToKey (iCumulativeProbability);
00042
00043         // Find the first cumulative probability value greater or equal to lKey.
00044         unsigned int idx = 0;
00045         for (; idx < _size; ++idx) {
00046             if (_cumulativeDistribution.at(idx) > lKey) {
00047                 break;
00048             }
00049         }
00050
00051         if (idx == 0) {
00052             return _valueArray.at(idx);
00053         }
00054         if (idx == _size) {
00055             return _valueArray.at(idx-1);
00056         }
00057
00058         //
00059         const stdair::Probability_T& lCumulativeCurrentPoint =
00060             DictionaryManager::keyToValue (_cumulativeDistribution.at(idx));
00061         const T& lValueCurrentPoint = _valueArray.at(idx);
```

```

00062
00063 // 
00064 const stdair::Probability_T& lCumulativePreviousPoint =
00065     DictionaryManager::keyToValue (_cumulativeDistribution.at(idx-1));
00066 const T& lValuePreviousPoint = _valueArray.at(idx-1);
00067
00068 if (lCumulativePreviousPoint == lCumulativeCurrentPoint) {
00069     return lValuePreviousPoint;
00070 }
00071
00072 T oValue= lValuePreviousPoint + (lValueCurrentPoint - lValuePreviousPoint)
00073 * (iCumulativeProbability - lCumulativePreviousPoint)
00074 / (lCumulativeCurrentPoint - lCumulativePreviousPoint);
00075
00076 return oValue;
00077 }
00078
00079 public:
00080 // //////////////////// Business Methods ///////////////////
00081 const stdair::Probability_T getRemainingProportion(const T&
00082 iValue) const {
00083
00084     // Find the first value greater than iValue.
00085     unsigned int idx = 0;
00086     for (; idx < _size; ++idx) {
00087         if (_valueArray.at(idx) > iValue) {
00088             break;
00089         }
00090     }
00091     if (idx == 0) {
00092         const stdair::Probability_T& oCumulativeProbability =
00093             DictionaryManager::keyToValue (_cumulativeDistribution.at(idx));
00094         return 1 - oCumulativeProbability;
00095     }
00096     if (idx == _size) {
00097         const stdair::Probability_T& oCumulativeProbability =
00098             DictionaryManager::keyToValue (_cumulativeDistribution.at(idx-1));
00099         return 1 - oCumulativeProbability;
00100     }
00101 }
00102
00103
00104 //
00105 const stdair::Probability_T& lCumulativeCurrentPoint =
00106     DictionaryManager::keyToValue (_cumulativeDistribution.at(idx));
00107 const T& lValueCurrentPoint = _valueArray.at(idx);
00108
00109 //
00110 const stdair::Probability_T& lCumulativePreviousPoint =
00111     DictionaryManager::keyToValue (_cumulativeDistribution.at(idx-1));
00112 const T& lValuePreviousPoint = _valueArray.at(idx-1);
00113
00114 if (lValuePreviousPoint == lValueCurrentPoint) {
00115     return 1 - lCumulativePreviousPoint;
00116 }
00117
00118 const stdair::Probability_T& oCumulativeProbability =
00119     lCumulativePreviousPoint + (lCumulativeCurrentPoint - lCumulativePreviousPoint)
00120 * (iValue - lValuePreviousPoint)
00121 / (lValueCurrentPoint - lValuePreviousPoint);
00122
00123 return 1 - oCumulativeProbability;
00124 }
00125
00126 public:
00127 // //////////////////// Business Methods ///////////////////
00128 const double getDerivativeValue(const T iKey) const{
00129
00130     // Find the first key value greater or equal to iKey.
00131     unsigned int idx = 0;
00132     for (; idx < _size; ++idx) {
00133         if (_valueArray.at(idx) > iKey) {
00134             break;
00135         }
00136     }
00137     assert (idx != 0);
00138     assert (idx != _size);
00139
00140     //
00141     const stdair::Probability_T& lCumulativeCurrentPoint =
00142         DictionaryManager::keyToValue (_cumulativeDistribution.at(idx));
00143     const T& lValueCurrentPoint = _valueArray.at(idx);
00144
00145     //
00146     const stdair::Probability_T& lCumulativePreviousPoint =
00147         DictionaryManager::keyToValue (_cumulativeDistribution.at(idx-1));
00148     const T& lValuePreviousPoint = _valueArray.at(idx-1);
00149     assert (lValueCurrentPoint != lValuePreviousPoint);
00150
00151
00152
00153

```

```

00154     const double oValue= (lCumulativeCurrentPoint - lCumulativePreviousPoint)
00155         / (lValueCurrentPoint - lValuePreviousPoint);
00156
00157     return oValue;
00158 }
00159
00160
00161 const T getUpperBound (const T iKey) const {
00162     // Find the first key value greater or equal to iKey.
00163     unsigned int idx = 0;
00164     for (; idx < _size; ++idx) {
00165         if (_valueArray.at(idx) > iKey) {
00166             break;
00167         }
00168     }
00169     assert (idx != 0);
00170     assert (idx != _size);
00171
00172     return _valueArray.at (idx);
00173 }
00174
00175
00176
00177 public:
00178     // //////////////////// Display Support Methods ///////////////////
00179     const std::string displayCumulativeDistribution() const {
00180         std::ostringstream oStr;
00181
00182         for (unsigned int idx = 0; idx < _size; ++idx) {
00183             if (idx != 0) {
00184                 oStr << ", ";
00185             }
00186
00187             const stdair::Probability_T& lProbability =
00188                 DictionaryManager::keyToValue (_cumulativeDistribution.at(idx));
00189
00190             oStr << _valueArray.at(idx) << ":" << lProbability;
00191         }
00192         return oStr.str();
00193     }
00194
00195
00196
00197
00198
00199 public:
00200     // /////////// Constructors and destructors ///////////
00201     ContinuousAttributeLite (const ContinuousDistribution_T& iValueMap)
00202         : _size (iValueMap.size()) {
00203         init (iValueMap);
00204     }
00205
00206
00207
00208
00209     ContinuousAttributeLite (const
00210         ContinuousAttributeLite& iCAL)
00211         : _size (iCAL._size),
00212             _cumulativeDistribution (iCAL._cumulativeDistribution),
00213             _valueArray (iCAL._valueArray) {
00214
00215
00216
00217
00218     ContinuousAttributeLite& operator= (const
00219         ContinuousAttributeLite& iCAL) {
00220
00221         _size = iCAL._size;
00222         _cumulativeDistribution = iCAL._cumulativeDistribution;
00223         _valueArray = iCAL._valueArray;
00224         return *this;
00225     }
00226
00227
00228     virtual ~ContinuousAttributeLite() {
00229     }
00230
00231
00232
00233
00234 private:
00235     ContinuousAttributeLite() : _size(1) {
00236     }
00237
00238
00239
00240
00241     void init (const ContinuousDistribution_T& iValueMap) {
00242         //
00243         const unsigned int lSize = iValueMap.size();
00244         _cumulativeDistribution.reserve (lSize);
00245         _valueArray.reserve (lSize);
00246
00247         // Browse the map to retrieve the values and cumulative probabilities.
00248         for (typename ContinuousDistribution_T::const_iterator it =
00249              iValueMap.begin(); it != iValueMap.end(); ++it) {
00250
00251             const T& attributeValue = it->first;
00252             const DictionaryKey_T& lKey =
00253                 DictionaryManager::valueToKey (it->second);
00254
00255             // Build the two arrays.
00256             _cumulativeDistribution.push_back (lKey);
00257             _valueArray.push_back (attributeValue);
00258         }
00259
00260
00261
00262     }

```

```

00263
00264
00265 private:
00266     // ////////// Attributes //////////
00267     unsigned int _size;
00268
00269     std::vector<DictionaryKey_T> _cumulativeDistribution;
00270
00271     std::vector<T> _valueArray;
00272 }
00273
00274 #endif // __STDAIR_BAS_CONTINUOUSATTRIBUTELITE_HPP

```

### 33.65 stdair/basic/DemandGenerationMethod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/DemandGenerationMethod.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.66 DemandGenerationMethod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/DemandGenerationMethod.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string DemandGenerationMethod::_labels[LAST_VALUE] =
00015 { "PoissonProcess", "StatisticsOrder" };
00016
00017 // /////////////////////////////////
00018 const char DemandGenerationMethod::_methodLabels[LAST_VALUE] = { 'P', 'S' };
00019
00020
00021 // /////////////////////////////////
00022 DemandGenerationMethod::DemandGenerationMethod() : _method(LAST_VALUE) {
00023     assert(false);
00024 }
00025
00026
00027 DemandGenerationMethod::DemandGenerationMethod(const DemandGenerationMethod& iDemandGenerationMethod)
00028     : _method(iDemandGenerationMethod._method) {
00029 }
00030
00031
00032 // /////////////////////////////////
00033 DemandGenerationMethod::DemandGenerationMethod(const EN_DemandGenerationMethod& iDemandGenerationMethod)
00034     : _method(iDemandGenerationMethod) {
00035 }
00036
00037
00038 // /////////////////////////////////
00039 DemandGenerationMethod::EN_DemandGenerationMethod
00040 DemandGenerationMethod::getMethod (const char iMethodChar) {
00041     EN_DemandGenerationMethod oMethod;
00042     switch (iMethodChar) {
00043         case 'P': oMethod = POI_PRO; break;
00044         case 'S': oMethod = STA_ORD; break;
00045         default: oMethod = LAST_VALUE; break;
00046     }
00047 }

```

```
00046     }
00047
00048     if (oMethod == LAST_VALUE) {
00049         const std::string& lLabels = describeLabels();
00050         std::ostringstream oMessage;
00051         oMessage << "The demand (booking request) generation method "
00052             << iMethodChar
00053             << "' is not known. Known demand (booking request) generation "
00054             << "methods: " << lLabels;
00055         throw CodeConversionException (oMessage.str());
00056     }
00057
00058     return oMethod;
00059 }
00060
00061 // /////////////////////////////////
00062 DemandGenerationMethod::DemandGenerationMethod (const char iMethodChar)
00063     : _method (getMethod (iMethodChar)) {
00064 }
00065
00066 // /////////////////////////////////
00067 DemandGenerationMethod::DemandGenerationMethod (const std::string& iMethodStr) {
00068
00069     //
00070     const size_t lSize = iMethodStr.size();
00071     assert (lSize == 1);
00072     const char lMethodChar = iMethodStr[0];
00073     _method = getMethod (lMethodChar);
00074 }
00075
00076 // /////////////////////////////////
00077 const std::string& DemandGenerationMethod::
00078 getLabel (const EN_DemandGenerationMethod& iMethod) {
00079     return _labels[iMethod];
00080 }
00081
00082 // /////////////////////////////////
00083 char DemandGenerationMethod::
00084 getMethodLabel (const EN_DemandGenerationMethod& iMethod) {
00085     return _methodLabels[iMethod];
00086 }
00087
00088 // /////////////////////////////////
00089 std::string DemandGenerationMethod::
00090 getMethodLabelAsString (const
EN_DemandGenerationMethod& iMethod) {
00091     std::ostringstream oStr;
00092     oStr << _methodLabels[iMethod];
00093     return oStr.str();
00094 }
00095
00096 // /////////////////////////////////
00097 const std::string DemandGenerationMethod::describeLabels () {
00098     std::ostringstream ostr;
00099     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00100         if (idx != 0) {
00101             ostr << ", ";
00102         }
00103         ostr << _labels[idx];
00104     }
00105     return ostr.str();
00106 }
00107
00108 // /////////////////////////////////
00109 DemandGenerationMethod::EN_DemandGenerationMethod
00110 DemandGenerationMethod::getMethod() const {
00111     return _method;
00112 }
00113
00114 // /////////////////////////////////
00115 const char DemandGenerationMethod::getMethodAsChar() const {
00116     const char oMethodChar = _methodLabels[_method];
00117     return oMethodChar;
00118 }
00119
00120 // /////////////////////////////////
00121 const std::string DemandGenerationMethod::getMethodAsString() const {
00122     std::ostringstream oStr;
00123     oStr << _methodLabels[_method];
00124     return oStr.str();
00125 }
00126
00127 // /////////////////////////////////
00128 const std::string DemandGenerationMethod::describe() const {
00129     std::ostringstream ostr;
00130     ostr << _labels[_method];
00131     return ostr.str();
```

```

00132 }
00133 // ///////////////////////////////////////////////////////////////////
00134 bool DemandGenerationMethod::
00135     operator== (const EN_DemandGenerationMethod& iMethod) const {
00136     return (_method == iMethod);
00137 }
00138 }
00139 }
```

### 33.67 stdair/basic/DemandGenerationMethod.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::DemandGenerationMethod**  
*Enumeration of demand (booking request) generation methods.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.68 DemandGenerationMethod.hpp

```

00001 #ifndef __STDAIR_BAS_DEMANDGENERATIONMETHOD_HPP
00002 #define __STDAIR_BAS_DEMANDGENERATIONMETHOD_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00017 struct DemandGenerationMethod : public StructAbstract {
00018     public:
00019         typedef enum {
00020             POI_PRO = 0,
00021             STA_ORD,
00022             LAST_VALUE
00023         } EN_DemandGenerationMethod;
00024
00028     static const std::string& getLabel (const EN_DemandGenerationMethod&);
00029
00033     static EN_DemandGenerationMethod getMethod (const char);
00034
00038     static char getMethodLabel (const EN_DemandGenerationMethod&);
00039
00043     static std::string getMethodLabelAsString (const
00044         EN_DemandGenerationMethod&);
00045
00048     static std::string describeLabels();
00049
00053     EN_DemandGenerationMethod getMethod() const;
00054
00058     char getMethodAsChar() const;
00059
00063     std::string getMethodAsString() const;
00064
00069     const std::string describe() const;
00070
00071     public:
00075     bool operator== (const EN_DemandGenerationMethod&) const;
00076
00077     public:
```

```

00081     DemandGenerationMethod (const
00082         EN_DemandGenerationMethod&);
00085     DemandGenerationMethod (const char iMethod);
00089     DemandGenerationMethod (const std::string& iMethod);
00093     DemandGenerationMethod (const DemandGenerationMethod&);
00094
00095 private:
00099     DemandGenerationMethod();
00100
00101
00102 private:
00106     static const std::string _labels[LAST_VALUE];
00110     static const char _methodLabels[LAST_VALUE];
00111
00112 private:
00113     // ////////// Attributes //////////
00117     EN_DemandGenerationMethod _method;
00118 };
00119
00120 }
00121 #endif // __STDAIR_BAS_DEMANDGENERATIONMETHOD_HPP

```

### 33.69 stdair/basic/DictionaryManager.cpp File Reference

```
#include <stdair/basic/DictionaryManager.hpp>
#include <stdair/basic/BasConst_General.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.70 DictionaryManager.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // StdAir
00005 #include <stdair/basic/DictionaryManager.hpp>
00006 #include <stdair/basic/BasConst_General.hpp>
00007
00008 namespace stdair {
00009
0010  // /////////////////////////////////
0011  const stdair::Probability_T DictionaryManager::
0012  keyToValue (const DictionaryKey_T iKey) {
0013      const float lValue =
0014          static_cast<float> (iKey) / DEFAULT_NUMBER_OF_SUBDIVISIONS;
0015      const stdair::Probability_T lProbability (lValue);
0016      return lProbability;
0017  }
0018
0019  // /////////////////////////////////
0020  const DictionaryKey_T DictionaryManager::
0021  valueToKey (const stdair::Probability_T iValue) {
0022      const unsigned short lValueMultipliedByThousand =
0023          static_cast<unsigned short> (iValue) * DEFAULT_NUMBER_OF_SUBDIVISIONS;
0024      const DictionaryKey_T lDictionaryKey (lValueMultipliedByThousand);
0025      return lDictionaryKey;
0026  }
0027
0028 }
```

### 33.71 stdair/basic/DictionaryManager.hpp File Reference

```
#include <stdair/stdair_maths_types.hpp>
```

## Classes

- class [stdair::DictionaryManager](#)

*Class wrapper of dictionary business methods.*

## Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## TypeDefs

- [typedef unsigned short stdair::DictionaryKey\\_T](#)

### 33.72 DictionaryManager.hpp

```
00001 // /////////////////////////////////  
00002 #ifndef __STDAIR_BASIC_DICTIONARYMANAGER_HPP  
00003 #define __STDAIR_BASIC_DICTIONARYMANAGER_HPP  
00004  
00005 // /////////////////////////////////  
00006 // Import section  
00007 // /////////////////////////////////  
00008 // StdAir  
00009 #include <stdair/stdair_maths_types.hpp>  
00010  
00011 namespace stdair {  
00012  
00013 // ///////////////////// Type definitions ///////////////////  
00017 typedef unsigned short DictionaryKey_T;  
00018  
00022 class DictionaryManager {  
00023 public:  
00024 // ////////////////// Business methods ///////////////////  
00028     static const stdair::Probability_T keyToValue (const DictionaryKey_T);  
00029  
00033     static const DictionaryKey_T valueToKey (const  
00034         stdair::Probability_T);  
00035 };  
00036 #endif // __STDAIR_BASIC_DICTIONARYMANAGER_HPP
```

### 33.73 stdair/basic/EventType.cpp File Reference

```
#include <cassert>  
#include <sstream>  
#include <stdair/stdair_exceptions.hpp>  
#include <stdair/basic/EventType.hpp>
```

## Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.74 EventType.cpp

```
00001 // /////////////////////////////////  
00002 // Import section  
00003 // /////////////////////////////////  
00004 // STL  
00005 #include <cassert>  
00006 #include <sstream>
```

```

00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/EventType.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////////////////////
00014 const std::string EventType::_labels[LAST_VALUE] =
00015 { "BookingRequest", "Cancellation", "OptimisationNotificationForFlightDate",
00016   "OptimisationNotificationForNetwork", "ScheduleChange", "Snapshot",
00017   "RevenueManagement", "BreakPoint" };
00018
00019 // /////////////////////////////////////////////////
00020 const char EventType::_typeLabels[LAST_VALUE] = { 'B', 'X', 'F', 'N', 'C', 'S', 'R', 'P' };
00021
00022
00023
00024 // /////////////////////////////////////////////////
00025 EventType::EventType()
00026   : _type (LAST_VALUE) {
00027   assert (false);
00028 }
00029
00030
00031 EventType::EventType (const EventType& iEventType)
00032   : _type (iEventType._type) {
00033 }
00034
00035
00036 EventType::EventType (const EN_EventType& iEventType)
00037   : _type (iEventType) {
00038 }
00039
00040
00041 EventType::EventType (const char iType) {
00042   switch (iType) {
00043     case 'B': _type = BKG_REQ; break;
00044     case 'X': _type = CX; break;
00045     case 'F': _type = OPT_NOT_4_FD; break;
00046     case 'N': _type = OPT_NOT_4_NET; break;
00047     case 'C': _type = SKD_CHG; break;
00048     case 'S': _type = SNAPSHOT; break;
00049     case 'R': _type = RM; break;
00050     case 'P': _type = BRK_PT; break;
00051     default: _type = LAST_VALUE; break;
00052   }
00053
00054   if (_type == LAST_VALUE) {
00055     const std::string& lLabels = describeLabels();
00056     std::ostringstream oMessage;
00057     oMessage << "The event type '" << iType
00058       << "' is not known. Known event types: " << lLabels;
00059     throw CodeConversionException (oMessage.str());
00060   }
00061 }
00062
00063
00064 EventType::EventType (const std::string& iTypeStr) {
00065   for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00066     if (iTypeStr.compare(_labels[idx]) == 0) {
00067       _type = static_cast<EN_EventType> (idx);
00068       break;
00069     } else {
00070       _type = LAST_VALUE;
00071     }
00072   }
00073   if (_type == LAST_VALUE) {
00074     const std::string& lLabels = describeLabels();
00075     std::ostringstream oMessage;
00076     oMessage << "The event type '" << iTypeStr
00077       << "' is not known. Known event types: " << lLabels;
00078     throw CodeConversionException (oMessage.str());
00079   }
00080 }
00081
00082
00083 const std::string EventType::getLabel (const EN_EventType& iType) {
00084   return _labels[iType];
00085 }
00086
00087
00088 char EventType::getTypeLabel (const EN_EventType& iType) {
00089   return _typeLabels[iType];
00090 }
00091
00092
00093 std::string EventType::getTypeLabelAsString (const

```

```

00094     EN_EventType& iType) {
00095         std::ostringstream oStr;
00096         oStr << _typeLabels[iType];
00097         return oStr.str();
00098     }
00099 // ///////////////////////////////////////////////////////////////////
00100     std::string EventType::describeLabels() {
00101         std::ostringstream oStr;
00102         for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00103             if (idx != 0)
00104                 oStr << ", ";
00105             oStr << _labels[idx];
00106         }
00107         return oStr.str();
00108     }
00109 }
00110 // ///////////////////////////////////////////////////////////////////
00112     EventType::EN_EventType EventType::getType() const {
00113         return _type;
00114     }
00115
00116 // ///////////////////////////////////////////////////////////////////
00117     std::string EventType::getTypeAsString() const {
00118         std::ostringstream oStr;
00119         oStr << _typeLabels[_type];
00120         return oStr.str();
00121     }
00122
00123 // ///////////////////////////////////////////////////////////////////
00124     const std::string EventType::describe() const {
00125         std::ostringstream oStr;
00126         oStr << _labels[_type];
00127         return oStr.str();
00128     }
00129
00130 // ///////////////////////////////////////////////////////////////////
00131     bool EventType::operator==(const EN_EventType& iType) const {
00132         return (_type == iType);
00133     }
00134
00135 }

```

### 33.75 stdair/basic/EventType.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::EventType](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.76 EventType.hpp

```

00001 #ifndef __STDAIR_BAS_EVENTTYPE_HPP
00002 #define __STDAIR_BAS_EVENTTYPE_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {

```

```

00013
00015     struct EventType : public StructAbstract {
00016         public:
00017             typedef enum {
00018                 BKG_REQ = 0,
00019                 CX,
00020                 OPT_NOT_4_FD,
00021                 OPT_NOT_4_NET,
00022                 SKD_CHG,
00023                 SNAPSHOT,
00024                 RM,
00025                 BRK_PT,
00026                 LAST_VALUE
00027             } EN_EventType;
00028
00029         static const std::string& getLabel (const EN_EventType&);
00030
00031         static char getTypeLabel (const EN_EventType&);
00032
00033         static std::string getTypeLabelAsString (const
00034             EN_EventType&);
00035
00036         static std::string describeLabels ();
00037
00038         EN_EventType getType () const;
00039
00040         std::string getTypeAsString () const;
00041
00042         const std::string describe () const;
00043
00044         public:
00045             bool operator== (const EN_EventType&) const;
00046
00047         public:
00048             EventType (const EN_EventType&);
00049             EventType (const char iType);
00050             EventType (const std::string& iTypeStr);
00051             EventType (const EventType&);
00052
00053         private:
00054             EventType ();
00055
00056         private:
00057             static const std::string _labels[LAST_VALUE];
00058             static const char _typeLabels[LAST_VALUE];
00059
00060         private:
00061             // ////////// Attributes //////////
00062             EN_EventType _type;
00063         };
00064
00065     }
00066 #endif // __STDAIR_BAS_EVENTTYPE_HPP

```

### 33.77 stdair/basic/float\_utils.hpp File Reference

```
#include <stdair/basic/float_utils_google.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.78 float\_utils.hpp

```

00001 #ifndef __STDAIR_BAS_FLOAT_UTILS_HPP
00002 #define __STDAIR_BAS_FLOAT_UTILS_HPP
00003
00004 // ////////// Import section //////////
00005 // Import section
00006 // ////////// Import section //////////
00007 // StdAir
00008 #include <stdair/basic/float_utils_google.hpp>

```

```

00009
00010 namespace stdair {
00011
00023 }
00024 #endif // __STDAIR_BAS_FLOAT_UTILS_HPP

```

### 33.79 stdair/basic/float\_utils\_google.hpp File Reference

#### Classes

- class [TypeWithSize< size >](#)
- class [TypeWithSize< 4 >](#)
- class [TypeWithSize< 8 >](#)
- class [FloatingPoint< RawType >](#)

### 33.80 float\_utils\_google.hpp

```

00001 #ifndef __STDAIR_BAS_FLOAT_UTILS_GOOGLE_HPP
00002 #define __STDAIR_BAS_FLOAT_UTILS_GOOGLE_HPP
00003
00004 // Redistribution and use in source and binary forms, with or without
00005 // modification, are permitted provided that the following conditions are
00006 // met:
00007 //
00008 //      * Redistributions of source code must retain the above copyright
00009 // notice, this list of conditions and the following disclaimer.
00010 //      * Redistributions in binary form must reproduce the above
00011 // copyright notice, this list of conditions and the following disclaimer
00012 // in the documentation and/or other materials provided with the
00013 // distribution.
00014 //      * Neither the name of Google Inc. nor the names of its
00015 // contributors may be used to endorse or promote products derived from
00016 // this software without specific prior written permission.
00017 //
00018 // THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
00019 // "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
00020 // LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
00021 // A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
00022 // OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
00023 // SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
00024 // LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
00025 // DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
00026 // THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
00027 // (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
00028 // OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
00029 //
00030 // Authors: wan@google.com (Zhangyong Wan), eefacm@gmail.com (Sean McAfee)
00031 //
00032 // The Google C++ Testing Framework (Google Test)
00033
00034
00035 // This template class serves as a compile-time function from size to
00036 // type. It maps a size in bytes to a primitive type with that
00037 // size. e.g.
00038 //
00039 // TypeWithSize<4>::UInt
00040 //
00041 // is typedef-ed to be unsigned int (unsigned integer made up of 4
00042 // bytes).
00043 //
00044 // Such functionality should belong to STL, but I cannot find it
00045 // there.
00046 //
00047 // Google Test uses this class in the implementation of floating-point
00048 // comparison.
00049 //
00050 // For now it only handles UInt (unsigned int) as that's all Google Test
00051 // needs. Other types can be easily added in the future if need
00052 // arises.
00053 template <size_t size>
00054 class TypeWithSize {
00055 public:
00056     // This prevents the user from using TypeWithSize<N> with incorrect
00057     // values of N.
00058     typedef void UInt;
00059 };
00060
00061 // The specialization for size 4.

```

```

00062 template <>
00063 class TypeWithSize<4> {
00064 public:
00065 // unsigned int has size 4 in both gcc and MSVC.
00066 //
00067 // As base/basicinttypes.h doesn't compile on Windows, we cannot use
00068 // uint32, uint64, and etc here.
00069 typedef int Int;
00070 typedef unsigned int UInt;
00071 };
00072
00073 // The specialization for size 8.
00074 template <>
00075 class TypeWithSize<8> {
00076 public:
00077 #if GTEST_OS_WINDOWS
00078     typedef __int64 Int;
00079     typedef unsigned __int64 UInt;
00080 #else
00081     typedef long long Int; // NOLINT
00082     typedef unsigned long long UInt; // NOLINT
00083 #endif // GTEST_OS_WINDOWS
00084 };
00085
00086
00087 // This template class represents an IEEE floating-point number
00088 // (either single-precision or double-precision, depending on the
00089 // template parameters).
00090 //
00091 // The purpose of this class is to do more sophisticated number
00092 // comparison. (Due to round-off error, etc, it's very unlikely that
00093 // two floating-points will be equal exactly. Hence a naive
00094 // comparison by the == operation often doesn't work.)
00095 //
00096 // Format of IEEE floating-point:
00097 //
00098 //   The most-significant bit being the leftmost, an IEEE
00099 //   floating-point looks like
00100 //
00101 //     sign_bit exponent_bits fraction_bits
00102 //
00103 //   Here, sign_bit is a single bit that designates the sign of the
00104 //   number.
00105 //
00106 //   For float, there are 8 exponent bits and 23 fraction bits.
00107 //
00108 //   For double, there are 11 exponent bits and 52 fraction bits.
00109 //
00110 //   More details can be found at
00111 //   http://en.wikipedia.org/wiki/IEEE_floating-point_standard.
00112 //
00113 // Template parameter:
00114 //
00115 //   RawType: the raw floating-point type (either float or double)
00116 template <typename RawType>
00117 class FloatingPoint {
00118 public:
00119     // Defines the unsigned integer type that has the same size as the
00120     // floating point number.
00121     typedef typename TypeWithSize<sizeof(RawType)>::UInt
00122     Bits;
00123
00124     // Constants.
00125
00126     // # of bits in a number.
00127     static const size_t kBitCount = 8 * sizeof(RawType);
00128
00129     // # of fraction bits in a number.
00130     static const size_t kFractionBitCount =
00131         std::numeric_limits<RawType>::digits - 1;
00132
00133     // # of exponent bits in a number.
00134     static const size_t kExponentBitCount = kBitCount - 1 -
00135         kFractionBitCount;
00136
00137     // The mask for the sign bit.
00138     static const Bits kSignBitMask = static_cast<Bits>(1) << (kBitCount - 1);
00139
00140     // The mask for the fraction bits.
00141     static const Bits kFractionBitMask =
00142         ~static_cast<Bits>(0) >> (kExponentBitCount + 1);
00143
00144     // The mask for the exponent bits.
00145     static const Bits kExponentBitMask = ~(kSignBitMask |
00146         kFractionBitMask);
00147
00148     // How many ULP's (Units in the Last Place) we want to tolerate when

```

```

00146 // comparing two numbers. The larger the value, the more error we
00147 // allow. A 0 value means that two numbers must be exactly the same
00148 // to be considered equal.
00149 //
00150 // The maximum error of a single floating-point operation is 0.5
00151 // units in the last place. On Intel CPU's, all floating-point
00152 // calculations are done with 80-bit precision, while double has 64
00153 // bits. Therefore, 4 should be enough for ordinary use.
00154 //
00155 // See the following article for more details on ULP:
00156 // http://www.cygnus-software.com/papers/comparingfloats.htm.
00157 static const size_t kMaxUlps = 4;
00158
00159 // Constructs a FloatingPoint from a raw floating-point number.
00160 //
00161 // On an Intel CPU, passing a non-normalized NAN (Not a Number)
00162 // around may change its bits, although the new value is guaranteed
00163 // to be also a NAN. Therefore, don't expect this constructor to
00164 // preserve the bits in x when x is a NAN.
00165 explicit FloatingPoint(const RawType& x) { u_.value_ = x; }
00166
00167 // Static methods
00168
00169 // Reinterprets a bit pattern as a floating-point number.
00170 //
00171 // This function is needed to test the AlmostEquals() method.
00172 static RawType ReinterpretBits(const Bits bits) {
00173     FloatingPoint fp(0);
00174     fp.u_.bits_ = bits;
00175     return fp.u_.value_;
00176 }
00177
00178 // Returns the floating-point number that represent positive infinity.
00179 static RawType Infinity() {
00180     return ReinterpretBits(kExponentBitMask);
00181 }
00182
00183 // Non-static methods
00184
00185 // Returns the bits that represents this number.
00186 const Bits &bits() const { return u_.bits_; }
00187
00188 // Returns the exponent bits of this number.
00189 Bits exponent_bits() const { return kExponentBitMask & u_.bits_; }
00190
00191 // Returns the fraction bits of this number.
00192 Bits fraction_bits() const { return kFractionBitMask & u_.bits_; }
00193
00194 // Returns the sign bit of this number.
00195 Bits sign_bit() const { return kSignBitMask & u_.bits_; }
00196
00197 // Returns true iff this is NAN (not a number).
00198 bool is_nan() const {
00199     // It's a NAN if the exponent bits are all ones and the fraction
00200     // bits are not entirely zeros.
00201     return (exponent_bits() == kExponentBitMask) && (fraction_bits() != 0);
00202 }
00203
00204 // Returns true iff this number is at most kMaxUlps ULP's away from
00205 // rhs. In particular, this function:
00206 //
00207 // - returns false if either number is (or both are) NAN.
00208 // - treats really large numbers as almost equal to infinity.
00209 // - thinks +0.0 and -0.0 are 0 DLP's apart.
00210 bool AlmostEquals(const FloatingPoint& rhs) const {
00211     // The IEEE standard says that any comparison operation involving
00212     // a NAN must return false.
00213     if (is_nan() || rhs.is_nan()) return false;
00214
00215     return DistanceBetweenSignAndMagnitudeNumbers(u_.bits_, rhs.u_.bits_)
00216         <= kMaxUlps;
00217 }
00218
00219 private:
00220     // The data type used to store the actual floating-point number.
00221     union FloatingPointUnion {
00222         RawType value_; // The raw floating-point number.
00223         Bits bits_; // The bits that represent the number.
00224     };
00225
00226     // Converts an integer from the sign-and-magnitude representation to
00227     // the biased representation. More precisely, let N be 2 to the
00228     // power of (kBitCount - 1), an integer x is represented by the
00229     // unsigned number x + N.
00230     //
00231     // For instance,
00232     //

```

```

00233 //      -N + 1 (the most negative number representable using
00234 //      sign-and-magnitude) is represented by 1;
00235 //      0      is represented by N; and
00236 //      N - 1 (the biggest number representable using
00237 //      sign-and-magnitude) is represented by 2N - 1.
00238 //
00239 // Read http://en.wikipedia.org/wiki/Signed_number_representations
00240 // for more details on signed number representations.
00241 static Bits SignAndMagnitudeToBiased(const Bits &sam) {
00242     if (kSignBitMask & sam) {
00243         // sam represents a negative number.
00244         return ~sam + 1;
00245     } else {
00246         // sam represents a positive number.
00247         return kSignBitMask | sam;
00248     }
00249 }
00250
00251 // Given two numbers in the sign-and-magnitude representation,
00252 // returns the distance between them as an unsigned number.
00253 static Bits DistanceBetweenSignAndMagnitudeNumbers(const Bits &sam1,
00254                                         const Bits &sam2) {
00255     const Bits biased1 = SignAndMagnitudeToBiased(sam1);
00256     const Bits biased2 = SignAndMagnitudeToBiased(sam2);
00257     return (biased1 >= biased2) ? (biased1 - biased2) : (biased2 - biased1);
00258 }
00259
00260 FloatingPointUnion u_;
00261 };
00262
00263 #endif // __STDAIR_BAS_FLOAT_UTILS_GOOGLE_HPP

```

### 33.81 stdair/basic/ForecastingMethod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/ForecastingMethod.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.82 ForecastingMethod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/ForecastingMethod.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string ForecastingMethod::_labels[LAST_VALUE] =
00015 { "Q Forecasting", "Hybrid Forecasting", "Old QFF", "New QFF",
00016   "Based Forecasting" };
00017
00018 // /////////////////////////////////
00019 const char ForecastingMethod::
00020 _methodLabels[LAST_VALUE] = { 'Q', 'H', 'O', 'N', 'B' };
00021
00022 // /////////////////////////////////
00023 ForecastingMethod::ForecastingMethod()
00024     : _method(LAST_VALUE) {
00025     assert (false);
00026 }
00027
00028

```

```

00029 // ///////////////////////////////
00030 ForecastingMethod::
00031 ForecastingMethod (const ForecastingMethod& iForecastingMethod)
00032   : _method (iForecastingMethod._method) {
00033 }
00034
00035 // ///////////////////////////////
00036 ForecastingMethod::
00037 ForecastingMethod (const EN_ForecastingMethod& iForecastingMethod)
00038   : _method (iForecastingMethod) {
00039 }
00040
00041 // ///////////////////////////////
00042 ForecastingMethod::ForecastingMethod (const char iMethod) {
00043   switch (iMethod) {
00044     case 'Q': _method = Q_FORECASTING; break;
00045     case 'H': _method = HYBRID_FORECASTING; break;
00046     case 'O': _method = OLD_QFF; break;
00047     case 'N': _method = NEW_QFF; break;
00048     case 'B': _method = BASED_FORECASTING; break;
00049     default: _method = LAST_VALUE; break;
00050   }
00051
00052   if (_method == LAST_VALUE) {
00053     const std::string& lLabels = describeLabels();
00054     std::ostringstream oMessage;
00055     oMessage << "The forecasting method '" << iMethod
00056     << "' is not known. Known forecasting methods: " << lLabels;
00057     throw CodeConversionException (oMessage.str());
00058   }
00059 }
00060
00061 // ///////////////////////////////
00062 const std::string& ForecastingMethod::
00063 getLabel (const EN_ForecastingMethod& iMethod) {
00064   return _labels[iMethod];
00065 }
00066
00067 // ///////////////////////////////
00068 char ForecastingMethod::getMethodLabel (const
EN_ForecastingMethod& iMethod) {
00069   return _methodLabels[iMethod];
00070 }
00071
00072 // ///////////////////////////////
00073 std::string ForecastingMethod::
00074 getMethodLabelAsString (const EN_ForecastingMethod& iMethod)
{
00075   std::ostringstream oStr;
00076   oStr << _methodLabels[iMethod];
00077   return oStr.str();
00078 }
00079
00080 // ///////////////////////////////
00081 std::string ForecastingMethod::describeLabels() {
00082   std::ostringstream ostr;
00083   for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00084     if (idx != 0) {
00085       ostr << ", ";
00086     }
00087     ostr << _labels[idx] << " (" << _methodLabels[idx] << ")";
00088   }
00089   return ostr.str();
00090 }
00091
00092 // ///////////////////////////////
00093 ForecastingMethod::EN_ForecastingMethod
00094 ForecastingMethod::getMethod() const {
00095   return _method;
00096 }
00097
00098 std::string ForecastingMethod::getMethodAsString() const {
00099   std::ostringstream oStr;
00100   oStr << _methodLabels[_method];
00101   return oStr.str();
00102 }
00103
00104 // ///////////////////////////////
00105 const std::string ForecastingMethod::describe() const {
00106   std::ostringstream ostr;
00107   ostr << _labels[_method];
00108   return ostr.str();
00109 }
00110
00111 // ///////////////////////////////
00112 bool ForecastingMethod::
```

```

0013     operator== (const EN_ForecastingMethod& iMethod) const {
0014         return (_method == iMethod);
0015     }
0016
0017 }
```

### 33.83 stdair/basic/ForecastingMethod.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::ForecastingMethod](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.84 ForecastingMethod.hpp

```

00001 #ifndef __STDAIR_BAS_FORECASTINGMETHOD_HPP
00002 #define __STDAIR_BAS_FORECASTINGMETHOD_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00015     struct ForecastingMethod : public StructAbstract {
00016     public:
00017         typedef enum {
00018             Q_FORECASTING = 0,
00019             HYBRID_FORECASTING,
00020             OLD_QFF,
00021             NEW_QFF,
00022             BASED_FORECASTING,
00023             LAST_VALUE
00024         } EN_ForecastingMethod;
00025
00028     static const std::string& getLabel (const EN_ForecastingMethod&);
00029
00031     static char getMethodLabel (const EN_ForecastingMethod&);
00032
00035     static std::string getMethodLabelAsString (const
00036         EN_ForecastingMethod&);
00038     static std::string describeLabels();
00039
00041     EN_ForecastingMethod getMethod() const;
00042
00045     std::string getMethodAsString() const;
00046
00049     const std::string describe() const;
00050
00051     public:
00053         bool operator== (const EN_ForecastingMethod&) const;
00054
00055     public:
00057         ForecastingMethod (const EN_ForecastingMethod&);
00059         ForecastingMethod (const char iMethod);
00061         ForecastingMethod (const ForecastingMethod&);
00062
00063     private:
00065         ForecastingMethod();
00066 }
```

```

00067
00068     private:
00069         static const std::string _labels[LAST_VALUE];
00070         static const char _methodLabels[LAST_VALUE];
00071
00072
00073
00074     private:
00075         // ////////// Attributes //////////
00076         EN_ForecastingMethod _method;
00077     };
00078
00079
00080
00081 }
00082 #endif // __STDAIR_BAS_FORECASTINGMETHOD_HPP

```

### 33.85 stdair/basic/JJsonCommand.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/JJsonCommand.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.86 JJsonCommand.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/JJsonCommand.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string JJsonCommand::_labels[LAST_VALUE] =
00015     { "list", "flight_date", "event_list", "break_point", "run", "reset", "status", "config" };
00016
00017 // /////////////////////////////////
00018 JJsonCommand::JJsonCommand()
00019     : _command (LAST_VALUE) {
00020     assert (false);
00021 }
00022
00023 // /////////////////////////////////
00024 JJsonCommand::
00025 JJsonCommand (const JJsonCommand& iJJsonCommand)
00026     : _command (iJJsonCommand._command) {
00027 }
00028
00029 // /////////////////////////////////
00030 JJsonCommand::EN_JJsonCommand
00031 JJsonCommand::getCommand (const std::string& iCommandStr) {
00032
00033     EN_JJsonCommand oJJsonCommand;
00034     if (iCommandStr == "list") {
00035         oJJsonCommand = LIST;
00036     } else if (iCommandStr == "flight_date") {
00037         oJJsonCommand = FLIGHT_DATE;
00038     } else if (iCommandStr == "event_list") {
00039         oJJsonCommand = EVENT_LIST;
00040     } else if (iCommandStr == "break_point") {
00041         oJJsonCommand = BREAK_POINT;
00042     } else if (iCommandStr == "run") {
00043         oJJsonCommand = RUN;
00044     } else if (iCommandStr == "reset") {
00045         oJJsonCommand = RESET;
00046     } else if (iCommandStr == "status") {

```

```

00047     oJsonCommand = STATUS;
00048 } else if (iCommandStr == "config") {
00049     oJsonCommand = CONFIG;
00050 } else {
00051     oJsonCommand = LAST_VALUE;
00052 }
00053
00054 if (oJsonCommand == LAST_VALUE) {
00055     const std::string& lLabels = describeLabels();
00056     std::ostringstream oMessage;
00057     oMessage << "The JSON command '" << iCommandStr
00058         << "' is not known. Known forecasting commands: " << lLabels;
00059     throw CodeConversionException (oMessage.str());
00060 }
00061
00062     return oJsonCommand;
00063 }
00064
00065 // /////////////////////////////////
00066 std::string JsonCommand::getLabel(const EN_JSONCOMMAND& iCommand) {
00067     return _labels[iCommand];
00068 }
00069
00070 // /////////////////////////////////
00071 JsonCommand::JsonCommand (const std::string& iCommandStr) {
00072     //
00073     _command = getCommand (iCommandStr);
00074 }
00075
00076 // /////////////////////////////////
00077 std::string JsonCommand::describeLabels() {
00078     std::ostringstream ostr;
00079     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00080         if (idx != 0) {
00081             ostr << ", ";
00082         }
00083         ostr << _labels[idx] << " "; // " << _commandLabels[idx] << "";
00084     }
00085     return ostr.str();
00086 }
00087
00088 // /////////////////////////////////
00089 JsonCommand::EN_JSONCOMMAND JsonCommand::getCommand()
00090 const {
00091     return _command;
00092 }
00093
00094 // /////////////////////////////////
00095 const std::string JsonCommand::describe() const {
00096     std::ostringstream ostr;
00097     ostr << _labels[_command];
00098     return ostr.str();
00099 }
00100
00101 // /////////////////////////////////
00102 bool JsonCommand::operator==(const EN_JSONCOMMAND& iCommand) const {
00103     return (_command == iCommand);
00104 }
00105
00106 }
```

### 33.87 stdair/basic/JsonCommand.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::JsonCommand**

*Enumeration of json commands.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.88 JSonCommand.hpp

```

00001 #ifndef __STDAIR_BAS_JSONCOMMAND_HPP
00002 #define __STDAIR_BAS_JSONCOMMAND_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00017 struct JSonCommand : public StructAbstract {
00018     public:
00019         typedef enum {
00020             LIST = 0,
00021             FLIGHT_DATE,
00022             EVENT_LIST,
00023             BREAK_POINT,
00024             RUN,
00025             RESET,
00026             STATUS,
00027             CONFIG,
00028             LAST_VALUE
00029 } EN_JSonCommand;
00030
00036     static EN_JSonCommand getCommand (const std::string& iCommandStr);
00037
00041     static std::string getLabel(const EN_JSonCommand&);
00042
00046     static std::string describeLabels();
00047
00051     EN_JSonCommand getCommand() const;
00052
00057     const std::string describe() const;
00058
00059     public:
00063         bool operator==(const EN_JSonCommand&) const;
00064
00065     public:
00066         JSonCommand (const EN_JSonCommand&);
00070
00074         JSonCommand (const std::string&);
00075
00079         JSonCommand (const JSonCommand&);
00080
00081     private:
00085         JSonCommand();
00086
00087
00088     private:
00092         static const std::string _labels[LAST_VALUE];
00093
00094     private:
00095         // ////////// Attributes //////////
00099         EN_JSonCommand _command;
00100     };
00101
00102 }
00103 #endif // __STDAIR_BAS_JSONCOMMAND_HPP

```

### 33.89 stdair/basic/OptimisationMethod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/OptimisationMethod.hpp>

```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.90 OptimisationMethod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/OptimisationMethod.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string OptimisationMethod::_labels[LAST_VALUE] =
00015     { "Leg based Monte Carlo", "Leg based EMSRb" };
00016
00017 // /////////////////////////////////
00018 const char OptimisationMethod::
00019 _methodLabels[LAST_VALUE] = { 'M', 'E' };
00020
00021
00022 // /////////////////////////////////
00023 OptimisationMethod::OptimisationMethod()
00024     : _method(LAST_VALUE) {
00025     assert(false);
00026 }
00027
00028 // /////////////////////////////////
00029 OptimisationMethod::
00030 OptimisationMethod (const OptimisationMethod& iOptimisationMethod)
00031     : _method(iOptimisationMethod._method) {
00032 }
00033
00034 // /////////////////////////////////
00035 OptimisationMethod::
00036 OptimisationMethod (const EN_OptimisationMethod& iOptimisationMethod)
00037     : _method(iOptimisationMethod) {
00038 }
00039
00040 // /////////////////////////////////
00041 OptimisationMethod::OptimisationMethod (const char iMethod) {
00042     switch (iMethod) {
00043         case 'M': _method = LEG_BASED_MC; break;
00044         case 'E': _method = LEG_BASED_EMSR_B; break;
00045         default: _method = LAST_VALUE; break;
00046     }
00047
00048     if (_method == LAST_VALUE) {
00049         const std::string& lLabels = describeLabels();
00050         std::ostringstream oMessage;
00051         oMessage << "The optimisation method '" << iMethod
00052             << "' is not known. Known optimisation methods: " << lLabels;
00053         throw CodeConversionException (oMessage.str());
00054     }
00055 }
00056
00057 // /////////////////////////////////
00058 const std::string& OptimisationMethod::
00059 getLabel (const EN_OptimisationMethod& iMethod) {
00060     return _labels[iMethod];
00061 }
00062
00063 // /////////////////////////////////
00064 char OptimisationMethod::getMethodLabel (const
00065     EN_OptimisationMethod& iMethod) {
00066     return _methodLabels[iMethod];
00067 }
00068
00069 // /////////////////////////////////
00070 std::string OptimisationMethod::
00071 getMethodLabelAsString (const EN_OptimisationMethod& iMethod
00072 ) {
00073     std::ostringstream oStr;
00074     oStr << _methodLabels[iMethod];
00075     return oStr.str();
00076 }
```

```

00075 // /////////////////////////////////
00076 std::string OptimisationMethod::describeLabels() {
00077     std::ostringstream ostr;
00078     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00079         if (idx != 0) {
00080             ostr << ", ";
00081         }
00082         ostr << _labels[idx] << " (" << _methodLabels[idx] << ")";
00083     }
00084     return ostr.str();
00085 }
00086 }
00087
00088 // ///////////////////////////////
00089 OptimisationMethod::EN_OptimisationMethod
00090 OptimisationMethod::getMethod() const {
00091     return _method;
00092 }
00093
00094 std::string OptimisationMethod::getMethodAsString() const {
00095     std::ostringstream oStr;
00096     oStr << _methodLabels[_method];
00097     return oStr.str();
00098 }
00099
00100 // ///////////////////////////////
00101 const std::string OptimisationMethod::describe() const {
00102     std::ostringstream ostr;
00103     ostr << _labels[_method];
00104     return ostr.str();
00105 }
00106
00107 // ///////////////////////////////
00108 bool OptimisationMethod::
00109 operator==(const EN_OptimisationMethod& iMethod) const {
00110     return (_method == iMethod);
00111 }
00112
00113 }

```

### 33.91 stdair/basic/OptimisationMethod.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::OptimisationMethod](#)

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.92 OptimisationMethod.hpp

```

00001 #ifndef __STDAIR_BAS_OPTIMISATIONMETHOD_HPP
00002 #define __STDAIR_BAS_OPTIMISATIONMETHOD_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00014     struct OptimisationMethod : public StructAbstract {
00015         public:

```

```

00017     typedef enum {
00018         LEG_BASED_MC = 0,
00019         LEG_BASED_EMSR_B,
00020         LAST_VALUE
00021     } EN_OptimisationMethod;
00022
00025     static const std::string& getLabel (const EN_OptimisationMethod&);
00026
00028     static char getMethodLabel (const EN_OptimisationMethod&);
00029
00031     static std::string getMethodLabelAsString (const
00032         EN_OptimisationMethod&);
00033
00034     static std::string describeLabels();
00035
00037     EN_OptimisationMethod getMethod() const;
00038
00040     std::string getMethodAsString() const;
00041
00044     const std::string describe() const;
00045
00046 public:
00048     bool operator== (const EN_OptimisationMethod&) const;
00049
00050 public:
00052     OptimisationMethod (const EN_OptimisationMethod&);
00054     OptimisationMethod (const char iMethod);
00056     OptimisationMethod (const OptimisationMethod&);
00057
00058 private:
00060     OptimisationMethod();
00061
00062
00063 private:
00065     static const std::string _labels[LAST_VALUE];
00067     static const char _methodLabels[LAST_VALUE];
00068
00069
00070 private:
00071     // ////////// Attributes //////////
00073     EN_OptimisationMethod _method;
00074 };
00075
00076 }
00077 #endif // __STDAIR_BAS_OPTIMISATIONMETHOD_HPP

```

### 33.93 stdair/basic/PartnershipTechnique.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/PartnershipTechnique.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.94 PartnershipTechnique.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/PartnershipTechnique.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string PartnershipTechnique::_labels[LAST_VALUE] =

```

```

00015     { "None",
00016         "RevenueAvailabilityExchangeDemandAggregation",
00017         "RevenueAvailabilityExchangeYieldProration",
00018         "InterlineBidPriceDemandAggregation",
00019         "InterlineBidPriceYieldProration",
00020         "NonProtectionistInterlineBidPriceYieldProration",
00021         "RevenueManagementCooperation",
00022         "AdvancedRevenueManagementCooperation"};
00023
00024 ///////////////////////////////////////////////////////////////////
00025 const char PartnershipTechnique::_techniqueLabels[LAST_VALUE] = { 'N',
00026                                         'r',
00027                                         'R',
00028                                         'i',
00029                                         'I',
00030                                         'U',
00031                                         'C',
00032                                         'A' };
00033
00034
00035 ///////////////////////////////////////////////////////////////////
00036 PartnershipTechnique::PartnershipTechnique() : _technique (LAST_VALUE) {
00037     assert (false);
00038 }
00039
00040 ///////////////////////////////////////////////////////////////////
00041 PartnershipTechnique::
00042 PartnershipTechnique (const PartnershipTechnique& iPartnershipTechnique)
00043     : _technique (iPartnershipTechnique._technique) {
00044 }
00045
00046 ///////////////////////////////////////////////////////////////////
00047 PartnershipTechnique::
00048 PartnershipTechnique (const EN_PartnershipTechnique& iPartnershipTechnique)
00049     : _technique (iPartnershipTechnique) {
00050 }
00051
00052 ///////////////////////////////////////////////////////////////////
00053 PartnershipTechnique::EN_PartnershipTechnique
00054 PartnershipTechnique::getTechnique (const char iTechniqueChar) {
00055     EN_PartnershipTechnique oTechnique;
00056     switch (iTechniqueChar) {
00057         case 'N': oTechnique = NONE; break;
00058         case 'r': oTechnique = RAE_DA; break;
00059         case 'R': oTechnique = RAE_YP; break;
00060         case 'i': oTechnique = IBP_DA; break;
00061         case 'I': oTechnique = IBP_YP; break;
00062         case 'U': oTechnique = IBP_YP_U; break;
00063         case 'C': oTechnique = RMC; break;
00064         case 'A': oTechnique = A_RMC; break;
00065         default: oTechnique = LAST_VALUE; break;
00066     }
00067
00068     if (oTechnique == LAST_VALUE) {
00069         const std::string& lLabels = describeLabels();
00070         std::ostringstream oMessage;
00071         oMessage << "The partnership technique '"
00072             << iTechniqueChar
00073             << "' is not known. Known partnership techniques: "
00074             << lLabels;
00075         throw CodeConversionException (oMessage.str());
00076     }
00077
00078     return oTechnique;
00079 }
00080
00081 ///////////////////////////////////////////////////////////////////
00082 PartnershipTechnique::PartnershipTechnique (const char iTechniqueChar)
00083     : _technique (getTechnique (iTechniqueChar)) {
00084 }
00085
00086 ///////////////////////////////////////////////////////////////////
00087 PartnershipTechnique::
00088 PartnershipTechnique (const std::string& iTechniqueStr) {
00089     //
00090     const size_t lSize = iTechniqueStr.size();
00091     assert (lSize == 1);
00092     const char lTechniqueChar = iTechniqueStr[0];
00093     _technique = getTechnique (lTechniqueChar);
00094 }
00095
00096 ///////////////////////////////////////////////////////////////////
00097 const std::string& PartnershipTechnique::
00098 getLabel (const EN_PartnershipTechnique& iTechnique) {
00099     return _labels[iTechnique];
00100 }
00101

```

```

00102 // /////////////////////////////////
00103 char PartnershipTechnique:::
00104 getTechniqueLabel (const EN_PartnershipTechnique& iTechnique) {
00105     return _techniqueLabels[iTechnique];
00106 }
00107
00108 // /////////////////////////////////
00109 std::string PartnershipTechnique:::
00110 getTechniqueLabelAsString (const
EN_PartnershipTechnique& iTechnique) {
00111     std::ostringstream oStr;
00112     oStr << _techniqueLabels[iTechnique];
00113     return oStr.str();
00114 }
00115
00116 // /////////////////////////////////
00117 std::string PartnershipTechnique::describeLabels() {
00118     std::ostringstream ostr;
00119     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00120         if (idx != 0) {
00121             ostr << ", ";
00122         }
00123         ostr << _labels[idx] << " (" << _techniqueLabels[idx] << ")";
00124     }
00125     return ostr.str();
00126 }
00127
00128 // /////////////////////////////////
00129 PartnershipTechnique::EN_PartnershipTechnique
00130 PartnershipTechnique::getTechnique() const {
00131     return _technique;
00132 }
00133
00134 // /////////////////////////////////
00135 char PartnershipTechnique::getTechniqueAsChar() const {
00136     const char oTechniqueChar = _techniqueLabels[_technique];
00137     return oTechniqueChar;
00138 }
00139
00140 // /////////////////////////////////
00141 std::string PartnershipTechnique::getTechniqueAsString() const
{
00142     std::ostringstream oStr;
00143     oStr << _techniqueLabels[_technique];
00144     return oStr.str();
00145 }
00146
00147 // /////////////////////////////////
00148 const std::string PartnershipTechnique::describe() const {
00149     std::ostringstream ostr;
00150     ostr << _labels[_technique];
00151     return ostr.str();
00152 }
00153
00154 // /////////////////////////////////
00155 bool PartnershipTechnique:::
00156 operator== (const EN_PartnershipTechnique& iTechnique) const {
00157     return (_technique == iTechnique);
00158 }
00159
00160 }
```

### 33.95 stdair/basic/PartnershipTechnique.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::PartnershipTechnique**  
*Enumeration of partnership techniques.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.96 PartnershipTechnique.hpp

```

00001 #ifndef __STDAIR_BAS_PARTNERSHIPTECHNIQUE_HPP
00002 #define __STDAIR_BAS_PARTNERSHIPTECHNIQUE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00017 struct PartnershipTechnique : public StructAbstract {
00018     public:
00019         typedef enum {
00020             NONE = 0,
00021             RAE_DA,
00022             RAE_YP,
00023             IBP_DA,
00024             IBP_YP,
00025             IBP_YP_U,
00026             RMC,
00027             A_RMC,
00028             LAST_VALUE
00029         } EN_PartnershipTechnique;
00030
00034     static const std::string& getLabel (const EN_PartnershipTechnique&);
00035
00039     static EN_PartnershipTechnique getTechnique (const char);
00040
00044     static char getTechniqueLabel (const
00045         EN_PartnershipTechnique&);
00049     static std::string getTechniqueLabelAsString (const
00050         EN_PartnershipTechnique&);
00054     static std::string describeLabels();
00055
00059     EN_PartnershipTechnique getTechnique() const;
00060
00064     char getTechniqueAsChar() const;
00065
00069     std::string getTechniqueAsString() const;
00070
00075     const std::string describe() const;
00076
00077     public:
00081         bool operator== (const EN_PartnershipTechnique&) const;
00082
00083     public:
00087         PartnershipTechnique (const EN_PartnershipTechnique&);
00091         PartnershipTechnique (const char iTechnique);
00095         PartnershipTechnique (const std::string& iTechnique);
00096
00100         PartnershipTechnique (const PartnershipTechnique&);
00101
00102     private:
00106         PartnershipTechnique();
00107
00108
00109     private:
00113         static const std::string _labels[LAST_VALUE];
00117         static const char _techniqueLabels[LAST_VALUE];
00118
00119     private:
00120         // ////////// Attributes //////////
00124         EN_PartnershipTechnique _technique;
00125     };
00126
00127 }
00128 #endif // __STDAIR_BAS_PARTNERSHIPTECHNIQUE_HPP

```

### 33.97 stdair/basic/PassengerChoiceModel.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/PassengerChoiceModel.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.98 PassengerChoiceModel.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/PassengerChoiceModel.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string PassengerChoiceModel::_labels[LAST_VALUE] =
00015 { "HardRestrictionModel", "PriceOrientedModel", "HybridModel" };
00016
00017 // /////////////////////////////////
00018 const char PassengerChoiceModel::
00019 _modelLabels[LAST_VALUE] = { 'R', 'P', 'H' };
00020
00021
00022 // /////////////////////////////////
00023 PassengerChoiceModel::PassengerChoiceModel()
00024 : _model (LAST_VALUE) {
00025 assert (false);
00026 }
00027
00028 // /////////////////////////////////
00029 PassengerChoiceModel:::
00030 PassengerChoiceModel (const PassengerChoiceModel& iPassengerChoiceModel)
00031 : _model (iPassengerChoiceModel._model) {
00032 }
00033
00034 // /////////////////////////////////
00035 PassengerChoiceModel:::
00036 PassengerChoiceModel (const EN_PassengerChoiceModel& iPassengerChoiceModel)
00037 : _model (iPassengerChoiceModel) {
00038 }
00039
00040 // /////////////////////////////////
00041 PassengerChoiceModel::PassengerChoiceModel (const char iModel) {
00042 switch (iModel) {
00043 case 'R': _model = HARD_RESTRICTION; break;
00044 case 'P': _model = PRICE_ORIENTED; break;
00045 case 'H': _model = HYBRID; break;
00046 default: _model = LAST_VALUE; break;
00047 }
00048
00049 if (_model == LAST_VALUE) {
00050 const std::string& lLabels = describeLabels();
00051 std::ostringstream oMessage;
00052 oMessage << "The passenger choice model "
00053 << "' is not known. Known passenger choice models " << lLabels;
00054 throw stdair::CodeConversionException (oMessage.str());
00055 }
00056 }
00057
00058 // /////////////////////////////////
00059 const std::string& PassengerChoiceModel::
00060 getLabel (const EN_PassengerChoiceModel& iModel) {
00061 return _labels[iModel];
00062 }
00063
00064 // /////////////////////////////////
00065 char PassengerChoiceModel::getModelLabel (const
00066 EN_PassengerChoiceModel& iModel) {
00067 return _modelLabels[iModel];
```

```

00067    }
00068
00069 // /////////////////////////////////
00070 std::string PassengerChoiceModel::
00071     getModelLabelAsString (const EN_PassengerChoiceModel&
00072     iModel) {
00073     std::ostringstream oStr;
00074     oStr << _modelLabels[iModel];
00075     return oStr.str();
00076 }
00077
00078 std::string PassengerChoiceModel::describeLabels() {
00079     std::ostringstream ostr;
00080     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00081         if (idx != 0) {
00082             ostr << ", ";
00083         }
00084         ostr << _labels[idx] << " (" << _modelLabels[idx] << ")";
00085     }
00086     return ostr.str();
00087 }
00088
00089 // ///////////////////////////////
00090 PassengerChoiceModel::EN_PassengerChoiceModel
00091     PassengerChoiceModel::getModel() const {
00092         return _model;
00093     }
00094
00095 std::string PassengerChoiceModel::getModelAsString() const {
00096     std::ostringstream oStr;
00097     oStr << _modelLabels[_model];
00098     return oStr.str();
00099 }
00100
00101 const std::string PassengerChoiceModel::describe() const {
00102     std::ostringstream ostr;
00103     ostr << _labels[_model];
00104     return ostr.str();
00105 }
00106
00107
00108 // ///////////////////////////////
00109 bool PassengerChoiceModel::
00110     operator== (const EN_PassengerChoiceModel& iModel) const {
00111     return (_model == iModel);
00112 }
00113
00114 }

```

### 33.99 stdair/basic/PassengerChoiceModel.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::PassengerChoiceModel](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.100 PassengerChoiceModel.hpp

```

00001 #ifndef __STDAIR_BAS_PASSENGERCHOICEMODEL_HPP
00002 #define __STDAIR_BAS_PASSENGERCHOICEMODEL_HPP
00003
00004 // ///////////////////////////////
00005 // Import section

```

```

00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00015   struct PassengerChoiceModel : public
00016     stdair::StructAbstract {
00016   public:
00017     typedef enum {
00018       HARD_RESTRICTION = 0,
00019       PRICE_ORIENTED,
00020       HYBRID,
00021       LAST_VALUE
00022     } EN_PassengerChoiceModel;
00023
00026     static const std::string& getLabel (const EN_PassengerChoiceModel&);
00027
00029     static char getModelLabel (const EN_PassengerChoiceModel&);
00030
00032     static std::string getModelLabelAsString (const
00033       EN_PassengerChoiceModel&);
00035     static std::string describeLabels();
00036
00038     EN_PassengerChoiceModel getModel() const;
00039
00041     std::string getModelAsString() const;
00042
00045     const std::string describe() const;
00046
00047   public:
00049     bool operator== (const EN_PassengerChoiceModel&) const;
00050
00051   public:
00053     PassengerChoiceModel (const EN_PassengerChoiceModel&);
00055     PassengerChoiceModel (const char iModel);
00057     PassengerChoiceModel (const PassengerChoiceModel&);
00058
00059   private:
00061     PassengerChoiceModel();
00062
00063
00064   private:
00066     static const std::string _labels[LAST_VALUE];
00068     static const char _modelLabels[LAST_VALUE];
00069
00070
00071   private:
00072     // ////////// Attributes //////////
00074     EN_PassengerChoiceModel _model;
00075   };
00076 }
00077
00078 #endif // __STDAIR_BAS_PASSENGERCHOICEMODEL_HPP

```

### 33.101 stdair/basic/PassengerType.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/PassengerType.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.102 PassengerType.cpp

```

00001 // ///////////////////////////////
00002 // Import section

```

```

00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/PassengerType.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string PassengerType::_labels[LAST_VALUE] =
00015 { "Leisure", "Business", "First" };
00016
00017 const char PassengerType::_typeLabels[LAST_VALUE] = { 'L', 'B', 'F' };
00018
00019 // /////////////////////////////////
00020
00021 PassengerType::PassengerType (const
00022 EN_PassengerType& iPassengerType)
00023 : _type (iPassengerType) {
00024
00025 // /////////////////////////////////
00026 PassengerType::PassengerType (const char iType) {
00027 switch (iType) {
00028 case 'L': _type = LEISURE; break;
00029 case 'B': _type = BUSINESS; break;
00030 case 'F': _type = FIRST; break;
00031 default: _type = LAST_VALUE; break;
00032 }
00033
00034 if (_type == LAST_VALUE) {
00035 const std::string& lLabels = describeLabels();
00036 std::ostringstream oMessage;
00037 oMessage << "The passenger type '" << iType
00038 << "' is not known. Known passenger types: " << lLabels;
00039 throw CodeConversionException (oMessage.str());
00040 }
00041 }
00042
00043 // /////////////////////////////////
00044 const std::string& PassengerType::getLabel (const
00045 EN_PassengerType& iType) {
00046 return _labels[iType];
00047 }
00048
00049 // /////////////////////////////////
00050 char PassengerType::getTypeLabel (const
00051 EN_PassengerType& iType) {
00052 return _typeLabels[iType];
00053 }
00054
00055 std::string PassengerType::
00056 getTypeLabelAsString (const EN_PassengerType& iType) {
00057 std::ostringstream oStr;
00058 oStr << _typeLabels[iType];
00059 return oStr.str();
00060 }
00061
00062 std::string PassengerType::describeLabels () {
00063 std::ostringstream ostr;
00064 for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00065 if (idx != 0) {
00066 ostr << ", ";
00067 }
00068 ostr << _labels[idx];
00069 }
00070 return ostr.str();
00071 }
00072
00073 // /////////////////////////////////
00074 PassengerType::EN_PassengerType
00075 PassengerType::getType() const {
00076 return _type;
00077 }
00078
00079 std::string PassengerType::getTypeAsString() const {
00080 std::ostringstream oStr;
00081 oStr << _typeLabels[_type];
00082 return oStr.str();
00083 }
00084
00085 // /////////////////////////////////

```

```

00086     const std::string PassengerType::describe() const {
00087         std::ostringstream ostr;
00088         ostr << _labels[_type];
00089         return ostr.str();
00090     }
00091
00092     // /////////////////////////////////
00093     bool PassengerType::operator==(const
00094         EN_PassengerType& iType) const {
00095         return (_type == iType);
00096     }
00097 }
```

### 33.103 stdair/basic/PassengerType.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::PassengerType](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.104 PassengerType.hpp

```

00001 #ifndef __STDAIR_BAS_PASSENGERTYPE_HPP
00002 #define __STDAIR_BAS_PASSENGERTYPE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00015     struct PassengerType : public StructAbstract {
00016     public:
00017         typedef enum {
00018             LEISURE = 0,
00019             BUSINESS,
00020             FIRST,
00021             LAST_VALUE
00022         } EN_PassengerType;
00023
00025         static const std::string& getLabel (const EN_PassengerType&);
00026
00028         static char getTypeLabel (const EN_PassengerType&);
00029
00031         static std::string getTypeLabelAsString (const
00032             EN_PassengerType&);
00034         static std::string describeLabels();
00035
00037         EN_PassengerType getType() const;
00038
00040         std::string getTypeAsString() const;
00041
00043         const std::string describe() const;
00044
00045     public:
00047         bool operator==(const EN_PassengerType&) const;
00048
00049     public:
00051         PassengerType (const EN_PassengerType&);
```

```

00053     PassengerType (const char iType);
00054
00055
00056 private:
00057     static const std::string _labels[LAST_VALUE];
00058     static const char _typeLabels[LAST_VALUE];
00059
00060
00061
00062
00063 private:
00064     // ////////// Attributes //////////
00065     EN_PassengerType _type;
00066 };
00067
00068
00069 }
00070 #endif // __STDAIR_BAS_PASSENGERTYPE_HPP

```

### 33.105 stdair/basic/PreOptimisationMethod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/PreOptimisationMethod.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.106 PreOptimisationMethod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/PreOptimisationMethod.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string PreOptimisationMethod::_labels[LAST_VALUE] =
00015 {"None", "Fare Adjustment", "Marginal Revenue Transformation"};
00016
00017 // /////////////////////////////////
00018 const char PreOptimisationMethod::
00019 _methodLabels[LAST_VALUE] = {'N', 'F', 'M'};
00020
00021
00022 // /////////////////////////////////
00023 PreOptimisationMethod::PreOptimisationMethod()
00024 : _method (LAST_VALUE) {
00025     assert (false);
00026 }
00027
00028 // /////////////////////////////////
00029 PreOptimisationMethod::
00030 PreOptimisationMethod (const PreOptimisationMethod& iPreOptimisationMethod)
00031 : _method (iPreOptimisationMethod._method) {
00032 }
00033
00034 // /////////////////////////////////
00035 PreOptimisationMethod::
00036 PreOptimisationMethod (const EN_PreOptimisationMethod& iPreOptimisationMethod)
00037 : _method (iPreOptimisationMethod) {
00038 }
00039
00040 // /////////////////////////////////
00041 PreOptimisationMethod::PreOptimisationMethod (const char iMethod) {
00042     switch (iMethod) {
00043         case 'N': _method = NONE; break;
00044         case 'F': _method = FA; break;

```

```

00045     case 'M': _method = MRT; break;
00046     default: _method = LAST_VALUE; break;
00047   }
00048
00049   if (_method == LAST_VALUE) {
00050     const std::string& lLabels = describeLabels();
00051     std::ostringstream oMessage;
00052     oMessage << "The pre-optimisation method '" << iMethod
00053     << "' is not known. Known pre-optimisation methods: " << lLabels;
00054     throw CodeConversionException (oMessage.str());
00055   }
00056 }
00057
00058 // /////////////////////////////////
00059 const std::string& PreOptimisationMethod::
00060 getLabel (const EN_PreOptimisationMethod& iMethod) {
00061   return _labels[iMethod];
00062 }
00063
00064 // /////////////////////////////////
00065 char PreOptimisationMethod::getMethodLabel (const
00066 EN_PreOptimisationMethod& iMethod) {
00067   return _methodLabels[iMethod];
00068 }
00069
00070 std::string PreOptimisationMethod::
00071 getMethodLabelAsString (const EN_PreOptimisationMethod&
00072 iMethod) {
00073   std::ostringstream oStr;
00074   oStr << _methodLabels[iMethod];
00075   return oStr.str();
00076 }
00077
00078 std::string PreOptimisationMethod::describeLabels () {
00079   std::ostringstream ostr;
00080   for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00081     if (idx != 0) {
00082       ostr << ", ";
00083     }
00084     ostr << _labels[idx] << " (" << _methodLabels[idx] << ")";
00085   }
00086   return ostr.str();
00087 }
00088
00089 // /////////////////////////////////
00090 PreOptimisationMethod::EN_PreOptimisationMethod
00091 PreOptimisationMethod::getMethod() const {
00092   return _method;
00093 }
00094
00095 std::string PreOptimisationMethod::getMethodAsString() const {
00096   std::ostringstream oStr;
00097   oStr << _methodLabels[_method];
00098   return oStr.str();
00099 }
00100
00101 // /////////////////////////////////
00102 const std::string PreOptimisationMethod::describe() const {
00103   std::ostringstream ostr;
00104   ostr << _labels[_method];
00105   return ostr.str();
00106 }
00107
00108 // /////////////////////////////////
00109 bool PreOptimisationMethod::
00110 operator== (const EN_PreOptimisationMethod& iMethod) const {
00111   return (_method == iMethod);
00112 }
00113
00114 }

```

### 33.107 stdair/basic/PreOptimisationMethod.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

## Classes

- struct `stdair::PreOptimisationMethod`

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.108 PreOptimisationMethod.hpp

```

00001 #ifndef __STDAIR_BAS_PREOPTIMISATIONMETHOD_HPP
00002 #define __STDAIR_BAS_PREOPTIMISATIONMETHOD_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00015   struct PreOptimisationMethod : public StructAbstract {
00016     public:
00017       typedef enum {
00018         NONE = 0,
00019         FA,
00020         MRT,
00021         LAST_VALUE
00022       } EN_PreOptimisationMethod;
00023
00025       static const std::string& getLabel (const EN_PreOptimisationMethod&);
00026
00028       static char getMethodLabel (const EN_PreOptimisationMethod&);
00029
00031       static std::string getMethodLabelAsString (const
00032         EN_PreOptimisationMethod&);
00033
00034       static std::string describeLabels();
00035
00037       EN_PreOptimisationMethod getMethod() const;
00038
00040       std::string getMethodAsString() const;
00041
00043       const std::string describe() const;
00044
00045     public:
00047       bool operator== (const EN_PreOptimisationMethod&) const;
00048
00049     public:
00051       PreOptimisationMethod (const EN_PreOptimisationMethod&);
00053       PreOptimisationMethod (const char iMethod);
00055       PreOptimisationMethod (const PreOptimisationMethod&);
00056
00057     private:
00059       PreOptimisationMethod();
00060
00061
00062     private:
00064       static const std::string _labels[LAST_VALUE];
00066       static const char _methodLabels[LAST_VALUE];
00067
00068
00069     private:
00070       // ////////// Attributes //////////
00072       EN_PreOptimisationMethod _method;
00073     };
00074
00075 }
00076 #endif // __STDAIR_BAS_PREOPTIMISATIONMETHOD_HPP

```

### 33.109 stdair/basic/ProgressStatus.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/basic/ProgressStatus.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.110 ProgressStatus.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/BasConst_Event.hpp>
00010 #include <stdair/basic/ProgressStatus.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 ProgressStatus::ProgressStatus (const Count_T& iCurrentNb,
00016                                     const Count_T& iExpectedNb,
00017                                     const Count_T& iActualNb)
00018     : _currentNb (iCurrentNb),
00019       _expectedNb (iExpectedNb), _actualNb (iActualNb) {
00020 }
00021
00022 // /////////////////////////////////
00023 ProgressStatus::ProgressStatus (const Count_T& iExpectedNb,
00024                                     const Count_T& iActualNb)
00025     : _currentNb (DEFAULT_PROGRESS_STATUS),
00026       _expectedNb (iExpectedNb), _actualNb (iActualNb) {
00027 }
00028
00029 // /////////////////////////////////
00030 ProgressStatus::ProgressStatus (const Count_T& iExpectedNb)
00031     : _currentNb (DEFAULT_PROGRESS_STATUS),
00032       _expectedNb (iExpectedNb), _actualNb (iExpectedNb) {
00033 }
00034
00035 // /////////////////////////////////
00036 ProgressStatus::ProgressStatus ()
00037     : _currentNb (DEFAULT_PROGRESS_STATUS),
00038       _expectedNb (DEFAULT_PROGRESS_STATUS),
00039       _actualNb (DEFAULT_PROGRESS_STATUS) {
00040 }
00041
00042 // /////////////////////////////////
00043 ProgressStatus::ProgressStatus (const
    ProgressStatus& iProgressStatus)
00044     : _currentNb (iProgressStatus._currentNb),
00045       _expectedNb (iProgressStatus._expectedNb),
00046       _actualNb (iProgressStatus._actualNb) {
00047 }
00048
00049 // /////////////////////////////////
00050 void ProgressStatus::reset () {
00051     _currentNb = DEFAULT_PROGRESS_STATUS;
00052     _actualNb = DEFAULT_PROGRESS_STATUS;
00053 }
00054
00055 // /////////////////////////////////
00056 const std::string ProgressStatus::describe() const {
00057     std::ostringstream oStr;
00058     oStr << _currentNb << " / {" << _expectedNb << ", " << _actualNb << "}";
00059     return oStr.str();
00060 }
00061
00062 // /////////////////////////////////
00063 const std::string ProgressStatus::toString() const {
00064     std::ostringstream oStr;
```

```

00065     oStr << std::setprecision (3) << progress()
00066             << "% (" << _currentNb << "/" << _actualNb << ")";
00067     return oStr.str();
00068 }
00069
00070 }
```

### 33.111 stdair/basic/ProgressStatus.hpp File Reference

```

#include <string>
#include <boost/progress.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/service/Logger.hpp>
```

#### Classes

- struct [stdair::ProgressStatus](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.112 ProgressStatus.hpp

```

00001 #ifndef __STDAIR_BAS_PROGRESSSTATUS_HPP
00002 #define __STDAIR_BAS_PROGRESSSTATUS_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost Progress
00010 #include <boost/progress.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Event.hpp>
00013 #include <stdair/stdair_basic_types.hpp>
00014 #include <stdair/basic/StructAbstract.hpp>
00015 #include <stdair/service/Logger.hpp>
00016
00017 namespace stdair {
00018
00027 struct ProgressStatus : public StructAbstract {
00028 public:
00029     // ///////////////////////////////////////////////////////////////////
00031     const Count_T& count() const {
00032         return _currentNb;
00033     }
00034
00036     const Count_T& getCurrentNb() const {
00037         return _currentNb;
00038     }
00039
00041     const Count_T& getExpectedNb() const {
00042         return _expectedNb;
00043     }
00044
00046     const Count_T& getActualNb() const {
00047         return _actualNb;
00048     }
00049
00051     const ProgressPercentage_T progress() const {
00052         if (_actualNb == 0) {
00053             return 0;
00054         }
00055         Percentage_T lPercentage =
00056             (static_cast<Percentage_T> (_currentNb)
```

```

00057         / static_cast<Percentage_T> (_actualNb));
00058     lPercentage *= MAXIMUM_PROGRESS_STATUS;
00059     return lPercentage;
00060 }
00061
00062 // ////////////////// Setters ///////////////////
00063 void setCurrentNb (const Count_T& iCurrentNb) {
00064     _currentNb = iCurrentNb;
00065 }
00066
00067 void setExpectedNb (const Count_T& iExpectedNb) {
00068     _expectedNb = iExpectedNb;
00069 }
00070
00071 void setActualNb (const Count_T& iActualNb) {
00072     _actualNb = iActualNb;
00073 }
00074
00075 void reset();
00076
00077 Count_T operator+= (Count_T iIncrement) {
00078     _currentNb += iIncrement;
00079     return _currentNb;
00080 }
00081
00082 Count_T operator++() {
00083     ++_currentNb;
00084     return _currentNb;
00085 }
00086
00087 public:
00088 // ////////////////// Display Support Methods ///////////////////
00089 const std::string describe() const;
00090
00091 const std::string toString() const;
00092
00093
00094 public:
00095     ProgressStatus (const Count_T& iCurrentNb, const
00096                     Count_T& iExpectedNb,
00097                     const Count_T& iActualNb);
00098
00099     ProgressStatus (const Count_T& iExpectedNb, const
00100                     Count_T& iActualNb);
00101
00102     ProgressStatus (const Count_T& iActualNb);
00103
00104     ProgressStatus();
00105
00106     ProgressStatus (const ProgressStatus&);
00107
00108 private:
00109 // ////////////////// Attributes ///////////////////
00110     Count_T _currentNb;
00111
00112     Count_T _expectedNb;
00113
00114     Count_T _actualNb;
00115
00116 };
00117
00118 }
00119
00120 #endif // __STDAIR_BAS_PROGRESSSTATUS_HPP

```

### 33.113 stdair/basic/ProgressStatusSet.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/ProgressStatusSet.hpp>
```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.114 ProgressStatusSet.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/ProgressStatusSet.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 ProgressStatusSet::ProgressStatusSet()
00014   : _eventType (EventType::LAST_VALUE), _typeSpecificProgressStatus(),
00015     _generatorProgressStatus(), _overallProgressStatus(), _generatorKey ("") {
00016   assert (false);
00017 }
00018
00019 // /////////////////////////////////
00020 ProgressStatusSet::ProgressStatusSet (const EventType::EN_EventType& iType)
00021   : _eventType (iType), _typeSpecificProgressStatus(),
00022     _generatorProgressStatus(), _overallProgressStatus(), _generatorKey ("") {
00023 }
00024
00025 // /////////////////////////////////
00026 ProgressStatusSet::
00027   ProgressStatusSet (const ProgressStatusSet& iProgressStatusSet)
00028     : _eventType (iProgressStatusSet._eventType),
00029       _typeSpecificProgressStatus(iProgressStatusSet._typeSpecificProgressStatus),
00030       _generatorProgressStatus (iProgressStatusSet._generatorProgressStatus),
00031       _overallProgressStatus (iProgressStatusSet._overallProgressStatus),
00032       _generatorKey (iProgressStatusSet._generatorKey) {
00033 }
00034
00035 // /////////////////////////////////
00036 ProgressStatusSet::~ProgressStatusSet() {
00037 }
00038
00039 // /////////////////////////////////
00040 void ProgressStatusSet::fromStream (std::istream& ioIn) {
00041 }
00042
00043 // /////////////////////////////////
00044 const std::string ProgressStatusSet::describe() const {
00045   std::ostringstream oStr;
00046
00047   oStr << "-[Overall]"
00048     << "[" << _overallProgressStatus.getCurrentNb()
00049     << "/" << _overallProgressStatus.getExpectedNb()
00050     << "," << _overallProgressStatus.getActualNb()
00051     << "}] ";
00052
00053   oStr << "[" << _eventType (<< "]"
00054     << "[" << _typeSpecificProgressStatus.getCurrentNb()
00055     << "/" << _typeSpecificProgressStatus.getExpectedNb()
00056     << "," << _typeSpecificProgressStatus.getActualNb()
00057     << "}]";
00058
00059   oStr << "[ Specific generator: " << _generatorKey << "]"
00060     << "[" << _generatorProgressStatus.getCurrentNb()
00061     << "/" << _generatorProgressStatus.getExpectedNb()
00062     << "," << _generatorProgressStatus.getActualNb()
00063     << "}]";
00064
00065   return oStr.str();
00066 }
00067
00068 }
```

### 33.115 stdair/basic/ProgressStatusSet.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_event_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/basic/EventType.hpp>
#include <stdair/basic/ProgressStatus.hpp>
```

**Classes**

- struct stdair::ProgressStatusSet

**Namespaces**

- stdair

*Handle on the StdAir library context.*

**33.116 ProgressStatusSet.hpp**

```

00001 #ifndef __STDAIR_BAS_PROGRESSSTATUSSET_HPP
00002 #define __STDAIR_BAS_PROGRESSSTATUSSET_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_event_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/basic/EventType.hpp>
00015 #include <stdair/basic/ProgressStatus.hpp>
00016
00017 namespace stdair {
00018
00022     struct ProgressStatusSet : public StructAbstract {
00023         // ////////////////// Getters //////////////////
00031         const ProgressStatus& getTypeSpecificStatus() const {
00032             return _typeSpecificProgressStatus;
00033         }
00034
00043         const ProgressStatus& getSpecificGeneratorStatus() const {
00044             return _generatorProgressStatus;
00045         }
00046
00054         const ProgressStatus& getOverallStatus() const {
00055             return _overallProgressStatus;
00056         }
00057
00058
00059         // ////////////////// Setters //////////////////
00060     public:
00062         void setTypeSpecificStatus (const ProgressStatus& iProgressStatus) {
00063             _typeSpecificProgressStatus = iProgressStatus;
00064         }
00065
00068         void setSpecificGeneratorStatus (const
00069             ProgressStatus& iProgressStatus,
00070                     const EventGeneratorKey_T& iKey) {
00071             _generatorProgressStatus = iProgressStatus;
00072             _generatorKey = iKey;
00073         }
00076         void setOverallStatus (const ProgressStatus& iProgressStatus) {
00077             _overallProgressStatus = iProgressStatus;
00078         }
00079
00080
00081         // ////////////////// Display methods //////////////////
00082     public:
00085         void fromStream (std::istream& ioIn);
00086
00088         const std::string describe() const;
00089
00090
00091         // ////////////////// Constructors and destructors //////////////////
00092     public:
00094         ProgressStatusSet (const EventType::EN_EventType&);
00096         ProgressStatusSet (const ProgressStatusSet&);
00098         ~ProgressStatusSet();
00099

```

```

00100  private:
00101      ProgressStatusSet ();
00102
00103      // ////////////////// Attributes ///////////////////
00104
00105  private:
00106      const EventType::EN_EventType _eventType;
00107
00108      ProgressStatus _typeSpecificProgressStatus;
00109
00110      ProgressStatus _generatorProgressStatus;
00111
00112      ProgressStatus _overallProgressStatus;
00113
00114      EventGeneratorKey_T _generatorKey;
00115
00116  };
00117
00118 #endif // __STDAIR_BAS_PROGRESSSTATUSSET_HPP

```

### 33.117 stdair/basic/RandomGeneration.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/version.hpp>
#include <stdair/basic/RandomGeneration.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.118 RandomGeneration.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost
00008 #include <boost/version.hpp>
00009 #if BOOST_VERSION >= 103500
00010 #include <boost/math/distributions/normal.hpp>
00011 #endif // BOOST_VERSION >= 103500
00012 // StdAir
00013 #include <stdair/basic/RandomGeneration.hpp>
00014
00015 namespace stdair {
00016
00022 // /////////////////////////////////
00023 RandomGeneration::RandomGeneration() : _generator (1) {
00024 }
00025
00026 // /////////////////////////////////
00027 RandomGeneration::RandomGeneration (const
00028     RandomSeed_T& iSeed)
00029     : _generator (iSeed) {
00030 }
00031
00032 // /////////////////////////////////
00033 RandomGeneration::RandomGeneration (const
00034     RandomGeneration& iRandomGeneration)
00035     : _generator (iRandomGeneration._generator) {
00036
00037 RandomGeneration::~RandomGeneration() {
00038 }
00039
00040 // /////////////////////////////////
00041 void RandomGeneration::init (const RandomSeed_T& iSeed) {
00042     _generator.seed (iSeed);
00043 }
00044

```

```

00045 // /////////////////////////////////
00046 const std::string RandomGeneration::describe() const {
00047     std::ostringstream oStr;
00048     oStr << _generator;
00049     return oStr.str();
00050 }
00051
00052 // /////////////////////////////////
00053 RealNumber_T RandomGeneration::generateUniform01() {
00054     UniformGenerator_T lGenerator (_generator, boost::uniform_real<>(0, 1));
00055     return lGenerator();
00056 }
00057
00058 // /////////////////////////////////
00059 RealNumber_T RandomGeneration::generateUniform(const
00060     RealNumber_T& iMinValue,
00061                                         const RealNumber_T& i.MaxValue) {
00062     const Probability_T lVariateUnif01 = generateUniform01();
00063     const RealNumber_T lVariateUnif =
00064         iMinValue + lVariateUnif01 * (i.MaxValue - iMinValue);
00065     return lVariateUnif;
00066 }
00067
00068 // /////////////////////////////////
00069 RealNumber_T RandomGeneration::generateNormal (const
00070     RealNumber_T& mu,
00071                                         const RealNumber_T& sigma) {
00072 #if BOOST_VERSION >= 103500
00073     const Probability_T lVariateUnif = generateUniform01();
00074     const boost::math::normal lNormal (mu, sigma);
00075     const RealNumber_T lRealNumberOfRequestsToBeGenerated =
00076         boost::math::quantile (lNormal, lVariateUnif);
00077 #else // BOOST_VERSION >= 103500
00078     // TODO: rely on GSL when Boost version smaller than 1.35
00079     const RealNumber_T lRealNumberOfRequestsToBeGenerated = 0.0;
00080 #endif // BOOST_VERSION >= 103500
00081     return lRealNumberOfRequestsToBeGenerated;
00082 }
00083
00084
00085 // /////////////////////////////////
00086 RealNumber_T RandomGeneration::generateExponential (
00087     const RealNumber_T& lambda) {
00088     ExponentialDistribution_T lExponentialDistribution (lambda);
00089     ExponentialGenerator_T lExponentialDistributionGenerator (
00090         _generator,
00091                                         lExponentialDistribution);
00092
00093     // Generate a random variate, expressed in (fractional) day
00094     const RealNumber_T lExponentialVariateInDays =
00095         lExponentialDistributionGenerator();
00096     return lExponentialVariateInDays;
00097 }
00098
00099 }
```

### 33.119 stdair/basic/RandomGeneration.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::RandomGeneration**

*Class holding a random generator.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.120 RandomGeneration.hpp

```

00001 #ifndef __STDAIR_BAS_RANDOMGENERATION_HPP
00002 #define __STDAIR_BAS_RANDOMGENERATION_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_maths_types.hpp>
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00017 struct RandomGeneration : public StructAbstract {
00018     public:
00019         // ////////////////// Business Methods ///////////////////
00020         RealNumber_T generateUniform01();
00025
00030         RealNumber_T operator()() {
00031             return generateUniform01();
00032         }
00033
00039         RealNumber_T generateUniform (const RealNumber_T&, const
00040             RealNumber_T&);
00045
00046         RealNumber_T generateNormal (const RealNumber_T&, const
00047             RealNumber_T&);
00051
00052         RealNumber_T generateExponential (const
00053             RealNumber_T&);
00056
00057         BaseGenerator_T& getBaseGenerator () { return
00058             _generator; }
00059
00060     public:
00061         // ////////////////// Display Support Methods ///////////////////
00062         const std::string describe() const;
00063
00064
00065     public:
00066         // ////////////////// Constructors and destructors ///////////////////
00067         RandomGeneration (const RandomSeed_T&);
00068         RandomGeneration();
00069
00070     private:
00071         RandomGeneration (const RandomGeneration&);
00072         RandomGeneration& operator= (const RandomGeneration& iRandomGeneration)
00073     {
00074         _generator = iRandomGeneration._generator;
00075         return *this;
00076     }
00077
00078     public:
00079         ~RandomGeneration();
00080
00081         void init (const RandomSeed_T&);
00082
00083         // ////////////////// Attributes ///////////////////
00084         BaseGenerator_T _generator;
00085     };
00086
00087
00088
00089
00090     public:
00091         ~RandomGeneration();
00092
00093         void init (const RandomSeed_T&);
00094
00095         // ////////////////// Attributes ///////////////////
00096         BaseGenerator_T _generator;
00097     };
00098
00099
00100
00101
00102
00103
00104
00105
00106
00107
00108
00109
00110
00111
00112
00113
00114
00115
00116 #endif // __STDAIR_BAS_RANDOMGENERATION_HPP

```

### 33.121 stdair/basic/SampleType.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/SampleType.hpp>

```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.122 SampleType.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/SampleType.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string SampleType::_labels[LAST_VALUE] =
00015   { "All", "AllForPartnerships", "RevenueManagement", "Inventory", "Schedule",
00016     "RevenueAccounting", "FareQuote", "CRS", "DemandGeneration", "EventManagement",
00017     "CustomerChoice" };
00018
00019 // /////////////////////////////////
00020 const char SampleType::
00021 _typeLabels[LAST_VALUE] = { 'A', 'P', 'R', 'I', 'S', 'T', 'F', 'C', 'D', 'E', 'M' };
00022
00023
00024 // /////////////////////////////////
00025 SampleType::SampleType()
00026   : _type (LAST_VALUE) {
00027   assert (false);
00028 }
00029
00030 // /////////////////////////////////
00031 SampleType::SampleType (const SampleType& iSampleType)
00032   : _type (iSampleType._type) {
00033 }
00034
00035 // /////////////////////////////////
00036 SampleType::SampleType (const EN_SampleType& iSampleType)
00037   : _type (iSampleType) {
00038 }
00039
00040 // /////////////////////////////////
00041 SampleType::SampleType (const char iType) {
00042   switch (iType) {
00043     case 'A': _type = ALL; break;
00044     case 'P': _type = A4P; break;
00045     case 'R': _type = RMS; break;
00046     case 'I': _type = INV; break;
00047     case 'S': _type = SCH; break;
00048     case 'T': _type = RAC; break;
00049     case 'F': _type = FQT; break;
00050     case 'C': _type = CRS; break;
00051     case 'D': _type = DEM; break;
00052     case 'E': _type = EVT; break;
00053     case 'M': _type = CCM; break;
00054     default: _type = LAST_VALUE; break;
00055   }
00056
00057   if (_type == LAST_VALUE) {
00058     const std::string& lLabels = describeLabels();
00059     std::ostringstream oMessage;
00060     oMessage << "The sample type '" << iType
00061       << "' is not known. Known sample types: " << lLabels;
00062     throw CodeConversionException (oMessage.str());
00063   }
00064 }
00065
00066 // /////////////////////////////////
00067 const std::string& SampleType::getLabel (const
00068 EN_SampleType& iType) {
00069   return _labels[iType];
00070 }
00071
00072 // /////////////////////////////////
00073 char SampleType::getTypeLabel (const EN_SampleType& iType) {
00074   return _typeLabels[iType];
00075 }
```

```

00076 // /////////////////////////////////
00077 std::string SampleType::getTypeLabelAsString (const
00078 EN_SampleType& iType) {
00079     std::ostringstream oStr;
00080     oStr << _typeLabels[iType];
00081     return oStr.str();
00082 }
00083 // /////////////////////////////////
00084 std::string SampleType::describeLabels () {
00085     std::ostringstream ostr;
00086     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00087         if (idx != 0) {
00088             ostr << ", ";
00089         }
00090         ostr << _labels[idx];
00091     }
00092     return ostr.str();
00093 }
00094 // /////////////////////////////////
00095 SampleType::EN_SampleType SampleType::getType() const {
00096     return _type;
00097 }
00098
00100 // /////////////////////////////////
00101 std::string SampleType::getTypeAsString() const {
00102     std::ostringstream oStr;
00103     oStr << _typeLabels[_type];
00104     return oStr.str();
00105 }
00106
00107 // /////////////////////////////////
00108 const std::string SampleType::describe() const {
00109     std::ostringstream ostr;
00110     ostr << _labels[_type];
00111     return ostr.str();
00112 }
00113
00114 // /////////////////////////////////
00115 bool SampleType::operator==(const EN_SampleType& iType) const {
00116     return (_type == iType);
00117 }
00118
00119 }

```

### 33.123 stdair/basic/SampleType.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::SampleType](#)

*Enumeration of BOM sample types.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.124 SampleType.hpp

```

00001 #ifndef __STDAIR_BAS_SAMPLETYPE_HPP
00002 #define __STDAIR_BAS_SAMPLETYPE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>

```

```

00009 // StdAir
0010 #include <stdair/basic/StructAbstract.hpp>
0011
0012 namespace stdair {
0013
0025   struct SampleType : public StructAbstract {
0026     public:
0027       typedef enum {
0028         ALL = 0,
0029         A4P,
0030         RMS,
0031         INV,
0032         SCH,
0033         RAC,
0034         FQT,
0035         CRS,
0036         DEM,
0037         EVT,
0038         CCM,
0039         LAST_VALUE
0040       } EN_SampleType;
0041
0045     static const std::string& getLabel (const EN_SampleType&);
0046
0050     static char getTypeLabel (const EN_SampleType&);
0051
0055     static std::string getTypeLabelAsString (const
0056       EN_SampleType&);
0057
0060     static std::string describeLabels();
0061
0065     EN_SampleType getType() const;
0066
0070     std::string getTypeAsString() const;
0071
0075     const std::string describe() const;
0076
0077   public:
0081     bool operator== (const EN_SampleType&) const;
0082
0083   public:
0087     SampleType (const EN_SampleType&);
0088     SampleType (const char iType);
0089     SampleType (const SampleType&);
0090
0094   private:
0095     SampleType();
0096
0097   private:
0098     static const std::string _labels[LAST_VALUE];
0099
0100     static const char _typeLabels[LAST_VALUE];
0101
0102   private:
0103     // ////////// Attributes //////////
0104     EN_SampleType _type;
0105   };
0106
0107 }
0108
0109 #endif // __STDAIR_BAS_SAMPLETYPE_HPP

```

### 33.125 stdair/basic/ServiceInitialisationType.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/ServiceInitialisationType.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.126 ServiceInitialisationType.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/ServiceInitialisationType.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string ServiceInitialisationType::_labels[LAST_VALUE] =
00015 { "Not yet initialised", "File parsing", "Built-in sample BOM" };
00016
00017 // /////////////////////////////////
00018 const char ServiceInitialisationType::_typeLabels[LAST_VALUE] =
00019 { 'N', 'F', 'B' };
00020
00021
00022 // /////////////////////////////////
00023 ServiceInitialisationType::ServiceInitialisationType()
00024 : _type (LAST_VALUE) {
00025 assert (false);
00026 }
00027
00028 // /////////////////////////////////
00029 ServiceInitialisationType::
00030 ServiceInitialisationType (const ServiceInitialisationType&
00031 iServiceInitialisationType)
00032 : _type (iServiceInitialisationType._type) {
00033
00034 // /////////////////////////////////
00035 ServiceInitialisationType::
00036 ServiceInitialisationType (const EN_ServiceInitialisationType&
00037 iServiceInitialisationType)
00038 : _type (iServiceInitialisationType) {
00039
00040 // /////////////////////////////////
00041 ServiceInitialisationType::EN_ServiceInitialisationType
00042 ServiceInitialisationType::getType (const char iTypeChar) {
00043     EN_ServiceInitialisationType oType;
00044     switch (iTypeChar) {
00045         case 'N': oType = NOT_YET_INITIALISED; break;
00046         case 'F': oType = FILE_PARSING; break;
00047         case 'B': oType = BUILTIN_SAMPLE; break;
00048         default: oType = LAST_VALUE; break;
00049     }
00050
00051     if (oType == LAST_VALUE) {
00052         const std::string& lLabels = describeLabels();
00053         std::ostringstream oMessage;
00054         oMessage << "The service initialisation type '" << iTypeChar
00055             << "' is not known."
00056             << "Known service initialisation types: " << lLabels;
00057         throw CodeConversionException (oMessage.str());
00058     }
00059
00060     return oType;
00061 }
00062
00063 // /////////////////////////////////
00064 ServiceInitialisationType::
00065 ServiceInitialisationType (const char iTypeChar)
00066 : _type (getType (iTypeChar)) {
00067 }
00068
00069 // /////////////////////////////////
00070 ServiceInitialisationType::
00071 ServiceInitialisationType (const std::string& iTypeStr) {
00072     //
00073     const size_t lSize = iTypeStr.size();
00074     assert (lSize == 1);
00075     const char lTypeChar = iTypeStr[0];
00076     _type = getType (lTypeChar);
00077 }
00078
00079 // /////////////////////////////////
00080 const std::string& ServiceInitialisationType::
00081 getLabel (const EN_ServiceInitialisationType& iType) {
00082     return _labels[iType];
00083 }
```

```

00084 // /////////////////////////////////////////////////
00085 char ServiceInitialisationType::
00086     getTypeLabel (const EN_ServiceInitialisationType& iType) {
00087     return _typeLabels[iType];
00088 }
00089 }
00090
00091 // /////////////////////////////////////////////////
00092 std::string ServiceInitialisationType::
00093     getTypeLabelAsString (const EN_ServiceInitialisationType
00094     & iType) {
00095     std::ostringstream oStr;
00096     oStr << _typeLabels[iType];
00097     return oStr.str();
00098 }
00099
00100 std::string ServiceInitialisationType::describeLabels() {
00101     std::ostringstream ostr;
00102     for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00103         if (idx != 0) {
00104             ostr << ", ";
00105         }
00106         ostr << _labels[idx];
00107     }
00108     return ostr.str();
00109 }
00110
00111 // /////////////////////////////////////////////////
00112 ServiceInitialisationType::EN_ServiceInitialisationType
00113 ServiceInitialisationType::getType() const {
00114     return _type;
00115 }
00116
00117 // /////////////////////////////////////////////////
00118 char ServiceInitialisationType::getTypeAsChar() const {
00119     const char oTypeChar = _typeLabels[_type];
00120     return oTypeChar;
00121 }
00122
00123 // /////////////////////////////////////////////////
00124 std::string ServiceInitialisationType::getTypeAsString() const
00125 {
00126     std::ostringstream ostr;
00127     ostr << _typeLabels[_type];
00128     return oStr.str();
00129 }
00130
00131 const std::string ServiceInitialisationType::describe() const {
00132     std::ostringstream ostr;
00133     ostr << _labels[_type];
00134     return ostr.str();
00135 }
00136
00137 // /////////////////////////////////////////////////
00138 bool ServiceInitialisationType::
00139     operator== (const EN_ServiceInitialisationType& iType) const {
00140     return (_type == iType);
00141 }
00142
00143 }
```

### 33.127 stdair/basic/ServiceInitialisationType.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct **stdair::ServiceInitialisationType**

*Enumeration of service initialisation types.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.128 ServiceInitialisationType.hpp

```

00001 #ifndef __STDAIR_BAS_SERVICEINITIALISATIONTYPE_HPP
00002 #define __STDAIR_BAS_SERVICEINITIALISATIONTYPE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00014     struct ServiceInitialisationType : public
00015         StructAbstract {
00016     public:
00017         typedef enum {
00018             NOT_YET_INITIALISED = 0,
00019             FILE_PARSING,
00020             BUILTIN_SAMPLE,
00021             LAST_VALUE
00022         } EN_ServiceInitialisationType;
00023
00024         static const std::string& getLabel (const
00025             EN_ServiceInitialisationType&);
00026
00027         static EN_ServiceInitialisationType getType (const char);
00028
00029         static char getTypeLabel (const EN_ServiceInitialisationType&);
00030
00031         static std::string
00032             getTypeLabelAsString (const EN_ServiceInitialisationType
00033             &);
00034
00035         static std::string describeLabels ();
00036
00037         EN_ServiceInitialisationType getType() const;
00038
00039         char getTypeAsChar() const;
00040
00041         std::string getTypeAsString() const;
00042
00043         const std::string describe() const;
00044
00045     public:
00046         bool operator== (const EN_ServiceInitialisationType&) const;
00047
00048     public:
00049         ServiceInitialisationType (const
00050             EN_ServiceInitialisationType&);
00051         ServiceInitialisationType (const char iType);
00052         ServiceInitialisationType (const std::string& iType);
00053         ServiceInitialisationType (const
00054             ServiceInitialisationType&);
00055
00056     private:
00057         ServiceInitialisationType ();
00058
00059     private:
00060         static const std::string _labels[LAST_VALUE];
00061         static const char _typeLabels[LAST_VALUE];
00062
00063     private:
00064         // ////////// Attributes //////////
00065         EN_ServiceInitialisationType _type;
00066     };
00067
00068 }
00069
00070#endif // __STDAIR_BAS_SERVICEINITIALISATIONTYPE_HPP

```

### 33.129 stdair/basic/StructAbstract.hpp File Reference

```
#include <iostream>
#include <string>
```

#### Classes

- struct [stdair::StructAbstract](#)  
*Base class for the light structures.*

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

#### Functions

- template<class charT , class traits >  
`std::basic_ostream< charT, traits > & operator<< ( std::basic_ostream< charT, traits > &ioOut, const stdair::StructAbstract &iStruct)`
- template<class charT , class traits >  
`std::basic_istream< charT, traits > & operator>> ( std::basic_istream< charT, traits > &iIn, stdair::StructAbstract &ioStruct)`

#### 33.129.1 Function Documentation

33.129.1.1 template<class charT , class traits > std::basic\_ostream<charT, traits>& operator<< ( std::basic\_ostream< charT, traits > & ioOut, const stdair::StructAbstract & iStruct ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (p653) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 61 of file [StructAbstract.hpp](#).

33.129.1.2 template<class charT , class traits > std::basic\_istream<charT, traits>& operator>> ( std::basic\_istream< charT, traits > & iIn, stdair::StructAbstract & ioStruct ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (pp655-657) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 89 of file [StructAbstract.hpp](#).

References [stdair::StructAbstract::fromStream\(\)](#).

### 33.130 StructAbstract.hpp

```
00001 #ifndef __STDAIR_BAS_STRUCTABSTRACT_HPP
00002 #define __STDAIR_BAS_STRUCTABSTRACT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010
00011 namespace stdair {
00012
00016   struct StructAbstract {
00017     public:
```

```

00018     virtual ~StructAbstract() {}
00023
00029     void toStream (std::ostream& ioOut) const {
00030         ioOut << describe();
00031     }
00032
00038     virtual void fromStream (std::istream& ioIn) {}
00039
00043     virtual const std::string describe() const = 0;
00044
00045     protected:
00049         StructAbstract() {}
00050     };
00051 }
00052
00058 template <class charT, class traits>
00059 inline
00060 std::basic_ostream<charT, traits>&
00061 operator<< (std::basic_ostream<charT, traits>& ioOut,
00062                 const stdair::StructAbstract& iStruct) {
00068     std::basic_ostringstream<charT,traits> ostr;
00069     ostr.copyfmt (ioOut);
00070     ostr.width (0);
00071
00072     // Fill string stream
00073     iStruct.toStream (ostr);
00074
00075     // Print string stream
00076     ioOut << ostr.str();
00077
00078     return ioOut;
00079 }
00080
00086 template <class charT, class traits>
00087 inline
00088 std::basic_istream<charT, traits>&
00089 operator>> (std::basic_istream<charT, traits>& ioIn,
00090                  stdair::StructAbstract& ioStruct) {
00091     // Fill the Structure object with the input stream.
00092     ioStruct.fromStream (ioIn);
00093     return ioIn;
00094
00095 }
00096 #endif // __STDAIR_BAS_STRUCTABSTRACT_HPP

```

### 33.131 stdair/basic/UnconstrainingMethod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/UnconstrainingMethod.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.132 UnconstrainingMethod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/basic/UnconstrainingMethod.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 const std::string UnconstrainingMethod::_labels[LAST_VALUE] =

```

```
00015     { "Expectation-Maximisation" };
00016
00017 // /////////////////////////////////
00018 const char UnconstrainingMethod::
00019 _methodLabels[LAST_VALUE] = { 'E' };
00020
00021
00022 // /////////////////////////////////
00023 UnconstrainingMethod::UnconstrainingMethod()
00024   : _method (LAST_VALUE) {
00025   assert (false);
00026 }
00027
00028 // /////////////////////////////////
00029 UnconstrainingMethod::
00030 UnconstrainingMethod (const UnconstrainingMethod& iUnconstrainingMethod)
00031   : _method (iUnconstrainingMethod._method) {
00032 }
00033
00034 // /////////////////////////////////
00035 UnconstrainingMethod:::
00036 UnconstrainingMethod (const EN_UnconstrainingMethod& iUnconstrainingMethod)
00037   : _method (iUnconstrainingMethod) {
00038 }
00039
00040 // /////////////////////////////////
00041 UnconstrainingMethod::UnconstrainingMethod (const char iMethod) {
00042   switch (iMethod) {
00043     case 'E': _method = EM; break;
00044     default: _method = LAST_VALUE; break;
00045   }
00046
00047   if (_method == LAST_VALUE) {
00048     const std::string& lLabels = describeLabels();
00049     std::ostringstream oMessage;
00050     oMessage << "The unconstraining method '" << iMethod
00051       << "' is not known. Known unconstraining methods: " << lLabels;
00052     throw CodeConversionException (oMessage.str());
00053   }
00054 }
00055
00056 // /////////////////////////////////
00057 const std::string& UnconstrainingMethod::
00058 getLabel (const EN_UnconstrainingMethod& iMethod) {
00059   return _labels[iMethod];
00060 }
00061
00062 // /////////////////////////////////
00063 char UnconstrainingMethod::getMethodLabel (const
00064   EN_UnconstrainingMethod& iMethod) {
00065   return _methodLabels[iMethod];
00066 }
00067
00068 std::string UnconstrainingMethod::
00069 getMethodLabelAsString (const EN_UnconstrainingMethod&
00070   iMethod) {
00071   std::ostringstream oStr;
00072   oStr << _methodLabels[iMethod];
00073   return oStr.str();
00074 }
00075
00076 std::string UnconstrainingMethod::describeLabels () {
00077   std::ostringstream ostr;
00078   for (unsigned short idx = 0; idx != LAST_VALUE; ++idx) {
00079     if (idx != 0) {
00080       ostr << ", ";
00081     }
00082     ostr << _labels[idx] << " (" << _methodLabels[idx] << ")";
00083   }
00084   return ostr.str();
00085 }
00086
00087 // /////////////////////////////////
00088 UnconstrainingMethod::EN_UnconstrainingMethod
00089 UnconstrainingMethod::getMethod() const {
00090   return _method;
00091 }
00092
00093 std::string UnconstrainingMethod::getMethodAsString() const {
00094   std::ostringstream oStr;
00095   oStr << _methodLabels[_method];
00096   return oStr.str();
00097 }
00098
```

```

00099 // ///////////////////////////////////////////////////////////////////
00100 const std::string UnconstrainingMethod::describe() const {
00101     std::ostringstream ostr;
00102     ostr << _labels[_method];
00103     return ostr.str();
00104 }
00105
00106 // ///////////////////////////////////////////////////////////////////
00107 bool UnconstrainingMethod::
00108 operator== (const EN_UnconstrainingMethod& iMethod) const {
00109     return (_method == iMethod);
00110 }
00111
00112 }
```

### 33.133 stdair/basic/UnconstrainingMethod.hpp File Reference

```
#include <string>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::UnconstrainingMethod](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.134 UnconstrainingMethod.hpp

```

00001 #ifndef __STDAIR_BAS_UNCONSTRAININGMETHOD_HPP
00002 #define __STDAIR_BAS_UNCONSTRAININGMETHOD_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/basic/StructAbstract.hpp>
00011
00012 namespace stdair {
00013
00015     struct UnconstrainingMethod : public StructAbstract {
00016     public:
00017         typedef enum {
00018             EM = 0,
00019             LAST_VALUE
00020         } EN_UnconstrainingMethod;
00021
00023     static const std::string& getLabel (const EN_UnconstrainingMethod&);
00024
00026     static char getMethodLabel (const EN_UnconstrainingMethod&);
00027
00029     static std::string getMethodLabelAsString (const
00030         EN_UnconstrainingMethod&);
00032
00033     static std::string describeLabels();
00035
00036     EN_UnconstrainingMethod getMethod() const;
00038
00039     std::string getMethodAsString() const;
00042
00043     const std::string describe() const;
00044
00045     public:
00046         bool operator== (const EN_UnconstrainingMethod&) const;
00047
00048     public:
00049         UnconstrainingMethod (const EN_UnconstrainingMethod&);
00050         UnconstrainingMethod (const char iMethod);
```

```

00054     UnconstrainingMethod (const UnconstrainingMethod&);
00055
00056 private:
00057     UnconstrainingMethod();
00058
00059
00060 private:
00061     static const std::string _labels[LAST_VALUE];
00062     static const char _methodLabels[LAST_VALUE];
00063
00064
00065 private:
00066     // ////////// Attributes //////////
00067     EN_UnconstrainingMethod _method;
00068 };
00069
00070
00071
00072
00073
00074 }
00075 #endif // __STDAIR_BAS_UNCONSTRAININGMETHOD_HPP

```

### 33.135 stdair/basic/YieldRange.cpp File Reference

```

#include <limits>
#include <sstream>
#include <stdair/basic/YieldRange.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.136 YieldRange.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <limits>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/YieldRange.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 YieldRange::YieldRange() :
00014     _upperYield (std::numeric_limits<Yield_T>::max()),
00015     _averageYield (std::numeric_limits<Yield_T>::max()),
00016     _lowerYield (std::numeric_limits<Yield_T>::min()) {
00017 }
00018
00019 // /////////////////////////////////
00020 YieldRange::YieldRange (const YieldRange& iYieldRange) :
00021     _upperYield (iYieldRange.getUpperYield()),
00022     _averageYield (iYieldRange.getAverageYield()),
00023     _lowerYield (std::numeric_limits<Yield_T>::min()) {
00024 }
00025
00026 // /////////////////////////////////
00027 YieldRange::YieldRange (const Yield_T iUpperYield) :
00028     _upperYield (iUpperYield), _averageYield (iUpperYield),
00029     _lowerYield (iUpperYield) {
00030 }
00031
00032 // /////////////////////////////////
00033 YieldRange::YieldRange (const Yield_T iUpperYield,
00034                           const Yield_T iAverageYield) :
00035     _upperYield (iUpperYield), _averageYield (iAverageYield),
00036     _lowerYield (std::numeric_limits<Yield_T>::min()) {
00037 }
00038
00039 // /////////////////////////////////
00040 YieldRange::YieldRange (const Yield_T iUpperYield,
00041                           const Yield_T iAverageYield,
00042                           const Yield_T iLowerYield) :

```

```

00043     _upperYield (iUpperYield), _averageYield (iAverageYield),
00044     _lowerYield (iLowerYield) {
00045 }
00046
00047 // /////////////////////////////////
00048 YieldRange::~YieldRange() {
00049 }
00050
00051 // /////////////////////////////////
00052 void YieldRange::toStream (std::ostream& ioOut) const {
00053     ioOut << _averageYield << "[" << _lowerYield << ", "
00054     << _upperYield << "]")";
00055 }
00056
00057 // /////////////////////////////////
00058 void YieldRange::fromStream (std::istream& ioIn) {
00059 }
00060
00061 // /////////////////////////////////
00062 const std::string YieldRange::describe() const {
00063     std::ostringstream oStr;
00064
00065     return oStr.str();
00066 }
00067
00068 }

```

### 33.137 stdair/basic/YieldRange.hpp File Reference

```
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- class `stdair::YieldRange`

#### Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.138 YieldRange.hpp

```

00001 #ifndef __STDAIR_BAS_YIELDRANGE_HPP
00002 #define __STDAIR_BAS_YIELDRANGE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/stdair_inventory_types.hpp>
00009 #include <stdair/basic/StructAbstract.hpp>
0010
0011 namespace stdair {
0012
0023 class YieldRange : public StructAbstract {
0024 public:
0026     YieldRange ();
0027     YieldRange (const YieldRange&);
0028     YieldRange (const Yield_T iUpperYield);
0029     YieldRange (const Yield_T iUpperYield, const Yield_T iAverageYield);
0030     YieldRange (const Yield_T iUpperYield, const Yield_T iAverageYield,
0031                 const Yield_T iLowerYield);
0032
0034     virtual ~YieldRange();
0035
0036
0037     // ////////////////// Getters ///////////////////
0039     Yield_T getUpperYield() const {
0040         return _upperYield;
0041     }
0043     Yield_T getAverageYield() const {

```

```

00044     return _averageYield;
00045 }
00047 Yield_T getLowerYield() const {
00048     return _lowerYield;
00049 }
00050
00051 // /////////// Setters ///////////
00053 void setUpperYield (const Yield_T iUpperYield) {
00054     _upperYield = iUpperYield;
00055 }
00057 void setAverageYield (const Yield_T iAverageYield) {
00058     _averageYield = iAverageYield;
00059 }
00061 void setLowerYield (const Yield_T iLowerYield) {
00062     _lowerYield = iLowerYield;
00063 }
00064
00065
00066 // /////////// Display methods ///////////
00069 void toStream (std::ostream&) const;
00070
00073 void fromStream (std::istream&);
00074
00076 const std::string describe() const;
00077
00078 private:
00079 // /////////// Attributes ///////////
00081 Yield_T _upperYield;
00082
00084 Yield_T _averageYield;
00085
00087 Yield_T _lowerYield;
00088 };
00089 }
00090 #endif // __STDAIR_BAS_YIELD RANGE_HPP

```

### 33.139 stdair/bom/AirlineClassList.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/AirlineClassList.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.140 AirlineClassList.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/service/Logger.hpp>
00014 #include <stdair/bom/AirlineClassList.hpp>
00015
00016 namespace stdair {
00017 // /////////////////////////////////

```

```

00019  AirlineClassList::AirlineClassList()
00020  : _key (DEFAULT_AIRLINE_CODE_LIST,
00021    DEFAULT_CLASS_CODE_LIST),
00022  _parent (NULL)  {
00023  assert (false);
00024 }
00025 // /////////////////////////////////
00026 AirlineClassList::AirlineClassList (const AirlineClassList& iACL)
00027  : _key (iACL._key),
00028  _parent (NULL),
00029  _yield(iACL._yield),
00030  _fare(iACL._fare) {
00031 }
00032
00033 // /////////////////////////////////
00034 AirlineClassList::AirlineClassList (const Key_T& iKey)
00035  : _key (iKey), _parent (NULL)  {
00036 }
00037
00038 // /////////////////////////////////
00039 AirlineClassList::~AirlineClassList () {
00040 }
00041
00042 // /////////////////////////////////
00043 std::string AirlineClassList::toString() const {
00044  std::ostringstream oStr;
00045  oStr << describeKey() << ", " << _yield << ", " << _fare;
00046  return oStr.str();
00047 }
00048
00049 // /////////////////////////////////
00050 void AirlineClassList::serialisationImplementationExport() const {
00051  std::ostringstream oStr;
00052  boost::archive::text_oarchive oa (oStr);
00053  oa << *this;
00054 }
00055
00056 // /////////////////////////////////
00057 void AirlineClassList::serialisationImplementationImport() {
00058  std::istringstream iStr;
00059  boost::archive::text_iarchive ia (iStr);
00060  ia >> *this;
00061 }
00062
00063 // /////////////////////////////////
00064 template<class Archive>
00065 void AirlineClassList::serialize (Archive& ioArchive,
00066 									  const unsigned int iFileVersion) {
00067  ioArchive & _key & _yield & _fare;
00068 }
00069
00070 }
00071
00072
00073

```

### 33.141 stdair/bom/AirlineClassList.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/AirlineClassListKey.hpp>
#include <stdair/bom/AirlineClassListTypes.hpp>

```

#### Classes

- class [stdair::AirlineClassList](#)

*Class representing the actual attributes for a segment-features.*

#### Namespaces

- [boost](#)

*Forward declarations.*

- boost::serialization
- stdair

*Handle on the StdAir library context.*

### 33.142 AirlineClassList.hpp

```

00001 #ifndef __STDAIR_BOM_AIRLINECLASSLIST_HPP
00002 #define __STDAIR_BOM_AIRLINECLASSLIST_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/bom/BomAbstract.hpp>
00012 #include <stdair/bom/AirlineClassListKey.hpp>
00013 #include <stdair/bom/AirlineClassListTypes.hpp>
00014
00015 namespace boost {
00016     namespace serialization {
00017         class access;
00018     }
00019 }
00020 }
00021
00022 namespace stdair {
00023
00024     class AirlineClassList : public BomAbstract {
00025         template <typename BOM> friend class FacBom;
00026         template <typename BOM> friend class FacCloneBom;
00027         friend class FacBomManager;
00028         friend class boost::serialization::access;
00029
00030     public:
00031         // ////////////////// Type definitions ///////////////////
00032         typedef AirlineClassListKey Key_T;
00033
00034
00035     public:
00036         // ////////////////// Getters ///////////////////
00037         const Key_T& getKey() const {
00038             return _key;
00039         }
00040
00041         BomAbstract* const getParent() const {
00042             return _parent;
00043         }
00044
00045         const AirlineCodeList_T& getAirlineCodeList() const {
00046             return _key.getAirlineCodeList();
00047         }
00048
00049         const ClassList_StringList_T& getClassCodeList() const {
00050             return _key.getClassCodeList();
00051         }
00052
00053         const HolderMap_T& getHolderMap() const {
00054             return _holderMap;
00055         }
00056
00057         const stdair::Yield_T& getYield() const {
00058             return _yield;
00059         }
00060
00061         const stdair::Fare_T& getFare() const {
00062             return _fare;
00063         }
00064
00065     public:
00066         // ////////////////// Setters ///////////////////
00067         void setYield (const Yield_T& iYield) {
00068             _yield = iYield;
00069         }
00070
00071         void setFare (const Fare_T& iFare) {
00072             _fare = iFare;
00073         }
00074
00075     public:
00076         // ////////////////// Display support methods ///////////////////
00077
00078
00079
00080
00081
00082
00083
00084
00085
00086
00087
00088
00089

```

```

00095     void toStream (std::ostream& ioOut) const {
00096         ioOut << toString();
00097     }
00098
00104     void fromStream (std::istream& ioIn) {
00105     }
00106
00110     std::string toString() const;
00111
00115     const std::string describeKey() const {
00116         return _key.toString();
00117     }
00118
00119
00120 public:
00121     // ////////// (Boost) Serialisation support methods //////////
00125     template<class Archive>
00126     void serialize (Archive& ar, const unsigned int iFileVersion);
00127
00128 private:
00133     void serialisationImplementationExport() const;
00134     void serialisationImplementationImport();
00135
00136
00137 protected:
00138     // ////////// Constructors and destructors //////////
00142     AirlineClassList (const Key_T&);
00146     virtual ~AirlineClassList();
00147
00148 private:
00152     AirlineClassList();
00153
00157     AirlineClassList (const AirlineClassList&);
00158
00159
00160 protected:
00161     // ////////// Attributes //////////
00165     Key_T _key;
00166
00170     BomAbstract* _parent;
00171
00175     HolderMap_T _holderMap;
00176
00177     /*
00178     * Yield value.
00179     */
00180     Yield_T _yield;
00181
00182     /*
00183     * Fare value.
00184     */
00185     Fare_T _fare;
00186 };
00187
00188 }
00189 #endif // __STDAIR_BOM_AIRLINECLASSLIST_HPP
00190

```

### 33.143 stdair/bom/AirlineClassListKey.cpp File Reference

```

#include <cassert>
#include <iostream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/AirlineClassListKey.hpp>

```

### Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Functions

- template void `stdair::AirlineClassListKey::serialize< ba::text_oarchive >` (`ba::text_oarchive &, unsigned int`)
- template void `stdair::AirlineClassListKey::serialize< ba::text_iarchive >` (`ba::text_iarchive &, unsigned int`)

## 33.144 AirlineClassListKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_BomDisplay.hpp>
00013 #include <stdair/bom/AirlineClassListKey.hpp>
00014
00015 namespace stdair {
00016
00017 // ///////////////////////////////
00018 AirlineClassListKey::AirlineClassListKey() {
00019     assert (false);
00020 }
00021
00022 // ///////////////////////////////
00023 AirlineClassListKey::
00024     AirlineClassListKey (const AirlineCodeList_T& iAirlineCodeList,
00025                           const ClassList_StringList_T& iClassCodeList)
00026     : _airlineCodeList (iAirlineCodeList), _classCodeList (iClassCodeList) {
00027 }
00028
00029 // ///////////////////////////////
00030 AirlineClassListKey::AirlineClassListKey (const AirlineClassListKey& iKey)
00031     : _airlineCodeList (iKey._airlineCodeList),
00032     _classCodeList (iKey._classCodeList) {
00033 }
00034
00035 // ///////////////////////////////
00036 AirlineClassListKey::~AirlineClassListKey() {
00037 }
00038
00039 // ///////////////////////////////
00040 void AirlineClassListKey::toStream (std::ostream& ioOut) const {
00041     ioOut << "AirlineClassListKey: " << toString() << std::endl;
00042 }
00043
00044 // ///////////////////////////////
00045 void AirlineClassListKey::fromStream (std::istream& ioIn) {
00046 }
00047
00048 // ///////////////////////////////
00049 const std::string AirlineClassListKey::toString() const {
00050     std::ostringstream oStr;
00051     assert (_airlineCodeList.size() == _classCodeList.size());
00052
00053     unsigned short idx = 0;
00054     AirlineCodeList_T::const_iterator itAirlineCode = _airlineCodeList.begin();
00055     for (ClassList_StringList_T::const_iterator itClassCode =
00056             _classCodeList.begin(); itClassCode != _classCodeList.end();
00057             ++itClassCode, ++itAirlineCode, ++idx) {
00058         if (idx != 0) {
00059             oStr << DEFAULT_KEY_SUB_FLD_DELIMITER << " ";
00060         }
00061
00062         const AirlineCode_T& lAirlineCode = *itAirlineCode;
00063         const ClassCode_T& lClassCode = *itClassCode;
00064         oStr << lAirlineCode << " " << lClassCode;
00065     }
00066
00067     return oStr.str();
00068 }
00069
00070 // ///////////////////////////////
00071 void AirlineClassListKey::serialisationImplementationExport() const {
00072     std::ostringstream oStr;
00073     boost::archive::text_oarchive oa (oStr);
00074     oa << *this;
00075 }
00076

```

```

00077 // /////////////////////////////////
00078 void AirlineClassListKey::serialisationImplementationImport() {
00079     std::istringstream iStr;
00080     boost::archive::text_iarchive ia (iStr);
00081     ia >> *this;
00082 }
00083
00084 // /////////////////////////////////
00085 template<class Archive>
00086 void AirlineClassListKey::serialize (Archive& ioArchive,
00087                                     const unsigned int iFileVersion) {
00088     AirlineCodeList_T::const_iterator itAirlineCode = _airlineCodeList.begin();
00089     for (ClassList_StringList_T::const_iterator itClassCode =
00090           _classCodeList.begin(); itClassCode != _classCodeList.end();
00091         ++itClassCode, ++itAirlineCode) {
00100     AirlineCode_T lAirlineCode = *itAirlineCode;
00101     ClassCode_T lClassCode = *itClassCode;
00102
00103     ioArchive & lAirlineCode & lClassCode;
00104 }
00105 }
00106
00107 // /////////////////////////////////
00108 // Explicit template instantiation
00109 namespace ba = boost::archive;
00110 template void AirlineClassListKey::
00111 serialize<ba::text_oarchive> (ba::text_oarchive&, unsigned int);
00112 template void AirlineClassListKey::
00113 serialize<ba::text_iarchive> (ba::text_iarchive&, unsigned int);
00114 // /////////////////////////////////
00115
00116 }

```

### 33.145 stdair/bom/AirlineClassListKey.hpp File Reference

```
#include <iostream>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::AirlineClassListKey](#)

*Key of airport-pair.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.146 AirlineClassListKey.hpp

```

00001 #ifndef __STDAIR_BOM_AIRLINECLASSTKEY_HPP
00002 #define __STDAIR_BOM_AIRLINECLASSTKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
00011 #include <stdair/bom/KeyAbstract.hpp>
00012
00014 namespace boost {
00015     namespace serialization {
00016         class access;

```

```

00017     }
00018 }
00019
00020 namespace stdair {
00021
00025     struct AirlineClassListKey : public KeyAbstract {
00026         friend class boost::serialization::access;
00027
00028         // ////////// Constructors and destructors //////////
00029     private:
00033         AirlineClassListKey();
00034
00035     public:
00039         AirlineClassListKey (const AirlineCodeList_T&,
00040                             const ClassList_StringList_T&);
00041
00045         AirlineClassListKey (const AirlineClassListKey&);
00046
00050         ~AirlineClassListKey();
00051
00052
00053     public:
00054         // ////////// Getters //////////
00056         const AirlineCodeList_T& getAirlineCodeList() const {
00057             return _airlineCodeList;
00058         }
00059
00061         const ClassList_StringList_T& getClassCodeList() const {
00062             return _classCodeList;
00063         }
00064
00065
00066     public:
00067         // ////////// Display support methods //////////
00068         void toStream (std::ostream& ioOut) const;
00069
00070         void fromStream (std::istream& ioIn);
00071
00072         const std::string toString() const;
00073
00074
00075     public:
00076         // ////////// (Boost) Serialisation support methods //////////
00077         template<class Archive>
00078         void serialize (Archive& ar, const unsigned int iFileVersion);
00079
00080
00081     private:
00082         void serialisationImplementationExport() const;
00083         void serialisationImplementationImport();
00084
00085
00086     private:
00087         // ////////// Attributes //////////
00088         AirlineCodeList_T _airlineCodeList;
00089
00090         ClassList_StringList_T _classCodeList;
00091     };
00092
00093 }
00094
00095 #endif // __STDAIR_BOM_AIRLINECLASSLISTKEY_HPP

```

### 33.147 stdair/bom/AirlineClassListTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< AirlineClassList \* > stdair::AirlineClassListList\_T**

- `typedef std::map< const MapKey_T, AirlineClassList * > stdair::AirlineClassListMap_T`
- `typedef std::pair< MapKey_T, AirlineClassList * > stdair::AirlineClassListWithKey_T`
- `typedef std::list< AirlineClassListWithKey_T > stdair::AirlineClassListDetailedList_T`

### 33.148 AirlineClassListTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_AIRLINECLASSLISTTYPES_HPP
00003 #define __STDAIR_BOM_AIRLINECLASSLISTTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class AirlineClassList;
00018
00020 typedef std::list<AirlineClassList*> AirlineClassListList_T;
00021
00023 typedef std::map<const MapKey_T, AirlineClassList*> AirlineClassListMap_T;
00024
00026 typedef std::pair<MapKey_T, AirlineClassList*> AirlineClassListWithKey_T;
00027 typedef std::list<AirlineClassListWithKey_T> AirlineClassListDetailedList_T
00028 ;
00029 #endif // __STDAIR_BOM_AIRLINECLASSLISTTYPES_HPP

```

### 33.149 stdair/bom/AirlineFeature.cpp File Reference

```

#include <cassert>
#include <stdair/stdair_types.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/AirlineFeature.hpp>

```

#### Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.150 AirlineFeature.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/stdair_types.hpp>
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/AirlineFeature.hpp>
0010
0011 namespace stdair {
0012
0013 // ///////////////////////////////////////////////////////////////////
0014 AirlineFeature::AirlineFeature (const Key_T& iKey) :
0015     _key (iKey),
0016     _forecastingMethod(DEFAULT_FORECASTING_METHOD),
0017     _unconstrainingMethod(DEFAULT_UNCONSTRAINING_METHOD),
0018     _preOptimisationMethod(DEFAULT_PREEOPTIMISATION_METHOD),
0019     _optimisationMethod(DEFAULT_OPTIMISATION_METHOD),
0020     _partnershipTechnique(DEFAULT_PARTNERSHIP_TECHNIQUE) {
0021 }
0022

```

```

00023 // /////////////////////////////////
00024 AirlineFeature::AirlineFeature (const AirlineFeature& iAirlineFeature) :
00025     _key (iAirlineFeature._key),
00026     _forecastingMethod (iAirlineFeature._forecastingMethod),
00027     _unconstrainingMethod (iAirlineFeature._unconstrainingMethod),
00028     _preOptimisationMethod (iAirlineFeature._preOptimisationMethod),
00029     _optimisationMethod (iAirlineFeature._optimisationMethod),
00030     _partnershipTechnique (iAirlineFeature._partnershipTechnique) {
00031 }
00032
00033 // /////////////////////////////////
00034 AirlineFeature::~AirlineFeature () {
00035 }
00036
00037 // /////////////////////////////////
00038 void AirlineFeature::init(const ForecastingMethod&
00039     iForecastingMethod,
00040             const UnconstrainingMethod& iUnconstrainingMethod,
00041             const PreOptimisationMethod& iPreOptimisationMethod,
00042             const OptimisationMethod& iOptimisationMethod,
00043             const HistoricalDataLimit_T& iHistoricalDataLimit,
00044             const ControlMode_T& iControlMode,
00045             const PartnershipTechnique& iPartnershipTechnique) {
00046     _forecastingMethod = iForecastingMethod;
00047     _unconstrainingMethod = iUnconstrainingMethod;
00048     _preOptimisationMethod = iPreOptimisationMethod;
00049     _optimisationMethod = iOptimisationMethod;
00050     _historicalDataLimit = iHistoricalDataLimit;
00051     _controlMode = iControlMode;
00052     _partnershipTechnique = iPartnershipTechnique;
00053 }
00054
00055 std::string AirlineFeature::toString() const {
00056     std::ostringstream ostr;
00057     ostr << describeKey()
00058         << ", " << _forecastingMethod
00059         << ", " << _unconstrainingMethod
00060         << ", " << _preOptimisationMethod
00061         << ", " << _optimisationMethod
00062         << ", " << _historicalDataLimit
00063     //<< ", " << _controlMode
00064         << ", " << _partnershipTechnique;
00065     return ostr.str();
00066 }
00067
00068 }
00069

```

### 33.151 stdair/bom/AirlineFeature.hpp File Reference

```

#include <stdair/stdair_rm_types.hpp>
#include <stdair/basic/UnconstrainingMethod.hpp>
#include <stdair/basic/ForecastingMethod.hpp>
#include <stdair/basic/PreOptimisationMethod.hpp>
#include <stdair/basic/OptimisationMethod.hpp>
#include <stdair/basic/PartnershipTechnique.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/AirlineFeatureKey.hpp>
#include <stdair/bom/AirlineFeatureTypes.hpp>

```

#### Classes

- class **stdair::AirlineFeature**

*Class representing various configuration parameters (e.g., revenue management methods such EMSRb or Monte-Carlo) for a given airline for the simulation.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.152 AirlineFeature.hpp

```

00001 #ifndef __STDAIR_BOM_AIRLINEFEATURE_HPP
00002 #define __STDAIR_BOM_AIRLINEFEATURE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_rm_types.hpp>
00009 #include <stdair/basic/UnconstrainingMethod.hpp>
00010 #include <stdair/basic/ForecastingMethod.hpp>
00011 #include <stdair/basic/PreOptimisationMethod.hpp>
00012 #include <stdair/basic/OptimisationMethod.hpp>
00013 #include <stdair/basic/PartnershipTechnique.hpp>
00014 #include <stdair/bom/BomAbstract.hpp>
00015 #include <stdair/bom/AirlineFeatureKey.hpp>
00016 #include <stdair/bom/AirlineFeatureTypes.hpp>
00017
00018 namespace stdair {
00019
00020     class AirlineFeature : public BomAbstract {
00021         template <typename BOM> friend class FacBom;
00022         template <typename BOM> friend class FacCloneBom;
00023         friend class FacBomManager;
00024
00025     public:
00026         // ////////////////// Type definitions ///////////////////
00027         typedef AirlineFeatureKey Key_T;
00028
00029     public:
00030         // ////////////////// Display support methods //////////////////
00031         void toStream (std::ostream& ioOut) const {
00032             ioOut << toString();
00033         }
00034
00035         void fromStream (std::istream& ioIn) {
00036
00037             std::string toString() const;
00038
00039             const std::string describeKey() const {
00040                 return _key.toString();
00041             }
00042
00043             std::string getKey() const {
00044                 return _key;
00045             }
00046
00047             BomAbstract* const getParent() const {
00048                 return _parent;
00049             }
00050
00051             const HolderMap_T& getHolderMap() const {
00052                 return _holderMap;
00053             }
00054
00055             ForecastingMethod::EN_ForecastingMethod
00056             getForecastingMethod() const {
00057                 return _forecastingMethod.getMethod();
00058             }
00059
00060             UnconstrainingMethod::EN_UnconstrainingMethod
00061             getUnconstrainingMethod() const {
00062                 return _unconstrainingMethod.getMethod();
00063             }
00064
00065             PartnershipTechnique::EN_PartnershipTechnique
00066             getPartnershipTechnique() const {
00067                 return _partnershipTechnique.getTechnique();
00068             }
00069
00070             PreOptimisationMethod::EN_PreOptimisationMethod
00071             getPreOptimisationMethod() const {
00072                 return _preOptimisationMethod.getMethod();
00073             }
00074
00075             OptimisationMethod::EN_OptimisationMethod
00076             getOptimisationMethod() const {
00077                 return _optimisationMethod.getMethod();
00078             }
00079
00080         public:
00081             // ////////////////// Setters ///////////////////
00082
00083
00084
00085
00086
00087
00088
00089
00090
00091
00092
00093
00094
00095
00096
00097
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00116
00117
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00119
00120
00121
00122
00123
00124
00125
00126
00127
00128

```

```

00139     void init (const ForecastingMethod&,
00140                 const UnconstrainingMethod&,
00141                 const PreOptimisationMethod&,
00142                 const OptimisationMethod&,
00143                 const HistoricalDataLimit_T&,
00144                 const ControlMode_T&,
00145                 const PartnershipTechnique&);
00146
00150     void setForecastingMethod (const ForecastingMethod&
00151                               iForecastingMethod) {
00152         _forecastingMethod = iForecastingMethod;
00153     }
00157     void setUnconstrainingMethod(const
00158                                   UnconstrainingMethod& iUnconstrainingMethod) {
00159         _unconstrainingMethod = iUnconstrainingMethod;
00160     }
00164     void setPartnershipTechnique(const
00165                                   PartnershipTechnique& iPartnershipTechnique) {
00166         _partnershipTechnique = iPartnershipTechnique;
00167     }
00171     void setPreOptimisationMethod(const
00172                                   PreOptimisationMethod& iPreOptimisationMethod) {
00173         _preOptimisationMethod = iPreOptimisationMethod;
00174     }
00178     void setOptimisationMethod(const OptimisationMethod&
00179                               iOptimisationMethod) {
00180         _optimisationMethod = iOptimisationMethod;
00181     }
00183 protected:
00184     // ////////////////// Constructors and destructors ///////////////////
00185     AirlineFeature (const Key_T&);
00186     virtual ~AirlineFeature ();
00187
00194 private:
00198     AirlineFeature ();
00202     AirlineFeature (const AirlineFeature&);
00203
00204 protected:
00205     // ////////////////// Attributes ///////////////////
00206     Key_T _key;
00207
00214     BomAbstract* _parent;
00215
00219     HolderMap_T _holderMap;
00220
00224     ForecastingMethod _forecastingMethod;
00225
00229     HistoricalDataLimit_T _historicalDataLimit;
00230
00234     ControlMode_T _controlMode;
00235
00239     UnconstrainingMethod _unconstrainingMethod;
00240
00244     PreOptimisationMethod _preOptimisationMethod;
00245
00249     OptimisationMethod _optimisationMethod;
00250
00254     PartnershipTechnique _partnershipTechnique;
00255
00256 };
00257
00258 }
00259 #endif // __STDAIR_BOM_AIRLINEFEATURE_HPP
00260

```

### 33.153 stdair/bom/AirlineFeatureKey.cpp File Reference

```
#include <iostream>
#include <stdair/bom/AirlineFeatureKey.hpp>
```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.154 AirlineFeatureKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 // StdAir
00007 #include <stdair/bom/AirlineFeatureKey.hpp>
00008
00009 namespace stdair {
0010
0011 // /////////////////////////////////
0012 AirlineFeatureKey::AirlineFeatureKey (const
0013     AirlineCode_T& iAirlineCode)
0014     : _airlineCode (iAirlineCode) {
0015 }
0016
0017 AirlineFeatureKey::~AirlineFeatureKey () {
0018 }
0019
0020
0021 void AirlineFeatureKey::toStream (std::ostream& ioOut) const {
0022     ioOut << "AirlineFeatureKey: " << toString() << std::endl;
0023 }
0024
0025
0026 void AirlineFeatureKey::fromStream (std::istream& ioIn) {
0027 }
0028
0029
0030 const std::string AirlineFeatureKey::toString() const {
0031     std::ostringstream oStr;
0032     oStr << _airlineCode;
0033     return oStr.str();
0034 }
0035
0036 }
```

### 33.155 stdair/bom/AirlineFeatureKey.hpp File Reference

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::AirlineFeatureKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.156 AirlineFeatureKey.hpp

```

00001 #ifndef __STDAIR_BOM_AIRLINEFEATUREKEY_HPP
00002 #define __STDAIR_BOM_AIRLINEFEATUREKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
```

```

00011 #include <stdair/bom/KeyAbstract.hpp>
00012
00013 namespace stdair {
00015   struct AirlineFeatureKey : public KeyAbstract {
00016
00017     public:
00018       // ////////////////// Construction ///////////////////
00019       AirlineFeatureKey (const AirlineCode_T& iAirlineCode);
00020
00021       ~AirlineFeatureKey ();
00022
00023     // ////////////////// Getters ///////////////////
00024     const AirlineCode_T& getAirlineCode() const { return _airlineCode; }
00025
00026     // ////////////////// Display support methods //////////////////
00027     void toStream (std::ostream& ioOut) const;
00028
00029     void fromStream (std::istream& ioIn);
00030
00031     const std::string toString() const;
00032
00033   private:
00034     // Attributes
00035     AirlineCode_T _airlineCode;
00036   };
00037
00038 }
00039
00040 #endif // __STDAIR_BOM_AIRLINEFEATUREKEY_HPP

```

### 33.157 stdair/bom/AirlineFeatureTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### TypeDefs

- [typedef std::list< AirlineFeature \\* > stdair::AirlineFeatureList\\_T](#)
- [typedef std::map< const MapKey\\_T, AirlineFeature \\* > stdair::AirlineFeatureMap\\_T](#)

### 33.158 AirlineFeatureTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_AIRLINEFEATURETYPES_HPP
00003 #define __STDAIR_BOM_AIRLINEFEATURETYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016   // Forward declarations.
00017   class AirlineFeature;
00018
00019   typedef std::list<AirlineFeature*> AirlineFeatureList_T;
00020
00021   typedef std::map<const MapKey_T, AirlineFeature*> AirlineFeatureMap_T;
00022
00023 }
00024
00025
00026 #endif // __STDAIR_BOM_AIRLINEFEATURETYPES_HPP
00027

```

### 33.159 stdair/bom/AirlineStruct.cpp File Reference

```
#include <cassert>
#include <iostream>
#include <ostream>
#include <sstream>
#include <stdair/bom/AirlineStruct.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.160 AirlineStruct.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 #include <ostream>
00008 #include <sstream>
00009 // StdAir
00010 #include <stdair/bom/AirlineStruct.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 AirlineStruct::AirlineStruct () {
00016 }
00017
00018 // /////////////////////////////////
00019 AirlineStruct::AirlineStruct (const AirlineStruct&
iAirlineStruct)
00020 : _code (iAirlineStruct._code), _name (iAirlineStruct._name) {
00021 }
00022
00023 // /////////////////////////////////
00024 AirlineStruct::AirlineStruct (const AirlineCode_T& iAirlineCode,
00025 const std::string& iAirlineName)
00026 : _code (iAirlineCode), _name (iAirlineName) {
00027 }
00028
00029 // /////////////////////////////////
00030 AirlineStruct::~AirlineStruct () {
00031 }
00032
00033 // /////////////////////////////////
00034 void AirlineStruct::toStream (std::ostream& ioOut) const {
00035     ioOut << describe();
00036 }
00037
00038 // /////////////////////////////////
00039 void AirlineStruct::fromStream (std::istream& ioIn) {
00040 }
00041
00042 // /////////////////////////////////
00043 const std::string AirlineStruct::describe() const {
00044     std::ostringstream oStr;
00045     oStr << _code << " " << _name;
00046     return oStr.str();
00047 }
00048
00049 }
```

### 33.161 stdair/bom/AirlineStruct.hpp File Reference

```
#include <iostream>
```

```
#include <string>
#include <vector>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

## Classes

- struct [stdair::AirlineStruct](#)

## Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## 33.162 AirlineStruct.hpp

```
00001 #ifndef __STDAIR_BOM_AIRLINESTRUCT_HPP
00002 #define __STDAIR_BOM_AIRLINESTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 #include <vector>
00011 // StdAir
00012 #include <stdair/stdair_inventory_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014
00015 namespace stdair {
00016
00018 struct AirlineStruct : public StructAbstract {
00019 public:
00020     // ////////////////// Getters ///////////////////
00022     const AirlineCode_T& getAirlineCode() const {
00023         return _code;
00024     }
00025
00027     const std::string& getAirlineName() const {
00028         return _name;
00029     }
00030
00031     // ////////////////// Setters ///////////////////
00033     void setAirlineCode (const AirlineCode_T& iAirlineCode) {
00034         _code = iAirlineCode;
00035     }
00036
00038     void setAirlineName (const std::string& iAirlineName) {
00039         _name = iAirlineName;
00040     }
00041
00042
00043 public:
00044     // ////////////////// Display support method ///////////////////
00047     void toStream (std::ostream& ioOut) const;
00048
00051     void fromStream (std::istream& ioIn);
00052
00054     const std::string describe() const;
00055
00056
00057 public:
00058     // ////////////////// Constructors & Destructor ///////////////////
00060     AirlineStruct (const AirlineCode_T&, const std::string& iAirlineName);
00062     AirlineStruct ();
00064     AirlineStruct (const AirlineStruct&);
00066     ~AirlineStruct ();
00067
00068
00069 private:
00070     // ////////////////// Attributes ///////////////////
00072     AirlineCode_T _code;
00073 }
```

```

00075     std::string _name;
00076 };
00077
00078 }
00079 #endif // __STDAIR_BOM_AIRLINESTRUCT_HPP

```

### 33.163 stdair/bom/AirportPair.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/AirportPair.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.164 AirportPair.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 #include <stdair/bom/AirportPair.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 AirportPair::AirportPair()
00016   : _key (DEFAULT_ORIGIN, DEFAULT_DESTINATION),
00017   _parent (NULL) {
00018   // That constructor is used by the serialisation process
00019 }
00020
00021 // /////////////////////////////////
00022 AirportPair::AirportPair (const AirportPair& iAirportPair)
00023   : _key (iAirportPair.getKey()), _parent (NULL) {
00024 }
00025
00026 // /////////////////////////////////
00027 AirportPair::AirportPair (const Key_T& iKey)
00028   : _key (iKey), _parent (NULL) {
00029 }
00030
00031 // /////////////////////////////////
00032 AirportPair::~AirportPair () {
00033 }
00034
00035 // /////////////////////////////////
00036 std::string AirportPair::toString() const {
00037   std::ostringstream oStr;
00038   oStr << describeKey();
00039   return oStr.str();
00040 }
00041 }
00042
00043

```

### 33.165 stdair/bom/AirportPair.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
```

```
#include <stdair/bom/AirportPairKey.hpp>
#include <stdair/bom/AirportPairTypes.hpp>
```

## Classes

- class **stdair::AirportPair**  
*Class representing the actual attributes for an airport-pair.*

## Namespaces

- **stdair**  
*Handle on the StdAir library context.*

## 33.166 AirportPair.hpp

```
00001 #ifndef __STDAIR_BOM_AIRPORTPAIR_HPP
00002 #define __STDAIR_BOM_AIRPORTPAIR_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/AirportPairKey.hpp>
00010 #include <stdair/bom/AirportPairTypes.hpp>
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00015     class AirportPair : public BomAbstract {
00016         template <typename BOM> friend class FacBom;
00017         template <typename BOM> friend class FacCloneBom;
00018         friend class FacBomManager;
00019
00020     public:
00021         // ////////////////// Type definitions ///////////////////
00022         typedef AirportPairKey Key_T;
00023
00024         // ////////////////// Display support methods //////////////////
00025         void toStream (std::ostream& ioOut) const {
00026             ioOut << toString();
00027         }
00028
00029         void fromStream (std::istream& ioIn) {
00030             std::string toString() const;
00031
00032             const std::string describeKey() const {
00033                 return _key.toString();
00034             }
00035
00036             public:
00037                 // ////////////////// Getters ///////////////////
00038                 const Key_T& getKey() const {
00039                     return _key;
00040                 }
00041
00042                 const AirportCode_T& getBoardingPoint() const {
00043                     return _key.getBoardingPoint();
00044                 }
00045
00046                 const AirportCode_T& getOffPoint() const {
00047                     return _key.getOffPoint();
00048                 }
00049
00050                 BomAbstract* const getParent() const {
00051                     return _parent;
00052                 }
00053
00054                 const HolderMap_T& getHolderMap() const {
00055                     return _holderMap;
00056                 }
00057 }
```

```

00098 protected:
00099 // ////////// Constructors and destructors //////////
00103     AirportPair (const Key_T&);
00107     virtual ~AirportPair();
00108
00109 private:
00113     AirportPair();
00117     AirportPair (const AirportPair&);
00118
00119 protected:
00120 // ////////// Attributes //////////
00124     Key_T _key;
00125
00129     BomAbstract* _parent;
00130
00134     HolderMap_T _holderMap;
00135
00136 };
00137
00138 }
00139 #endif // __STDAIR_BOM_AIRPORTPAIR_HPP
00140

```

### 33.167 stdair/bom/AirportPairKey.cpp File Reference

```

#include <iostream>
#include <sstream>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/AirportPairKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.168 AirportPairKey.cpp

```

00001 // ////////// Import section //////////
00002 // Import section
00003 // ////////// Import section //////////
00004 // STL
00005 #include <iostream>
00006 #include <sstream>
00007 // STDAIR
00008 #include <stdair/basic/BasConst_BomDisplay.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/bom/AirportPairKey.hpp>
00011
00012 namespace stdair {
00013
00014 // ////////// Class definition //////////
00015     AirportPairKey::AirportPairKey ()
00016         : _boardingPoint (DEFAULT_ORIGIN),
00017         _offPoint (DEFAULT_DESTINATION) {
00018     assert (false);
00019 }
00020
00021 // ////////// Class definition //////////
00022     AirportPairKey::AirportPairKey (const AirportCode_T& iBoardingPoint,
00023                                     const AirportCode_T& iOffPoint)
00024         : _boardingPoint (iBoardingPoint), _offPoint (iOffPoint) {
00025 }
00026
00027 // ////////// Class definition //////////
00028     AirportPairKey::AirportPairKey (const AirportPairKey& iKey)
00029         : _boardingPoint (iKey._boardingPoint),
00030         _offPoint (iKey._offPoint) {
00031 }
00032
00033 // ////////// Class definition //////////
00034     AirportPairKey::~AirportPairKey () {
00035 }

```

```

00036 // /////////////////////////////////
00037 void AirportPairKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "AirportPairKey: " << toString() << std::endl;
00039 }
00040 }
00041 // ///////////////////////////////
00042 void AirportPairKey::fromStream (std::istream& ioIn) {
00043 }
00044 }
00045 // ///////////////////////////////
00046 const std::string AirportPairKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _boardingPoint << DEFAULT_KEY_SUB_FLD_DELIMITER
00049         << " " << _offPoint;
00050     return oStr.str();
00051 }
00052 }
00053 }
00054 }
```

### 33.169 stdair/bom/AirportPairKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_basic_types.hpp>
```

#### Classes

- struct **stdair::AirportPairKey**

*Key of airport-pair.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.170 AirportPairKey.hpp

```

00001 #ifndef __STDAIR_BOM_AIRPORTPAIRKEY_HPP
00002 #define __STDAIR_BOM_AIRPORTPAIRKEY_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_basic_types.hpp>
00010
00011 namespace stdair {
00012
00016     struct AirportPairKey : public KeyAbstract {
00017
00018     public:
00019         // ////////////////// Construction //////////////////
00020         AirportPairKey (const stdair::AirportCode_T&,
00021                         const stdair::AirportCode_T&);
00022         AirportPairKey (const AirportPairKey&);
00023         ~AirportPairKey ();
00024
00027     private:
00028         AirportPairKey ();
00029
00031     public:
00032         // ////////////////// Getters //////////////////
00036         const stdair::AirportCode_T& getBoardingPoint() const {
00037             return _boardingPoint;
00038         }
00039
00043         const stdair::AirportCode_T& getOffPoint() const {
00044             return _offPoint;
00045         }
00047         // ////////////////// Display support methods //////////////////
```

```

00053     void toStream (std::ostream& ioOut) const;
00054
00060     void fromStream (std::istream& ioIn);
00061
00067     const std::string toString() const;
00068
00069 private:
00070     // ///////////////////// Attributes /////////////////////
00074     AirportCode_T _boardingPoint;
00075
00079     AirportCode_T _offPoint;
00080 };
00081
00082 }
00083 #endif // __SIMFQT_BOM_AIRPORTPAIRKEY_HPP

```

### 33.171 stdair/bom/AirportPairTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< AirportPair \* > stdair::AirportPairList\_T**
- **typedef std::map< const MapKey\_T, AirportPair \* > stdair::AirportPairMap\_T**
- **typedef std::pair< MapKey\_T, AirportPair \* > stdair::AirportPairWithKey\_T**
- **typedef std::list< AirportPairWithKey\_T > stdair::AirportPairDetailedList\_T**

### 33.172 AirportPairTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_AIRPORTPAIRTYPES_HPP
00003 #define __STDAIR_BOM_AIRPORTPAIRTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class AirportPair;
00018
00019     typedef std::list<AirportPair*> AirportPairList_T;
00020
00021     typedef std::map<const MapKey_T, AirportPair*> AirportPairMap_T;
00022
00023     typedef std::pair<MapKey_T, AirportPair*> AirportPairWithKey_T;
00024
00025     typedef std::list<AirportPairWithKey_T> AirportPairDetailedList_T;
00026
00027 }
00028
00029 #endif // __STDAIR_BOM_AIRPORTPAIRTYPES_HPP
00030

```

### 33.173 stdair/bom/BomAbstract.hpp File Reference

```
#include <iostream>
#include <string>
#include <map>
#include <typeinfo>
```

#### Classes

- class [stdair::BomAbstract](#)  
*Base class for the Business Object Model (BOM) layer.*

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

#### Typedefs

- [typedef std::map< const std::type\\_info \\*, BomAbstract \\* > stdair::HolderMap\\_T](#)

#### Functions

- [template<class charT , class traits > std::basic\\_ostream< charT, traits > & operator<< \( std::basic\\_ostream< charT, traits > &ioOut, const stdair::BomAbstract &iBom\)](#)
- [template<class charT , class traits > std::basic\\_istream< charT, traits > & operator>> \( std::basic\\_istream< charT, traits > &ioln, stdair::BomAbstract &ioBom\)](#)

#### 33.173.1 Function Documentation

**33.173.1.1 [template<class charT , class traits > std::basic\\_ostream<charT, traits>& operator<< \( std::basic\\_ostream< charT, traits > & ioOut, const stdair::BomAbstract & iBom \) \[inline\]](#)**

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (p653) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 74 of file [BomAbstract.hpp](#).

**33.173.1.2 [template<class charT , class traits > std::basic\\_istream<charT, traits>& operator>> \( std::basic\\_istream< charT, traits > & ioln, stdair::BomAbstract & ioBom \) \[inline\]](#)**

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (pp655-657) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 102 of file [BomAbstract.hpp](#).

References [stdair::BomAbstract::fromStream\(\)](#).

### 33.174 BomAbstract.hpp

```
00001
00002 #ifndef __STDAIR_BOM_BOMABSTRACT_HPP
00003 #define __STDAIR_BOM_BOMABSTRACT_HPP
00004
```

```

00010 // /////////////////////////////////
00011 // Import section
00012 // /////////////////////////////////
00013 // STL
00014 #include <iostream>
00015 #include <string>
00016 #include <map>
00017 #include <typeinfo>
00018
00019 namespace stdair {
00020
00024     class BomAbstract {
00025 public:
00026     // /////////////////// Display support methods //////////////////
00027     virtual void toStream (std::ostream& ioOut) const = 0;
00028
00029     virtual void fromStream (std::istream& ioIn) = 0;
00030
00034     virtual std::string toString() const = 0;
00035
00036 protected:
00037     BomAbstract() {}
00038     BomAbstract(const BomAbstract&) {}
00039 public:
00040     virtual ~BomAbstract() {}
00041 };
00042
00043 /* Define the map of object holder type. */
00044 typedef std::map<const std::type_info*, BomAbstract*> HolderMap_T;
00045
00046
00047 template <class charT, class traits>
00048 inline
00049 std::basic_ostream<charT, traits>&
00050 operator<< (std::basic_ostream<charT, traits>& ioOut,
00051             const stdair::BomAbstract& iBom) {
00052     std::basic_ostringstream<charT,traits> ostr;
00053     ostr.copyfmt (ioOut);
00054     ostr.width (0);
00055
00056     // Fill string stream
00057     iBom.toStream (ostr);
00058
00059     // Print string stream
00060     ioOut << ostr.str();
00061
00062     return ioOut;
00063 }
00064
00065 template <class charT, class traits>
00066 inline
00067 std::basic_istream<charT, traits>&
00068 operator>> (std::basic_istream<charT, traits>& ioIn,
00069                 stdair::BomAbstract& ioBom) {
00070     // Fill Bom object with input stream
00071     ioBom.fromStream (ioIn);
00072     return ioIn;
00073 }
00074
00075 #endif // __STDAIR_BOM_BOMABSTRACT_HPP

```

### 33.175 stdair/bom/BomArchive.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <boost/archive/tmpdir.hpp>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/base_object.hpp>
#include <boost/serialization/utility.hpp>
#include <boost/serialization/list.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomArchive.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.176 BomArchive.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/tmpdir.hpp>
00009 #include <boost/archive/text_iarchive.hpp>
00010 #include <boost/archive/text_oarchive.hpp>
00011 #include <boost/serialization/base_object.hpp>
00012 #include <boost/serialization/utility.hpp>
00013 #include <boost/serialization/list.hpp>
00014 //##include <boost/serialization/assume_abstract.hpp>
00015 // StdAir
00016 #include <stdair/bom/BomRoot.hpp>
00017 #include <stdair/bom/Inventory.hpp>
00018 #include <stdair/bom/FlightDate.hpp>
00019 #include <stdair/bom/LegDate.hpp>
00020 #include <stdair/bom/SegmentDate.hpp>
00021 #include <stdair/bom/LegCabin.hpp>
00022 #include <stdair/bom/SegmentCabin.hpp>
00023 #include <stdair/bom/FareFamily.hpp>
00024 #include <stdair/bom/BookingClass.hpp>
00025 #include <stdair/bom/BookingRequestStruct.hpp>
00026 #include <stdair/bom/BomManager.hpp>
00027 #include <stdair/bom/BomArchive.hpp>
00028
00029 namespace stdair {
00030
00031 // /////////////////////////////////
00032 void BomArchive::archive (const BomRoot& iBomRoot) {
00033 }
00034
00035 // /////////////////////////////////
00036 std::string BomArchive::archive (const Inventory& iInventory) {
00037     std::ostringstream oStr;
00038     boost::archive::text_oarchive oa (oStr);
00039     oa << iInventory;
00040     return oStr.str();
00041 }
00042
00043 // /////////////////////////////////
```

```

00044 void BomArchive::restore (const std::string& iArchive,
00045           Inventory& ioInventory) {
00046     std::istringstream iStr;
00047     boost::archive::text_iarchive ia (iStr);
00048     ia >> ioInventory;
00049 }
00050
00051 // ///////////////////////////////////////////////////////////////////
00052 void BomArchive::archive (const FlightDate& iFlightDate) {
00053 }
00054
00055 }
```

### 33.177 stdair/bom/BomArchive.hpp File Reference

```
#include <iostream>
```

#### Classes

- class [stdair::BomArchive](#)

*Utility class to archive/restore BOM objects with Boost serialisation.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.178 BomArchive.hpp

```

00001 #ifndef __STDAIR_BOM_BOMARCHIVE_HPP
00002 #define __STDAIR_BOM_BOMARCHIVE_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009
00010 namespace stdair {
00011
00013   class BomRoot;
00014   class Inventory;
00015   class FlightDate;
00016   class LegDate;
00017   class SegmentDate;
00018   class LegCabin;
00019   class SegmentCabin;
00020   class FareFamily;
00021   class BookingClass;
00022   struct BookingRequestStruct;
00023
00028   class BomArchive {
00029   public:
00036     static void archive (const BomRoot&);
00037
00044     static std::string archive (const Inventory&);
00045
00053     static void restore (const std::string& iArchive, Inventory&);
00054
00061     static void archive (const FlightDate&);
00062   };
00063
00064 }
```

### 33.179 stdair/bom/BomDisplay.cpp File Reference

## 33.180 BomDisplay.cpp

```

00001
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <cassert>
00010 #include <iostream>
00011 // StdAir
00012 #include <stdair/basic/BasConst_BomDisplay.hpp>
00013 #include <stdair/bom/BomManager.hpp>
00014 #include <stdair/bom/BomRoot.hpp>
00015 #include <stdair/bom/Inventory.hpp>
00016 #include <stdair/bom/FlightDate.hpp>
00017 #include <stdair/bom/LegDate.hpp>
00018 #include <stdair/bom/SegmentDate.hpp>
00019 #include <stdair/bom/LegCabin.hpp>
00020 #include <stdair/bom/SegmentCabin.hpp>
00021 #include <stdair/bom/FareFamily.hpp>
00022 #include <stdair/bom/BookingClass.hpp>
00023 #include <stdair/bom/AirportPair.hpp>
00024 #include <stdair/bom/PosChannel.hpp>
00025 #include <stdair/bom/DatePeriod.hpp>
00026 #include <stdair/bom/TimePeriod.hpp>
00027 #include <stdair/bom/FareFeatures.hpp>
00028 #include <stdair/bom/YieldFeatures.hpp>
00029 #include <stdair/bom/AirlineClassList.hpp>
00030 #include <stdair/bom/Bucket.hpp>
00031 #include <stdair/bom/TravelSolutionTypes.hpp>
00032 #include <stdair/bom/TravelSolutionStruct.hpp>
00033 #include <stdair/bom/BomDisplay.hpp>
00034 #include <stdair/bom/OnDDate.hpp>
00035
00036 namespace stdair {
00037
00043 struct FlagSaver {
00044 public:
00046     FlagSaver (std::ostream& oStream)
00047         : _oStream (oStream), _streamFlags (oStream.flags()) {
00048     }
00049
00051     ~FlagSaver () {
00052         // Reset formatting flags of the given output stream
00053         _oStream.flags (_streamFlags);
00054     }
00055
00056 private:
00058     std::ostream& _oStream;
00060     std::ios::fmtflags _streamFlags;
00061 };
00062
00063 // /////////////////////////////////
00064 void BomDisplay::list (std::ostream& oStream, const BomRoot& iBomRoot,
00065                         const AirlineCode_T& iAirlineCode,
00066                         const FlightNumber_T& iFlightNumber) {
00067     // Save the formatting flags for the given STL output stream
00068     FlagSaver flagSaver (oStream);
00069
00070     // Check whether there are Inventory objects
00071     if (BomManager::hasList<Inventory> (iBomRoot) == false) {
00072         return;
00073     }
00074
00075     // Browse the inventories
00076     unsigned short invIdx = 1;
00077     const InventoryList_T& lInventoryList =
00078         BomManager::getList<Inventory> (iBomRoot);
00079     for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
00080          itInv != lInventoryList.end(); ++itInv, ++invIdx) {
00081         const Inventory* lInv_ptr = *itInv;
00082         assert (lInv_ptr != NULL);
00083
00084         // Retrieve the inventory key (airline code)
00085         const AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();
00086
00087         // Display only the requested inventories
00088         if (iAirlineCode == "all" || iAirlineCode == lAirlineCode) {
00089             // Get the list of flight-dates for that inventory
00090             list (oStream, *lInv_ptr, invIdx, iFlightNumber);
00091         }
00092     }
00093 }
00094
00095 // /////////////////////////////////
00096 void BomDisplay::list (std::ostream& oStream, const Inventory& iInventory,
00097                         const unsigned short iInventoryIndex,

```

```

00098         const FlightNumber_T& iFlightNumber) {
00099     // Save the formatting flags for the given STL output stream
00100     FlagSaver flagSaver (oStream);
00101
00102     // Check whether there are FlightDate objects
00103     if (BomManager::hasMap<FlightDate> (iInventory) == false) {
00104         return;
00105     }
00106
00107     //
00108     const AirlineCode_T& lAirlineCode = iInventory.getAirlineCode();
00109     oStream << iInventoryIndex << ". " << lAirlineCode << std::endl;
00110
00111     //
00112     unsigned short lCurrentFlightNumber = 0;
00113     unsigned short flightNumberIdx = 0;
00114     unsigned short departureDateIdx = 1;
00115     const FlightDateMap_T& lFlightDateList =
00116         BomManager::getMap<FlightDate> (iInventory);
00117     for (FlightDateMap_T::const_iterator itFD = lFlightDateList.begin();
00118          itFD != lFlightDateList.end(); ++itFD, ++departureDateIdx) {
00119         const FlightDate* lFD_ptr = itFD->second;
00120         assert (lFD_ptr != NULL);
00121
00122         // Retrieve the key of the flight-date
00123         const FlightNumber_T& lFlightNumber = lFD_ptr->getFlightNumber();
00124         const Date_T& lFlightDateDate = lFD_ptr->getDepartureDate();
00125
00126         // Display only the requested flight number
00127         if (iFlightNumber == 0 || iFlightNumber == lFlightNumber) {
00128             //
00129             if (lCurrentFlightNumber != lFlightNumber) {
00130                 lCurrentFlightNumber = lFlightNumber;
00131                 ++flightNumberIdx; departureDateIdx = 1;
00132                 oStream << " " << iInventoryIndex << "." << flightNumberIdx << ". "
00133                 << lAirlineCode << lFlightNumber << std::endl;
00134             }
00135
00136             oStream << " " << iInventoryIndex << "." << flightNumberIdx
00137             << "." << departureDateIdx << ". "
00138             << lAirlineCode << lFlightNumber << " / " << lFlightDateDate
00139             << std::endl;
00140         }
00141     }
00142 }
00143
00144 }
00145
00146 }
00147
00148 }
00149
00150 }
00151
00152 // /////////////////////////////////
00153 void BomDisplay::listAirportPairDateRange (std::ostream& oStream,
00154                                         const BomRoot& iBomRoot) {
00155     // Save the formatting flags for the given STL output stream
00156     FlagSaver flagSaver (oStream);
00157
00158     // Check whether there are AirportPair objects
00159     if (BomManager::hasList<AirportPair> (iBomRoot) == false) {
00160         return;
00161     }
00162
00163     const AirportPairList_T& lAirportPairList =
00164         BomManager::getList<AirportPair> (iBomRoot);
00165     for (AirportPairList_T::const_iterator itAir = lAirportPairList.begin();
00166          itAir != lAirportPairList.end(); ++itAir) {
00167         const AirportPair* lAir_ptr = *itAir;
00168         assert (lAir_ptr != NULL);
00169
00170         // Check whether there are date-period objects
00171         assert (BomManager::hasList<DatePeriod> (*lAir_ptr) == true);
00172
00173         // Browse the date-period objects
00174         const DatePeriodList_T& lDatePeriodList =
00175             BomManager::getList<DatePeriod> (*lAir_ptr);
00176
00177         for (DatePeriodList_T::const_iterator itDP = lDatePeriodList.begin();
00178              itDP != lDatePeriodList.end(); ++itDP) {
00179             const DatePeriod* lDP_ptr = *itDP;
00180             assert (lDP_ptr != NULL);
00181
00182             // Display the date-period object
00183             oStream << lAir_ptr->describeKey()
00184             << " / " << lDP_ptr->describeKey() << std::endl;
00185         }
00186
00187     }
00188 }
00189
00190 // /////////////////////////////////
00191 void BomDisplay::csvDisplay (std::ostream& oStream,
00192                            const BomRoot& iBomRoot) {

```

```

00193 // Save the formatting flags for the given STL output stream
00194 FlagSaver flagSaver (oStream);
00195
00199 oStream << std::endl;
00200 oStream << "===="
00201     << std::endl;
00202 oStream << "BomRoot: " << iBomRoot.describeKey() << std::endl;
00203 oStream << "===="
00204     << std::endl;
00205
00206 // Check whether there are Inventory objects
00207 if (BomManager::hasList<Inventory> (iBomRoot) == false) {
00208     return;
00209 }
00210
00211 // Browse the inventories
00212 const InventoryList_T& lInventoryList =
00213     BomManager::getList<Inventory> (iBomRoot);
00214 for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
00215     itInv != lInventoryList.end(); ++itInv) {
00216     const Inventory* lInv_ptr = *itInv;
00217     assert (lInv_ptr != NULL);
00218
00219     // Display the inventory
00220     csvDisplay (oStream, *lInv_ptr);
00221 }
00222 }
00223
00224 // /////////////////////////////////
00225 void BomDisplay::csvDisplay (std::ostream& oStream,
00226                             const Inventory& iInventory) {
00227     // Save the formatting flags for the given STL output stream
00228     FlagSaver flagSaver (oStream);
00229
00233 oStream << "+++++++" << std::endl;
00234 oStream << "Inventory: " << iInventory.describeKey() << std::endl;
00235 oStream << "+++++++" << std::endl;
00236
00237 // Check whether there are FlightDate objects
00238 if (BomManager::hasList<FlightDate> (iInventory) == false) {
00239     return;
00240 }
00241
00242 // Browse the flight-dates
00243 const FlightDateList_T& lFlightDateList =
00244     BomManager::getList<FlightDate> (iInventory);
00245 for (FlightDateList_T::const_iterator itFD = lFlightDateList.begin();
00246     itFD != lFlightDateList.end(); ++itFD) {
00247     const FlightDate* lFD_ptr = *itFD;
00248     assert (lFD_ptr != NULL);
00249
00250     // Display the flight-date
00251     csvDisplay (oStream, *lFD_ptr);
00252 }
00253
00254 // Check if the inventory contains a list of partners
00255
00256 if (BomManager::hasList<Inventory> (iInventory)){
00257
00258     // Browse the partner's inventories
00259     const InventoryList_T& lPartnerInventoryList =
00260         BomManager::getList<Inventory> (iInventory);
00261
00262     for (InventoryList_T::const_iterator itInv = lPartnerInventoryList.begin();
00263         itInv != lPartnerInventoryList.end(); ++itInv) {
00264
00265         oStream << "-----" << std::endl;
00266         oStream << "Partner inventory:" << std::endl;
00267         oStream << "-----" << std::endl;
00268         const Inventory* lInv_ptr = *itInv;
00269         assert (lInv_ptr != NULL);
00270
00271         // Display the inventory
00272         csvDisplay (oStream, *lInv_ptr);
00273     }
00274     oStream << "*****" << std::endl;
00275     oStream << std::endl;
00276 }
00277
00278 // Check if the inventory contains a list of O&D dates
00279
00280 if (BomManager::hasList<OnDDate> (iInventory)) {
00281
00282     //Browse the O&Ds
00283     const OnDDateList_T& lOnDDateList =
00284         BomManager::getList<OnDDate> (iInventory);
00285

```

```

00286     for (OnDDateList_T::const_iterator itOnD = lOnDDateList.begin();
00287         itOnD != lOnDDateList.end(); ++itOnD) {
00288         oStream << "*****" << std::endl;
00289         oStream << "O&D-Date:" << std::endl;
00290         oStream << "-----" << std::endl;
00291         oStream << "Airline, Date, Origin-Destination, Segments, " << std::endl;
00292
00293         const OnDDate* lOnDDate_ptr = *itOnD;
00294         assert (lOnDDate_ptr != NULL);
00295
00296         // Display the O&D date
00297         csvDisplay (oStream, *lOnDDate_ptr);
00298     }
00299     oStream << "*****" << std::endl;
00300 }
00301 }
00302
00303 // ///////////////////////////////////////////////////////////////////
00304 void BomDisplay::csvDisplay (std::ostream& oStream,
00305                             const OnDDate& iOnDDate) {
00306     // Save the formatting flags for the given STL output stream
00307     FlagSaver flagSaver (oStream);
00308
00309     const AirlineCode_T& lAirlineCode = iOnDDate.getAirlineCode();
00310     const Date_T& lDate = iOnDDate.getDate();
00311     const AirportCode_T& lOrigin = iOnDDate.getOrigin();
00312     const AirportCode_T& lDestination = iOnDDate.getDestination();
00313
00314     oStream << lAirlineCode << ", " << lDate << ", " << lOrigin << "-"
00315         << lDestination << ", " << iOnDDate.describeKey() << ", "
00316         << std::endl;
00317
00318     const StringDemandStructMap_T& lDemandInfoMap =
00319         iOnDDate.getDemandInfoMap();
00320
00321     // Check if the map contains information.
00322     const bool isInfoMapEmpty = lDemandInfoMap.empty();
00323     if (isInfoMapEmpty) {
00324         return;
00325     }
00326     assert (lDemandInfoMap.empty() == false);
00327
00328     oStream << "-----" << std::endl;
00329     oStream << "Cabin-Class path, Demand mean, Demand std dev, Yield, "
00330         << std::endl;
00331
00332     for (StringDemandStructMap_T::const_iterator itDI = lDemandInfoMap.begin();
00333         itDI != lDemandInfoMap.end(); ++itDI) {
00334
00335         const std::string& lCabinClassPath = itDI->first;
00336         const YieldDemandPair_T lYieldDemandPair =
00337             itDI->second;
00338         const Yield_T lYield = lYieldDemandPair.first;
00339         const MeanStdDevPair_T lMeanStdDevPair =
00340             lYieldDemandPair.second;
00341         const MeanValue_T lDemandMean = lMeanStdDevPair.first;
00342         const StdDevValue_T lDemandStdDev = lMeanStdDevPair.second;
00343
00344         oStream << lCabinClassPath << ", "
00345             << lDemandMean << ", "
00346             << lDemandStdDev << ", "
00347             << lYield << ", "
00348             << std::endl;
00349     }
00350
00351 }
00352
00353 }
00354
00355 // ///////////////////////////////////////////////////////////////////
00356 void BomDisplay::csvDisplay (std::ostream& oStream,
00357                             const FlightDate& iFlightDate) {
00358     // Save the formatting flags for the given STL output stream
00359     FlagSaver flagSaver (oStream);
00360
00361     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00362     oStream << "*****" << std::endl;
00363     oStream << "FlightDate: " << lAirlineCode << iFlightDate.describeKey()
00364         << std::endl;
00365     oStream << "*****" << std::endl;
00366
00367     //
00368     csvSegmentDateDisplay (oStream, iFlightDate);
00369     //
00370     csvLegDateDisplay (oStream, iFlightDate);
00371
00372     //
00373     csvLegCabinDisplay (oStream, iFlightDate);
00374
00375     //
00376
00377
00378

```

```

00379 // 
00380     csvBucketDisplay (oStream, iFlightDate);
00381 
00382 // 
00383     csvFareFamilyDisplay (oStream, iFlightDate);
00384 
00385 // 
00386     csvBookingClassDisplay (oStream, iFlightDate);
00387 }
00388 
00389 // /////////////////////////////////
00390 void BomDisplay::csvLegDateDisplay (std::ostream& oStream,
00391                                     const FlightDate& iFlightDate) {
00392     // Save the formatting flags for the given STL output stream
00393     FlagSaver flagSaver (oStream);
00394 
00400     oStream << "*****" << std::endl;
00401     oStream << "Leg-Dates:" << std::endl
00402         << "-----" << std::endl;
00403     oStream << "Flight, Leg, BoardDate, BoardTime, "
00404         << "OffDate, OffTime, Date Offset, Time Offset, Elapsed, "
00405         << "Distance, Capacity, " << std::endl;
00406 
00407     // Retrieve the key of the flight-date
00408     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00409     const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00410     const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00411 
00412     // Check whether there are LegDate objects
00413     if (BomManager::hasList<LegDate> (iFlightDate) == false) {
00414         return;
00415     }
00416 
00417     // Browse the leg-dates
00418     const LegDateList_T& lLegDateList =
00419         BomManager::getList<LegDate> (iFlightDate);
00420     for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
00421          itLD != lLegDateList.end(); ++itLD) {
00422         const LegDate* lLD_ptr = *itLD;
00423         assert (lLD_ptr != NULL);
00424 
00425         oStream << lAirlineCode << lFlightNumber << " "
00426             << lFlightDateDate << ", ";
00427 
00428         oStream << lLD_ptr->getBoardingPoint() << "-"
00429             << lLD_ptr->getOffPoint() << ", "
00430             << lLD_ptr->getBoardingDate() << ", "
00431             << lLD_ptr->getBoardingTime() << ", "
00432             << lLD_ptr->getOffDate() << ", "
00433             << lLD_ptr->getOffTime() << ", "
00434             << lLD_ptr->getElapsedTime() << ", "
00435             << lLD_ptr->getDateOffset().days() << ", "
00436             << lLD_ptr->getTimeOffset() << ", "
00437             << lLD_ptr->getDistance() << ", "
00438             << lLD_ptr->getCapacity() << ", " << std::endl;
00439     }
00440     oStream << "*****" << std::endl;
00441 }
00442 
00443 // /////////////////////////////////
00444 void BomDisplay::csvSegmentDateDisplay (std::ostream& oStream,
00445                                         const FlightDate& iFlightDate) {
00446     // Save the formatting flags for the given STL output stream
00447     FlagSaver flagSaver (oStream);
00448 
00452     oStream << "*****" << std::endl;
00453     oStream << "SegmentDates:" << std::endl
00454         << "-----" << std::endl;
00455     oStream << "Flight, Segment, Date"
00456         << std::endl;
00457 
00458     // Retrieve the key of the flight-date
00459     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00460     const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00461     const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00462 
00463     // Check whether there are SegmentDate objects
00464     if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
00465         return;
00466     }
00467 
00468     // Browse the segment-dates
00469     const SegmentDateList_T& lSegmentDateList =
00470         BomManager::getList<SegmentDate> (iFlightDate);
00471     for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
00472          itSD != lSegmentDateList.end(); ++itSD) {
00473         const SegmentDate* lSD_ptr = *itSD;

```

```

00474     assert (lSD_ptr != NULL);
00475
00476     // Retrieve the key of the segment-date, as well as its dates
00477     const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
00478     const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
00479     const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();
00480     oStream << lAirlineCode << lFlightNumber << " " << lFlightDateDate << ", "
00481         << lBoardPoint << "-" << lOffPoint << ", " << lSegmentDateDate << std::endl;
00482
00483     // Check if the current segment has corresponding marketing segments.
00484     const bool hasMarketingSDList = BomManager::hasList<SegmentDate>(*lSD_ptr);
00485     if (hasMarketingSDList == true) {
00486         //
00487         const SegmentDateList_T& lMarketingSDList = BomManager::getList<SegmentDate>
00488             (*lSD_ptr);
00489         oStream << " *** Marketed by ";
00490         for (SegmentDateList_T::const_iterator itMarketingSD = lMarketingSDList.begin();
00491             itMarketingSD != lMarketingSDList.end(); ++itMarketingSD) {
00492             SegmentDate* lMarketingSD_ptr = *itMarketingSD;
00493             FlightDate* lMarketingFD_ptr = BomManager::getParentPtr<FlightDate>(*lMarketingSD_ptr);
00494             Inventory* lMarketingInv_ptr = BomManager::getParentPtr<Inventory>(*lMarketingFD_ptr);
00495             oStream << lMarketingInv_ptr->toString() << lMarketingFD_ptr->toString() <<" * ";
00496         }
00497     }
00498
00499     // Check if the current segment is operated by another segment date.
00500     const SegmentDate* lOperatingSD_ptr = lSD_ptr->getOperatingSegmentDate ();
00501     if (lOperatingSD_ptr != NULL) {
00502
00503         const FlightDate* lOperatingFD_ptr = BomManager::getParentPtr<FlightDate>(*lOperatingSD_ptr);
00504         const Inventory* lOperatingInv_ptr = BomManager::getParentPtr<Inventory>(*lOperatingFD_ptr);
00505         oStream << " *** Operated by " << lOperatingInv_ptr->toString()
00506             << lOperatingFD_ptr->toString() << std::endl;
00507     }
00508
00509     oStream << std::endl;
00510 }
00511 }
00512
00513 // /////////////////////////////////
00514 void BomDisplay::csvLegCabinDisplay (std::ostream& oStream,
00515                                         const FlightDate& iFlightDate) {
00516     // Save the formatting flags for the given STL output stream
00517     FlagSaver flagSaver (oStream);
00518
00519     oStream << "*****" << std::endl;
00520     oStream << "LegCabins:" << std::endl
00521         << "-----" << std::endl;
00522     oStream << "Flight, Leg, Cabin,"
00523         << "OffedCAP, PhyCAP, RgdADJ, AU, UPR, SS, Staff, WL, Group, "
00524         << "CommSpace, AvPool, Avl, NAV, GAV, ACP, ETB, BidPrice, "
00525         << std::endl;
00526
00527     // Retrieve the key of the flight-date
00528     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00529     const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00530     const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00531
00532     // Check whether there are LegDate objects
00533     if (BomManager::hasList<LegDate> (iFlightDate) == false) {
00534         return;
00535     }
00536
00537     // Browse the leg-dates
00538     const LegDateList_T& lLegDateList =
00539         BomManager::getList<LegDate> (iFlightDate);
00540     for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
00541         itLD != lLegDateList.end(); ++itLD) {
00542         const LegDate* lLD_ptr = *itLD;
00543         assert (lLD_ptr != NULL);
00544
00545         // Retrieve the key of the leg-date, as well as its off point
00546         const Date_T& lLegDateDate = lLD_ptr->getBoardingDate();
00547         const AirportCode_T& lBoardPoint = lLD_ptr->getBoardingPoint();
00548         const AirportCode_T& lOffPoint = lLD_ptr->getOffPoint();
00549
00550         // Browse the leg-cabins
00551         const LegCabinList_T& lLegCabinList =
00552             BomManager::getList<LegCabin> (*lLD_ptr);
00553         for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
00554             itLC != lLegCabinList.end(); ++itLC) {
00555             const LegCabin* lLC_ptr = *itLC;
00556             assert (lLC_ptr != NULL);
00557
00558             oStream << lAirlineCode << lFlightNumber << " "
00559                 << lFlightDateDate << ", ";

```

```

00563
00564     oStream << lBoardPoint << "-" << lOffPoint
00565         << " " << lLegDateDate << ", ";
00566
00567     oStream << lLC_ptr->getCabinCode() << ", ";
00568
00569     oStream << lLC_ptr->getOfferedCapacity() << ", "
00570         << lLC_ptr->getPhysicalCapacity() << ", "
00571         << lLC_ptr->getRegradeAdjustment() << ", "
00572         << lLC_ptr->getAuthorizationLevel() << ", "
00573         << lLC_ptr->getUPR() << ", "
00574         << lLC_ptr->getSoldSeat() << ", "
00575         << lLC_ptr->getStaffNbOfSeats() << ", "
00576         << lLC_ptr->getWLNbOfSeats() << ", "
00577         << lLC_ptr->getGroupNbOfSeats() << ", "
00578         << lLC_ptr->getCommittedSpace() << ", "
00579         << lLC_ptr->getAvailabilityPool() << ", "
00580         << lLC_ptr->getAvailability() << ", "
00581         << lLC_ptr->getNetAvailability() << ", "
00582         << lLC_ptr->getGrossAvailability() << ", "
00583         << lLC_ptr->getAvgCancellationPercentage() << ", "
00584         << lLC_ptr->getETB() << ", "
00585         << lLC_ptr->getCurrentBidPrice() << ", "
00586         << std::endl;
00587     }
00588 }
00589 oStream << "*****" << std::endl;
00590 }
00591
00592 ///////////////////////////////////////////////////////////////////
00593 void BomDisplay::csvSegmentCabinDisplay (std::ostream& oStream,
00594                                         const FlightDate& iFlightDate) {
00595     // Save the formatting flags for the given STL output stream
00596     FlagSaver flagSaver (oStream);
00597 }
00598
00599 ///////////////////////////////////////////////////////////////////
00600 void BomDisplay::csvFareFamilyDisplay (std::ostream& oStream,
00601                                         const FlightDate& iFlightDate) {
00602     // Save the formatting flags for the given STL output stream
00603     FlagSaver flagSaver (oStream);
00604
00605     oStream << "*****" << std::endl;
00606     oStream << "SegmentCabins:" << std::endl
00607         << "-----" << std::endl;
00608     oStream << "Flight, Segment, Cabin, FF, Bkgs, MIN, UPR, "
00609         << "CommSpace, AvPool, BP, " << std::endl;
00610
00611     // Retrieve the key of the flight-date
00612     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00613     const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00614     const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00615
00616     // Check whether there are SegmentDate objects
00617     if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
00618         return;
00619     }
00620
00621     // Browse the segment-dates
00622     const SegmentDateList_T& lSegmentDateList =
00623         BomManager::getList<SegmentDate> (iFlightDate);
00624     for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
00625          itSD != lSegmentDateList.end(); ++itSD) {
00626         const SegmentDate* lSD_ptr = *itSD;
00627         assert (lSD_ptr != NULL);
00628
00629         // Retrieve the key of the segment-date, as well as its dates
00630         const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
00631         const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
00632         const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();
00633
00634         // Browse the segment-cabins
00635         const SegmentCabinList_T& lSegmentCabinList =
00636             BomManager::getList<SegmentCabin> (*lSD_ptr);
00637         for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
00638              itSC != lSegmentCabinList.end(); ++itSC) {
00639             const SegmentCabin* lSC_ptr = *itSC;
00640             assert (lSC_ptr != NULL);
00641
00642             // Retrieve the key of the segment-cabin
00643             const CabinCode_T& lCabinCode = lSC_ptr->getCabinCode();
00644
00645             // Check whether there are fare family objects
00646             if (BomManager::hasList<FareFamily> (*lSC_ptr) == false) {
00647                 continue;
00648             }

```

```

00657
00658     // Browse the fare families
00659     const FareFamilyList_T& lFareFamilyList =
00660         BomManager::getList<FareFamily> (*lSC_ptr);
00661     for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
00662         itFF != lFareFamilyList.end(); ++itFF) {
00663         const FareFamily* lFF_ptr = *itFF;
00664         assert (lFF_ptr != NULL);
00665
00666         oStream << lAirlineCode << lFlightNumber << " "
00667             << lFlightDateDate << ", ";
00668
00669         oStream << lBoardPoint << "-" << lOffPoint << " "
00670             << lSegmentDateDate << ", ";
00671
00672         oStream << lCabinCode << ", " << lFF_ptr->getFamilyCode() << ", ";
00673
00674         oStream << lSC_ptr->getBookingCounter() << ", "
00675             << lSC_ptr->getMIN() << ", "
00676             << lSC_ptr->getUPR() << ", "
00677             << lSC_ptr->getCommittedSpace() << ", "
00678             << lSC_ptr->getAvailabilityPool() << ", "
00679             << lSC_ptr->getCurrentBidPrice() << ", "
00680             << std::endl;
00681     }
00682 }
00683 }
00684 oStream << "*****" << std::endl;
00685 }
00686
00687 // /////////////////////////////////
00688 void BomDisplay::csvBucketDisplay (std::ostream& oStream,
00689                                     const FlightDate& iFlightDate) {
00690     // Save the formatting flags for the given STL output stream
00691     FlagSaver flagSaver (oStream);
00692
00693     oStream << "*****" << std::endl;
00694     oStream << "Buckets:" << std::endl
00695         << "-----" << std::endl;
00696     oStream << "Flight, Leg, Cabin, Yield, AU/SI, SS, AV, "
00697         << std::endl;
00698
00699     // Retrieve the key of the flight-date
00700     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00701     const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00702     const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00703
00704     // Check whether there are LegDate objects
00705     if (BomManager::hasList<LegDate> (iFlightDate) == false) {
00706         return;
00707     }
00708
00709     // Browse the leg-dates
00710     const LegDateList_T& lLegDateList =
00711         BomManager::getList<LegDate> (iFlightDate);
00712     for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
00713         itLD != lLegDateList.end(); ++itLD) {
00714         const LegDate* lLD_ptr = *itLD;
00715         assert (lLD_ptr != NULL);
00716
00717         // Retrieve the key of the leg-date, as well as its off point
00718         const Date_T& lLegDateDate = lLD_ptr->getBoardingDate();
00719         const AirportCode_T& lBoardPoint = lLD_ptr->getBoardingPoint();
00720         const AirportCode_T& lOffPoint = lLD_ptr->getOffPoint();
00721
00722         // Browse the leg-cabins
00723         const LegCabinList_T& lLegCabinList =
00724             BomManager::getList<LegCabin> (*lLD_ptr);
00725         for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
00726             itLC != lLegCabinList.end(); ++itLC) {
00727             const LegCabin* lLC_ptr = *itLC;
00728             assert (lLC_ptr != NULL);
00729
00730             // Check whether there are bucket objects
00731             if (BomManager::hasList<Bucket> (*lLC_ptr) == false) {
00732                 continue;
00733             }
00734
00735             // Retrieve the key of the leg-cabin
00736             const CabinCode_T& lCabinCode = lLC_ptr->getCabinCode();
00737
00738             // Browse the buckets
00739             const BucketList_T& lBucketList = BomManager::getList<Bucket> (*lLC_ptr);
00740             for (BucketList_T::const_iterator itBuck = lBucketList.begin();
00741                 itBuck != lBucketList.end(); ++itBuck) {
00742                 const Bucket* lBucket_ptr = *itBuck;
00743                 assert (lBucket_ptr != NULL);

```

```

00747
00748     oStream << lAirlineCode << lFlightNumber << " "
00749     << lFlightDateDate << ", ";
00750
00751     oStream << lBoardPoint << "--" << lOffPoint << " "
00752     << lLegDateDate << ", " << lCabinCode << ", ";
00753
00754     oStream << lBucket_ptr->getYieldRangeUpperValue() << ", "
00755     << lBucket_ptr->getSeatIndex() << ", "
00756     << lBucket_ptr->getSoldSeats() << ", "
00757     << lBucket_ptr->getAvailability() << ", ";
00758     oStream << std::endl;
00759 }
00760 }
00761 }
00762 oStream << "*****" << std::endl;
00763 }
00764
00765 // /////////////////////////////////
00766 void BomDisplay::csvBookingClassDisplay (std::ostream& oStream,
00767                                         const BookingClass& iBookingClass,
00768                                         const std::string& iLeadingString) {
00769 // Save the formatting flags for the given STL output stream
00770 FlagSaver flagSaver (oStream);
00771
00772 oStream << iLeadingString << iBookingClass.getClassCode();
00773
00774 if (iBookingClass.getSubclassCode() == 0) {
00775     oStream << ", ";
00776 } else {
00777     oStream << iBookingClass.getSubclassCode() << ", ";
00778 }
00779 oStream << iBookingClass.getAuthorizationLevel() << " (" 
00780     << iBookingClass.getProtection() << ", "
00781     << iBookingClass.getNegotiatedSpace() << ", "
00782     << iBookingClass.getNoShowPercentage() << ", "
00783     << iBookingClass.getCancellationPercentage() << ", "
00784     << iBookingClass.getNbOfBookings() << ", "
00785     << iBookingClass.getNbOfGroupBookings() << " (" 
00786     << iBookingClass.getNbOfPendingGroupBookings() << ", "
00787     << iBookingClass.getNbOfStaffBookings() << ", "
00788     << iBookingClass.getNbOfWLBBookings() << ", "
00789     << iBookingClass.getETB() << ", "
00790     << iBookingClass.getNetClassAvailability() << ", "
00791     << iBookingClass.getNetRevenueAvailability() << ", "
00792     << iBookingClass.getSegmentAvailability() << ", "
00793
00794     << std::endl;
00795 }
00796
00797 // /////////////////////////////////
00798 void BomDisplay::csvBookingClassDisplay (std::ostream& oStream,
00799                                         const FlightDate& iFlightDate) {
00800 // Save the formatting flags for the given STL output stream
00801 FlagSaver flagSaver (oStream);
00802
00803 // Headers
00804 oStream << "*****" << std::endl;
00805 oStream << "Subclasses:" << std::endl
00806     << "-----" << std::endl;
00807 oStream << "Flight, Segment, Cabin, FF, Subclass, MIN/AU (Prot), "
00808     << "Nego, NS%, OB%, "
00809     << "Bkgs, GrpBks (pdg), StfBkgs, WLBookings, ETB, "
00810     << "ClassAvl, RevAvl, SegAvl, "
00811
00812     << std::endl;
00813
00814 // Retrieve the key of the flight-date
00815 const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00816 const FlightNumber_T& lFlightNumber = iFlightDate.getFlightNumber();
00817 const Date_T& lFlightDateDate = iFlightDate.getDepartureDate();
00818
00819 // Check whether there are SegmentDate objects
00820 if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
00821     return;
00822 }
00823
00824 // Browse the segment-dates
00825 const SegmentDateList_T& lSegmentDateList =
00826     BomManager::getList<SegmentDate> (iFlightDate);
00827 for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
00828      itSD != lSegmentDateList.end(); ++itSD) {
00829     const SegmentDate* lSD_ptr = *itSD;
00830     assert (lSD_ptr != NULL);
00831
00832 // Retrieve the key of the segment-date, as well as its dates
00833 const Date_T& lSegmentDateDate = lSD_ptr->getBoardingDate();
00834 const AirportCode_T& lBoardPoint = lSD_ptr->getBoardingPoint();
00835 const AirportCode_T& lOffPoint = lSD_ptr->getOffPoint();

```

```

00840
00841 // Browse the segment-cabins
00842 const SegmentCabinList_T& lSegmentCabinList =
00843     BomManager::getList<SegmentCabin> (*lSD_ptr);
00844 for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
00845     itSC != lSegmentCabinList.end(); ++itSC) {
00846     const SegmentCabin* lSC_ptr = *itSC;
00847     assert (lSC_ptr != NULL);
00848
00849 // Retrieve the key of the segment-cabin
00850 const CabinCode_T& lCabinCode = lSC_ptr->getCabinCode();
00851
00852 // Build the leading string to be displayed
00853 std::ostringstream oSCLeadingStr;
00854 oSCLeadingStr << lAirlineCode << lFlightNumber << " "
00855             << lFlightDate << ", "
00856             << lBoardPoint << "-" << lOffPoint << " "
00857             << lSegmentDate << ", "
00858             << lCabinCode << ", ";
00859
00860 // Default Fare Family code, when there are no FF
00861 FamilyCode_T lFamilyCode ("NoFF");
00862
00863 // Check whether there are FareFamily objects
00864 if (BomManager::hasList<FareFamily> (*lSC_ptr) == true) {
00865
00866 // Browse the fare families
00867 const FareFamilyList_T& lFareFamilyList =
00868     BomManager::getList<FareFamily> (*lSC_ptr);
00869 for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
00870     itFF != lFareFamilyList.end(); ++itFF) {
00871     const FareFamily* lFF_ptr = *itFF;
00872     assert (lFF_ptr != NULL);
00873
00874 // Retrieve the key of the segment-cabin
00875 lFamilyCode = lFF_ptr->getFamilyCode();
00876
00877 // Complete the leading string to be displayed
00878 std::ostringstream oFFLeadingStr;
00879 oFFLeadingStr << oSCLeadingStr.str() << lFamilyCode << ", ";
00880
00881 // Browse the booking-classes
00882 const BookingClassList_T& lBookingClassList =
00883     BomManager::getList<BookingClass> (*lFF_ptr);
00884 for (BookingClassList_T::const_iterator itBC =
00885     lBookingClassList.begin();
00886     itBC != lBookingClassList.end(); ++itBC) {
00887     const BookingClass* lBC_ptr = *itBC;
00888     assert (lBC_ptr != NULL);
00889
00890     //
00891     csvBookingClassDisplay (oStream, *lBC_ptr, oFFLeadingStr.str());
00892 }
00893
00894 // Go on to the next segment-cabin
00895 continue;
00896 }
00897
00898 assert (BomManager::hasList<FareFamily> (*lSC_ptr) == false);
00899
00900 // The fare family code is a fake one ('NoFF'), and therefore
00901 // does not vary
00902 std::ostringstream oFFLeadingStr;
00903 oFFLeadingStr << oSCLeadingStr.str() << lFamilyCode << ", ";
00904
00905 // Browse the booking-classes, directly from the segment-cabin object
00906 const BookingClassList_T& lBookingClassList =
00907     BomManager::getList<BookingClass> (*lSC_ptr);
00908 for (BookingClassList_T::const_iterator itBC =
00909     lBookingClassList.begin();
00910     itBC != lBookingClassList.end(); ++itBC) {
00911     const BookingClass* lBC_ptr = *itBC;
00912     assert (lBC_ptr != NULL);
00913
00914     //
00915     csvBookingClassDisplay (oStream, *lBC_ptr, oFFLeadingStr.str());
00916 }
00917
00918 }
00919 oStream << "*****" << std::endl;
00920 }
00921
00922 // /////////////////////////////////
00923 void BomDisplay::
00924 csvDisplay (std::ostream& oStream,
00925             const TravelSolutionList_T& iTravelSolutionList) {
00926

```

```

00927 // Save the formatting flags for the given STL output stream
00928 FlagSaver flagSaver (oStream);
00929
00930 oStream << "Travel solutions:";
00931 unsigned short idx = 0;
00932 for (TravelSolutionList_T::const_iterator itTS =
00933     itTS.begin(); itTS != iTravelSolutionList.end(); ++itTS, ++idx) {
00934     const TravelSolutionStruct& lTS = *itTS;
00935
00936     oStream << std::endl;
00937     oStream << "[" << idx << "] " << lTS.display();
00938 }
00939
00940 // /////////////////////////////////
00941 void BomDisplay::
00942 csvDisplay (std::ostream& oStream,
00943             const DatePeriodList_T& iDatePeriodList) {
00944
00945     // Save the formatting flags for the given STL output stream
00946     FlagSaver flagSaver (oStream);
00947
00948     // Browse the date-period objects
00949     for (DatePeriodList_T::const_iterator itDP = iDatePeriodList.begin();
00950         itDP != iDatePeriodList.end(); ++itDP) {
00951         const DatePeriod* lDP_ptr = *itDP;
00952         assert (lDP_ptr != NULL);
00953
00954         // Display the date-period object
00955         csvDateDisplay (oStream, *lDP_ptr);
00956     }
00957 }
00958
00959 // /////////////////////////////////
00960 void BomDisplay::csvSimFQTAirRACDisplay (std::ostream& oStream,
00961                                         const BomRoot& iBomRoot) {
00962
00963     // Save the formatting flags for the given STL output stream
00964     FlagSaver flagSaver (oStream);
00965
00966     oStream << std::endl;
00967     oStream << "===="
00968     << std::endl;
00969     oStream << "BomRoot: " << iBomRoot.describeKey() << std::endl;
00970     oStream << "===="
00971     << std::endl;
00972
00973     // Check whether there are airport-pair objects
00974     if (BomManager::hasList<AirportPair> (iBomRoot) == false) {
00975         return;
00976     }
00977
00978     // Browse the airport-pair objects
00979     const AirportPairList_T& lAirportPairList =
00980         BomManager::getList<AirportPair> (iBomRoot);
00981     for (AirportPairList_T::const_iterator itAir = lAirportPairList.begin();
00982         itAir != lAirportPairList.end(); ++itAir) {
00983         const AirportPair* lAir_ptr = *itAir;
00984         assert (lAir_ptr != NULL);
00985
00986         // Display the airport pair object
00987         csvAirportPairDisplay (oStream, *lAir_ptr);
00988     }
00989
00990 // /////////////////////////////////
00991 void BomDisplay::csvAirportPairDisplay (std::ostream& oStream,
00992                                         const AirportPair& iAirportPair) {
00993
00994     // Save the formatting flags for the given STL output stream
00995     FlagSaver flagSaver (oStream);
00996
00997     oStream << "++++++"
00998     << std::endl;
00999     oStream << "AirportPair: " << iAirportPair.describeKey() << std::endl;
01000     oStream << "++++++"
01001     << std::endl;
01002
01003     // Check whether there are date-period objects
01004     if (BomManager::hasList<DatePeriod> (iAirportPair) == false) {
01005         return;
01006     }
01007
01008     // Browse the date-period objects
01009     const DatePeriodList_T& lDatePeriodList =
01010         BomManager::getList<DatePeriod> (iAirportPair);
01011     for (DatePeriodList_T::const_iterator itDP = lDatePeriodList.begin();
01012         itDP != lDatePeriodList.end(); ++itDP) {
01013         const DatePeriod* lDP_ptr = *itDP;
01014         assert (lDP_ptr != NULL);
01015
01016
01017
01018
01019

```

```

01020
01021     // Display the date-period object
01022     csvDateDisplay (oStream, *lDP_ptr);
01023 }
01024 }
01025
01026 // /////////////////////////////////
01027 void BomDisplay::csvDateDisplay (std::ostream& oStream,
01028                                     const DatePeriod& iDatePeriod) {
01029
01030     // Save the formatting flags for the given STL output stream
01031     FlagSaver flagSaver (oStream);
01032
01033     oStream << "-----" << std::endl;
01034     oStream << "DatePeriod: " << iDatePeriod.describeKey() << std::endl;
01035     oStream << "-----" << std::endl;
01036
01037     // Check whether there are pos-channel objects
01038     if (BomManager::hasList<PosChannel> (iDatePeriod) == false) {
01039         return;
01040     }
01041
01042     // Browse the pos-channel objects
01043     const PosChannelList_T& lPosChannelList =
01044         BomManager::getList<PosChannel> (iDatePeriod);
01045     for (PosChannelList_T::const_iterator itPC = lPosChannelList.begin();
01046          itPC != lPosChannelList.end(); ++itPC) {
01047         const PosChannel* lPC_ptr = *itPC;
01048         assert (lPC_ptr != NULL);
01049
01050         // Display the pos-channel object
01051         csvPosChannelDisplay (oStream, *lPC_ptr);
01052     }
01053
01054 // /////////////////////////////////
01055 void BomDisplay::csvPosChannelDisplay (std::ostream& oStream,
01056                                     const PosChannel& iPosChannel) {
01057
01058     // Save the formatting flags for the given STL output stream
01059     FlagSaver flagSaver (oStream);
01060
01061     oStream << "*****" << std::endl;
01062     oStream << "PosChannel: " << iPosChannel.describeKey() << std::endl;
01063     oStream << "*****" << std::endl;
01064
01065     // Check whether there are time-period objects
01066     if (BomManager::hasList<TimePeriod> (iPosChannel) == false) {
01067         return;
01068     }
01069
01070     // Browse the time-period objects
01071     const TimePeriodList_T& lTimePeriodList =
01072         BomManager::getList<TimePeriod> (iPosChannel);
01073     for (TimePeriodList_T::const_iterator itTP = lTimePeriodList.begin();
01074          itTP != lTimePeriodList.end(); ++itTP) {
01075         const TimePeriod* lTP_ptr = *itTP;
01076         assert (lTP_ptr != NULL);
01077
01078         // Display the time-period object
01079         csvTimeDisplay (oStream, *lTP_ptr);
01080     }
01081
01082 // /////////////////////////////////
01083 void BomDisplay::csvTimeDisplay (std::ostream& oStream,
01084                                     const TimePeriod& iTimePeriod) {
01085
01086     // Save the formatting flags for the given STL output stream
01087     FlagSaver flagSaver (oStream);
01088
01089     oStream << "-----" << std::endl;
01090     oStream << "TimePeriod: " << iTimePeriod.describeKey() << std::endl;
01091     oStream << "-----" << std::endl;
01092
01093     // Only one of the fare/yield feature list exists. Each of the following
01094     // two methods will check for the existence of the list. So, only the
01095     // existing list will be actually displayed.
01096     csvFeatureListDisplay<FareFeatures> (oStream, iTimePeriod);
01097     csvFeatureListDisplay<YieldFeatures> (oStream, iTimePeriod);
01098 }
01099
01100 // /////////////////////////////////
01101 template <typename FEATURE_TYPE>
01102 void BomDisplay::csvFeatureListDisplay (std::ostream& oStream,
01103                                         const TimePeriod& iTimePeriod) {
01104
01105     // Check whether there are fare/yield-feature objects

```

```

0116   if (BomManager::hasList<FEATURE_TYPE> (iTimePeriod) == false) {
0117     return;
0118   }
0119
0120   // Browse the fare/yield-feature objects
0121   typedef typename BomHolder<FEATURE_TYPE>::BomList_T FeaturesList_T;
0122   const FeaturesList_T& lFeaturesList =
0123     BomManager::getList<FEATURE_TYPE> (iTimePeriod);
0124   for (typename FeaturesList_T::const_iterator itFF = lFeaturesList.begin();
0125         itFF != lFeaturesList.end(); ++itFF) {
0126     const FEATURE_TYPE* lFF_ptr = *itFF;
0127     assert (lFF_ptr != NULL);
0128
0129     // Display the fare-features object
0130     csvFeaturesDisplay (oStream, *lFF_ptr);
0131   }
0132 }
0133
0134 ///////////////////////////////////////////////////////////////////
0135 template <typename FEATURE_TYPE>
0136 void BomDisplay::csvFeaturesDisplay (std::ostream& oStream,
0137                                     const FEATURE_TYPE& iFeatures) {
0138   // Save the formatting flags for the given STL output stream
0139   FlagSaver flagSaver (oStream);
0140
0141   oStream << "-----" << std::endl;
0142   oStream << "Fare/yield-Features: " << iFeatures.describeKey() << std::endl;
0143   oStream << "-----" << std::endl;
0144
0145   // Check whether there are airlineClassList objects
0146   if (BomManager::hasList<AirlineClassList> (iFeatures) == false) {
0147     return;
0148   }
0149
0150   // Browse the airlineClassList objects
0151   const AirlineClassListList_T& lAirlineClassListList =
0152     BomManager::getList<AirlineClassList> (iFeatures);
0153   for (AirlineClassListList_T::const_iterator itACL =
0154         lAirlineClassListList.begin();
0155         itACL != lAirlineClassListList.end(); ++itACL) {
0156     const AirlineClassList* lACL_ptr = *itACL;
0157     assert (lACL_ptr != NULL);
0158
0159     // Display the airlineClassList object
0160     csvAirlineClassDisplay (oStream, *lACL_ptr);
0161   }
0162 }
0163
0164 ///////////////////////////////////////////////////////////////////
0165 void BomDisplay::
0166 csvAirlineClassDisplay (std::ostream& oStream,
0167                         const AirlineClassList& iAirlineClassList) {
0168   // Save the formatting flags for the given STL output stream
0169   FlagSaver flagSaver (oStream);
0170
0171   oStream << "-----" << std::endl;
0172   oStream << "AirlineClassList: "
0173     << iAirlineClassList.describeKey() << std::endl;
0174   oStream << "-----" << std::endl;
0175 }
0176
0177 }
0178
0179
0180
0181
0182
0183 }
0184

```

### 33.181 stdair/bom/BomDisplay.hpp File Reference

```
#include <iostream>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/bom/DatePeriodTypes.hpp>
```

#### Classes

- class [stdair::BomDisplay](#)

*Utility class to display StdAir objects with a pretty format.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.182 BomDisplay.hpp

```

00001 #ifndef __STDAIR_BOM_BOMDISPLAY_HPP
00002 #define __STDAIR_BOM_BOMDISPLAY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/bom/TravelSolutionTypes.hpp>
00011 #include <stdair/bom/DatePeriodTypes.hpp>
00012
00013 namespace stdair {
00014
00016   class BomRoot;
00017   class Inventory;
00018   class FlightDate;
00019   class LegDate;
00020   class SegmentDate;
00021   class LegCabin;
00022   class SegmentCabin;
00023   class FareFamily;
00024   class BookingClass;
00025   class AirportPair;
00026   class PosChannel;
00027   class DatePeriod;
00028   class TimePeriod;
00029   class FareFeatures;
00030   class YieldFeatures;
00031   class AirlineClassList;
00032   class OnDDate;
00033
00038   class BomDisplay {
00039   public:
00040     // //////////////////// Display support methods //////////////////
00041
00056     static void list (std::ostream&, const BomRoot&,
00057                       const AirlineCode_T& iAirlineCode = "all",
00058                       const FlightNumber_T& iFlightNumber = 0);
00059
00073     static void list (std::ostream&, const Inventory&,
00074                       const unsigned short iInventoryIndex = 0,
00075                       const FlightNumber_T& iFlightNumber = 0);
00076
00085     static void listAirportPairDateRange (std::ostream&,
00086                                         const BomRoot&);
00087
00096     static void csvDisplay (std::ostream&, const BomRoot&);
00097
00106     static void csvDisplay (std::ostream&, const Inventory&);
00107
00115     static void csvDisplay (std::ostream&, const OnDDate&);
00116
00125     static void csvDisplay (std::ostream&, const FlightDate&);
00126
00135     static void csvLegDateDisplay (std::ostream&, const
00136                                     FlightDate&);
00145     static void csvSegmentDateDisplay (std::ostream&, const
00146                                     FlightDate&);
00155     static void csvLegCabinDisplay (std::ostream&, const
00156                                     FlightDate&);
00165     static void csvSegmentCabinDisplay (std::ostream&, const
00166                                     FlightDate&);
00175     static void csvFareFamilyDisplay (std::ostream&, const
00176                                     FlightDate&);
00185     static void csvBucketDisplay (std::ostream&, const
00186                                     FlightDate&);
00196     static void csvBookingClassDisplay (std::ostream&, const
00197                                     BookingClass&,
00197                                     const std::string& iLeadingString);

```

```

00206     static void csvBookingClassDisplay (std::ostream&, const
00207     FlightDate&);
00216     static void csvDisplay (std::ostream&, const TravelSolutionList_T&);
00217
00226     static void csvDisplay (std::ostream&, const DatePeriodList_T&);
00227
00236     static void csvSimFQTAirRACDisplay (std::ostream&, const
00237     BomRoot&);
00238
00247     static void csvAirportPairDisplay (std::ostream&, const
00248     AirportPair&);
00249
00258     static void csvDateDisplay (std::ostream&, const DatePeriod&);
00259
00269     static void csvPosChannelDisplay (std::ostream&, const
00270     PosChannel&);
00278
00280     static void csvTimeDisplay (std::ostream&, const TimePeriod&);
00281
00290     template <typename FEATURE_TYPE>
00291     static void csvFeatureListDisplay (std::ostream& oStream, const
00292     TimePeriod&);
00293
00301     template <typename FEATURE_TYPE>
00302     static void csvFeaturesDisplay (std::ostream& oStream, const FEATURE_TYPE&);
00303
00312     static void csvAirlineClassDisplay (std::ostream&, const
00313     AirlineClassList&);
00314
00315 }
00316 #endif // __STDAIR_BOM_BOMDISPLAY_HPP

```

### 33.183 stdair/bom/BomHolder.hpp File Reference

```

#include <iostream>
#include <string>
#include <list>
#include <map>
#include <stdair/bom/key_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BomHolderKey.hpp>

```

#### Classes

- class **stdair::BomHolder< BOM >**  
*Class representing the holder of BOM object containers (list and map).*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.184 BomHolder.hpp

```

00001 #ifndef __STDAIR_BOM_BOMHOLDER_HPP
00002 #define __STDAIR_BOM_BOMHOLDER_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 #include <list>
00011 #include <map>
00012 // StdAir
00013 #include <stdair/bom/key_types.hpp>

```

```

00014 #include <stdair/bom/BomAbstract.hpp>
00015 #include <stdair/bom/BomHolderKey.hpp>
00016
00017 namespace stdair {
00018
00023 template <typename BOM>
00024 class BomHolder : public stdair::BomAbstract {
00026     template <typename> friend class FacBom;
00027     friend class FacBomManager;
00028
00029 public:
00030     // ////////////////////// Type definitions /////////////////////
00034     typedef stdair::BomHolderKey Key_T;
00035
00039     typedef std::list<BOM*> BomList_T;
00040
00044     typedef std::map<const MapKey_T, BOM*> BomMap_T;
00045
00046
00047 public:
00048     // ////////////////// Display support methods //////////////////
00054     void toStream (std::ostream& ioOut) const {
00055         ioOut << toString();
00056     }
00057
00063     void fromStream (std::istream& ioIn) {
00064     }
00065
00069     std::string toString() const {
00070         return "BomHolder";
00071     }
00072
00076     const std::string describeKey() const {
00077         return "BomHolder";
00078     }
00079
00080 protected:
00084     BomHolder();
00085
00089     BomHolder (const BomHolder& );
00090
00094     BomHolder (const Key_T& iKey) : _key (iKey) { }
00095
00099     ~BomHolder() { };
00100
00101 public:
00102     // ////////////////// Attributes ///////////////////
00106     Key_T _key;
00107
00111     BomList_T _bomList;
00112
00116     BomMap_T _bomMap;
00117 };
00118
00119 }
00120 #endif // __STDAIR_BOM_BOMHOLDER_HPP

```

### 33.185 stdair/bom/BomHolderKey.cpp File Reference

```

#include <iostream>
#include <iostream>
#include <stdair/bom/BomHolderKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.186 BomHolderKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL

```

```

00005 #include <iostream>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/bom/BomHolderKey.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 BomHolderKey::BomHolderKey () {
00014 }
00015
00016 // /////////////////////////////////
00017 BomHolderKey::~BomHolderKey () {
00018 }
00019
00020 // /////////////////////////////////
00021 void BomHolderKey::toStream (std::ostream& ioOut) const {
00022     ioOut << "BomHolderKey: " << toString() << std::endl;
00023 }
00024
00025 // /////////////////////////////////
00026 void BomHolderKey::fromStream (std::istream& ioIn) {
00027 }
00028
00029 // /////////////////////////////////
00030 const std::string BomHolderKey::toString() const {
00031     std::ostringstream oStr;
00032     oStr << " -- HOLDER -- ";
00033     return oStr.str();
00034 }
00035
00036 }

```

### 33.187 stdair/bom/BomHolderKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::BomHolderKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.188 BomHolderKey.hpp

```

00001 #ifndef __STDAIR_BOM_BOMHOLDERKEY_HPP
00002 #define __STDAIR_BOM_BOMHOLDERKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/KeyAbstract.hpp>
00009
00010 namespace stdair {
00011     struct BomHolderKey : public KeyAbstract {
00012
00013         public:
00014             // ////////////////// Construction //////////////////
00015             BomHolderKey ();
00016             ~BomHolderKey ();
00017
00018             // ////////////////// Display support methods //////////////////
00019             void toStream (std::ostream& ioOut) const;
00020
00021             void fromStream (std::istream& ioIn);
00022
00023             const std::string toString() const;
00024
00025
00026
00027
00028
00029
00030
00031
00032
00033
00034
00035
00036

```

```

00038     const std::string describe() const;
00039
00040 };
00041
00042 }
00043 #endif // __STDAIR_BOM_BOMHOLDERKEY_HPP

```

### 33.189 stdair/bom/BomID.hpp File Reference

```
#include <iostream>
#include <string>
```

#### Classes

- struct **stdair::BomID< BOM >**

*Class wrapper of bom ID (e.g. pointer to object).*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.190 BomID.hpp

```

00001 #ifndef __STDAIR_BOM_BOMID_HPP
00002 #define __STDAIR_BOM_BOMID_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010
00011 namespace stdair {
00012
00016 template <typename BOM>
00017 struct BomID {
00018
00019 public:
00020     // ////////////////// Getters ///////////////////
00024     BOM& getObject () const;
00025
00026 public:
00027     // ////////////////// Constructors and destructors ///////////////////
00031     BomID (BOM& iBOM);
00032
00036     BomID (const BomID&);
00037
00041     ~BomID ();
00042
00043 private:
00047     BomID ();
00048
00049 private:
00050     // ////////////////// Attributes ///////////////////
00054     BOM* _id;
00055 };
00056
00057 // /////////////////////////////////
00058 template <typename BOM> BomID<BOM>::BomID (BOM& iBOM): _id (&iBOM) { }
00059
00060 // /////////////////////////////////
00061 template <typename BOM> BomID<BOM>::BomID (const BomID& iBomID)
00062     : _id (iBomID._id) { }
00063
00064 // /////////////////////////////////
00065 template <typename BOM> BomID<BOM>::~BomID () { }
00066
00067 // /////////////////////////////////
00068 template <typename BOM> BOM& BomID<BOM>::getObject () const {

```

```

00069     assert (_id != NULL);
00070     return *_id;
00071 }
00072 }
00073 #endif // __STDAIR_BOM_BOMID_HPP

```

### 33.191 stdair/bom/BomIDTypes.hpp File Reference

```

#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
#include <stdair/bom/BomID.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef struct BomID< BookingClass > stdair::BookingClassID\\_T](#)
- [typedef std::list< BookingClassID\\_T > stdair::BookingClassIDList\\_T](#)

### 33.192 BomIDTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_BOMIDTYPES_HPP
00003 #define __STDAIR_BOM_BOMIDTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013 #include <stdair/bom/BomID.hpp>
00014
00015 namespace stdair {
00016
00017 // Forward declarations.
00018 class BookingClass;
00019
00020 typedef struct BomID<BookingClass> BookingClassID_T;
00021
00022 typedef std::list<BookingClassID_T> BookingClassIDList_T;
00023
00024
00025 }
00026 #endif // __STDAIR_BOM_BOMIDTYPES_HPP
00027

```

### 33.193 stdair/bom/BomINIImport.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/bom/BomINIImport.hpp>
#include <stdair/bom/ConfigHolderStruct.hpp>
#include <stdair/service/Logger.hpp>

```

## Namespaces

- [bpt](#)
- [stdair](#)

*Handle on the StdAir library context.*

## Typedefs

- [typedef char bpt::ptree](#)

### 33.194 BomINIImport.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 #if BOOST_VERSION >= 104100
00008 // Boost Property Tree
00009 #include <boost/property_tree/ptree.hpp>
00010 #include <boost/property_tree/ini_parser.hpp>
00011 #endif // BOOST_VERSION >= 104100
00012 // StdAir
00013 #include <stdair/basic/BasFileMgr.hpp>
00014 #include <stdair/bom/BomINIImport.hpp>
00015 #include <stdair/bom/ConfigHolderStruct.hpp>
00016 #include <stdair/service/Logger.hpp>
00017
00018 #if BOOST_VERSION >= 104100
00019 namespace bpt = boost::property_tree;
00020 #else // BOOST_VERSION >= 104100
00021 namespace bpt {
00022     typedef char ptree;
00023 }
00024 #endif // BOOST_VERSION >= 104100
00025
00026 namespace stdair {
00027
00028 // /////////////////////////////////
00029 void BomINIImport::importINIConfig (
    ConfigHolderStruct& iConfigHolder,
    const ConfigINIFile& iConfigINIFile) {
00030
00031     // Get the config file name.
00032     const stdair::Filename_T lFilename = iConfigINIFile.name();
00033
00034     // Check that the file path given as input corresponds to an actual file
00035     const bool doesExistAndIsReadable =
00036         stdair::BasFileMgr::doesExistAndIsReadable (lFilename);
00037     if (doesExistAndIsReadable == false) {
00038         STDAIR_LOG_DEBUG ("The config input file '" << lFilename
00039                         << "' can not be retrieved on the file-system.");
00040         return;
00041     }
00042     STDAIR_LOG_DEBUG ("Load the config input file '" << lFilename
00043                         << "' content into the configuration holder.");
00044
00045 #if BOOST_VERSION >= 104100
00046
00047     // Transform the INI file into a BOOST property tree.
00048     bpt::ptree pt;
00049     bpt::ini_parser::read_ini(lFilename, pt);
00050     // Add the property tree to the configuration structure.
00051     iConfigHolder.add(pt);
00052
00053 #endif // BOOST_VERSION >= 104100
00054 }
00055
00056 }
```

### 33.195 stdair/bom/BomINIImport.hpp File Reference

```
#include <string>
#include <stdair/stdair_file.hpp>
```

## Classes

- class **stdair::BomINIImport**

*Utility class to import StdAir objects in a INI format.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.196 BomINIImport.hpp

```
00001 #ifndef __STDAIR_BOM_BOMINIIMPORT_HPP
00002 #define __STDAIR_BOM_BOMINIIMPORT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_file.hpp>
00011
00012
00013 namespace stdair {
00014
00016     struct ConfigHolderStruct;
00017
00021     class BomINIImport {
00022     public:
00023         // ///////////////////// Import support methods ///////////////////
00029         static void importINIConfig (ConfigHolderStruct&,
00030                                     const ConfigINIFile&);
00031
00032     };
00033 }
00034 #endif // __STDAIR_BOM_BOMINIIMPORT_HPP
```

## 33.197 stdair/bom/BomJSONExport.cpp File Reference

```
#include <cassert>
#include <iostream>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/Bucket.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/EventTypes.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/BreakPointStruct.hpp>
#include <stdair/bom/BomJSONExport.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.198 BomJSONExport.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 #if BOOST_VERSION >= 103400
00008 // Boost ForEach
00009 #include <boost/foreach.hpp>
00010 #endif // BOOST_VERSION >= 103400
00011 // StdAir
00012 #include <stdair/stdair_date_time_types.hpp>
00013 #include <stdair/basic/BasConst_BomDisplay.hpp>
00014 #include <stdair/bom/BomManager.hpp>
00015 #include <stdair/bom/BomRoot.hpp>
00016 #include <stdair/bom/Inventory.hpp>
00017 #include <stdair/bom/FlightDate.hpp>
00018 #include <stdair/bom/LegDate.hpp>
00019 #include <stdair/bom/SegmentDate.hpp>
00020 #include <stdair/bom/LegCabin.hpp>
00021 #include <stdair/bom/SegmentCabin.hpp>
00022 #include <stdair/bom/FareFamily.hpp>
00023 #include <stdair/bom/BookingClass.hpp>
00024 #include <stdair/bom/Bucket.hpp>
00025 #include <stdair/bom/EventStruct.hpp>
00026 #include <stdair/bom/EventTypes.hpp>
00027 #include <stdair/bom/BookingRequestStruct.hpp>
00028 #include <stdair/bom/BreakPointStruct.hpp>
00029 #include <stdair/bom/BomJSONExport.hpp>
00030
00031 namespace stdair {
00032
00033 // /////////////////////////////////
00034 void BomJSONExport::
00035 jsonExportFlightDateList (std::ostream& oStream,
00036                           const BomRoot& iBomRoot,
00037                           const AirlineCode_T& iAirlineCode,
00038                           const FlightNumber_T& iFlightNumber) {
00039
00040     // Check whether there are Inventory objects
00041     if (BomManager::hasList<Inventory> (iBomRoot) == false) {
00042         return;
00043     }
00044
00045 #if BOOST_VERSION >= 104100
00046
00047     // Create empty property tree objects
00048     bpt::ptree pt;
00049     bpt::ptree ptInventoryList;
00050
00051     // Browse the inventories
00052     const InventoryList_T& lInventoryList =
00053         BomManager::getList<Inventory> (iBomRoot);
00054     for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
00055          itInv != lInventoryList.end(); ++itInv) {
00056         const Inventory* lInv_ptr = *itInv;
00057         assert (lInv_ptr != NULL);
00058
00059         // Retrieve the inventory key (airline code)
00060         const AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();
00061
00062         // Display only the requested inventories
00063         if (iAirlineCode == "all" || iAirlineCode == lAirlineCode) {
00064
00065             // Flight date tree
00066             bpt::ptree ptFD;
00067             // Create an empty flight-dates array
00068             bpt::ptree lFDDatePropertyTree;
00069
00070             // Check whether there are FlightDate objects
00071             if (BomManager::hasMap<FlightDate> (*lInv_ptr) == false) {
00072                 return;
00073             }
00074
00075             // Browse the flight-dates
00076             const FlightDateMap_T& lFlightDateList =

```

```

00077     BomManager::getMap<FlightDate> (*lInv_ptr);
00078     for (FlightDateMap_T::const_iterator itFD = lFlightDateList.begin();
00079         itFD != lFlightDateList.end(); ++itFD) {
00080         const FlightDate* lFD_ptr = itFD->second;
00081         assert (lFD_ptr != NULL);
00082
00083         // Retrieve the key of the flight-date
00084         const FlightNumber_T& lFlightNumber = lFD_ptr->
00085             getFlightNumber();
00086         const Date_T& lFlightDateDate = lFD_ptr->getDepartureDate();
00087
00088         // Display only the requested flight number
00089         if (iFlightNumber == 0 || iFlightNumber == lFlightNumber) {
00090
00091             // Add the airline code to the inventory tree
00092             ptFD.put ("airline_code", lAirlineCode);
00093             // Put flight number in property tree
00094             ptFD.put ("number", lFlightNumber);
00095             // Put flight date date in property tree
00096             ptFD.put ("date", lFlightDateDate);
00097
00098             // Put the current flight date tree in the array
00099             ptInventoryList.push_back(std::make_pair("", ptFD));
00100
00101     }
00102
00103 }
00104 }
00105
00106 // Store the inventory(ies) array tree into the global tree
00107 pt.add_child ("inventories", ptInventoryList);
00108
00109 // Write the property tree into the JSON stream.
00110 write_json (oStream, pt);
00111 #endif // BOOST_VERSION >= 104100
00112 }
00113
00114 // /////////////////////////////////
00115 void BomJSONExport::jsonExportFlightDate (bpt::ptree& ioFDPropertyTree,
00116                                         const Inventory& iInventory,
00117                                         const FlightNumber_T& iFlightNumber) {
00118
00119 // Check whether there are FlightDate objects
00120 if (BomManager::hasMap<FlightDate> (iInventory) == false) {
00121     return;
00122 }
00123
00124 #if BOOST_VERSION >= 104100
00125
00126 // Create an empty flight-dates array
00127 bpt::ptree lFDDatePropertyTree;
00128
00129 // Browse the flight-dates
00130 const FlightDateMap_T& lFlightDateList =
00131     BomManager::getMap<FlightDate> (iInventory);
00132 for (FlightDateMap_T::const_iterator itFD = lFlightDateList.begin();
00133     itFD != lFlightDateList.end(); ++itFD) {
00134     const FlightDate* lFD_ptr = itFD->second;
00135     assert (lFD_ptr != NULL);
00136
00137     // Retrieve the key of the flight-date
00138     const FlightNumber_T& lFlightNumber = lFD_ptr->getFlightNumber();
00139     const Date_T& lFlightDateDate = lFD_ptr->getDepartureDate();
00140
00141     // Display only the requested flight number
00142     if (iFlightNumber == 0 || iFlightNumber == lFlightNumber) {
00143
00144         // Create an empty property tree object for the current flight date
00145         bpt::ptree lCurrFDTree;
00146
00147         // Put flight number in property tree
00148         lCurrFDTree.put ("number", lFlightNumber);
00149         // Put flight date date in property tree
00150         lCurrFDTree.put ("date", lFlightDateDate);
00151
00152         // Put the current flight date tree in the flight date array
00153         ioFDPropertyTree.push_back(std::make_pair("", lCurrFDTree));
00154
00155     }
00156 }
00157 #endif // BOOST_VERSION >= 104100
00158
00159 }
00160
00161 // /////////////////////////////////
00162 void BomJSONExport::

```

```

00163     jsonExportFlightDateObjects (std::ostream& oStream,
00164                                     const FlightDate& iFlightDate) {
00165
00166 #if BOOST_VERSION >= 104100
00167
00171     // Create an empty property tree object
00172     bpt::ptree pt;
00173
00174     // Put the airline code in property tree
00175     const AirlineCode_T& lAirlineCode = iFlightDate.getAirlineCode();
00176     pt.put ("flight_date.airline_code", lAirlineCode);
00177
00178     // Put the flight number in property tree
00179     const FlightNumber_T& lFlightNumber = iFlightDate.
00180     getFlightNumber();
00180     pt.put ("flight_date.flight_number", lFlightNumber);
00181
00182     // Put the flight departure date in property tree
00183     const Date_T& lFlightDepartureDate = iFlightDate.getDepartureDate();
00184     const std::string& lDepartureDateStr =
00185         boost::gregorian::to_simple_string (lFlightDepartureDate);
00186     pt.put ("flight_date.departure_date", lDepartureDateStr);
00187
00191     // Create an empty legs array
00192     bpt::ptree ptLegs;
00193
00194     // Recursively construct the legs array
00195     jsonExportLegDate (ptLegs, iFlightDate);
00196
00197     // Add legs tree to the global property tree
00198     pt.add_child ("flight_date.legs", ptLegs);
00199
00203     // Create an empty segments array
00204     bpt::ptree ptSegments;
00205
00206     // Recursively construct the segments array
00207     jsonExportSegmentDate (ptSegments, iFlightDate);
00208
00209     // Add segments tree to the global property tree
00210     pt.add_child ("flight_date.segments", ptSegments);
00211
00212     // Write the property tree into the JSON stream.
00213     write_json (oStream, pt);
00214
00215 #endif // BOOST_VERSION >= 104100
00216 }
00217
00218 ///////////////////////////////////////////////////////////////////
00219 void BomJSONExport::jsonExportLegDate (bpt::ptree& ioLegDateListTree,
00220                                     const FlightDate& iFlightDate) {
00221
00222     // Check whether there are LegDate objects
00223     if (BomManager::hasList<LegDate> (iFlightDate) == false) {
00224         return;
00225     }
00226
00227     // Browse the leg-dates
00228     const LegDateList_T& lLegDateList =
00229         BomManager::getList<LegDate> (iFlightDate);
00230     for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
00231          itLD != lLegDateList.end(); ++itLD) {
00232         const LegDate* lLD_ptr = *itLD;
00233         assert (lLD_ptr != NULL);
00234
00235 #if BOOST_VERSION >= 104100
00236
00237     // Create an empty property tree object for the current leg date
00238     bpt::ptree lCurrLDTree;
00239
00240     // Put boarding point in property tree
00241     const AirportCode_T& lBoardingPoint = lLD_ptr->getBoardingPoint();
00242     lCurrLDTree.put ("board_point", lBoardingPoint);
00243     // Put off point in property tree
00244     const AirportCode_T& lOffPoint = lLD_ptr->getOffPoint();
00245     lCurrLDTree.put ("off_point", lOffPoint);
00246     // Put boarding date in property tree
00247     const Date_T& lBoardingDate = lLD_ptr->getBoardingDate();
00248     lCurrLDTree.put ("board_date", lBoardingDate);
00249     // Put off date in property tree
00250     const Date_T& lOffDate = lLD_ptr->getOffDate();
00251     lCurrLDTree.put ("off_dDate", lOffDate);
00252     // Put boarding time in property tree
00253     const Duration_T& lBoardingTime = lLD_ptr->getBoardingTime();
00254     lCurrLDTree.put ("board_time", lBoardingTime);
00255     // Put off time in property tree
00256     const Duration_T& lOffTime = lLD_ptr->getOffTime();
00257     lCurrLDTree.put ("off_time", lOffTime);

```

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00258 // Put elapsed time in property tree
00259 const Duration_T& lElapsed = lLD_ptr->getElapsedTime();
00260 lCurrLDTREE.put ("elapsed_time", lElapsed);
00261 // Put date offset in property tree
00262 const DateOffset_T& lDateOffset = lLD_ptr->getDateOffset();
00263 lCurrLDTREE.put ("date_offset", lDateOffset);
00264 // Put time offset in property tree
00265 const Duration_T& lTimeOffset = lLD_ptr->getTimeOffset();
00266 lCurrLDTREE.put ("time_offset", lTimeOffset);
00267 // Put distance in property tree
00268 const Distance_T& lDistance = lLD_ptr->getDistance();
00269 lCurrLDTREE.put ("distance", lDistance);
00270 // Put capacity in property tree
00271 const CabinCapacity_T& lCapacity = lLD_ptr->getCapacity();
00272 lCurrLDTREE.put ("capacity", lCapacity);
00273
00274 // Create an empty property tree object for the leg cabins array
00275 // corresponding to the current leg date.
00276 bpt::ptree lLegCabinArray;
00277
00278 // Recursively construct the leg cabins array
00279 jsonExportLegCabin (lLegCabinArray, *lLD_ptr);
00280
00281 // Add the leg cabins array to the leg date tree
00282 lCurrLDTREE.add_child ("cabins", lLegCabinArray);
00283
00284 // Put the current leg date tree in the leg date list tree
00285 ioLegDateListTree.push_back (std::make_pair ("", lCurrLDTREE));
00286
00287 #endif // BOOST_VERSION >= 104100
00288 }
00289 }
00290
00291 ///////////////////////////////////////////////////////////////////
00292 void BomJSONExport::jsonExportLegCabin (bpt::ptree& ioLegCabinListTree,
00293                                     const LegDate& iLegDate) {
00294
00295 // Check whether there are LegCabin objects
00296 if (BomManager::hasList<LegCabin> (iLegDate) == false) {
00297     return;
00298 }
00299
00300 // Browse the leg-cabins
00301 const LegCabinList_T& lLegCabinList =
00302     BomManager::getList<LegCabin> (iLegDate);
00303 for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
00304     itLC != lLegCabinList.end(); ++itLC) {
00305     const LegCabin* lLC_ptr = *itLC;
00306     assert (lLC_ptr != NULL);
00307
00308 #if BOOST_VERSION >= 104100
00309
00310     // Create an empty property tree object for the current leg cabin
00311     bpt::ptree lCurrLCTREE;
00312     bpt::ptree lCurrLCPV;
00313
00314     // Put the cabin code in property tree
00315     const CabinCode_T& lCabinCode = lLC_ptr->getCabinCode();
00316     lCurrLCTREE.put ("code", lCabinCode);
00317     // Put the offered capacity in property tree
00318     const CabinCapacity_T& lOfferedCapacity = lLC_ptr->getOfferedCapacity();
00319     lCurrLCTREE.put ("offered_cap", lOfferedCapacity);
00320     // Put the physical capacity in property tree
00321     const CabinCapacity_T& lPhysicalCapacity = lLC_ptr->getPhysicalCapacity();
00322     lCurrLCTREE.put ("phy_cap", lPhysicalCapacity);
00323     // Put regrade adjustment in property tree
00324     const CapacityAdjustment_T& lRegradeAdjustment = lLC_ptr->getRegradeAdjustment();
00325     lCurrLCTREE.put ("rgd_adj", lRegradeAdjustment);
00326     // Put authorization level in property tree
00327     const AuthorizationLevel_T& lAuthorizationLevel = lLC_ptr->getAuthorizationLevel();
00328 };
00329     lCurrLCTREE.put ("au", lAuthorizationLevel);
00330     // Put UPR in property tree
00331     const UPR_T& lUPR = lLC_ptr->getUPR();
00332     lCurrLCTREE.put ("upr", lUPR);
00333     // Put sold seats in property tree
00334     const NbOfSeats_T& lNbOfSoldSeats = lLC_ptr->getSoldSeat();
00335     lCurrLCTREE.put ("ss", lNbOfSoldSeats);
00336     // Put staff nb of seats in property tree
00337     const NbOfSeats_T& lStaffNbOfSeats = lLC_ptr->getStaffNbOfSeats();
00338     lCurrLCTREE.put ("staff", lStaffNbOfSeats);
00339     // Put waiting list nb of seats in property tree
00340     const NbOfSeats_T& lWLNbOfSeats = lLC_ptr->getWLNbOfSeats();
00341     lCurrLCTREE.put ("wl", lWLNbOfSeats);
00342     // Put group nb of seats in property tree
00343     const NbOfSeats_T& lGroupNbOfSeats = lLC_ptr->getGroupNbOfSeats();
00344     lCurrLCTREE.put ("group", lGroupNbOfSeats);

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00344 // Put committed space in property tree
00345 const CommittedSpace_T& lCommittedSpace = lLC_ptr->getCommittedSpace();
00346 lCurrLCTree.put ("comm_space", lCommittedSpace);
00347 // Put availability pool in property tree
00348 const Availability_T& lAvailabilityPool = lLC_ptr->getAvailabilityPool();
00349 lCurrLCTree.put ("av_pool", lAvailabilityPool);
00350 // Put availability in property tree
00351 const Availability_T& lAvailability = lLC_ptr->getAvailability();
00352 lCurrLCTree.put ("avl", lAvailability);
00353 // Put net availability in property tree
00354 const Availability_T& lNetAvailability = lLC_ptr->getNetAvailability();
00355 lCurrLCTree.put ("nav", lNetAvailability);
00356 // Put gross availability in property tree
00357 const Availability_T& lGrossAvailability = lLC_ptr->getGrossAvailability();
00358 lCurrLCTree.put ("gav", lGrossAvailability);
00359 // Put avg cancellation percentage in property tree
00360 const OverbookingRate_T& lAvgCancellationPercentage =
00361     lLC_ptr->getAvgCancellationPercentage();
00362 lCurrLCTree.put ("acp", lAvgCancellationPercentage);
00363 // Put ETB in property tree
00364 const NbOfSeats_T& lExpectedToBoard = lLC_ptr->getETB();
00365 lCurrLCTree.put ("etb", lExpectedToBoard );
00366 // Put current bid price in property tree
00367 const BidPrice_T& lCurrentBidPrice = lLC_ptr->getCurrentBidPrice();
00368 lCurrLCTree.put ("bid_price", lCurrentBidPrice);
00369 // Put current bid price vector in property tree
00370 const BidPriceVector_T& lCurrentBidPriceVector =
00371     lLC_ptr->getBidPriceVector();
00372 std::ostringstream ostr;
00373 BidPriceVector_T::const_iterator itBP = lCurrentBidPriceVector.begin();
00374 while (itBP != lCurrentBidPriceVector.end()) {
00375     ostr << *itBP;
00376     ++itBP;
00377     if (itBP != lCurrentBidPriceVector.end()) {
00378         ostr << ",";
00379     }
00380 }
00381 lCurrLCTree.put ("BPV", ostr.str());
00382
00383 // Create an empty property tree object for the buckets array
00384 // corresponding to the current leg cabin.
00385 bpt::ptree lBucketTree;
00386
00387 // Recursively construct the buckets array
00388 jsonExportBucket (lBucketTree, *lLC_ptr);
00389
00390 // Add the buckets array to the leg cabin tree
00391 lCurrLCTree.add_child ("buckets", lBucketTree);
00392
00393 // Put the current leg cabin tree in the leg cabin list tree
00394 ioLegCabinListTree.push_back(std::make_pair("", lCurrLCTree));
00395
00396 #endif // BOOST_VERSION >= 104100
00397 }
00398 }
00399
00400 // /////////////////////////////////
00401 void BomJSONExport::jsonExportBucket (bpt::ptree& ioBucketListTree,
00402                                         const LegCabin& iLegCabin) {
00403
00404     // Check whether there are Bucket objects
00405     if (BomManager::hasList<Bucket> (iLegCabin) == false) {
00406         return;
00407     }
00408
00409     // Browse the buckets
00410     const BucketList_T& lBucketList = BomManager::getList<Bucket> (iLegCabin);
00411     for (BucketList_T::const_iterator itBuck = lBucketList.begin();
00412          itBuck != lBucketList.end(); ++itBuck) {
00413         const Bucket* lBucket_ptr = *itBuck;
00414         assert (lBucket_ptr != NULL);
00415
00416 #if BOOST_VERSION >= 104100
00417
00418     // Create an empty property tree object for the current bucket
00419     bpt::ptree lCurrBucketTree;
00420
00421     // Put yield in property tree
00422     const Yield_T& lYieldRangeUpperValue =
00423         lBucket_ptr->getYieldRangeUpperValue();
00424     lCurrBucketTree.put ("yield", lYieldRangeUpperValue);
00425     // Put seat_index in property tree
00426     const SeatIndex_T& lSeatIndex = lBucket_ptr->getSeatIndex();
00427     lCurrBucketTree.put ("si", lSeatIndex);
00428     // Put sold_seats in property tree
00429     const NbofSeats_T& lSoldSeats = lBucket_ptr->getSoldSeats();
00430     lCurrBucketTree.put ("ss", lSoldSeats);
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00435     // Put availability in property tree
00436     const CabinCapacity_T& lAvailability = lBucket_ptr->getAvailability();
00437     lCurrBucketTree.put ("av", lAvailability);
00438
00439     // Put the current bucket tree in the bucket list tree
00440     ioBucketListTree.push_back(std::make_pair("", lCurrBucketTree));
00441
00442 #endif // BOOST_VERSION >= 104100
00443 }
00444 }
00445
00446 // /////////////////////////////////
00447 void BomJSONExport::jsonExportSegmentDate (bpt::ptree& ioSegmentDateTree,
00448                                              const FlightDate& iFlightDate) {
00449
00450     // Check whether there are SegmentDate objects
00451     if (BomManager::hasList<SegmentDate> (iFlightDate) == false) {
00452         return;
00453     }
00454
00455     // Browse the segment-dates
00456     const SegmentDateList_T& lSegmentDateList =
00457         BomManager::getList<SegmentDate> (iFlightDate);
00458     for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
00459          itSD != lSegmentDateList.end(); ++itSD) {
00460         const SegmentDate* lSD_ptr = *itSD;
00461         assert (lSD_ptr != NULL);
00462
00463 #if BOOST_VERSION >= 104100
00464
00465     // Create an empty property tree object for the current segment date
00466     bpt::ptree lCurrSDTree;
00467
00468     // Put segment key in property tree
00469     lCurrSDTree.put ("segment", lSD_ptr->toString());
00470
00471     // Create an empty property tree object for the segment cabin array
00472     // corresponding to the current segment date
00473     bpt::ptree lSegmentCabinTree;
00474
00475     // Recursively construct the segment cabin array
00476     jsonExportSegmentCabin (lSegmentCabinTree, *lSD_ptr);
00477
00478     // Add the segment cabin array to the tree of the current segment date
00479     lCurrSDTree.add_child ("sub_classes", lSegmentCabinTree);
00480
00481     // Put segment date array in property tree
00482     ioSegmentDateTree.push_back(std::make_pair("", lCurrSDTree));
00483
00484 #endif // BOOST_VERSION >= 104100
00485 }
00486 }
00487
00488 // ///////////////////////////////
00489 void BomJSONExport::jsonExportSegmentCabin (bpt::ptree& ioPropertyTree,
00490                                              const SegmentDate& iSegmentDate) {
00491
00492     // Check whether there are SegmentCabin objects
00493     if (BomManager::hasList<SegmentCabin> (iSegmentDate) == false) {
00494         return;
00495     }
00496
00497     // Browse the segment-cabins
00498     const SegmentCabinList_T& lSegmentCabinList =
00499         BomManager::getList<SegmentCabin> (iSegmentDate);
00500     for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
00501          itSC != lSegmentCabinList.end(); ++itSC) {
00502         const SegmentCabin* lSC_ptr = *itSC;
00503         assert (lSC_ptr != NULL);
00504
00505 #if BOOST_VERSION >= 104100
00506     // Create an empty property tree object for the current segment cabin
00507     bpt::ptree lSCArray;
00508
00509     // Put cabin in property tree
00510
00511     lSCArray.put ("cabin_code", lSC_ptr->toString());
00512
00513     // Export the cabin tree to add fare-families and sub-classes details
00514     jsonExportFareFamily (ioPropertyTree, lSCArray, *lSC_ptr);
00515
00516 #endif // BOOST_VERSION >= 104100
00517
00518 }
00519 }
00520
00521 // ///////////////////////////////

```

```

00522 void BomJSONExport::jsonExportFareFamily (bpt::ptree& ioPropertyTree,
00523                                     bpt::ptree& ioSCTree,
00524                                     const SegmentCabin& iSegmentCabin) {
00525
00526     // Check whether there are FareFamily objects
00527     if (BomManager::hasList<FareFamily> (iSegmentCabin) == true) {
00528
00529         // Browse the fare-families
00530         const FareFamilyList_T& lFareFamilyList =
00531             BomManager::getList<FareFamily> (iSegmentCabin);
00532         for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
00533             itFF != lFareFamilyList.end(); ++itFF) {
00534             const FareFamily* lFF_ptr = *itFF;
00535             assert (lFF_ptr != NULL);
00536
00537             // Browse the booking-classes
00538             const BookingClassList_T& lBookingClassList =
00539                 BomManager::getList<BookingClass> (*lFF_ptr);
00540             for (BookingClassList_T::const_iterator itBC =
00541                 lBookingClassList.begin();
00542                 itBC != lBookingClassList.end(); ++itBC) {
00543                 const BookingClass* lBC_ptr = *itBC;
00544                 assert (lBC_ptr != NULL);
00545
00546 #if BOOST_VERSION >= 104100
00547
00548         // Put family code in property tree
00549         const FamilyCode_T& lFamilyCode = lFF_ptr->getFamilyCode();
00550         ioSCTree.put ("family_code", lFamilyCode);
00551
00552         // Export the cabin tree to add sub-classes details
00553         jsonExportBookingClass (ioPropertyTree, ioSCTree, *lBC_ptr);
00554
00555 #endif // BOOST_VERSION >= 104100
00556
00557     }
00558 }
00559 } else {
00560
00561     // The fare family code is a fake one ('NoFF'), and therefore
00562     // does not vary
00563     const FamilyCode_T lDefaultFamilyCode ("NoFF");
00564
00565     // Browse the booking-classes, directly from the segment-cabin object
00566     const BookingClassList_T& lBookingClassList =
00567         BomManager::getList<BookingClass> (iSegmentCabin);
00568     for (BookingClassList_T::const_iterator itBC =
00569         lBookingClassList.begin();
00570         itBC != lBookingClassList.end(); ++itBC) {
00571         const BookingClass* lBC_ptr = *itBC;
00572         assert (lBC_ptr != NULL);
00573
00574 #if BOOST_VERSION >= 104100
00575
00576     // Put family code in property tree
00577     ioSCTree.put ("family_code", lDefaultFamilyCode);
00578
00579     // Export the cabin tree to add sub-classes details
00580     jsonExportBookingClass (ioPropertyTree, ioSCTree, *lBC_ptr);
00581
00582 #endif // BOOST_VERSION >= 104100
00583     }
00584 }
00585 }
00586
00587 // /////////////////////////////////
00588 void BomJSONExport::jsonExportBookingClass (bpt::ptree& ioPropertyTree,
00589                                             bpt::ptree& ioSCTree,
00590                                             const BookingClass& iBookingClass) {
00591
00592 #if BOOST_VERSION >= 104100
00593
00594     // Put sub class in property tree
00595     ioSCTree.put ("class_code", iBookingClass.toString());
00596     // Put authorization level in property tree
00597     std::ostringstream oAUBLStr;
00598     oAUBLStr << iBookingClass.getAuthorizationLevel();
00599     // << " (" << iBookingClass.getCumulatedBookingLimit()
00600     // << ") ";
00601     ioSCTree.put ("au", oAUBLStr.str());
00602     // Put negotiated space in property tree
00603     const NbOfSeats_T& lNegotiatedSpace =
00604         iBookingClass.getNegotiatedSpace();
00605     ioSCTree.put ("nego", lNegotiatedSpace);
00606     // Put no show percentage in property tree
00607     const OverbookingRate_T& lNoShowPercentage =
00608         iBookingClass.getNoShowPercentage();

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00614     ioSCTree.put ("ns%", lNoShowPercentage);
00615     // Put cancellation percentage in property tree
00616     const OverbookingRate_T& lCancellationPercentage =
00617         iBookingClass.getCancellationPercentage();
00618     ioSCTree.put ("ob%", lCancellationPercentage);
00619     // Put sub nb of bookings in property tree
00620     const NbOfBookings_T lNbOfBookings =
00621         iBookingClass.getNbOfBookings();
00622     ioSCTree.put ("bkgs", lNbOfBookings);
00623     // Put nb of group bookings in property tree
00624     const NbOfBookings_T& lNbOfGroupBookings =
00625         iBookingClass.getNbOfGroupBookings();
00626     ioSCTree.put ("grp_bks (pdg)", lNbOfGroupBookings);
00627     // Put nb of staff bookings in property tree
00628     const NbOfBookings_T& lNbOfStaffBookings =
00629         iBookingClass.getNbOfStaffBookings();
00630     ioSCTree.put ("stf_bkgs", lNbOfStaffBookings);
00631     // Put nb of WL bookings in property tree
00632     const NbOfBookings_T& lNbOfWLBookings =
00633         iBookingClass.getNbOfWLBookings();
00634     ioSCTree.put ("wl_bkgs", lNbOfWLBookings);
00635     // Put ETB in property tree
00636     const NbOfBookings_T& lETB = iBookingClass.getETB();
00637     ioSCTree.put ("etb", lETB);
00638     // Put net class availability in property tree
00639     const Availability_T& lNetClassAvailability =
00640         iBookingClass.getNetClassAvailability();
00641     ioSCTree.put ("class_avl", lNetClassAvailability);
00642     // Put segment availability in property tree
00643     const Availability_T& lSegmentAvailability =
00644         iBookingClass.getSegmentAvailability();
00645     ioSCTree.put ("seg_avl", lSegmentAvailability);
00646     // Put net revenue availability in property tree
00647     const Availability_T& lNetRevenueAvailability =
00648         iBookingClass.getNetRevenueAvailability();
00649     ioSCTree.put ("rev_avl", lNetRevenueAvailability);
00650
00651     // Add the sub-classe (containing cabin and fare-families information)
00652     // to the global tree
00653     ioPropertyTree.push_back(std::make_pair("", ioSCTree));
00654
00655 #endif // BOOST_VERSION >= 104100
00656 }
00657
00658 // /////////////////////////////////
00659 void BomJSONExport::
00660 jsonExportBookingRequestObject (std::ostream& oStream,
00661                                     const EventStruct& iEventStruct) {
00662
00663     // Get the current event type: it should be booking request
00664     const EventType::EN_EventType& lEventType =
00665         iEventStruct.getEventType();
00666     assert (lEventType == EventType::BKG_REQ);
00667
00668     // Get the booking request (the current event type is booking request)
00669     const BookingRequestStruct& lBookingRequest =
00670         iEventStruct.getBookingRequest();
00671
00672 #if BOOST_VERSION >= 104100
00673
00674     // Create an empty property tree object for the current booking request
00675     bpt::ptree ptBookingRequest;
00676
00677     // Put request date time in property tree
00678     const DateTime_T& lRequestDateTime =
00679         lBookingRequest.getRequestDateTime();
00680     ptBookingRequest.put ("time_stamp", lRequestDateTime);
00681     // Put event type in property tree
00682     ptBookingRequest.put ("event_type", EventType::getLabel(lEventType));
00683     // Put origin in property tree
00684     const AirportCode_T& lOrigin = lBookingRequest.getOrigin();
00685     ptBookingRequest.put ("org", lOrigin);
00686     // Put destination in property tree
00687     const AirportCode_T& lDestination = lBookingRequest.
00688         getDestination();
00689     ptBookingRequest.put ("des", lDestination);
00690     // Put preferred cabin in property tree
00691     const CabinCode_T& lCabinCode = lBookingRequest.getPreferredCabin();
00692     ptBookingRequest.put ("cab", lCabinCode);
00693     // Put party size in property tree
00694     const NbOfSeats_T& lNbOfSeats = lBookingRequest.getPartySize();
00695     ptBookingRequest.put ("pax", lNbOfSeats);
00696     // Put point-of-sale in property tree
00697     const AirportCode_T& lPOS = lBookingRequest.getPOS();
00698     ptBookingRequest.put ("pos", lPOS);
00699     // Put channel in property tree
00700     const ChannelLabel_T& lChannelLabel =

```

```

00700     lBookingRequest.getBookingChannel();
00701     ptBookingRequest.put ("cha", lChannelLabel);
00702     // Put WTP in property tree
00703     const WTP_T& lWTP = lBookingRequest.getWTP();
00704     ptBookingRequest.put ("wtp", lWTP);
00705     // Put request date in property tree
00706     const Date_T& lRequestDate =
00707         lRequestDateTime.boost::posix_time::ptime::date();
00708     ptBookingRequest.put ("bkg_date", lRequestDate);
00709     // Put departure date in property tree
00710     const Date_T& lPreferredDepartureDate =
00711         lBookingRequest.getPreferredDepartureDate();
00712     ptBookingRequest.put ("dep_date", lPreferredDepartureDate);
00713     // Put advance purchase in property tree
00714     assert (lPreferredDepartureDate >= lRequestDate);
00715     const DateOffset_T& lAdvancePurchase =
00716         lPreferredDepartureDate - lRequestDate;
00717     ptBookingRequest.put ("adv_purchase", lAdvancePurchase);
00718     // Put stay duration in property tree
00719     const DayDuration_T& lStayDuration =
00720         lBookingRequest.getStayDuration();
00721     ptBookingRequest.put ("stay_duration", lStayDuration);
00722     // Put return date in property tree
00723     const DateOffset_T lDayDuration (lStayDuration);
00724     const Date_T& lReturnDate =
00725         lPreferredDepartureDate + lDayDuration;
00726     ptBookingRequest.put ("return_date", lReturnDate);
00727     // Put cancellation date in property tree
00728     // TODO: cancellation date
00729     ptBookingRequest.put ("cancel_date", "xxxx-xx-xx");
00730     // Put preferred departure time in property tree
00731     const Duration_T& lPreferredDepartureTime =
00732         lBookingRequest.getPreferredDepartureTime();
00733     ptBookingRequest.put ("dep_time", lPreferredDepartureTime);
00734     // Put preferred return time in property tree
00735     // TODO: preferred return time
00736     ptBookingRequest.put ("return_time", "xxPM");
00737     // Put preferred carriers in property tree
00738     // TODO: preferred carriers
00739     ptBookingRequest.put ("pref_carriers", "XX");
00740
00741     // Write the property tree into the JSON stream.
00742     write_json (oStream, ptBookingRequest);
00743
00744 #endif // BOOST_VERSION >= 104100
00745 }
00746
00747 // /////////////////////////////////
00748 void BomJSONExport::
00749 jsonExportBreakPointObject (std::ostream& oStream,
00750                             const EventStruct& iEventStruct) {
00751
00752     // Get the current event type: it should be break point
00753     const EventType::EN_EventType& lEventType =
00754         iEventStruct.getEventType();
00755     assert (lEventType == EventType::BRK_PT);
00756
00757     // Get the break point (the current event type is break point)
00758     const BreakPointStruct& lBreakPoint =
00759         iEventStruct.getBreakPoint();
00760
00761 #if BOOST_VERSION >= 104100
00762
00763     // Create an empty property tree object for the current break point
00764     bpt::ptree ptBreakPoint;
00765
00766     // Put break point date time in property tree
00767     const DateTime_T& lRequestDateTime =
00768         lBreakPoint.getBreakPointTime();
00769     ptBreakPoint.put ("time_stamp", lRequestDateTime);
00770     // Put event type in property tree
00771     ptBreakPoint.put ("event_type", EventType::getLabel(lEventType));
00772
00773     // Write the property tree into the JSON stream.
00774     write_json (oStream, ptBreakPoint);
00775
00776 #endif // BOOST_VERSION >= 104100
00777 }
00778 }
00779 }
00800 }
```

### 33.199 stdair/bom/BomJSONExport.hpp File Reference

```
#include <iostream>
#include <stdair/bom/TravelSolutionTypes.hpp>
```

#### Classes

- class **stdair::BomJSONExport**

*Utility class to export StdAir objects in a JSON format.*

#### Namespaces

- **bpt**
- **stdair**

*Handle on the StdAir library context.*

### 33.200 BomJSONExport.hpp

```
00001 #ifndef __STDAIR_BOM_BOMJSONEXPORT_HPP
00002 #define __STDAIR_BOM_BOMJSONEXPORT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // Boost Property Tree
00010 #if BOOST_VERSION >= 104100
00011 #include <boost/property_tree/ptree.hpp>
00012 #include <boost/property_tree/json_parser.hpp>
00013 #endif // BOOST_VERSION >= 104100
00014 // StdAir
00015 #include <stdair/bom/TravelSolutionTypes.hpp>
00016
00017 #if BOOST_VERSION >= 104100
00018     namespace bpt = boost::property_tree;
00019 #else // BOOST_VERSION >= 104100
00020     namespace bpt {
00021         typedef char ptree;
00022     }
00023 #endif // BOOST_VERSION >= 104100
00024
00025 namespace stdair {
00026
00027     class BomRoot;
00028     class Inventory;
00029     class FlightDate;
00030     class LegDate;
00031     class LegCabin;
00032     class SegmentDate;
00033     class SegmentCabin;
00034     class BookingClass;
00035     class EventStruct;
00036
00037
00042     class BomJSONExport {
00043     public:
00044         // ///////////////////// Export support methods ///////////////////
00045
00061         static void jsonExportFlightDateList (std::ostream&, const
00062                                             const AirlineCode_T& iAirlineCode = "all",
00063                                             const FlightNumber_T& iFlightNumber = 0);
00064
00074         static void jsonExportFlightDateObjects (std::ostream&, const
00075                                             FlightDate&);
00085         static void jsonExportBookingRequestObject (std::ostream&,
00086                                             const EventStruct&);
00087
00097         static void jsonExportBreakPointObject (std::ostream&,
00098                                             const EventStruct&);
00099
00100     private:
```

```

00101
00113     static void jsonExportFlightDate (bpt::ptree&,
00114                                     const Inventory&,
00115                                     const FlightNumber_T&);
00116
00125     static void jsonExportLegDate (bpt::ptree&, const FlightDate&);
00126
00135     static void jsonExportLegCabin (bpt::ptree&, const LegDate&);
00136
00145     static void jsonExportBucket (bpt::ptree&, const LegCabin&);
00146
00156     static void jsonExportSegmentDate (bpt::ptree&, const FlightDate&);
00157
00166     static void jsonExportSegmentCabin (bpt::ptree&, const SegmentDate&);
00167
00180     static void jsonExportFareFamily (bpt::ptree&, bpt::ptree&,
00181                                     const SegmentCabin&);
00182
00192     static void jsonExportBookingClass (bpt::ptree&, bpt::ptree&,
00193                                     const BookingClass&);
00194
00195 };
00196
00197 }
00198 #endif // __STDAIR_BOM_BOMJSONEXPORT_HPP

```

### 33.201 stdair/bom/BomJSONImport.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/bom/BomJSONImport.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/stdair_json.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/ConfigHolderStruct.hpp>

```

#### Namespaces

- **bpt**
- **stdair**

*Handle on the StdAir library context.*

### 33.202 BomJSONImport.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 #if BOOST_VERSION >= 104100
00008 // Boost Property Tree
00009 #include <boost/property_tree/ptree.hpp>
00010 #include <boost/property_tree/json_parser.hpp>
00011 #include <boost/regex.hpp>
00012 #endif // BOOST_VERSION >= 104100
00013 // StdAir
00014 #include <stdair/bom/BomJSONImport.hpp>
00015 #include <stdair/stdair_exceptions.hpp>
00016 #include <stdair/stdair_json.hpp>
00017 #include <stdair/basic/BasConst_General.hpp>
00018 #include <stdair/bom/ConfigHolderStruct.hpp>
00019
00020 #if BOOST_VERSION >= 104100
00021 namespace bpt = boost::property_tree;
00022 #else // BOOST_VERSION >= 104100
00023 namespace bpt {
00024     typedef char ptree;
00025 }
00026 #endif // BOOST_VERSION >= 104100
00027
00028 namespace stdair {

```

```

00029 // /////////////////////////////////////////////////
00030 bool BomJSONImport::
00031 jsonImportCommand (const JSONString& iBomJSONStr,
00032 JSonCommand::EN_JSONCommand& ioEnumJSoNCommand) {
00033
00034     bool hasCommandBeenSuccessfullyRetrieved = true;
00035
00036     try {
00037         const std::string lRegEx("^[{}[[:space:]]*\""
00038                             "([[:alpha:]|_]*)\"[[:space:]]*:"
00039                             "[[]?\""
00040                             "[[:space:]]*[{]?"
00041                             "[[:alnum:]]|[[:punct:]]|[[:space:]]*"
00042                             "[{}]?[{}]?[{}]");
00043
00044         // See the caller for the regular expression
00045         boost::regex lExpression (lRegEx);
00046
00047         const std::string& lBomJSONStr = iBomJSONStr.getString();
00048         std::string::const_iterator itStart = lBomJSONStr.begin();
00049         std::string::const_iterator itEnd = lBomJSONStr.end();
00050
00051         boost::match_results<std::string::const_iterator> lWhat;
00052         boost::match_flag_type lFlags = boost::match_default;
00053
00054         regex_search (itStart, itEnd, lWhat, lExpression, lFlags);
00055
00056         // Put the matched strings in the list of tokens to be returned back
00057         // to the caller
00058         std::vector<std::string> oTokenList;
00059         for (boost::match_results<std::string::const_iterator>::const_iterator itMatch
00060              = lWhat.begin(); itMatch != lWhat.end(); ++itMatch) {
00061
00062             const std::string lMatchedString (std::string (itMatch->first,
00063                                              itMatch->second));
00064             oTokenList.push_back (lMatchedString);
00065         }
00066
00067         // If the retrieved token list is empty, the command has not been
00068         // retrieved
00069         if (oTokenList.size() <= 1) {
00070             hasCommandBeenSuccessfullyRetrieved = false;
00071             return hasCommandBeenSuccessfullyRetrieved;
00072         }
00073
00074         assert (oTokenList.size() >= 2);
00075         // Retrieved the command string into the token list
00076         const std::string lCommandStr = oTokenList.at(1);
00077         const JSonCommand lJSonCommand (lCommandStr);
00078         ioEnumJSoNCommand = lJSonCommand.getCommand();
00079
00080     } catch (stdair::CodeConversionException& ccException) {
00081         hasCommandBeenSuccessfullyRetrieved = false;
00082     }
00083
00084     return hasCommandBeenSuccessfullyRetrieved;
00085 }
00086
00087 // ///////////////////////////////////////////////
00088 bool BomJSONImport::jsonImportInventoryKey (const
00089 JSONString& iBomJSONStr,
00090 AirlineCode_T& ioAirlineCode) {
00091     bool hasKeyBeenSuccessfullyRetrieved = true;
00092
00093 #if BOOST_VERSION >= 104100
00094     // Create an empty property tree object
00095     bpt::ptree pt;
00096
00097     try {
00098
00099         // Load the JSON formatted string into the property tree.
00100         // If reading fails (cannot open stream, parse error), an
00101         // exception is thrown.
00102         std::istringstream iStr (iBomJSONStr.getString());
00103         read_json (iStr, pt);
00104
00105         // Build the right path to obtain the airline code value.
00106         bpt::ptree::const_iterator itBegin = pt.begin();
00107         const std::string lCommandName = itBegin->first;
00108         std::ostringstream lPath;
00109         lPath << lCommandName << ".airline_code";
00110
00111         // Get the airline_code.
00112         // If the path key is not found, an exception is thrown.
00113         ioAirlineCode = pt.get<AirlineCode_T> (lPath.str());
00114
00115     }
00116
00117 }
```

```

00123
00124     } catch (bpt::ptree_error& bptException) {
00125         hasKeyBeenSuccessfullyRetrieved = false;
00126     }
00127
00128 #endif // BOOST_VERSION >= 104100
00129     return hasKeyBeenSuccessfullyRetrieved;
00130 }
00131
00132 // /////////////////////////////////
00133 bool BomJSONImport::jsonImportFlightDate (const
00134     JSONString& iBomJSONStr,
00135                                     Date_T& ioDepartureDate) {
00136     bool hasKeyBeenSuccessfullyRetrieved = true;
00137 #if BOOST_VERSION >= 104100
00138     // Create an empty property tree object
00139     bpt::ptree pt;
00140
00141     try {
00142
00143         // Load the JSON formatted string into the property tree.
00144         // If reading fails (cannot open stream, parse error), an
00145         // exception is thrown.
00146         std::istringstream iStr (iBomJSONStr.getString());
00147         read_json (iStr, pt);
00148
00149         // Build the right path to obtain the departure date value.
00150         const std::string& lDepartureDateStr =
00151             pt.get<std::string> ("flight_date.departure_date");
00152
00153         // Get the departure_date.
00154         // If the path key is not found, an exception is thrown.
00155         ioDepartureDate =
00156             boost::gregorian::from_simple_string (lDepartureDateStr);
00157
00158     } catch (bpt::ptree_error& bptException) {
00159         hasKeyBeenSuccessfullyRetrieved = false;
00160     }
00161 #endif // BOOST_VERSION >= 104100
00162
00163     return hasKeyBeenSuccessfullyRetrieved;
00164 }
00165
00166 // /////////////////////////////////
00167 bool BomJSONImport::jsonImportFlightNumber (const
00168     JSONString& iBomJSONStr,
00169                                     FlightNumber_T& ioFlightNumber) {
00170
00171     bool hasKeyBeenSuccessfullyRetrieved = true;
00172 #if BOOST_VERSION >= 104100
00173     // Create an empty property tree object
00174     bpt::ptree pt;
00175
00176     try {
00177
00178         // Load the JSON formatted string into the property tree.
00179         // If reading fails (cannot open stream, parse error), an
00180         // exception is thrown.
00181         std::istringstream iStr (iBomJSONStr.getString());
00182         read_json (iStr, pt);
00183
00184         // Build the right path to obtain the flight number value.
00185         bpt::ptree::const_iterator itBegin = pt.begin();
00186         const std::string lCommandName = itBegin->first;
00187         std::ostringstream lPath;
00188         lPath << lCommandName << ".flight_number";
00189
00190         // Get the flight_number.
00191         // If the path key is not found, an exception is thrown.
00192         ioFlightNumber = pt.get<FlightNumber_T> (lPath.str());
00193
00194     } catch (bpt::ptree_error& bptException) {
00195         hasKeyBeenSuccessfullyRetrieved = false;
00196     }
00197 #endif // BOOST_VERSION >= 104100
00198
00199     return hasKeyBeenSuccessfullyRetrieved;
00200 }
00201
00202 // /////////////////////////////////
00203 bool BomJSONImport::jsonImportBreakPoints (const
00204     JSONString& iBomJSONStr,
00205                                     BreakPointList_T& oBreakPointList) {
00206
00207     bool hasKeyBeenSuccessfullyRetrieved = true;

```

```

00207
00208 #if BOOST_VERSION >= 104100
00209     // Create an empty property tree object
00210     bpt::ptree pt;
00211
00212     try {
00213
00214         // Load the JSON formatted string into the property tree.
00215         // If reading fails (cannot open stream, parse error), an
00216         // exception is thrown.
00217         std::istringstream iStr (iBomJSONStr.getString());
00218         read_json (iStr, pt);
00219
00220         // Access the break point list tree
00221         bpt::ptree::const_iterator itBegin = pt.begin();
00222         bpt::ptree ptListOfBP = itBegin->second;
00223         // Browse the break point list
00224         for (bpt::ptree::const_iterator itBP = ptListOfBP.begin();
00225             itBP != ptListOfBP.end(); ++itBP) {
00226             // Access the current break point tree
00227             bpt::ptree ptBP = itBP->second;
00228             // Access the date of the break point
00229             bpt::ptree::const_iterator itDate = ptBP.begin();
00230             bpt::ptree ptDate = itDate->second;
00231             // Recover the string containing the date
00232             std::string lDateString = ptDate.data();
00233             if (lDateString.empty()) == false) {
00234                 // Construct the break point using the recovered string
00235                 const Date_T lDate =
00236                     boost::gregorian::from_simple_string (lDateString);
00237                 BreakPointStruct lBreakPoint (lDate);
00238                 // Add the break point to the list
00239                 oBreakPointList.push_back (lBreakPoint);
00240             }
00241         }
00242     } catch (bpt::ptree_error& bptException) {
00243         hasKeyBeenSuccessfullyRetrieved = false;
00244     } catch (boost::bad_lexical_cast& eCast) {
00245         hasKeyBeenSuccessfullyRetrieved = false;
00246     }
00247 #endif // BOOST_VERSION >= 104100
00248
00249     return hasKeyBeenSuccessfullyRetrieved;
00250 }
00251
00252 // /////////////////////////////////
00253 bool BomJSONImport::jsonImportEventType (const
00254     JSONString& iBomJSONStr,
00255                                         EventType::EN_EventType& ioEventType) {
00256
00257     bool hasKeyBeenSuccessfullyRetrieved = true;
00258
00259 #if BOOST_VERSION >= 104100
00260     // Create an empty property tree object
00261     bpt::ptree pt;
00262
00263     try {
00264
00265         // Load the JSON formatted string into the property tree.
00266         // If reading fails (cannot open stream, parse error), an
00267         // exception is thrown.
00268         std::istringstream iStr (iBomJSONStr.getString());
00269         read_json (iStr, pt);
00270
00271         // Build the right path to obtain the event type value.
00272         bpt::ptree::const_iterator itBegin = pt.begin();
00273         const std::string lEventTypeName = itBegin->first;
00274         std::ostringstream lPath;
00275         lPath << lEventTypeName << ".event_type";
00276
00277         // Get the event type string
00278         // If the path key is not found, an exception bpt::ptree_error is thrown.
00279         const std::string lEventTypeStr = pt.get<std::string> (lPath.str());
00280         // Build the event type using the string.
00281         // If the input string is incorrect, an exception
00282         // stdair::CodeConversionException is thrown.
00283         const EventType lEventType (lEventTypeStr);
00284         ioEventType = lEventType.getType();
00285
00286     } catch (bpt::ptree_error& bptException) {
00287         hasKeyBeenSuccessfullyRetrieved = false;
00288     } catch (stdair::CodeConversionException& cceException) {
00289         hasKeyBeenSuccessfullyRetrieved = false;
00290     }
00291 #endif // BOOST_VERSION >= 104100
00292
00293     return hasKeyBeenSuccessfullyRetrieved;

```

```

00293     }
00294
00295 // /////////////////////////////////
00296 bool BomJSONImport::jsonImportConfig (const
00297     JSONString& iBomJSONStr,
00298             ConfigHolderStruct& iConfigHolderStruct) {
00299
00300     bool hasConfigBeenSuccessfullyRetrieved = true;
00301
00302 #if BOOST_VERSION >= 104100
00303     // Create an empty property tree object
00304     bpt::ptree pt;
00305
00306     try {
00307         // Load the JSON formatted string into the property tree.
00308         // If reading fails (cannot open stream, parse error), an
00309         // exception is thrown.
00310         std::istringstream iStr (iBomJSONStr.getString());
00311         read_json (iStr, pt);
00312
00313         // Load the pt in the configuration holder
00314         iConfigHolderStruct.add (pt);
00315     } catch (bpt::ptree_error& bptException) {
00316         hasConfigBeenSuccessfullyRetrieved = false;
00317     }
00318 #endif // BOOST_VERSION >= 104100
00319
00320     return hasConfigBeenSuccessfullyRetrieved;
00321 }
00322
00323 }
```

### 33.203 stdair/bom/BomJSONImport.hpp File Reference

```
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/JJsonCommand.hpp>
#include <stdair/basic/EventType.hpp>
#include <stdair/bom/BreakPointStruct.hpp>
```

#### Classes

- class **stdair::BomJSONImport**  
*Utility class to import StdAir objects in a JSON format.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.204 BomJSONImport.hpp

```

00001 #ifndef __STDAIR_BOM_BOMJSONIMPORT_HPP
00002 #define __STDAIR_BOM_BOMJSONIMPORT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_date_time_types.hpp>
00012 #include <stdair/basic/JJsonCommand.hpp>
00013 #include <stdair/basic/EventType.hpp>
00014 #include <stdair/bom/BreakPointStruct.hpp>
00015
```

```

00016
00017 namespace stdair {
00018
00020   class JSONString;
00021   class ConfigHolderStruct;
00022
00026   class BomJSONImport {
00027   public:
00028     // ////////////////// Import support methods //////////////////
00029     static bool jsonImportCommand (const JSONString&,
00030                                   JSONCommand::EN_JSONCommand&);
00031     static bool jsonImportInventoryKey (const JSONString&,
00032                                         AirlineCode_T&);
00033
00034     static bool jsonImportFlightDate (const JSONString&,
00035                                     Date_T&);
00036
00037     static bool jsonImportFlightNumber (const JSONString&,
00038                                         FlightNumber_T&);
00039
00040     static bool jsonImportBreakPoints (const JSONString&,
00041                                       BreakPointList_T&);
00042
00043     static bool jsonImportEventType (const JSONString&,
00044                                     EventType::EN_EventType&);
00045
00046     static bool jsonImportConfig (const JSONString&,
00047                                 ConfigHolderStruct&);
00048   };
00049
00050 }
00051 #endif // __STDAIR_BOM_BOMJSONIMPORT_HPP

```

### 33.205 stdair/bom/BomKeyManager.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/tokenizer.hpp>
#include <boost/lexical_cast.hpp>
#include <boost/date_time/gregorian/parsers.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/InventoryKey.hpp>
#include <stdair/bom/FlightDateKey.hpp>
#include <stdair/bom/SegmentDateKey.hpp>
#include <stdair/bom/LegDateKey.hpp>
#include <stdair/bom/ParsedKey.hpp>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/service/Logger.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef boost::tokenizer< boost::char\\_separator< char > > stdair::Tokeniser\\_T](#)

### 33.206 BomKeyManager.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>

```

```

00006 #include <sstream>
00007 // Boost
00008 #include <boost/tokenizer.hpp>
00009 #include <boost/lexical_cast.hpp>
00010 #include <boost/date_time/gregorian/parsers.hpp>
00011 // StdAir
00012 #include <stdair/stdair_exceptions.hpp>
00013 #include <stdair/basic/BasConst_BomDisplay.hpp>
00014 #include <stdair/bom/InventoryKey.hpp>
00015 #include <stdair/bom/FlightDateKey.hpp>
00016 #include <stdair/bom/SegmentDateKey.hpp>
00017 #include <stdair/bom/LegDateKey.hpp>
00018 #include <stdair/bom/ParsedKey.hpp>
00019 #include <stdair/bom/BomKeyManager.hpp>
00020 #include <stdair/service/Logger.hpp>
00021
00022 namespace stdair {
00023
00024 // //////////////////// Tokenising support ///////////////////
00025 typedef boost::tokenizer<boost::char_separator<char> > Tokeniser_T;
00026
00027 // /////////////////////////////////
00028 ParsedKey BomKeyManager::extractKeys (const std::string& iFullKeyStr)
00029 {
00030     ParsedKey oParsedKey;
00031     oParsedKey._fullKey = iFullKeyStr;
00032
00033     // Token-ise the full key string
00034     Tokeniser_T lTokens (iFullKeyStr, DEFAULT_KEY_TOKEN_DELIMITER);
00035     Tokeniser_T::iterator itToken = lTokens.begin();
00036
00037     // Airline code
00038     if (itToken != lTokens.end()) {
00039         oParsedKey._airlineCode = *itToken;
00040
00041         // Flight number
00042         ++itToken;
00043         if (itToken != lTokens.end()) {
00044             oParsedKey._flightNumber = *itToken;
00045
00046             // Departure date
00047             ++itToken;
00048             if (itToken != lTokens.end()) {
00049                 oParsedKey._departureDate = *itToken;
00050
00051                 // Origin
00052                 ++itToken;
00053                 if (itToken != lTokens.end()) {
00054                     oParsedKey._boardingPoint = *itToken;
00055
00056                     // Destination
00057                     ++itToken;
00058                     if (itToken != lTokens.end()) {
00059                         oParsedKey._offPoint = *itToken;
00060
00061                         // Boarding time
00062                         ++itToken;
00063                         if (itToken != lTokens.end()) {
00064                             oParsedKey._boardingTime = *itToken;
00065                         }
00066                     }
00067                 }
00068             }
00069         }
00070     }
00071 }
00072
00073     return oParsedKey;
00074 }
00075
00076 // /////////////////////////////////
00077 InventoryKey BomKeyManager::
00078 extractInventoryKey (const std::string& iFullKeyStr) {
00079     ParsedKey lParsedKey = extractKeys (iFullKeyStr);
00080
00081     return lParsedKey.getInventoryKey();
00082 }
00083
00084 // /////////////////////////////////
00085 FlightDateKey BomKeyManager::
00086 extractFlightDateKey (const std::string& iFullKeyStr) {
00087     ParsedKey lParsedKey = extractKeys (iFullKeyStr);
00088
00089     return lParsedKey.getFlightDateKey();
00090 }
00091
00092 // /////////////////////////////////
00093 SegmentDateKey BomKeyManager::
00094

```

```

00095     extractSegmentDateKey (const std::string& iFullKeyStr) {
00096         ParsedKey lParsedKey = extractKeys (iFullKeyStr);
00097
00098         return lParsedKey.getSegmentKey ();
00099     }
00100
00101 ///////////////////////////////////////////////////////////////////
00102 LegDateKey BomKeyManager:::
00103 extractLegDateKey (const std::string& iFullKeyStr) {
00104     ParsedKey lParsedKey = extractKeys (iFullKeyStr);
00105
00106     return lParsedKey.getLegKey ();
00107 }
00108 }
```

### 33.207 stdair/bom/BomKeyManager.hpp File Reference

```
#include <iostream>
#include <stdair/stdair_basic_types.hpp>
```

#### Classes

- class **stdair::BomKeyManager**

*Utility class to extract key structures from strings.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.208 BomKeyManager.hpp

```

00001 #ifndef __STDAIR_BOM_BOMKEYMANAGER_HPP
00002 #define __STDAIR_BOM_BOMKEYMANAGER_HPP
00003
00004 ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011
00012 namespace stdair {
00013
00015     struct BomRootKey;
00016     struct InventoryKey;
00017     struct FlightDateKey;
00018     struct LegDateKey;
00019     struct SegmentDateKey;
00020     struct LegCabinKey;
00021     struct SegmentCabinKey;
00022     struct FareFamilyKey;
00023     struct BookingClassKey;
00024     struct ParsedKey;
00025
00029     class BomKeyManager {
00030     public:
00031         /////////////////////////////////////////////////////////////////// Key management support methods ///////////////////////////////////////////////////////////////////
00032         static ParsedKey extractKeys (const std::string& iFullKeyStr);
00033
00049         static InventoryKey extractInventoryKey (const std::string& iFullKeyStr)
00050     ;
00062         static FlightDateKey extractFlightDateKey (const std::string&
00063             iFullKeyStr);
00075         static SegmentDateKey extractSegmentDateKey (const std::string&
00076             iFullKeyStr);
00088         static LegDateKey extractLegDateKey (const std::string& iFullKeyStr);
```

```

00089
00090    };
00091
00092 }
00093 #endif // __STDAIR_BOM_BOMKEYMANAGER_HPP

```

### 33.209 stdair/bom/BomManager.hpp File Reference

```

#include <iostream>
#include <string>
#include <list>
#include <map>
#include <boost/static_assert.hpp>
#include <boost/type_traits/is_same.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BomHolder.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/AirlineFeature.hpp>

```

#### Classes

- class [stdair::BomManager](#)  
*Utility class for StdAir-based objects.*

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.210 BomManager.hpp

```

00001 #ifndef __STDAIR_BOM_BOMMANAGER_HPP
00002 #define __STDAIR_BOM_BOMMANAGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 #include <list>
00011 #include <map>
00012 // Boost
00013 #include <boost/static_assert.hpp>
00014 #include <boost/type_traits/is_same.hpp>
00015 // StdAir
00016 #include <stdair/stdair_exceptions.hpp>
00017 #include <stdair/bom/BomAbstract.hpp>
00018 #include <stdair/bom/BomHolder.hpp>
00019 #include <stdair/service/Logger.hpp>
00020 // Stdair BOM Objects
00021 #include <stdair/bom/SegmentDate.hpp>
00022 #include <stdair/bom/Inventory.hpp>
00023 #include <stdair/bom/AirlineFeature.hpp>
00024
00025 namespace stdair {
00026
00034     class BomManager {
00035         friend class FacBomManager;
00036
00037     public:
00041         template <typename OBJECT2, typename OBJECT1>
00042             static const typename BomHolder<OBJECT2>::BomList_T&

```

```

00043     getList(const OBJECT1&);

00047     template <typename OBJECT2, typename OBJECT1>
00048         static const typename BomHolder<OBJECT2>::BomMap_T&
00049             getMap (const OBJECT1&);

00053     template <typename OBJECT2, typename OBJECT1>
00054         static bool hasList (const OBJECT1&);

00055     template <typename OBJECT2, typename OBJECT1>
00056         static bool hasMap (const OBJECT1&);

00061     template <typename PARENT, typename CHILD>
00062         static PARENT* getParentPtr (const CHILD&);

00069     template <typename PARENT, typename CHILD>
00070         static PARENT& getParent (const CHILD&);

00075     template <typename OBJECT2, typename OBJECT1>
00076         static OBJECT2* getObjectPtr (const OBJECT1&, const MapKey_T&);

00083     template <typename OBJECT2, typename OBJECT1>
00084         static OBJECT2& getObject (const OBJECT1&, const MapKey_T&);

00089

00090 private:
00091     template <typename OBJECT2, typename OBJECT1>
00092         static const BomHolder<OBJECT2>& getBomHolder (const OBJECT1&);

00093 };

00099 // /////////////////////////////////
00100 // Private method.
00101 template <typename OBJECT2, typename OBJECT1>
00102 const BomHolder<OBJECT2>& BomManager::getBomHolder (const OBJECT1& iObject1) {
00103
00104     //
00105     // Compile time assertion: this function must never be called with the
00106     // following list of couple types:
00107     // <SegmentDate, SegmentDate>
00108     // <AirlineFeature, Inventory>
00109     //
00110     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00111                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00112     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00113                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00114
00115     const HolderMap_T& lHolderMap = iObject1.getHolderMap();
00116
00117     HolderMap_T::const_iterator itHolder = lHolderMap.find (&typeid (OBJECT2));
00118
00119     if (itHolder == lHolderMap.end ()) {
00120         const std::string lName (typeid (OBJECT2).name ());
00121         throw NonInitialisedContainerException ("Cannot find the holder of
00122 type "
00123                                         + lName + " within: "
00124                                         + iObject1.describeKey ());
00125     }
00126
00127     const BomHolder<OBJECT2>*& lBomHolder_ptr =
00128         static_cast<const BomHolder<OBJECT2>*> (itHolder->second);
00129     assert (lBomHolder_ptr != NULL);
00130
00131     return *lBomHolder_ptr;
00132 }
00133
00134 // /////////////////////////////////
00135 // Public business method.
00136 // This method is specialized for the following couple types:
00137 // <SegmentDate, SegmentDate>
00138 template <typename OBJECT2, typename OBJECT1>
00139 const typename BomHolder<OBJECT2>::BomList_T& BomManager::
00140 getList (const OBJECT1& iObject1) {
00141
00142     //
00143     // Compile time assertion: this function must never be called with the
00144     // following list of couple types:
00145     // <AirlineFeature, Inventory>
00146     //
00147     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00148                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00149
00150     const BomHolder<OBJECT2>& lBomHolder = getBomHolder<OBJECT2> (iObject1);
00151     return lBomHolder._bomList;
00152 }
00153
00154 // /////////////////////////////////
00155 // Public business method.

```

```

00156 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00157 template <typename OBJECT2, typename OBJECT1>
00158 const typename BomHolder<OBJECT2>::BomMap_T&
00159 BomManager:::
00160     getMap (const OBJECT1& iObject1) {
00161     //
00162     // Compile time assertion: this function must never be called with the
00163     // following list of couple types:
00164     // <SegmentDate, SegmentDate>
00165     // <AirlineFeature, Inventory>
00166     //
00167     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00168                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00169     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00170                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00171
00172     const BomHolder<OBJECT2>& lBomHolder = getBomHolder<OBJECT2> (iObject1);
00173     return lBomHolder._bomMap;
00174 }
00175
00176 // /////////////////////////////////
00177 // Public business method.
00178 // This method is specialized for the following couple types:
00179 // <SegmentDate, SegmentDate>
00180 template <typename OBJECT2, typename OBJECT1>
00181 bool BomManager::hasList (const OBJECT1& iObject1) {
00182
00183     const HolderMap_T& lHolderMap = iObject1.getHolderMap();
00184     HolderMap_T::const_iterator itHolder = lHolderMap.find (&typeid (OBJECT2));
00185
00186     if (itHolder == lHolderMap.end()) {
00187         return false;
00188     }
00189     const BomHolder<OBJECT2>* lBomHolder_ptr =
00190         static_cast<const BomHolder<OBJECT2>*> (itHolder->second);
00191     assert (lBomHolder_ptr != NULL);
00192
00193     return !lBomHolder_ptr->_bomList.empty();
00194 }
00195
00196 // ///////////////////////////////
00197 // Public business method.
00198 // This method is specialized for the following couple types:
00199 // <SegmentDate, SegmentDate>
00200 template <typename OBJECT2, typename OBJECT1>
00201 bool BomManager::hasMap (const OBJECT1& iObject1) {
00202
00203     const HolderMap_T& lHolderMap = iObject1.getHolderMap();
00204     HolderMap_T::const_iterator itHolder = lHolderMap.find (&typeid (OBJECT2));
00205
00206     if (itHolder == lHolderMap.end()) {
00207         return false;
00208     }
00209     const BomHolder<OBJECT2>* lBomHolder_ptr =
00210         static_cast<const BomHolder<OBJECT2>*> (itHolder->second);
00211     assert (lBomHolder_ptr != NULL);
00212
00213     return !lBomHolder_ptr->_bomMap.empty();
00214 }
00215
00216 // ///////////////////////////////
00217 // Public business method valid for all PARENT and CHILD types.
00218 // (No compile time assertion to check PARENT and CHILD types.)
00219 template <typename PARENT, typename CHILD>
00220 PARENT* BomManager::getParentPtr (const CHILD& iChild) {
00221
00222     PARENT* const lParent_ptr = static_cast<PARENT* const> (iChild.getParent());
00223     return lParent_ptr;
00224 }
00225
00226 // ///////////////////////////////
00227 // Public business method valid for all PARENT and CHILD types.
00228 // (No compile time assertion to check PARENT and CHILD types.)
00229 template <typename PARENT, typename CHILD>
00230 PARENT& BomManager::getParent (const CHILD& iChild) {
00231
00232     PARENT* const lParent_ptr = getParentPtr<PARENT> (iChild);
00233     assert (lParent_ptr != NULL);
00234     return *lParent_ptr;
00235 }
00236
00237 // ///////////////////////////////
00238 // Public business method.
00239 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00240 template <typename OBJECT2, typename OBJECT1>
00241 OBJECT2* BomManager::getObjectPtr (const OBJECT1& iObject1,

```

```

00242                     const MapKey_T& iKey) {
00243
00244     //
00245     // Compile time assertion: this function must never be called with the
00246     // following list of couple types:
00247     // <SegmentDate, SegmentDate>
00248     //
00249     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00250                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00251
00252     OBJECT2* oBom_ptr = NULL;
00253
00254     const HolderMap_T& lHolderMap = iObject1.getHolderMap();
00255
00256     typename HolderMap_T::const_iterator itHolder =
00257         lHolderMap.find (&typeid (OBJECT2));
00258
00259     if (itHolder != lHolderMap.end()) {
00260
00261         BomHolder<OBJECT2>* const lBomHolder_ptr =
00262             static_cast<BomHolder<OBJECT2>*> (itHolder->second);
00263         assert (lBomHolder_ptr != NULL);
00264
00265         //
00266         typedef typename BomHolder<OBJECT2>::BomMap_T BomMap_T;
00267         BomMap_T& lBomMap = lBomHolder_ptr->_bomMap;
00268         typename BomMap_T::iterator itBom = lBomMap.find (iKey);
00269
00270         if (itBom != lBomMap.end()) {
00271             oBom_ptr = itBom->second;
00272             assert (oBom_ptr != NULL);
00273         }
00274     }
00275
00276     return oBom_ptr;
00277 }
00278
00279 // /////////////////////////////////
00280 // Public business method.
00281 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00282 template <typename OBJECT2, typename OBJECT1>
00283 OBJECT2& BomManager::getObject (const OBJECT1& iObject1,
00284                                 const MapKey_T& iKey) {
00285
00286     //
00287     // Compile time assertion: this function must never be called with the
00288     // following list of couple types:
00289     // <SegmentDate, SegmentDate>
00290     //
00291     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00292                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00293
00294     OBJECT2* oBom_ptr = NULL;
00295
00296     typedef std::map<const MapKey_T, OBJECT2*> BomMap_T;
00297     const BomMap_T& lBomMap = getMap<OBJECT2> (iObject1);
00298
00299     typename BomMap_T::const_iterator itBom = lBomMap.find (iKey);
00300
00301     if (itBom == lBomMap.end()) {
00302         const std::string lName (typeid (OBJECT2).name());
00303
00304         STDAIR_LOG_ERROR ("Cannot find the objet of type " << lName
00305                           << " with key " << iKey << " within: "
00306                           << iObject1.describeKey ());
00307         assert (false);
00308     }
00309
00310     oBom_ptr = itBom->second;
00311     assert (oBom_ptr != NULL);
00312
00313     return *oBom_ptr;
00314 }
00315
00316 // ///////////////////////////////
00317 //
00318 // Specialization of the template methods above for a segment
00319 // date and its corresponding marketing segment dates.
00320 //
00321 // ///////////////////////////////
00322
00323 // Specialization of the template method hasList above for the types
00324 // <SegmentDate, SegmentDate>.
00325 // Return a boolean saying if the marketing segment date list is empty
00326 // or not.
00327 template<>
00328 inline bool BomManager::hasList<SegmentDate, SegmentDate>

```

```

00329 (const SegmentDate& ioSegmentDate) {
00330
00331     const SegmentDateList_T& lMarketingSegmentDateList =
00332         ioSegmentDate.getMarketingSegmentDateList ();
00333     const bool isMarketingSegmentDateListEmpty =
00334         lMarketingSegmentDateList.empty();
00335     const bool hasMarketingSegmentDateList =
00336         !isMarketingSegmentDateListEmpty;
00337     return hasMarketingSegmentDateList;
00338 }
00339
00340 // Specialization of the template method hasList above for the types
00341 // <SegmentDate, SegmentDate>.
00342 // Return the marketing segment date list.
00343 template<>
00344 inline const BomHolder<SegmentDate>::BomList_T&
00345 BomManager::getList<SegmentDate, SegmentDate> (const SegmentDate& ioSegmentDate) {
00346
00347     const SegmentDateList_T& lMarketingSegmentDateList =
00348         ioSegmentDate.getMarketingSegmentDateList ();
00349     return lMarketingSegmentDateList;
00350 }
00351
00352 // Specialization of the template method hasMap above for the types
00353 // <SegmentDate, SegmentDate>.
00354 // A segment date does not have a Segment Date Map but it can have a
00355 // Segment Date list (containing its marketing segment dates).
00356 template<>
00357 inline bool BomManager::hasMap<SegmentDate, SegmentDate>
00358 (const SegmentDate& ioSegmentDate) {
00359
00360     const bool hasMap = false;
00361     return hasMap;
00362 }
00363
00364 // /////////////////////////////////
00365 //
00366 // Specialization of the template methods above for an inventory
00367 // and its airline features.
00368 //
00369 // ///////////////////////////////
00370
00371 // Specialization of the template method hasList above for the types
00372 // <AirlineFeature, Inventory>.
00373 template<>
00374 inline bool BomManager::hasList<AirlineFeature, Inventory>
00375 (const Inventory& ioInventory) {
00376
00377     const bool hasList = false;
00378     return hasList;
00379 }
00380
00381 // Specialization of the template method hasMap above for the types
00382 // <AirlineFeature, Inventory>.
00383 template<>
00384 inline bool BomManager::hasMap<AirlineFeature, Inventory>
00385 (const Inventory& ioInventory) {
00386
00387     const bool hasMap = false;
00388     return hasMap;
00389 }
00390
00391 // Specialization of the template method getObjectPtr above for the types
00392 // <AirlineFeature, Inventory>.
00393 template<>
00394 inline AirlineFeature* BomManager::getObjectPtr<AirlineFeature, Inventory>
00395 (const Inventory& iInventory, const MapKey_T& iKey) {
00396
00397     AirlineFeature* lAirlineFeature_ptr = iInventory.
00398     getAirlineFeature ();
00399
00400     return lAirlineFeature_ptr;
00401 }
00402
00403 // Specialization of the template method getObject above for the types
00404 // <AirlineFeature, Inventory>.
00405 template<>
00406 inline AirlineFeature& BomManager::getObject<AirlineFeature, Inventory>
00407 (const Inventory& iInventory, const MapKey_T& iKey) {
00408
00409     AirlineFeature* lAirlineFeature_ptr =
00410         getObjectPtr<AirlineFeature, Inventory> (iInventory, iKey);
00411     assert (lAirlineFeature_ptr != NULL);
00412
00413     return *lAirlineFeature_ptr;
00414 }

```

```
00415
00416 }
00417 #endif // __STDAIR_BOM_BOMMANAGER_HPP
```

### 33.211 stdair/bom/BomRetriever.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/AirlineFeature.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/BomRetriever.hpp>
#include <stdair/bom/ParsedKey.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/service/Logger.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.212 BomRetriever.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/basic/BasConst_BomDisplay.hpp>
00010 #include <stdair/bom/BomKeyManager.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/BomRoot.hpp>
00013 #include <stdair/bom/Inventory.hpp>
00014 #include <stdair/bom/AirlineFeature.hpp>
00015 #include <stdair/bom/FlightDate.hpp>
00016 #include <stdair/bom/LegDate.hpp>
00017 #include <stdair/bom/SegmentDate.hpp>
00018 #include <stdair/bom/LegCabin.hpp>
00019 #include <stdair/bom/SegmentCabin.hpp>
00020 #include <stdair/bom/FareFamily.hpp>
00021 #include <stdair/bom/BookingClass.hpp>
00022 #include <stdair/bom/BomRetriever.hpp>
00023 #include <stdair/bom/ParsedKey.hpp>
00024 #include <stdair/bom/AirportPair.hpp>
00025 #include <stdair/service/Logger.hpp>
00026
00027 namespace stdair {
00028 // /////////////////////////////////
00029 Inventory* BomRetriever::
00030 retrieveInventoryFromLongKey (const BomRoot& iBomRoot,
00031 const std::string& iFullKeyStr) {
```

```

00033     Inventory* oInventory_ptr = NULL;
00034
00035     // Extract the inventory key (i.e., airline code)
00036     const InventoryKey& lInventoryKey =
00037         BomKeyManager::extractInventoryKey (iFullKeyStr);
00038
00039     oInventory_ptr = iBomRoot.getInventory (lInventoryKey);
00040
00041     return oInventory_ptr;
00042 }
00043
00044 // /////////////////////////////////
00045 Inventory* BomRetriever::
00046 retrieveInventoryFromLongKey (const Inventory& iInventory,
00047                               const std::string& iFullKeyStr) {
00048     Inventory* oInventory_ptr = NULL;
00049
00050     // Extract the inventory key (i.e., airline code)
00051     const InventoryKey& lInventoryKey =
00052         BomKeyManager::extractInventoryKey (iFullKeyStr);
00053     const stdair::AirlineCode_T lAirlineCode =
00054         lInventoryKey.getAirlineCode();
00055
00056     oInventory_ptr =
00057         BomManager::getObjectPtr<Inventory> (iInventory,
00058                                               lAirlineCode);
00059
00060     return oInventory_ptr;
00061 }
00062 // ///////////////////////////////
00063 Inventory* BomRetriever::retrieveInventoryFromKey (const
00064 BomRoot& iBomRoot,
00065                               const InventoryKey& iKey) {
00066     Inventory* oInventory_ptr = NULL;
00067
00068     //
00069     oInventory_ptr = iBomRoot.getInventory (iKey);
00070
00071     return oInventory_ptr;
00072 }
00073
00074 // ///////////////////////////////
00075 Inventory* BomRetriever::
00076 retrieveInventoryFromKey (const BomRoot& iBomRoot,
00077                           const AirlineCode_T& iAirlineCode) {
00078     Inventory* oInventory_ptr = NULL;
00079
00080     //
00081     const InventoryKey lKey (iAirlineCode);
00082     oInventory_ptr = iBomRoot.getInventory (lKey);
00083
00084     return oInventory_ptr;
00085 }
00086 // ///////////////////////////////
00087 AirlineFeature* BomRetriever::
00088 retrieveAirlineFeatureFromKey (const BomRoot& iBomRoot,
00089                               const AirlineCode_T& iAirlineCode) {
00090     Inventory* oInventory_ptr = NULL;
00091     AirlineFeature* oAirlineFeature_ptr = NULL;
00092
00093     //
00094     oInventory_ptr = retrieveInventoryFromKey (iBomRoot, iAirlineCode);
00095     if (oInventory_ptr == NULL) {
00096         return oAirlineFeature_ptr;
00097     }
00098     assert (oInventory_ptr != NULL);
00099
00100     oAirlineFeature_ptr =
00101         BomManager::getObjectPtr<AirlineFeature, Inventory> (*oInventory_ptr,
00102                                               iAirlineCode);
00103
00104     return oAirlineFeature_ptr;
00105 }
00106
00107 // ///////////////////////////////
00108 FlightDate* BomRetriever::
00109 retrieveFlightDateFromLongKey (const BomRoot& iBomRoot,
00110                               const std::string& iFullKeyStr) {
00111     FlightDate* oFlightDate_ptr = NULL;
00112
00113     // Retrieve the inventory
00114     Inventory* oInventory_ptr =
00115         BomRetriever::retrieveInventoryFromLongKey (iBomRoot,
00116         iFullKeyStr);
00116     if (oInventory_ptr == NULL) {
00117         return oFlightDate_ptr;

```

```

00118      }
00119      assert (oInventory_ptr != NULL);
00120
00121      // Extract the flight-date key (i.e., flight number and date)
00122      const FlightDateKey& lFlightDateKey =
00123          BomKeyManager::extractFlightDateKey (iFullKeyStr);
00124
00125      oFlightDate_ptr = oInventory_ptr->getFlightDate (lFlightDateKey);
00126
00127      return oFlightDate_ptr;
00128  }
00129
00130  // /////////////////////////////////
00131  FlightDate* BomRetriever::
00132  retrieveFlightDateFromKeySet (const BomRoot& iBomRoot,
00133                                const AirlineCode_T& iAirlineCode,
00134                                const FlightNumber_T& iFlightNumber,
00135                                const Date_T& iFlightDateDate) {
00136
00137      FlightDate* oFlightDate_ptr = NULL;
00138
00139      // Retrieve the inventory
00140      Inventory* oInventory_ptr =
00141          BomRetriever::retrieveInventoryFromKey (iBomRoot, iAirlineCode)
00142 ;
00143
00144      if (oInventory_ptr == NULL) {
00145          return oFlightDate_ptr;
00146      }
00147      assert (oInventory_ptr != NULL);
00148
00149      //
00150      oFlightDate_ptr = retrieveFlightDateFromKey (*oInventory_ptr,
00151                                                 iFlightNumber, iFlightDateDate);
00152
00153  }
00154
00155  // /////////////////////////////////
00156  FlightDate* BomRetriever::
00157  retrieveFlightDateFromLongKey (const Inventory& iInventory,
00158                                const std::string& iFullKeyStr) {
00159
00160      FlightDate* oFlightDate_ptr = NULL;
00161
00162      // Extract the flight-date key (i.e., flight number and date)
00163      const FlightDateKey& lFlightDateKey =
00164          BomKeyManager::extractFlightDateKey (iFullKeyStr);
00165
00166      oFlightDate_ptr = iInventory.getFlightDate (lFlightDateKey);
00167
00168  }
00169
00170  // /////////////////////////////////
00171  FlightDate* BomRetriever::
00172  retrieveFlightDateFromKey (const Inventory& iInventory,
00173                            const FlightDateKey& iKey) {
00174
00175      FlightDate* oFlightDate_ptr = NULL;
00176
00177      //
00178      oFlightDate_ptr = iInventory.getFlightDate (iKey);
00179
00180  }
00181
00182  // /////////////////////////////////
00183  FlightDate* BomRetriever::
00184  retrieveFlightDateFromKey (const Inventory& iInventory,
00185                            const FlightNumber_T& iFlightNumber,
00186                            const Date_T& iFlightDateDate) {
00187
00188      FlightDate* oFlightDate_ptr = NULL;
00189
00190      const FlightDateKey lKey (iFlightNumber, iFlightDateDate);
00191      oFlightDate_ptr = iInventory.getFlightDate (lKey);
00192
00193  }
00194
00195  // /////////////////////////////////
00196  SegmentDate* BomRetriever::
00197  retrieveSegmentDateFromLongKey (const BomRoot& iBomRoot,
00198                                const std::string& iFullKeyStr) {
00199
00200      // Retrieve the flight-date
00201      FlightDate* oFlightDate_ptr =
00202          BomRetriever::retrieveFlightDateFromLongKey (iBomRoot,
00203              iFullKeyStr);

```

```

00203     if (oFlightDate_ptr == NULL) {
00204         return oSegmentDate_ptr;
00205     }
00206     assert (oFlightDate_ptr != NULL);
00207
00208     // Extract the segment-date key (i.e., origin and destination)
00209     const SegmentDateKey& lSegmentDateKey =
00210         BomKeyManager::extractSegmentDateKey (iFullKeyStr);
00211
00212     oSegmentDate_ptr = oFlightDate_ptr->getSegmentDate (lSegmentDateKey);
00213
00214     return oSegmentDate_ptr;
00215 }
00216
00217 // /////////////////////////////////
00218 SegmentDate* BomRetriever::
00219     retrieveSegmentDateFromLongKey (const
00220     Inventory& iInventory,
00221             const std::string& iFullKeyStr) {
00222     SegmentDate* oSegmentDate_ptr = NULL;
00223
00224     ParsedKey lParsedKey = BomKeyManager::extractKeys (iFullKeyStr);
00225
00226     if (iInventory.getAirlineCode() != lParsedKey._airlineCode) {
00227         STDAIR_LOG_DEBUG ("Airline code: " << lParsedKey.
00228         _airlineCode);
00229         return oSegmentDate_ptr;
00230     }
00231
00232     FlightDate* lFlightDate_ptr =
00233         retrieveFlightDateFromKey (iInventory, lParsedKey.
00234         getFlightDateKey());
00235     if (lFlightDate_ptr == NULL) {
00236         STDAIR_LOG_DEBUG ("Flight-date key: "
00237             << lParsedKey.getFlightDateKey().
00238             toString());
00239         return oSegmentDate_ptr;
00240     }
00241
00242     oSegmentDate_ptr =
00243         retrieveSegmentDateFromKey (*lFlightDate_ptr, lParsedKey.
00244         getSegmentKey());
00245     if (oSegmentDate_ptr == NULL) {
00246         STDAIR_LOG_DEBUG ("Segment-date key: "
00247             << lParsedKey.getSegmentKey().toString());
00248         return oSegmentDate_ptr;
00249     }
00250
00251 // /////////////////////////////////
00252 SegmentDate* BomRetriever::
00253     retrieveSegmentDateFromLongKey (const
00254     FlightDate& iFlightDate,
00255             const std::string& iFullKeyStr) {
00256     SegmentDate* oSegmentDate_ptr = NULL;
00257
00258     // Extract the segment-date key (i.e., origin and destination)
00259     const SegmentDateKey& lSegmentDateKey =
00260         BomKeyManager::extractSegmentDateKey (iFullKeyStr);
00261
00262     oSegmentDate_ptr = iFlightDate.getSegmentDate (lSegmentDateKey);
00263
00264     return oSegmentDate_ptr;
00265
00266 // /////////////////////////////////
00267 LegDate* BomRetriever::
00268     retrieveOperatingLegDateFromLongKey (const
00269     FlightDate& iFlightDate,
00270             const std::string& iFullKeyStr) {
00271     LegDate* oLegDate_ptr = NULL;
00272
00273     // Extract the segment-date key (i.e., origin and destination)
00274     const LegDateKey& lLegDateKey =
00275         BomKeyManager::extractLegDateKey (iFullKeyStr);
00276
00277     oLegDate_ptr = iFlightDate.getLegDate (lLegDateKey);
00278
00279     return oLegDate_ptr;
00280
00281 // /////////////////////////////////
00282 SegmentDate* BomRetriever::
00283     retrievePartnerSegmentDateFromLongKey (const
00284     Inventory& iInventory,

```

```

00282                               const std::string& iFullKeyStr) {
00283     SegmentDate* oSegmentDate_ptr = NULL;
00284     Inventory* oInventory_ptr = NULL;
00285
00286     // Extract the inventory key (i.e., airline code)
00287     const InventoryKey& lInventoryKey =
00288         BomKeyManager::extractInventoryKey (iFullKeyStr);
00289     const stdair::AirlineCode_T lAirlineCode =
00290         lInventoryKey.getAirlineCode();
00291
00292     // Retrieve the inventory
00293     oInventory_ptr =
00294         retrieveInventoryFromLongKey (iInventory, lAirlineCode);
00295
00296     if (oInventory_ptr != NULL) {
00297         oSegmentDate_ptr =
00298             retrieveSegmentDateFromLongKey (*oInventory_ptr, iFullKeyStr);
00299     }
00300
00301     return oSegmentDate_ptr;
00302 }
00303
00304 // /////////////////////////////////
00305 SegmentDate* BomRetriever::
00306 retrieveSegmentDateFromKey (const FlightDate& iFlightDate,
00307                             const SegmentDateKey& iKey) {
00308     SegmentDate* oSegmentDate_ptr = NULL;
00309
00310     //
00311     oSegmentDate_ptr = iFlightDate.getSegmentDate (iKey);
00312
00313     return oSegmentDate_ptr;
00314 }
00315
00316 // /////////////////////////////////
00317 SegmentDate* BomRetriever::
00318 retrieveSegmentDateFromKey (const FlightDate& iFlightDate,
00319                             const AirportCode_T& iOrigin,
00320                             const AirportCode_T& iDestination) {
00321     SegmentDate* oSegmentDate_ptr = NULL;
00322
00323     //
00324     const SegmentDateKey lKey (iOrigin, iDestination);
00325     oSegmentDate_ptr = iFlightDate.getSegmentDate (lKey);
00326
00327     return oSegmentDate_ptr;
00328 }
00329
00330 // /////////////////////////////////
00331 BookingClass* BomRetriever::
00332 retrieveBookingClassFromLongKey (const
00333     Inventory& iInventory,
00334                               const std::string& iFullKeyStr,
00335                               const ClassCode_T& iClassCode) {
00336     BookingClass* oBookingClass_ptr = NULL;
00337
00338     SegmentDate* lSegmentDate_ptr = retrieveSegmentDateFromLongKey
00339     (iInventory,
00340                               iFullKeyStr);
00341
00342     if (lSegmentDate_ptr == NULL) {
00343         return oBookingClass_ptr;
00344     }
00345     assert (lSegmentDate_ptr != NULL);
00346
00347     //
00348     oBookingClass_ptr =
00349         BomManager::getObjectPtr<BookingClass> (*lSegmentDate_ptr, iClassCode);
00350
00351     return oBookingClass_ptr;
00352
00353 // /////////////////////////////////
00354 AirportPair* BomRetriever::
00355 retrieveAirportPairFromKeySet (const BomRoot& iBomRoot,
00356                               const stdair::AirportCode_T& iOrigin,
00357                               const stdair::AirportCode_T& iDestination) {
00358
00359     // Get the Airport pair stream of the segment path.
00360     const AirportPairKey lAirportPairKey (iOrigin, iDestination);
00361
00362     // Search for the fare rules having the same origin and
00363     // destination airport as the travel solution
00364     AirportPair* oAirportPair_ptr = BomManager::
00365         getObjectPtr<AirportPair> (iBomRoot, lAirportPairKey.toString());
00366

```

```

00367     return oAirportPair_ptr;
00368 }
00369 }
00370
00371 // /////////////////////////////////
00372 void BomRetriever::
00373     retrieveDatePeriodListFromKey (const
00374     AirportPair& iAirportPair,
00375             const stdair::Date_T& iDepartureDate,
00376             stdair::DatePeriodList_T& ioDatePeriodList) {
00377
00378     // Get the list of date-period
00379     const DatePeriodList_T& lFareDatePeriodList =
00380         BomManager::getList<DatePeriod> (iAirportPair);
00381
00382     // Browse the date-period list
00383     for (DatePeriodList_T::const_iterator itDateRange =
00384         lFareDatePeriodList.begin();
00385         itDateRange != lFareDatePeriodList.end(); ++itDateRange) {
00386
00387         DatePeriod* lCurrentFareDatePeriod_ptr = *itDateRange ;
00388         assert (lCurrentFareDatePeriod_ptr != NULL);
00389
00390         // Select the date-period objects having a corresponding date range
00391         const bool isDepartureDateValid =
00392             lCurrentFareDatePeriod_ptr->isDepartureDateValid (iDepartureDate);
00393
00394         // Add the date-period objects having a corresponding date range
00395         // to the list to display
00396         if (isDepartureDateValid == true) {
00397             ioDatePeriodList.push_back(lCurrentFareDatePeriod_ptr);
00398         }
00399     }
00400 }
00401
00402 // ///////////////////////////////
00403 void BomRetriever::
00404     retrieveDatePeriodListFromKeySet (const
00405     BomRoot& iBomRoot,
00406             const stdair::AirportCode_T& iOrigin,
00407             const stdair::AirportCode_T& iDestination,
00408             const stdair::Date_T& iDepartureDate,
00409             stdair::DatePeriodList_T& ioDatePeriodList) {
00410
00411     // Retrieve the airport-pair
00412     AirportPair* oAirportPair_ptr =
00413         BomRetriever::retrieveAirportPairFromKeySet(iBomRoot,
00414             iOrigin,
00415             iDestination);
00416
00417     if (oAirportPair_ptr == NULL) {
00418         return;
00419     }
00420     assert (oAirportPair_ptr != NULL);
00421
00422     // Retrieve the flight date
00423     BomRetriever::retrieveDatePeriodListFromKey (*
00424     oAirportPair_ptr, iDepartureDate,
00425             ioDatePeriodList);
00426
00427 // ///////////////////////////////
00428 LegCabin& BomRetriever::
00429     retrieveDummyLegCabin (stdair::BomRoot& iBomRoot,
00430             const bool isForFareFamilies) {
00431
00432     LegCabin* oLegCabin_ptr = NULL;
00433
00434     // Retrieve the Inventory
00435     const Inventory* lInventory_ptr = BomRetriever::
00436         retrieveInventoryFromKey (iBomRoot,
00437             DEFAULT_AIRLINE_CODE);
00438
00439     if (lInventory_ptr == NULL) {
00440         std::ostringstream oStr;
00441         oStr << "The inventory corresponding to the '"
00442             << DEFAULT_AIRLINE_CODE << "' airline can not be found";
00443         throw ObjectNotFoundException (oStr.str());
00444     }
00445
00446     // Retrieve the FlightDate
00447     FlightDate* lFlightDate_ptr = NULL;
00448     if (isForFareFamilies == true) {
00449         lFlightDate_ptr = BomRetriever::
00450             retrieveFlightDateFromKey (*lInventory_ptr,
00451             DEFAULT_FLIGHT_NUMBER_FF,

```

```

00448                               DEFAULT_DEPARTURE_DATE);
00449
00450     if (lFlightDate_ptr == NULL) {
00451         std::ostringstream oStr;
00452         oStr << "The flight-date corresponding to (" 
00453             << DEFAULT_FLIGHT_NUMBER_FF << ", "
00454             << DEFAULT_DEPARTURE_DATE << ") can not be found";
00455         throw ObjectNotFoundException (oStr.str());
00456     }
00457 } else {
00458     lFlightDate_ptr = BomRetriever::
00459         retrieveFlightDateFromKey (*lInventory_ptr,
00460             DEFAULT_FLIGHT_NUMBER,
00461             DEFAULT_DEPARTURE_DATE);
00462
00463     if (lFlightDate_ptr == NULL) {
00464         std::ostringstream oStr;
00465         oStr << "The flight-date corresponding to (" 
00466             << DEFAULT_FLIGHT_NUMBER << ", "
00467             << DEFAULT_DEPARTURE_DATE << ") can not be found";
00468         throw ObjectNotFoundException (oStr.str());
00469     }
00470 }
00471 assert(lFlightDate_ptr != NULL);
00472
// Retrieve the LegDate
00473 const LegDateKey lLegDateKey (DEFAULT_ORIGIN);
00474 const LegDate* lLegDate_ptr =
00475     lFlightDate_ptr->getLegDate (lLegDateKey);
00476
00477 if (lLegDate_ptr == NULL) {
00478     std::ostringstream oStr;
00479     oStr << "The leg-date corresponding to the '" 
00480         << DEFAULT_ORIGIN << "' origin can not be found";
00481     throw ObjectNotFoundException (oStr.str());
00482 }
00483
// Retrieve the LegCabin
00484 const LegCabinKey lLegCabinKey (DEFAULT_CABIN_CODE);
00485 oLegCabin_ptr = lLegDate_ptr->getLegCabin (lLegCabinKey);
00486
00487 if (oLegCabin_ptr == NULL) {
00488     std::ostringstream oStr;
00489     oStr << "The leg-cabin corresponding to the '" 
00490         << DEFAULT_CABIN_CODE << "' cabin code can not be found";
00491     throw ObjectNotFoundException (oStr.str());
00492 }
00493
00494 assert (oLegCabin_ptr != NULL);
00495 return *oLegCabin_ptr;
00496
00497 }
00498
// /////////////////////////////////
00499 SegmentCabin& BomRetriever::
00500 retrieveDummySegmentCabin (stdair::BomRoot& iBomRoot,
00501                                     const bool isForFareFamilies) {
00502
00503     SegmentCabin* oSegmentCabin_ptr = NULL;
00504
// Retrieve the Inventory
00505     const Inventory* lInventory_ptr = BomRetriever::
00506         retrieveInventoryFromKey (iBomRoot,
00507             DEFAULT_AIRLINE_CODE);
00508
00509     if (lInventory_ptr == NULL) {
00510         std::ostringstream oStr;
00511         oStr << "The inventory corresponding to the '" 
00512             << DEFAULT_AIRLINE_CODE << "' airline can not be found";
00513         throw ObjectNotFoundException (oStr.str());
00514     }
00515
// Retrieve the FlightDate
00516     FlightDate* lFlightDate_ptr = NULL;
00517     if (isForFareFamilies == true) {
00518         lFlightDate_ptr = BomRetriever::
00519             retrieveFlightDateFromKey (*lInventory_ptr,
00520                 DEFAULT_FLIGHT_NUMBER_FF,
00521                 DEFAULT_DEPARTURE_DATE);
00522
00523     if (lFlightDate_ptr == NULL) {
00524         std::ostringstream oStr;
00525         oStr << "The flight-date corresponding to (" 
00526             << DEFAULT_FLIGHT_NUMBER_FF << ", "
00527             << DEFAULT_DEPARTURE_DATE << ") can not be found";
00528         throw ObjectNotFoundException (oStr.str());
00529     }
00530 }
```

```

00532     } else {
00533         lFlightDate_ptr = BomRetriever::
00534             retrieveFlightDateFromKey (*lInventory_ptr,
00535                                         DEFAULT_FLIGHT_NUMBER,
00536                                         DEFAULT_DEPARTURE_DATE);
00537
00538         if (lFlightDate_ptr == NULL) {
00539             std::ostringstream oStr;
00540             oStr << "The flight-date corresponding to ("
00541                 << DEFAULT_FLIGHT_NUMBER << ", "
00542                 << DEFAULT_DEPARTURE_DATE << ") can not be found";
00543             throw ObjectNotFoundException (oStr.str());
00544         }
00545     assert(lFlightDate_ptr != NULL);
00546
00547     // Retrieve the SegmentDate
00548     const SegmentDateKey lSegmentDateKey (DEFAULT_ORIGIN,
00549                                         DEFAULT_DESTINATION);
00550     const SegmentDate* lSegmentDate_ptr =
00551         lFlightDate_ptr->getSegmentDate (lSegmentDateKey);
00552
00553     if (lSegmentDate_ptr == NULL) {
00554         std::ostringstream oStr;
00555         oStr << "The segment-date corresponding to the '"
00556             << DEFAULT_ORIGIN << "' origin and '"
00557             << DEFAULT_DESTINATION << "' destination can not be found";
00558         throw ObjectNotFoundException (oStr.str());
00559     }
00560
00561     // Retrieve the SegmentCabin
00562     const SegmentCabinKey lSegmentCabinKey (DEFAULT_CABIN_CODE);
00563     oSegmentCabin_ptr =
00564         BomManager::getObjectPtr<SegmentCabin> (*lSegmentDate_ptr, lSegmentCabinKey.
00565             toString());
00566
00567     if (oSegmentCabin_ptr == NULL) {
00568         std::ostringstream oStr;
00569         oStr << "The segment-cabin corresponding to the '"
00570             << DEFAULT_CABIN_CODE << "' cabin code can not be found";
00571         throw ObjectNotFoundException (oStr.str());
00572     }
00573
00574     assert (oSegmentCabin_ptr != NULL);
00575     return *oSegmentCabin_ptr;
00576 }
00577
00578 // /////////////////////////////////
00579 std::string BomRetriever::
00580     retrieveFullKeyFromSegmentDate (const
00581         SegmentDate& iSegmentdate) {
00582
00583     std::ostringstream lFullKeyStr;
00584
00585     // Get the parent flight date
00586     FlightDate* lFlightDate_ptr =
00587         BomManager::getParentPtr<FlightDate>(iSegmentdate);
00588     if (lFlightDate_ptr == NULL) {
00589         return lFullKeyStr.str();
00590     }
00591
00592     assert (lFlightDate_ptr != NULL);
00593
00594     // Get the parent inventory
00595     Inventory* lInventory_ptr =
00596         BomManager::getParentPtr<Inventory> (*lFlightDate_ptr);
00597     if (lInventory_ptr == NULL) {
00598         return lFullKeyStr.str();
00599     }
00600
00601     assert (lInventory_ptr != NULL);
00602
00603     lFullKeyStr << lInventory_ptr->describeKey()
00604         << DEFAULT_KEY_SUB_FLD_DELIMITER;
00605     lFullKeyStr << lFlightDate_ptr->describeKey()
00606         << DEFAULT_KEY_SUB_FLD_DELIMITER;
00607     lFullKeyStr << iSegmentdate.describeKey();
00608
00609     return lFullKeyStr.str();
00610 }
00611
00612 }
```

### 33.213 stdair/bom/BomRetriever.hpp File Reference

```
#include <iostream>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/bom/DatePeriod.hpp>
```

#### Classes

- class **stdair::BomRetriever**

*Utility class to retrieve StdAir objects.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.214 BomRetriever.hpp

```
00001 #ifndef __STDAIR_BOM_BOMRETRIEVER_HPP
00002 #define __STDAIR_BOM_BOMRETRIEVER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_date_time_types.hpp>
00012 #include <stdair/bom/DatePeriod.hpp>
00013
00014 namespace stdair {
00015
00016     class BomRoot;
00017     struct InventoryKey;
00018     class Inventory;
00019     class AirlineFeature;
00020     struct FlightDateKey;
00021     class FlightDate;
00022     class LegDate;
00023     struct SegmentDateKey;
00024     class SegmentDate;
00025     class LegCabin;
00026     class SegmentCabin;
00027     class FareFamily;
00028     class BookingClass;
00029     class DatePeriod;
00030     class AirportPair;
00031
00032     class BomRetriever {
00033     public:
00034         // ///////////////////// Key management support methods ///////////////////
00035         static Inventory*
00036             retrieveInventoryFromLongKey (const BomRoot&,
00037                                         const std::string& iFullKeyStr);
00038
00039         static Inventory*
00040             retrieveInventoryFromLongKey (const Inventory&,
00041                                         const std::string& iFullKeyStr);
00042
00043         static Inventory* retrieveInventoryFromKey (const
00044                                         BomRoot&,
00045                                         const InventoryKey&);
00046
00047         static Inventory* retrieveInventoryFromKey (const
00048                                         BomRoot&,
00049                                         const AirlineCode_T&);
00050
00051         static AirlineFeature* retrieveAirlineFeatureFromKey (const
00052                                         BomRoot&,
00053                                         const AirlineCode_T&);
```

```

00100
00113     static FlightDate*
00114     retrieveFlightDateFromLongKey (const BomRoot&,
00115                                     const std::string& iFullKeyStr);
00116
00126     static FlightDate*
00127     retrieveFlightDateFromKeySet (const BomRoot&,
00128                                     const AirlineCode_T&, const
00129                                     FlightNumber_T&,
00130                                     const Date_T& iFlightDateDate);
00130
00143     static FlightDate*
00144     retrieveFlightDateFromLongKey (const Inventory&,
00145                                     const std::string& iFullKeyStr);
00146
00154     static FlightDate* retrieveFlightDateFromKey (const
00155         Inventory&,
00156                                     const FlightDateKey&);
00165     static FlightDate* retrieveFlightDateFromKey (const
00166         Inventory&,
00167                                     const FlightNumber_T&,
00168                                     const Date_T& iFlightDateDate);
00169
00182     static LegDate*
00183     retrieveOperatingLegDateFromLongKey (const
00184         FlightDate&,
00185                                     const std::string& iFullKeyStr);
00185
00198     static SegmentDate*
00199     retrievePartnerSegmentDateFromLongKey (const
00200         Inventory&,
00201                                     const std::string& iFullKeyStr);
00201
00214     static SegmentDate*
00215     retrieveSegmentDateFromLongKey (const BomRoot&,
00216                                     const std::string& iFullKeyStr);
00217
00230     static SegmentDate*
00231     retrieveSegmentDateFromLongKey (const
00232         Inventory&,
00233                                     const std::string& iFullKeyStr);
00233
00246     static SegmentDate*
00247     retrieveSegmentDateFromLongKey (const
00248         FlightDate&,
00249                                     const std::string& iFullKeyStr);
00249
00257     static SegmentDate* retrieveSegmentDateFromKey (const
00258         FlightDate&,
00259                                     const SegmentDateKey&);
00259
00268     static SegmentDate*
00269     retrieveSegmentDateFromKey (const FlightDate&,
00270                                     const AirportCode_T& iOrigin,
00271                                     const AirportCode_T& iDestination);
00272
00296     static BookingClass*
00297     retrieveBookingClassFromLongKey (const
00298         Inventory&,
00299                                     const std::string& iFullKeyStr,
00300                                     const ClassCode_T&);
00300
00301
00310     static AirportPair*
00311     retrieveAirportPairFromKeySet (const BomRoot& ,
00312                                     const stdair::AirportCode_T&,
00313                                     const stdair::AirportCode_T&);
00314
00324     static void
00325     retrieveDatePeriodListFromKey (const
00326         AirportPair&,
00327                                     const stdair::Date_T&,
00328                                     stdair::DatePeriodList_T&);
00328
00341     static void
00342     retrieveDatePeriodListFromKeySet (const
00343         BomRoot&,
00344                                     const stdair::AirportCode_T&,
00345                                     const stdair::AirportCode_T&,
00346                                     const stdair::Date_T&,
00347                                     stdair::DatePeriodList_T&);
00347
00357     static stdair::LegCabin&
00358     retrieveDummyLegCabin (stdair::BomRoot&,
00359                                     const bool isForFareFamilies = false);
00359

```

```

00360
00370     static stdair::SegmentCabin&
00371         retrieveDummySegmentCabin (stdair::BomRoot&,
00372                                     const bool isForFareFamilies = false);
00373
00383     static std::string retrieveFullKeyFromSegmentDate (const
00384         SegmentDate&);
00385 }
00386
00387 }
00388 #endif // __STDAIR_BOM_BOMRETRIEVER_HPP

```

### 33.215 stdair/bom/BomRoot.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/InventoryKey.hpp>
#include <stdair/bom/Inventory.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.216 BomRoot.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/bom/BomManager.hpp>
00010 #include <stdair/bom/BomRoot.hpp>
00011 #include <stdair/bom/InventoryKey.hpp>
00012 #include <stdair/bom/Inventory.hpp>
00013
00014 namespace stdair {
00015
00016 // /////////////////////////////////
00017 BomRoot::BomRoot() {
00018     assert (false);
00019 }
00020
00021 // /////////////////////////////////
00022 BomRoot::BomRoot (const BomRoot& iBomRoot) :
00023     _key (iBomRoot._key), _frat5CurveHolder (iBomRoot._frat5CurveHolder),
00024     _ffDisutilityCurveHolder (iBomRoot._ffDisutilityCurveHolder) {
00025 }
00026
00027 // /////////////////////////////////
00028 BomRoot::BomRoot (const Key_T& iKey) : _key (iKey) {
00029 }
00030
00031 // /////////////////////////////////
00032 BomRoot::~BomRoot () {
00033 }
00034
00035 // /////////////////////////////////
00036 std::string BomRoot::toString() const {
00037     std::ostringstream oStr;
00038     oStr << _key.toString();
00039     return oStr.str();
00040 }
00041
00042 // /////////////////////////////////

```

```

00043     Inventory* BomRoot::getInventory (const std::string& iInventoryKeyStr)
00044     const {
00045         Inventory* oInventory_ptr =
00046             BomManager::getObjectPtr<Inventory> (*this, iInventoryKeyStr);
00047         return oInventory_ptr;
00048     }
00049     // ///////////////////////////////////////////////////////////////////
00050     Inventory* BomRoot::getInventory (const
00051         InventoryKey& iInventoryKey) const {
00052         return getInventory (iInventoryKey.toString());
00053     }
00054 }
```

### 33.217 stdair/bom/BomRoot.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BomRootKey.hpp>
#include <stdair/bom/FRAT5CurveHolderStruct.hpp>
#include <stdair/bom/FFDisutilityCurveHolderStruct.hpp>
```

#### Classes

- class [stdair::BomRoot](#)  
*Class representing the actual attributes for the Bom root.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)  
*Handle on the StdAir library context.*

### 33.218 BomRoot.hpp

```

00001 #ifndef __STDAIR_BOM_BOMROOT_HPP
00002 #define __STDAIR_BOM_BOMROOT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/bom/BomAbstract.hpp>
00012 #include <stdair/bom/BomRootKey.hpp>
00013 #include <stdair/bom/FRAT5CurveHolderStruct.hpp>
00014 #include <stdair/bom/FFDisutilityCurveHolderStruct.hpp>
00015
00017 namespace boost {
00018     namespace serialization {
00019         class access;
00020     }
00021 }
00022
00023 namespace stdair {
00024
00026     struct InventoryKey;
00027     class Inventory;
00028
00032     class BomRoot : public BomAbstract {
00033         template <typename BOM> friend class FacBom;
```

```
00034     template <typename BOM> friend class FacCloneBom;
00035     friend class FacBomManager;
00036     friend class boost::serialization::access;
00037
00038 public:
00039     typedef BomRootKey Key_T;
00040
00041
00042 public:
00043     // /////////// Getters ///////////
00044     const Key_T& getKey() const {
00045         return _key;
00046     }
00047
00048     const HolderMap_T& getHolderMap() const {
00049         return _holderMap;
00050     }
00051
00052     const FRAT5Curve_T& getFRAT5Curve (const std::string& iKey) const {
00053         return _frat5CurveHolder.getFRAT5Curve (iKey);
00054     }
00055
00056     const FFDisutilityCurve_T& getFFDisutilityCurve (const
00057         std::string& iKey) const{
00058         return _ffDisutilityCurveHolder.
00059         getFFDisutilityCurve (iKey);
00060     }
00061
00062     Inventory* getInventory (const std::string& iInventoryKeyStr) const;
00063
00064     Inventory* getInventory (const InventoryKey&) const;
00065
00066
00067     // /////////// Business Methods ///////////
00068     void addFRAT5Curve (const std::string& iKey, const FRAT5Curve_T& iCurve) {
00069         _frat5CurveHolder.addCurve (iKey, iCurve);
00070     }
00071
00072     void addFFDisutilityCurve (const std::string& iKey,
00073                             const FFDisutilityCurve_T& iCurve) {
00074         _ffDisutilityCurveHolder.addCurve (iKey, iCurve);
00075     }
00076
00077
00078 public:
00079     // /////////// Display support methods ///////////
00080     void toStream (std::ostream& ioOut) const {
00081         ioOut << toString();
00082     }
00083
00084     void fromStream (std::istream& ioIn) {
00085
00086         std::string toString() const;
00087
00088         const std::string describeKey() const {
00089             return _key.toString();
00090         }
00091
00092
00093     public:
00094         // ////////// (Boost) Serialisation support methods //////////
00095         template<class Archive>
00096         void serialize (Archive& ar, const unsigned int iFileVersion);
00097
00098     private:
00099         void serialisationImplementationExport() const;
00100         void serialisationImplementationImport();
00101
00102
00103 protected:
00104     // ////////// Constructors and destructors //////////
00105     BomRoot();
00106
00107     BomRoot (const BomRoot&);
00108
00109     BomRoot (const Key_T& iKey);
00110
00111     ~BomRoot();
00112
00113
00114 protected:
00115     // ////////// Attributes //////////
00116     Key_T _key;
00117
00118     HolderMap_T _holderMap;
00119
00120     FRAT5CurveHolderStruct _frat5CurveHolder;
```

```

00202
00206     FFDisutilityCurveHolderStruct
00207     _ffDisutilityCurveHolder;
00208
00209 }
00210 #endif // __STDAIR_BOM_BOMROOT_HPP

```

### 33.219 stdair/bom/BomRootKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/BomRootKey.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Functions

- template void [stdair::BomRootKey::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::BomRootKey::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)

### 33.220 BomRootKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_General.hpp>
00013 #include <stdair/bom/BomRootKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 BomRootKey::BomRootKey()
00019   : _id (DEFAULT_BOM_ROOT_KEY) {
00020 }
00021
00022 // /////////////////////////////////
00023 BomRootKey::BomRootKey (const BomRootKey& iBomRootKey)
00024   : _id (iBomRootKey._id) {
00025 }
00026
00027 // /////////////////////////////////
00028 BomRootKey::BomRootKey (const std::string& iIdentification)
00029   : _id (iIdentification) {
00030 }
00031
00032 // /////////////////////////////////
00033 BomRootKey::~BomRootKey() {
00034 }
00035
00036 // /////////////////////////////////
00037 void BomRootKey::toStream (std::ostream& ioOut) const {
00038   ioOut << "BomRootKey: " << toString() << std::endl;
00039 }

```

```

00040
00041 // /////////////////////////////////
00042 void BomRootKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // /////////////////////////////////
00046 const std::string BomRootKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _id;
00049     return oStr.str();
00050 }
00051
00052 // /////////////////////////////////
00053 void BomRootKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // /////////////////////////////////
00060 void BomRootKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // /////////////////////////////////
00067 template<class Archive>
00068 void BomRootKey::serialize (Archive& ioArchive,
00069                             const unsigned int iFileVersion) {
00070     ioArchive & _id;
00071 }
00072
00073 // /////////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void BomRootKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00077                                                               unsigned int);
00078 template void BomRootKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00079                                                               unsigned int);
00080
00081 // /////////////////////////////////
00082 }
```

### 33.221 stdair/bom/BomRootKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::BomRootKey](#)

*Key of the BOM structure root.*

#### Namespaces

- [boost](#)

*Forward declarations.*

- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.222 BomRootKey.hpp

```

00001 #ifndef __STDAIR_BOM_BOMROOTKEY_HPP
00002 #define __STDAIR_BOM_BOMROOTKEY_HPP
00003
00004 // /////////////////////////////////
```

```

00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/bom/KeyAbstract.hpp>
00012
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019
00020 namespace stdair {
00021
00025   struct BomRootKey : public KeyAbstract {
00026     friend class boost::serialization::access;
00027
00028     // ////////////////// Constructors and destructors //////////////////
00029   public:
00030     BomRootKey () ;
00031
00032     BomRootKey (const std::string& iIdentification);
00033
00034     BomRootKey (const BomRootKey& );
00035
00036     ~BomRootKey ();
00037
00038
00039
00040
00041
00042
00043
00044
00045
00046
00047
00048
00049
00050
00051
00052
00053
00054
00055
00056   const std::string& getID() const {
00057     return _id;
00058   }
00059
00060
00061
00062
00063
00064
00065
00066
00067
00068   void toStream (std::ostream& ioOut) const;
00069
00070   void fromStream (std::istream& ioIn);
00071
00072   const std::string toString() const;
00073
00074
00075
00076
00077
00078
00079
00080
00081
00082
00083
00084
00085
00086
00087
00088
00089
00090
00091
00092
00093
00094   template<class Archive>
00095   void serialize (Archive& ar, const unsigned int iFileVersion);
00096
00097
00098
00099
00100
00101
00102   void serialisationImplementationExport() const;
00103   void serialisationImplementationImport();
00104
00105
00106
00107
00108
00109
00110
00111   std::string _id;
00112 }
00113
00114 }
00115 #endif // __STDAIR_BOM_BOMROOTKEY_HPP

```

### 33.223 stdair/bom/BookingClass.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/RandomGeneration.hpp>
#include <stdair/bom/BookingClass.hpp>

```

### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.224 BookingClass.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/basic/RandomGeneration.hpp>
00011 #include <stdair/bom/BookingClass.hpp>
00012
00013 namespace stdair {
00014
00015 // /////////////////////////////////
00016 BookingClass::BookingClass() : _key (DEFAULT_CLASS_CODE), _parent (NULL) {
00017     assert (false);
00018 }
00019
00020 // /////////////////////////////////
00021 BookingClass::BookingClass (const BookingClass& iBookingClass)
00022     : _key (iBookingClass._key),
00023     _parent (NULL),
00024     _subclassName (iBookingClass._subclassName),
00025     _cumulatedProtection (iBookingClass._cumulatedProtection),
00026     _protection (iBookingClass._protection),
00027     _cumulatedBookingLimit (iBookingClass._cumulatedBookingLimit),
00028     _au (iBookingClass._au),
00029     _nego (iBookingClass._nego),
00030     _noShowPercentage (iBookingClass._noShowPercentage),
00031     _cancellationPercentage (iBookingClass._cancellationPercentage),
00032     _nbOfBookings (iBookingClass._nbOfBookings),
00033     _groupNbOfBookings (iBookingClass._groupNbOfBookings),
00034     _groupPendingNbOfBookings (iBookingClass._groupPendingNbOfBookings),
00035     _staffNbOfBookings (iBookingClass._staffNbOfBookings),
00036     _wlNbOfBookings (iBookingClass._wlNbOfBookings),
00037     _nbOfCancellations (iBookingClass._nbOfCancellations),
00038     _etb (iBookingClass._etb),
00039     _netClassAvailability (iBookingClass._netClassAvailability),
00040     _segmentAvailability (iBookingClass._segmentAvailability),
00041     _netRevenueAvailability (iBookingClass._netRevenueAvailability),
00042     _yield (iBookingClass._yield),
00043     _adjustedYield (iBookingClass._adjustedYield),
00044     _mean (iBookingClass._mean),
00045     _stdDev (iBookingClass._stdDev) {
00046 }
00047
00048 // /////////////////////////////////
00049 BookingClass::BookingClass (const Key_T& iKey)
00050     : _key (iKey), _parent (NULL), _subclassName(0), _cumulatedProtection (0.0),
00051     _protection (0.0), _cumulatedBookingLimit (0.0), _au (0.0), _nego (0.0),
00052     _noShowPercentage (0.0), _cancellationPercentage (0.0),
00053     _nbOfBookings (0.0), _groupNbOfBookings (0.0),
00054     _groupPendingNbOfBookings (0.0), _staffNbOfBookings (0.0),
00055     _wlNbOfBookings (0.0), _nbOfCancellations (0.), _etb (0.0),
00056     _netClassAvailability (0.0), _segmentAvailability (0.0),
00057     _netRevenueAvailability (0.0), _yield (0.0), _mean (0.0), _stdDev (0.0) {
00058 }
00059
00060 // /////////////////////////////////
00061 BookingClass::~BookingClass() {
00062 }
00063
00064 // /////////////////////////////////
00065 std::string BookingClass::toString() const {
00066     std::ostringstream oStr;
00067     oStr << describeKey();
00068     return oStr.str();
00069 }
00070
00071 // /////////////////////////////////
00072 void BookingClass::sell (const NbOfBookings_T& iNbOfBookings) {
00073     _nbOfBookings += iNbOfBookings;
00074 }
00075
00076 // /////////////////////////////////
00077 void BookingClass::cancel (const NbOfBookings_T& iNbOfCancellations) {
00078     _nbOfBookings -= iNbOfCancellations;
00079     _nbOfCancellations += iNbOfCancellations;
00080 }
```

```

00081 // /////////////////////////////////
00082 void BookingClass::generateDemandSamples (const
00083 NbOfSamples_T& K) {
00084     _generatedDemandVector.clear();
00085     if (_stdDev > 0) {
00086         RandomGeneration lGenerator (DEFAULT_RANDOM_SEED);
00087         for (unsigned int i = 0; i < K; ++i) {
00088             RealNumber_T lDemandSample = lGenerator.generateNormal (
00089             _mean, _stdDev);
00090             _generatedDemandVector.push_back (lDemandSample);
00091         }
00092     }
00093 }
00094 // /////////////////////////////////
00095 void BookingClass::generateDemandSamples (const
00096 NbOfSamples_T& K,
00097 const RandomSeed_T& iSeed) {
00098     _generatedDemandVector.clear();
00099     if (_stdDev > 0) {
00100         RandomGeneration lGenerator (iSeed);
00101         for (unsigned int i = 0; i < K; ++i) {
00102             RealNumber_T lDemandSample = lGenerator.generateNormal (
00103             _mean, _stdDev);
00104             _generatedDemandVector.push_back (lDemandSample);
00105         }
00106     }
00107 }
```

### 33.225 stdair/bom/BookingClass.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BookingClassKey.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
```

#### Classes

- class [stdair::BookingClass](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.226 BookingClass.hpp

```

00001 #ifndef __STDAIR_BOM_BOOKINGCLASS_HPP
00002 #define __STDAIR_BOM_BOOKINGCLASS_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_maths_types.hpp>
00013 #include <stdair/stdair_rm_types.hpp>
00014 #include <stdair/bom/BomAbstract.hpp>
```

```
00015 #include <stdair/bom/BookingClassKey.hpp>
00016 #include <stdair/bom/BookingClassTypes.hpp>
00017
00018 namespace stdair {
00019
00024   class BookingClass : public BomAbstract {
00025     template <typename BOM> friend class FacBom;
00026     template <typename BOM> friend class FacCloneBom;
00027     friend class FacBomManager;
00028
00029   public:
00030     // /////////// Type definitions ///////////
00032     typedef BookingClassKey Key_T;
00033
00034   public:
00035     // /////////// Getters ///////////
00037     const Key_T& getKey() const {
00038       return _key;
00039     }
00040
00042     const ClassCode_T& getClassCode() const {
00043       return _key.getClassCode();
00044     }
00045
00047     BomAbstract* const getParent() const {
00048       return _parent;
00049     }
00050
00052     const HolderMap_T& getHolderMap() const {
00053       return _holderMap;
00054     }
00055
00057     const SubclassCode_T& getSubclassCode() const {
00058       return _subclassCode;
00059     }
00060
00062     const AuthorizationLevel_T& getAuthorizationLevel() const {
00063       return _au;
00064     }
00065
00067     const ProtectionLevel_T& getProtection() const {
00068       return _protection;
00069     }
00070
00072     const ProtectionLevel_T& getCumulatedProtection() const {
00073       return _cumulatedProtection;
00074     }
00075
00077     const BookingLimit_T& getCumulatedBookingLimit() const {
00078       return _cumulatedBookingLimit;
00079     }
00080
00082     const NbOfSeats_T& getNegotiatedSpace() const {
00083       return _nego;
00084     }
00085
00087     const OverbookingRate_T& getNoShowPercentage() const {
00088       return _noShowPercentage;
00089     }
00090
00092     const OverbookingRate_T& getCancellationPercentage() const {
00093       return _cancellationPercentage;
00094     }
00095
00097     const NbOfBookings_T& getNbOfBookings() const {
00098       return _nbOfBookings;
00099     }
00100
00102     const NbOfBookings_T& getNbOfGroupBookings() const {
00103       return _groupNbOfBookings;
00104     }
00105
00107     const NbOfBookings_T& getNbOfPendingGroupBookings() const {
00108       return _groupPendingNbOfBookings;
00109     }
00110
00112     const NbOfBookings_T& getNbOfStaffBookings() const {
00113       return _staffNbOfBookings;
00114     }
00115
00117     const NbOfBookings_T& getNbOfWLBookings() const {
00118       return _wlNbOfBookings;
00119     }
00120
00122     const NbOfCancellations_T& getNbOfCancellations() const {
00123       return _nbOfCancellations;
00124     }
```

```

00125
00127     const NbOfBookings_T& getETB() const {
00128         return _etb;
00129     }
00130
00132     const Availability_T& getNetClassAvailability() const {
00133         return _netClassAvailability;
00134     }
00135
00137     const Availability_T& getSegmentAvailability() const {
00138         return _segmentAvailability;
00139     }
00140
00142     const Availability_T& getNetRevenueAvailability() const {
00143         return _netRevenueAvailability;
00144     }
00145
00147     const Yield_T& getYield () const { return _yield; }
00148     const Yield_T& getAdjustedYield () const { return
00149         _adjustedYield; }
00150
00151     const MeanValue_T& getMean () const { return _mean; }
00152     const StdDevValue_T& getStdDev () const { return
00153         _stdDev; }
00154     const MeanValue_T& getPriceDemMean () const { return
00155         _priceDemMean; }
00156     const StdDevValue_T& getPriceDemStdDev () const { return
00157         _priceDemStdDev; }
00158     const MeanValue_T& getCumuPriceDemMean () const {
00159         return _cumuPriceDemMean;
00160     }
00161     const StdDevValue_T& getCumuPriceDemStdDev () const {
00162         return _cumuPriceDemStdDev;
00163     }
00164     const MeanValue_T& getProductDemMean () const { return
00165         _productDemMean; }
00166     const StdDevValue_T& getProductDemStdDev () const { return
00167         _productDemStdDev; }
00168
00169 public:
00170     // //////////// Setters ///////////
00172     void setCumulatedProtection (const ProtectionLevel_T& iPL) {
00173         _cumulatedProtection = iPL;
00174     }
00175
00177     void setProtection (const ProtectionLevel_T& iPL) {
00178         _protection = iPL;
00179     }
00180
00182     void setCumulatedBookingLimit (const BookingLimit_T& iBL) {
00183         _cumulatedBookingLimit = iBL;
00184     }
00185
00187     void setAuthorizationLevel (const AuthorizationLevel_T& iAU) {
00188         _au = iAU;
00189     }
00190
00192     void setSegmentAvailability (const Availability_T& iAvl) {
00193         _segmentAvailability = iAvl;
00194     }
00195
00197     void setYield (const Yield_T& iYield) {
00198         _yield = iYield;
00199         _adjustedYield = iYield;
00200     }
00201     void setAdjustedYield (const Yield_T& iYield) {
00202         _adjustedYield = iYield; }
00203
00204     void setMean (const MeanValue_T& iMean) { _mean = iMean; }
00205     void setStdDev (const StdDevValue_T& iStdDev) {
00206         _stdDev = iStdDev; }
00207     void setPriceDemMean (const MeanValue_T& iMean) {
00208         _priceDemMean = iMean; }
00209     void setPriceDemStdDev (const StdDevValue_T& iStdDev) {
00210         _priceDemStdDev = iStdDev;
00211     }
00212     void setCumuPriceDemMean (const MeanValue_T& iMean) {
00213         _cumuPriceDemMean = iMean; }
00214     void setCumuPriceDemStdDev (const StdDevValue_T& iStdDev) {
00215         _cumuPriceDemStdDev = iStdDev;
00216     }
00217     void setProductDemMean (const MeanValue_T& iMean) {
```

```
00216     _productDemMean = iMean;
00217 }
00218 void setProductDemStdDev (const StdDevValue_T& iStdDev) {
00219     _productDemStdDev = iStdDev;
00220 }
00221
00222 public:
00223 // /////////// Display support methods ///////////
00224 void toStream (std::ostream& ioOut) const {
00225     ioOut << toString();
00226 }
00227
00228 void fromStream (std::istream& ioIn) {
00229 }
00230
00231 std::string toString() const;
00232
00233 const std::string describeKey() const {
00234     return _key.toString();
00235 }
00236
00237 public:
00238 // /////////// Business Methods ///////////
00239 void sell (const NbOfBookings_T&);
00240
00241 void cancel (const NbOfBookings_T&);
00242
00243 void generateDemandSamples (const NbOfSamples_T&);
00244
00245 void generateDemandSamples (const NbOfSamples_T&, const
00246 RandomSeed_T&);
00247
00248 protected:
00249 // /////////// Constructors and destructors ///////////
00250 BookingClass (const Key_T&);
00251 virtual ~BookingClass();
00252
00253 private:
00254 BookingClass();
00255 BookingClass (const BookingClass&);
00256
00257 protected:
00258 // /////////// Attributes ///////////
00259 Key_T _key;
00260
00261 BomAbstract* _parent;
00262 HolderMap_T _holderMap;
00263 SubclassCode_T _subclassCode;
00264
00265 ProtectionLevel_T _cumulatedProtection;
00266
00267 ProtectionLevel_T _protection;
00268
00269 BookingLimit_T _cumulatedBookingLimit;
00270
00271 AuthorizationLevel_T _au;
00272
00273 NbOfSeats_T _nego;
00274
00275 OverbookingRate_T _noShowPercentage;
00276
00277 OverbookingRate_T _cancellationPercentage;
00278
00279 NbOfBookings_T _nbOfBookings;
00280
00281 NbOfBookings_T _groupNbOfBookings;
00282
00283 NbOfBookings_T _groupPendingNbOfBookings;
00284
00285 NbOfBookings_T _staffNbOfBookings;
00286
00287 NbOfBookings_T _wlNbOfBookings;
00288
00289 NbOfCancellations_T _nbOfCancellations;
00290
00291 NbOfBookings_T _etb;
00292
00293 Availability_T _netClassAvailability;
00294
00295 Availability_T _segmentAvailability;
00296
00297 Availability_T _netRevenueAvailability;
00298
00299 Yield_T _yield;
```

```

00340     Yield_T _adjustedYield;
00341
00343     MeanValue_T _mean;
00344     StdDevValue_T _stdDev;
00345
00347     MeanValue_T _priceDemMean;
00348     StdDevValue_T _priceDemStdDev;
00349
00351     MeanValue_T _cumuPriceDemMean;
00352     StdDevValue_T _cumuPriceDemStdDev;
00353
00355     MeanValue_T _productDemMean;
00356     StdDevValue_T _productDemStdDev;
00357
00359     GeneratedDemandVector_T _generatedDemandVector;
00360 }
00361
00362 }
00363 #endif // __STDAIR_BOM_BOOKINGCLASS_HPP

```

### 33.227 stdair/bom/BookingClassKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BookingClassKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.228 BookingClassKey.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/BookingClassKey.hpp>
00010
00011 namespace stdair {
00012
00013 // ///////////////////////////////////////////////////////////////////
00014 BookingClassKey::BookingClassKey() : _classCode (DEFAULT_CLASS_CODE) {
00015     assert (false);
00016 }
00017
00018 // ///////////////////////////////////////////////////////////////////
00019 BookingClassKey::BookingClassKey (const BookingClassKey& iKey)
00020     : _classCode (iKey._classCode) {
00021 }
00022
00023 // ///////////////////////////////////////////////////////////////////
00024 BookingClassKey::BookingClassKey (const ClassCode_T& iClassCode)
00025     : _classCode (iClassCode) {
00026 }
00027
00028 // ///////////////////////////////////////////////////////////////////
00029 BookingClassKey::~BookingClassKey () {
00030 }
00031
00032 // ///////////////////////////////////////////////////////////////////
00033 void BookingClassKey::toStream (std::ostream& ioOut) const {
00034     ioOut << "BookingClassKey: " << toString();
00035 }
00036
00037 // ///////////////////////////////////////////////////////////////////
00038 void BookingClassKey::fromStream (std::istream& ioIn) {
00039 }
00040

```

```

00041 // /////////////////////////////////
00042 const std::string BookingClassKey::toString() const {
00043     std::ostringstream oStr;
00044     oStr << _classCode;
00045     return oStr.str();
00046 }
00047
00048 }
```

### 33.229 stdair/bom/BookingClassKey.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::BookingClassKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.230 BookingClassKey.hpp

```

00001 #ifndef __STDAIR_BOM_BOOKINGCLASSKEY_HPP
00002 #define __STDAIR_BOM_BOOKINGCLASSKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/KeyAbstract.hpp>
00010
00011 namespace stdair {
00012
00016 struct BookingClassKey : public KeyAbstract {
00017
00018     // ////////////////// Constructors and destructors ///////////////////
00019 private:
00021     BookingClassKey();
00022
00023 public:
00025     BookingClassKey (const ClassCode_T& iClassCode);
00027     BookingClassKey (const BookingClassKey&);
00029     ~BookingClassKey();
00030
00031
00032     // ////////////////// Getters //////////////////
00034     const ClassCode_T& getClassCode () const {
00035         return _classCode;
00036     }
00037
00038
00039     // ////////////////// Display support methods //////////////////
00042     void toStream (std::ostream& ioOut) const;
00043
00046     void fromStream (std::istream& ioIn);
00047
00053     const std::string toString() const;
00054
00055
00056 private:
00057     // ////////////////// Attributes //////////////////
00059     ClassCode_T _classCode;
00060 };
00061
00062 }
00063 #endif // __STDAIR_BOM_BOOKINGCLASSKEY_HPP
```

### 33.231 stdair/bom/BookingClassTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< BookingClass \* > stdair::BookingClassList\_T**
- **typedef std::map< const MapKey\_T, BookingClass \* > stdair::BookingClassMap\_T**

### 33.232 BookingClassTypes.hpp

```
00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_BOOKINGCLASSTYPES_HPP
00003 #define __STDAIR_BOM_BOOKINGCLASSTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class BookingClass;
00018
00019 typedef std::list<BookingClass*> BookingClassList_T;
00020
00021 typedef std::map<const MapKey_T, BookingClass*> BookingClassMap_T;
00022 }
00023 #endif // __STDAIR_BOM_BOOKINGCLASSTYPES_HPP
00024
00025
```

### 33.233 stdair/bom/BookingRequestStruct.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <boost/date_time/gregorian/formatters.hpp>
#include <boost/date_time posix_time/posix_time.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Functions

- void `stdair::intDisplay` (`std::ostream &oStream, const int &iInt`)

### 33.234 BookingRequestStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost
00008 #include <boost/date_time/gregorian/formatters.hpp>
00009 #include <boost/date_time posix_time posix_time.hpp>
00010 // StdAir
00011 #include <stdair/basic/BasConst_Inventory.hpp>
00012 #include <stdair/basic/BasConst_Request.hpp>
00013 #include <stdair/bom/BookingRequestStruct.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 BookingRequestStruct::BookingRequestStruct()
00019   : _origin (DEFAULT_ORIGIN), _destination (DEFAULT_DESTINATION),
00020   _pos (DEFAULT_POS),
00021   _preferredDepartureDate (DEFAULT_PREFERRED_DEPARTURE_DATE),
00022   _preferredDepartureTime (DEFAULT_PREFERRED_DEPARTURE_TIME),
00023   _requestDateTime (DEFAULT_REQUEST_DATE_TIME),
00024   _preferredCabin (DEFAULT_PREFERRED_CABIN),
00025   _partySize (DEFAULT_PARTY_SIZE),
00026   _channel (DEFAULT_CHANNEL),
00027   _tripType (TRIP_TYPE_ONE_WAY),
00028   _stayDuration (DEFAULT_STAY_DURATION),
00029   _frequentFlyerType (DEFAULT_FF_TIER),
00030   _wtp (DEFAULT_WTP),
00031   _valueOfTime (DEFAULT_VALUE_OF_TIME),
00032   _changeFees (false), _changeFeeDisutility (0.0),
00033   _nonRefundable (false), _nonRefundableDisutility (0.0) {
00034   assert (false);
00035 }
00036
00037 // /////////////////////////////////
00038 BookingRequestStruct::
00039 BookingRequestStruct (const BookingRequestStruct& iBookingRequest)
00040   : _generatorKey (iBookingRequest._generatorKey),
00041   _origin (iBookingRequest._origin),
00042   _destination (iBookingRequest._destination),
00043   _pos (iBookingRequest._pos),
00044   _preferredDepartureDate (iBookingRequest._preferredDepartureDate),
00045   _preferredDepartureTime (iBookingRequest._preferredDepartureTime),
00046   _requestDateTime (iBookingRequest._requestDateTime),
00047   _preferredCabin (iBookingRequest._preferredCabin),
00048   _partySize (iBookingRequest._partySize),
00049   _channel (iBookingRequest._channel),
00050   _tripType (iBookingRequest._tripType),
00051   _stayDuration (iBookingRequest._stayDuration),
00052   _frequentFlyerType (iBookingRequest._frequentFlyerType),
00053   _wtp (iBookingRequest._wtp),
00054   _valueOfTime (iBookingRequest._valueOfTime),
00055   _changeFees (iBookingRequest._changeFees),
00056   _changeFeeDisutility (iBookingRequest._changeFeeDisutility),
00057   _nonRefundable (iBookingRequest._nonRefundable),
00058   _nonRefundableDisutility (iBookingRequest._nonRefundableDisutility) {
00059 }
00060
00061 // /////////////////////////////////
00062 BookingRequestStruct::
00063 BookingRequestStruct (const DemandGeneratorKey_T& iGeneratorKey,
00064           const AirportCode_T& iOrigin,
00065           const AirportCode_T& iDestination,
00066           const CityCode_T& iPOS,
00067           const Date_T& iDepartureDate,
00068           const DateTime_T& iRequestDateTime,
00069           const CabinCode_T& iPreferredCabin,
00070           const NbOfSeats_T& iPartySize,
00071           const ChannelLabel_T& iChannel,
00072           const TripType_T& iTripType,
00073           const DayDuration_T& iStayDuration,
00074           const FrequentFlyer_T& iFrequentFlyerType,
00075           const Duration_T& iPreferredDepartureTime,
00076           const WTP_T& iWTP,
00077           const PriceValue_T& iValueOfTime,

```

```

00078             const ChangeFees_T& iChangeFees,
00079             const Disutility_T& iChangeFeeDisutility,
00080             const NonRefundable_T& iNonRefundable,
00081             const Disutility_T& iNonRefundableDisutility)
00082     : _generatorKey (iGeneratorKey), _origin (iOrigin),
00083     _destination (iDestination), _pos (iPOS),
00084     _preferredDepartureDate (iDepartureDate),
00085     _preferredDepartureTime (iPreferredDepartureTime),
00086     _requestDateTime (iRequestDateTime),
00087     _preferredCabin (iPreferredCabin), _partySize (iPartySize),
00088     _channel (iChannel), _tripType (iTripType),
00089     _stayDuration (iStayDuration), _frequentFlyerType (iFrequentFlyerType),
00090     _wtp (iWTP), _valueOfTime (iValueOfTime),
00091     _changeFees (iChangeFees), _changeFeeDisutility (iChangeFeeDisutility),
00092     _nonRefundable (iNonRefundable),
00093     _nonRefundableDisutility (iNonRefundableDisutility) {
00094 }
00095
00096 // /////////////////////////////////
00097 BookingRequestStruct::
00098 BookingRequestStruct (const AirportCode_T& iOrigin,
00099             const AirportCode_T& iDestination,
00100             const CityCode_T& iPOS,
00101             const Date_T& iDepartureDate,
00102             const DateTime_T& iRequestDateTime,
00103             const CabinCode_T& iPreferredCabin,
00104             const NbOfSeats_T& iPartySize,
00105             const ChannelLabel_T& iChannel,
00106             const TripType_T& iTripType,
00107             const DayDuration_T& iStayDuration,
00108             const FrequentFlyer_T& iFrequentFlyerType,
00109             const Duration_T& iPreferredDepartureTime,
00110             const WTP_T& iWTP,
00111             const PriceValue_T& iValueOfTime,
00112             const ChangeFees_T& iChangeFees,
00113             const Disutility_T& iChangeFeeDisutility,
00114             const NonRefundable_T& iNonRefundable,
00115             const Disutility_T& iNonRefundableDisutility)
00116     : _generatorKey (""), _origin (iOrigin),
00117     _destination (iDestination), _pos (iPOS),
00118     _preferredDepartureDate (iDepartureDate),
00119     _preferredDepartureTime (iPreferredDepartureTime),
00120     _requestDateTime (iRequestDateTime),
00121     _preferredCabin (iPreferredCabin), _partySize (iPartySize),
00122     _channel (iChannel), _tripType (iTripType),
00123     _stayDuration (iStayDuration), _frequentFlyerType (iFrequentFlyerType),
00124     _wtp (iWTP), _valueOfTime (iValueOfTime),
00125     _changeFees (iChangeFees), _changeFeeDisutility (iChangeFeeDisutility),
00126     _nonRefundable (iNonRefundable),
00127     _nonRefundableDisutility (iNonRefundableDisutility) {
00128 }
00129
00130 // /////////////////////////////////
00131 BookingRequestStruct::~BookingRequestStruct () {
00132 }
00133
00134 // /////////////////////////////////
00135 void BookingRequestStruct::toStream (std::ostream& ioOut) const {
00136     ioOut << describe();
00137 }
00138
00139 // /////////////////////////////////
00140 void BookingRequestStruct::fromStream (std::istream& ioIn) {
00141 }
00142
00143 // /////////////////////////////////
00144 const std::string BookingRequestStruct::describe() const {
00145     std::ostringstream oStr;
00146     oStr << "At " << _requestDateTime
00147         << ", for (" << _pos << ", " << _channel << ")"
00148         << " " << _origin << "-" << _destination << " (" << _tripType << ")"
00149         << " " << _preferredDepartureDate << " (" << _stayDuration << " days)"
00150         << " " << _preferredDepartureTime
00151         << " " << _preferredCabin << " " << _partySize
00152         << " " << _frequentFlyerType << " " << _wtp << " " << _valueOfTime
00153         << " " << _changeFees << " " << _changeFeeDisutility << " "
00154         << _nonRefundable << " " << _nonRefundableDisutility;
00155     return oStr.str();
00156 }
00157
00158 // /////////////////////////////////
00159 void intDisplay (std::ostream& oStream, const int& iInt) {
00160     const int dInt = iInt - static_cast<int> (iInt / 100) * 100;
00161     if (dInt < 10) {
00162         oStream << "0" << dInt;
00163     } else {
00164         oStream << dInt;

```

```
00165      }
00166  }
00167
00168 ///////////////////////////////////////////////////////////////////
00169 const std::string BookingRequestStruct::display() const {
00170     std::ostringstream oStr;
00171
00172     // Request date and time
00173     const Date_T& lRequestDate = _requestDateTime.date();
00174     oStr << boost::gregorian::to_iso_extended_string (lRequestDate);
00175
00176     const Duration_T& lRequestTime = _requestDateTime.time_of_day();
00177     oStr << ", " << boost::posix_time::to_simple_string (lRequestTime);
00178
00179     // POS
00180     oStr << ", " << _pos;
00181
00182     // Channel
00183     oStr << ", " << _channel;
00184
00185     // Origin
00186     oStr << ", " << _origin;
00187
00188     // Destination
00189     oStr << ", " << _destination;
00190
00191     // Preferred departure date
00192     oStr << ", "
00193         << boost::gregorian::to_iso_extended_string (_preferredDepartureDate);
00194
00195     // Preferred departure time
00196     oStr << ", "
00197         << boost::posix_time::to_simple_string (_preferredDepartureTime);
00198
00199     // MIN & MAX preferred departure time (hardcode)
00200     oStr << ", " << "00:00-23:59";
00201
00202     // Preferred arrival date (hardcode to the preferred departure date)
00203     oStr << ", "
00204         << boost::gregorian::to_iso_extended_string (_preferredDepartureDate);
00205
00206     // Preferred arrival time (hard-coded to 23:55)
00207     oStr << ", " << "23:55";
00208
00209     // Preferred cabin
00210     oStr << ", " << _preferredCabin;
00211
00212     // Trip type
00213     oStr << ", " << _tripType;
00214
00215     // Duration of stay
00216     oStr << ", ";
00217     if (_tripType == TRIP_TYPE_ONE_WAY) {
00218         oStr << "0";
00219     } else {
00220         oStr << _stayDuration;
00221     }
00222
00223     // Frequent flyer tier
00224     oStr << ", " << _frequentFlyerType;
00225
00226     // Willingness-to-pay
00227     oStr << ", " << _wtp;
00228
00229     // Disutility per stop (hardcode to 100, expressed as a monetary
00230     // unit per hour)
00231     oStr << ", " << "100";
00232
00233     // Value of time
00234     oStr << ", " << _valueOfTime;
00235
00236     // Change fees
00237     oStr << ", " << _changeFees;
00238
00239     // Change fee disutility
00240     oStr << ", " << _changeFeeDisutility;
00241
00242     // Non refundable
00243     oStr << ", " << _nonRefundable;
00244
00245     // Non refundable disutility
00246     oStr << ", " << _nonRefundableDisutility;
00247
00248     return oStr.str();
00249 }
00250 }
```

### 33.235 stdair/bom/BookingRequestStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BookingRequestTypes.hpp>
```

#### Classes

- struct [stdair::BookingRequestStruct](#)

*Structure holding the elements of a booking request.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.236 BookingRequestStruct.hpp

```
00001 #ifndef __STDAIR_BOM_BOOKINGREQUESTSTRUCT_HPP
00002 #define __STDAIR_BOM_BOOKINGREQUESTSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/bom/BookingRequestTypes.hpp>
00015
00016 namespace stdair {
00017
00021   struct BookingRequestStruct : public StructAbstract {
00022     public:
00023       // ///////////////////// Getters ///////////////////
00025       const DemandGeneratorKey_T& getDemandGeneratorKey () const {
00026         return _generatorKey;
00027     }
00028
00030       const AirportCode_T& getOrigin() const {
00031         return _origin;
00032     }
00033
00035       const AirportCode_T& getDestination() const {
00036         return _destination;
00037     }
00038
00040       const CityCode_T& getPOS() const {
00041         return _pos;
00042     }
00043
00045       const Date_T& getPreferredDepartureDate() const {
00046         return _preferredDepartureDate;
00047     }
00048
00050       const Duration_T& getPreferredDepartureTime() const {
00051         return _preferredDepartureTime;
00052     }
00053
00055       const DateTime_T& getRequestDateTime() const {
00056         return _requestDateTime;
00057     }
00058
00060       const CabinCode_T& getPreferredCabin() const {
00061         return _preferredCabin;
```



```

00226             const NbOfSeats_T& iPartySize,
00227             const ChannelLabel_T& iChannel,
00228             const TripType_T& iTripType,
00229             const DayDuration_T& iStayDuration,
00230             const FrequentFlyer_T& iFrequentFlyerType,
00231             const Duration_T& iPreferredDepartureTime,
00232             const WTP_T& iWTP,
00233             const PriceValue_T& iValueOfTime,
00234             const ChangeFees_T& iChangeFees,
00235             const Disutility_T& iChangeFeeDisutility,
00236             const NonRefundable_T& iNonRefundable,
00237             const Disutility_T& iNonRefundableDisutility);
00241     BookingRequestStruct (const BookingRequestStruct&);
00242
00243     ~BookingRequestStruct ();
00244
00245
00246 private:
00247     BookingRequestStruct ();
00248
00249
00250 private:
00251 // ////////////////// Attributes ///////////////////
00252     const DemandGeneratorKey_T _generatorKey;
00253
00254     const AirportCode_T _origin;
00255
00256     const AirportCode_T _destination;
00257
00258     const CityCode_T _pos;
00259
00260     const Date_T _preferredDepartureDate;
00261
00262     const Duration_T _preferredDepartureTime;
00263
00264     const DateTime_T _requestDateTime;
00265
00266     const CabinCode_T _preferredCabin;
00267
00268     const NbOfSeats_T _partySize;
00269
00270     const ChannelLabel_T _channel;
00271
00272     const TripType_T _tripType;
00273
00274     const DayDuration_T _stayDuration;
00275
00276     const FrequentFlyer_T _frequentFlyerType;
00277
00278     const WTP_T _wtp;
00279
00280     const PriceValue_T _valueOfTime;
00281
00282     const ChangeFees_T _changeFees;
00283
00284     const Disutility_T _changeFeeDisutility;
00285
00286     const NonRefundable_T _nonRefundable;
00287
00288     const Disutility_T _nonRefundableDisutility;
00289
00290 };
00291 }
00292
00293 #endif // __STDAIR_BOM_BOOKINGREQUESTSTRUCT_HPP

```

### 33.237 stdair/bom/BookingRequestTypes.hpp File Reference

```
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### Typedefs

- `typedef boost::shared_ptr< BookingRequestStruct > stdair::BookingRequestPtr_T`
- `typedef std::string stdair::DemandGeneratorKey_T`

### 33.238 BookingRequestTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_BOOKINGREQUESTTYPES_HPP
00003 #define __STDAIR_BOM_BOOKINGREQUESTTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // Boost
00009 #include <boost/shared_ptr.hpp>
00010
00011 namespace stdair {
00012
00013 // Forward declarations
00014 struct BookingRequestStruct;
00015
00016 // ///////////////////// Type definitions ///////////////////
00017 typedef boost::shared_ptr<BookingRequestStruct> BookingRequestPtr_T;
00018
00019 typedef std::string DemandGeneratorKey_T;
00020
00021
00022
00023
00024 }
00025 #endif // __STDAIR_BOM_BOOKINGREQUESTTYPES_HPP
00026

```

### 33.239 stdair/bom/BreakPointStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/BreakPointStruct.hpp>

```

### Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.240 BreakPointStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/bom/BreakPointStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 BreakPointStruct::BreakPointStruct() {
00015     assert (false);
00016 }
00017
00018 // /////////////////////////////////
00019 BreakPointStruct::
00020 BreakPointStruct (const BreakPointStruct& iBreakPoint)
00021     : _breakPointTime (iBreakPoint._breakPointTime) {
00022 }
00023
00024 // /////////////////////////////////

```

```

00025     BreakPointStruct::
00026     BreakPointStruct (const DateTime_T& iBreakPointTime)
00027     : _breakPointTime (iBreakPointTime) {
00028 }
00029 // ///////////////////////////////////////////////////////////////////
00030 BreakPointStruct::
00031 BreakPointStruct (const Date_T& iBreakPointDate)
00032     : _breakPointTime (iBreakPointDate, DEFAULT_NULL_DURATION) {
00033 }
00034
00035 // ///////////////////////////////////////////////////////////////////
00036 BreakPointStruct::~BreakPointStruct () {
00037 }
00038
00039 // ///////////////////////////////////////////////////////////////////
00040 void BreakPointStruct::toStream (std::ostream& ioOut) const {
00041     ioOut << describe ();
00042 }
00043
00044 // ///////////////////////////////////////////////////////////////////
00045 void BreakPointStruct::fromStream (std::istream& ioIn) {
00046 }
00047
00048 // ///////////////////////////////////////////////////////////////////
00049 const std::string BreakPointStruct::describe () const {
00050     std::ostringstream oStr;
00051     oStr << _breakPointTime;
00052     return oStr.str ();
00053 }
00054
00055
00056 }

```

### 33.241 stdair/bom/BreakPointStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BreakPointTypes.hpp>

```

#### Classes

- struct **stdair::BreakPointStruct**

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.242 BreakPointStruct.hpp

```

00001 #ifndef __STDAIR_BOM_BREAKPOINTSTRUCT_HPP
00002 #define __STDAIR_BOM_BREAKPOINTSTRUCT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_date_time_types.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013 #include <stdair/bom/BreakPointTypes.hpp>
00014
00015 namespace stdair {
00016
00017     struct BreakPointStruct : public StructAbstract {
00018         public:

```

```

00020 // ///////////////////// Getters /////////////////////
00021 const DateTime_T& getBreakPointTime() const {
00022     return _breakPointTime;
00023 }
00024
00025 // /////////////////// Display support method ///////////////////
00026 void toStream (std::ostream& ioOut) const;
00027
00028 void fromStream (std::istream& ioIn);
00029
00030 const std::string describe() const;
00031
00032
00033 // ////////////////// Constructors and Destructors //////////////////
00034 public:
00035     BreakPointStruct (const DateTime_T&);
00036
00037     BreakPointStruct (const Date_T&);
00038
00039     BreakPointStruct (const BreakPointStruct&);
00040
00041 private:
00042     BreakPointStruct ();
00043
00044 public:
00045     ~BreakPointStruct();
00046
00047
00048 private:
00049     // ////////////////// Attributes ///////////////////
00050     const DateTime_T _breakPointTime;
00051 };
00052
00053
00054 #endif // __STDAIR_BOM_BREAKPOINTSTRUCT_HPP

```

### 33.243 stdair/bom/BreakPointTypes.hpp File Reference

```
#include <list>
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### TypeDefs

- **typedef boost::shared\_ptr< BreakPointStruct > stdair::BreakPointPtr\_T**
- **typedef std::list< BreakPointStruct > stdair::BreakPointList\_T**

### 33.244 BreakPointTypes.hpp

```

00001 // //////////////////////////////// Type definitions /////////////////////
00002 #ifndef __STDAIR_BOM_BREAKPOINTTYPES_HPP
00003 #define __STDAIR_BOM_BREAKPOINTTYPES_HPP
00004
00005 // ////////////////////////////// Import section /////////////////////
00006 // Import section
00007 // //////////////////////////////// Type definitions /////////////////////
00008 // STL
00009 #include <list>
00010 // Boost
00011 #include <boost/shared_ptr.hpp>
00012
00013 namespace stdair {
00014
00015 // Forward declarations
00016 struct BreakPointStruct;
00017
00018 // ///////////////////// Type definitions /////////////////////

```

```

00020     typedef boost::shared_ptr<BreakPointStruct> BreakPointPtr_T;
00021
00023     typedef std::list<BreakPointStruct> BreakPointList_T;
00024
00025 }
00026 #endif // __STDAIR_BOM_BREAKPOINTTYPES_HPP
00027

```

### 33.245 stdair/bom/Bucket.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/Bucket.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.246 Bucket.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/Bucket.hpp>
00014
00015 namespace stdair {
00016
00017 // ///////////////////////////////////////////////////////////////////
00018 Bucket::Bucket()
00019   : _key (DEFAULT_SEAT_INDEX), _parent (NULL) {
00020   assert (false);
00021 }
00022
00023 // ///////////////////////////////////////////////////////////////////
00024 Bucket::Bucket (const Bucket& iBucket) :
00025   _key (iBucket._key),
00026   _parent (NULL),
00027   _yieldRangeUpperValue (iBucket._yieldRangeUpperValue),
00028   _availability (iBucket._availability),
00029   _soldSeats (iBucket._soldSeats) {
00030 }
00031
00032 // ///////////////////////////////////////////////////////////////////
00033 // ///////////////////////////////////////////////////////////////////
00034 Bucket::Bucket (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00035 }
00036
00037 // ///////////////////////////////////////////////////////////////////
00038 Bucket::~Bucket() {
00039 }
00040
00041 // ///////////////////////////////////////////////////////////////////
00042 std::string Bucket::toString() const {
00043   std::ostringstream oStr;
00044   oStr << describeKey();
00045   return oStr.str();
00046 }
00047

```

```

00048 // ///////////////////////////////////////////////////////////////////
00049 void Bucket::serialisationImplementationExport() const {
00050     std::ostringstream oStr;
00051     boost::archive::text_oarchive oa (oStr);
00052     oa << *this;
00053 }
00054
00055 // ///////////////////////////////////////////////////////////////////
00056 void Bucket::serialisationImplementationImport() {
00057     std::istringstream iStr;
00058     boost::archive::text_iarchive ia (iStr);
00059     ia >> *this;
00060 }
00061
00062 // ///////////////////////////////////////////////////////////////////
00063 template<class Archive>
00064 void Bucket::serialize (Archive& ioArchive, const unsigned int iFileVersion) {
00065     ioArchive & _key;
00066 }
00067
00068 }
00069

```

### 33.247 stdair/bom/Bucket.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BucketKey.hpp>
#include <stdair/bom/BucketTypes.hpp>

```

#### Classes

- class [stdair::Bucket](#)

*Class representing the actual attributes for an airline booking class.*

#### Namespaces

- [boost](#)

*Forward declarations.*

- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.248 Bucket.hpp

```

00001 #ifndef __STDAIR_BOM_BUCKET_HPP
00002 #define __STDAIR_BOM_BUCKET_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/BucketKey.hpp>
00014 #include <stdair/bom/BucketTypes.hpp>
00015
00017 namespace boost {
00018     namespace serialization {
00019         class access;
00020     }
00021 }

```

```

00022
00023 namespace stdair {
00024
00029 class Bucket : public BomAbstract {
00030     template <typename BOM> friend class FacBom;
00031     template <typename BOM> friend class FacCloneBom;
00032     friend class FacBomManager;
00033     friend class boost::serialization::access;
00034
00035 public:
00036     // ///////////// Type definitions /////////////
00040     typedef BucketKey Key_T;
00041
00042 public:
00043     // /////////// Getters ///////////
00047     const Key_T& getKey() const {
00048         return _key;
00049     }
00050
00054     BomAbstract* const getParent() const {
00055         return _parent;
00056     }
00057
00059     const HolderMap_T& getHolderMap() const {
00060         return _holderMap;
00061     }
00062
00064     const SeatIndex_T& getSeatIndex() const {
00065         return _key.getSeatIndex();
00066     }
00067
00069     const Yield_T& getYieldRangeUpperValue() const {
00070         return _yieldRangeUpperValue;
00071     }
00072
00074     const CabinCapacity_T& getAvailability() const {
00075         return _availability;
00076     }
00077
00079     const NbOfSeats_T& getSoldSeats() const {
00080         return _soldSeats;
00081     }
00082
00083
00084     // /////////// Setters ///////////
00086     void setYieldRangeUpperValue (const Yield_T& iYield) {
00087         _yieldRangeUpperValue = iYield;
00088     }
00089
00091     void setAvailability (const CabinCapacity_T& iAvl) {
00092         _availability = iAvl;
00093     }
00094
00096     void setSoldSeats (const NbOfSeats_T& iSoldSeats) {
00097         _soldSeats = iSoldSeats;
00098     }
00099
00100
00101 public:
00102     // /////////// Display support methods ///////////
00103     void toStream (std::ostream& ioOut) const {
00104         ioOut << toString();
00105     }
00106
00107     void fromStream (std::istream& ioIn) {
00108     }
00109
00110     std::string toString() const;
00111
00112     const std::string describeKey() const {
00113         return _key.toString();
00114     }
00115
00116
00117 public:
00118     // /////////// (Boost) Serialisation support methods ///////////
00119     template<class Archive>
00120     void serialize (Archive& ar, const unsigned int iFileVersion);
00121
00122 private:
00123     void serialisationImplementationExport() const;
00124     void serialisationImplementationImport();
00125
00126 protected:
00127     // /////////// Constructors and destructors ///////////
00128     Bucket (const Key_T&);


```

```

00156     virtual ~Bucket();
00161
00162 private:
00163     Bucket();
00167
00171     Bucket (const Bucket&);
00172
00173
00174 protected:
00175     // ////////////////// Children ///////////////////////////////
00179     Key_T _key;
00180
00184     BomAbstract* _parent;
00185
00189     HolderMap_T _holderMap;
00190
00191
00192 protected:
00193     // ////////////////// Attributes ///////////////////////////////
00197     Yield_T _yieldRangeUpperValue;
00198
00202     CabinCapacity_T _availability;
00203
00207     NbOfSeats_T _soldSeats;
00208 };
00209
00210 }
00211 #endif // __STDAIR_BOM_BUCKET_HPP
00212

```

### 33.249 stdair/bom/BucketKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/bom/BucketKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- template void **stdair::BucketKey::serialize< ba::text\_oarchive >** (ba::text\_oarchive &, unsigned int)
- template void **stdair::BucketKey::serialize< ba::text\_iarchive >** (ba::text\_iarchive &, unsigned int)

### 33.250 BucketKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/bom/BucketKey.hpp>
00013
00014 namespace stdair {
00015
00016     // /////////////////////////////////
00017     BucketKey::BucketKey() {

```

```

00018     assert (false);
00019 }
00020
00021 // ///////////////////////////////////////////////////////////////////
00022 BucketKey::BucketKey (const SeatIndex_T& iSeatIndex)
00023 : _seatIndex (iSeatIndex) {
00024 }
00025
00026 // ///////////////////////////////////////////////////////////////////
00027 BucketKey::BucketKey (const BucketKey& iBucketKey)
00028 : _seatIndex (iBucketKey._seatIndex) {
00029 }
00030
00031 // ///////////////////////////////////////////////////////////////////
00032 BucketKey::~BucketKey() {
00033 }
00034
00035 // ///////////////////////////////////////////////////////////////////
00036 void BucketKey::toStream (std::ostream& ioOut) const {
00037     ioOut << "BucketKey: " << toString() << std::endl;
00038 }
00039
00040 // ///////////////////////////////////////////////////////////////////
00041 void BucketKey::fromStream (std::istream& ioIn) {
00042 }
00043
00044 // ///////////////////////////////////////////////////////////////////
00045 const std::string BucketKey::toString() const {
00046     std::ostringstream oStr;
00047     oStr << _seatIndex;
00048     return oStr.str();
00049 }
00050
00051 // ///////////////////////////////////////////////////////////////////
00052 void BucketKey::serialisationImplementationExport() const {
00053     std::ostringstream oStr;
00054     boost::archive::text_oarchive oa (oStr);
00055     oa << *this;
00056 }
00057
00058 // ///////////////////////////////////////////////////////////////////
00059 void BucketKey::serialisationImplementationImport() {
00060     std::istringstream iStr;
00061     boost::archive::text_iarchive ia (iStr);
00062     ia >> *this;
00063 }
00064
00065 // ///////////////////////////////////////////////////////////////////
00066 template<class Archive>
00067 void BucketKey::serialize (Archive& ioArchive,
00068                             const unsigned int iFileVersion) {
00069     ioArchive & _seatIndex;
00070 }
00071
00072 // ///////////////////////////////////////////////////////////////////
00073 // Explicit template instantiation
00074 namespace ba = boost::archive;
00075 template void BucketKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00076                                         unsigned int);
00077 template void BucketKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00078                                         unsigned int);
00079 // ///////////////////////////////////////////////////////////////////
00080
00081 }

```

### 33.251 stdair/bom/BucketKey.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>

```

#### Classes

- struct [stdair::BucketKey](#)

*Key of booking-class.*

## Namespaces

- boost

*Forward declarations.*

- boost::serialization

- stdair

*Handle on the StdAir library context.*

## 33.252 BucketKey.hpp

```

00001 #ifndef __STDAIR_BOM_BUCKETKEY_HPP
00002 #define __STDAIR_BOM_BUCKETKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023   struct BucketKey : public KeyAbstract {
00024     friend class boost::serialization::access;
00025
00026     // ////////////////// Constructors and destructors //////////////////
00027   private:
00028     BucketKey();
00029
00030   public:
00031     BucketKey (const SeatIndex_T&);
00032     BucketKey (const BucketKey&);
00033     ~BucketKey();
00034
00035   public:
00036     // ////////////////// Getters //////////////////
00037     const SeatIndex_T& getSeatIndex() const {
00038       return _seatIndex;
00039     }
00040
00041   public:
00042     // ////////////////// Display support methods //////////////////
00043     void toStream (std::ostream& ioOut) const;
00044
00045     void fromStream (std::istream& ioIn);
00046
00047     const std::string toString() const;
00048
00049   public:
00050     // ////////////////// (Boost) Serialisation support methods //////////////////
00051     template<class Archive>
00052     void serialize (Archive& ar, const unsigned int iFileVersion);
00053
00054   private:
00055     void serialisationImplementationExport() const;
00056     void serialisationImplementationImport();
00057
00058   private:
00059     // ////////////////// Attributes //////////////////
00060     SeatIndex_T _seatIndex;
00061   };
00062 }
00063
00064 #endif // __STDAIR_BOM_BUCKETKEY_HPP

```

### 33.253 stdair/bom/BucketTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef std::list< Bucket \* > stdair::BucketList\_T**
- **typedef std::map< const MapKey\_T, Bucket \* > stdair::BucketMap\_T**

### 33.254 BucketTypes.hpp

```
00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_BUCKETTYPES_HPP
00003 #define __STDAIR_BOM_BUCKETTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations
00017 class Bucket;
00018
00019 typedef std::list<Bucket*> BucketList_T;
00020
00021 typedef std::map<const MapKey_T, Bucket*> BucketMap_T;
00022
00023 }
00024
00025 }
00026 #endif // __STDAIR_BOM_BUCKETTYPES_HPP
00027
```

### 33.255 stdair/bom/CancellationStruct.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/bom/CancellationStruct.hpp>
#include <stdair/bom/BookingClass.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.256 CancellationStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/bom/CancellationStruct.hpp>
00010 #include <stdair/bom/BookingClass.hpp>
00011
00012 namespace stdair {
00013 // /////////////////////////////////
00014 CancellationStruct::CancellationStruct (const
00015     SegmentPath_T& iSegPath,
00016                             const ClassList_String_T& iList,
00017                             const PartySize_T& iSize,
00018                             const DateTime_T& iDateTime)
00019 : _segmentPath (iSegPath), _classList (iList), _partySize (iSize),
00020   _datetime (iDateTime) {
00021 }
00022 // /////////////////////////////////
00023 CancellationStruct::CancellationStruct (const
00024     SegmentPath_T& iSegPath,
00025                             const BookingClassIDList_T& iIDList,
00026                             const PartySize_T& iSize,
00027                             const DateTime_T& iDateTime)
00028 : _segmentPath (iSegPath), _classIDList (iIDList), _partySize (iSize),
00029   _datetime (iDateTime) {
00030 }
00031 // /////////////////////////////////
00032 CancellationStruct::~CancellationStruct () {
00033 }
00034
00035 // /////////////////////////////////
00036 void CancellationStruct::toStream (std::ostream& ioOut) const {
00037     ioOut << describe();
00038 }
00039
00040 // /////////////////////////////////
00041 void CancellationStruct::fromStream (std::istream& ioIn) {
00042 }
00043
00044 // /////////////////////////////////
00045 const std::string CancellationStruct::describe() const {
00046     std::ostringstream oStr;
00047
00048     oStr << "Segment path: ";
00049     unsigned short idx = 0;
00050     for (SegmentPath_T::const_iterator lItSegmentPath = _segmentPath.begin();
00051          lItSegmentPath != _segmentPath.end(); ++lItSegmentPath, ++idx) {
00052         if (idx != 0) {
00053             oStr << "-";
00054         }
00055         const std::string& lSegmentKey = *lItSegmentPath;
00056         oStr << lSegmentKey;
00057     }
00058     if (_classList == "") {
00059         oStr << ",";
00060         BookingClassIDList_T::const_iterator lItBookingClassIDList =
00061             _classIDList.begin();
00062         idx = 0;
00063         for (; lItBookingClassIDList != _classIDList.end();
00064               ++lItBookingClassIDList, ++idx) {
00065             if (idx != 0) {
00066                 oStr << "-";
00067             }
00068             const BookingClassID_T& lBookingClassID = *lItBookingClassIDList;
00069             const BookingClass& lBookingClass = lBookingClassID.
00070             getObject();
00071             const ClassCode_T& lClassCode = lBookingClass.getClassCode();
00072             oStr << lClassCode;
00073             oStr << ";" << _partySize << ";" << _datetime;
00074         } else {
00075             oStr << ";" << _classList << ";" << _partySize << ";" << _datetime;
00076         }
00077         return oStr.str();
00078     }
00079 }
00080 // /////////////////////////////////
00081 const std::string CancellationStruct::display() const {
00082     std::ostringstream oStr;

```

```

00083
00084     // List of segment keys (one per segment)
00085     unsigned short idx = 0;
00086     for (SegmentPath_T::const_iterator itSegPath = _segmentPath.begin();
00087         itSegPath != _segmentPath.end(); ++itSegPath, ++idx) {
00088         if (idx != 0) {
00089             oStr << " ; ";
00090         }
00091         const std::string& lSegmentKey = *itSegPath;
00092         oStr << "[" << idx << "] " << lSegmentKey;
00093     }
00094     if (_classList == "") {
00095         oStr << ",";
00096         BookingClassIDList_T::const_iterator lItBookingClassIDList =
00097             _classIDList.begin();
00098         idx = 0;
00099         for (; lItBookingClassIDList != _classIDList.end();
00100             ++lItBookingClassIDList, ++idx) {
00101             if (idx != 0) {
00102                 oStr << "-";
00103             }
00104             const BookingClassID_T& lBookingClassID = *lItBookingClassIDList;
00105             const BookingClass& lBookingClass = lBookingClassID.
00106             getObject();
00107             const ClassCode_T& lClassCode = lBookingClass.getClassCode();
00108             oStr << ";" << _partySize << ";" << _datetime;
00109         } else {
00110             oStr << ";" << _classList << ";" << _partySize << ";" << _datetime;
00111         }
00112     }
00113     return oStr.str();
00114 }
00115 }
```

### 33.257 stdair/bom/CancellationStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <vector>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/bom/BomIDTypes.hpp>
```

#### Classes

- struct [stdair::CancellationStruct](#)

*Structure holding the elements of a travel solution.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.258 CancellationStruct.hpp

```

00001 #ifndef __STDAIR_BOM_CANCELLATIONSTRUCT_HPP
00002 #define __STDAIR_BOM_CANCELLATIONSTRUCT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 #include <vector>
```

```

00011 // StdAir
0012 #include <stdair/stdair_basic_types.hpp>
0013 #include <stdair/basic/StructAbstract.hpp>
0014 #include <stdair/bom/BookingClassTypes.hpp>
0015 #include <stdair/bom/TravelSolutionTypes.hpp>
0016 #include <stdair/bom/BomIDTypes.hpp>
0017
0018 namespace stdair {
0019
0023 struct CancellationStruct : public StructAbstract {
0024 public:
0025     // //////////// Getters ///////////
0027     const SegmentPath_T& getSegmentPath() const {
0028         return _segmentPath;
0029     }
0030
0032     const ClassList_String_T& getClassList() const {
0033         return _classList;
0034     }
0035
0037     const BookingClassIDList_T& getClassIDList() const {
0038         return _classIDList;
0039     }
0040
0042     const PartySize_T& getPartySize() const {
0043         return _partySize;
0044     }
0045
0047     const DateTime_T& getCancellationDateTime() const {
0048         return _datetime;
0049     }
0050
0051 public:
0052     // /////////// Display support method ///////////
0053     void toStream (std::ostream& ioOut) const;
0054
0055     void fromStream (std::istream& ioIn);
0056
0057     const std::string describe() const;
0058
0059     const std::string display() const;
0060
0061
0062 public:
0063     // /////////// Constructors & Destructor ///////////
0064     CancellationStruct (const SegmentPath_T&, const
0065                         ClassList_String_T&,
0066                         const PartySize_T&, const DateTime_T&);
0067
0068     CancellationStruct (const SegmentPath_T&, const
0069                         BookingClassIDList_T&,
0070                         const PartySize_T&, const DateTime_T&);
0071
0072     ~CancellationStruct ();
0073
0074
0075 private:
0076     // /////////// Attributes ///////////
0077     SegmentPath_T _segmentPath;
0078
0079     ClassList_String_T _classList;
0080
0081     BookingClassIDList_T _classIDList;
0082
0083     PartySize_T _partySize;
0084
0085     DateTime_T _datetime;
0086
0087 };
0088
0089 }
0090
0091
0092
0093
0094
0095
0096
0097
0098
0099
0100
0101
0102
0103
0104
0105
0106
0107
0108
0109
0110
0111
0112
0113
0114
0115
0116
0117
0118
0119
0120
0121
0122
0123
0124
0125 }
00126 #endif // __STDAIR_BOM_CANCELLATIONSTRUCT_HPP

```

### 33.259 stdair/bom/CancellationTypes.hpp File Reference

```
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

## Typedefs

- `typedef boost::shared_ptr< CancellationStruct > stdair::CancellationPtr_T`

### 33.260 CancellationTypes.hpp

```
00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_CANCELLATIONTYPES_HPP
00003 #define __STDAIR_BOM_CANCELLATIONTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // Boost
00009 #include <boost/shared_ptr.hpp>
00010
00011 namespace stdair {
00012
00013 // Forward declarations
00014 struct CancellationStruct;
00015
00016 // ///////////////////// Type definitions /////////////////////
00018 typedef boost::shared_ptr<CancellationStruct> CancellationPtr_T;
00019
00020 }
00021 #endif // __STDAIR_BOM_CANCELLATIONTYPES_HPP
00022
```

### 33.261 stdair/bom/ConfigHolderStruct.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/ForecastingMethod.hpp>
#include <stdair/basic/UnconstrainingMethod.hpp>
#include <stdair/basic/PartnershipTechnique.hpp>
#include <stdair/basic/PreOptimisationMethod.hpp>
#include <stdair/basic/OptimisationMethod.hpp>
#include <stdair/bom/AirlineFeature.hpp>
#include <stdair/bom/ConfigHolderStruct.hpp>
#include <stdair/bom/BomRetriever.hpp>
#include <stdair/service/Logger.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.262 ConfigHolderStruct.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 #if BOOST_VERSION >= 104100
00008 #include <boost/property_tree/ptree.hpp>
00009 #include <boost/property_tree/json_parser.hpp>
00010 #include <boost/foreach.hpp>
00011 #endif // BOOST_VERSION >= 104100
00012 // StdAir
```

```

00013 #include <stdair/stdair_exceptions.hpp>
00014 #include <stdair/basic/ForecastingMethod.hpp>
00015 #include <stdair/basic/UnconstrainingMethod.hpp>
00016 #include <stdair/basic/PartnershipTechnique.hpp>
00017 #include <stdair/basic/PreOptimisationMethod.hpp>
00018 #include <stdair/basic/OptimisationMethod.hpp>
00019 #include <stdair/bom/AirlineFeature.hpp>
00020 #include <stdair/bom/ConfigHolderStruct.hpp>
00021 #include <stdair/bom/BomRetriever.hpp>
00022 #include <stdair/service/Logger.hpp>
00023
00024 namespace stdair {
00025
00026 // /////////////////////////////////
00027 ConfigHolderStruct::ConfigHolderStruct() {
00028 }
00029
00030 // /////////////////////////////////
00031 ConfigHolderStruct::
00032 ConfigHolderStruct (const ConfigHolderStruct& iConfigHolderStruct)
00033 : _pt (iConfigHolderStruct._pt) {
00034 }
00035
00036 // /////////////////////////////////
00037 ConfigHolderStruct::~ConfigHolderStruct() {
00038 }
00039
00040 // /////////////////////////////////
00041 void ConfigHolderStruct::toStream (std::ostream& ioOut) const {
00042   ioOut << describe();
00043 }
00044
00045 // /////////////////////////////////
00046 void ConfigHolderStruct::fromStream (std::istream& ioIn) {
00047 }
00048
00049 // /////////////////////////////////
00050 const std::string ConfigHolderStruct::describe() const {
00051   std::ostringstream oStr;
00052   oStr << "Configuration Display:" << std::endl;
00053
00054   // Look for the start and end date values.
00055   stdair::Date_T lStartDate;
00056   const bool hasStartDateBeenRetrieved =
00057     exportValue<Date_T> (lStartDate, "date.start");
00058   if (hasStartDateBeenRetrieved == true) {
00059     oStr << " Start date: " << lStartDate << std::endl;
00060   }
00061   stdair::Date_T lEndDate;
00062   const bool hasEndDateBeenRetrieved =
00063     exportValue<Date_T> (lEndDate, "date.end");
00064   if (hasEndDateBeenRetrieved == true) {
00065     oStr << " End date: " << lEndDate << std::endl;
00066   }
00067
00068   // Look for the random seed value.
00069   RandomSeed_T lRandomSeed;
00070   const bool hasSeedBeenRetrieved =
00071     exportValue<RandomSeed_T> (lRandomSeed, "random.seed");
00072   if (hasSeedBeenRetrieved == true) {
00073     oStr << " Random Seed: " << lRandomSeed << std::endl;
00074   }
00075
00076   // Look for the demand generation method.
00077   char lChar;
00078   const bool hasDemandGenMethodBeenRetrieved =
00079     exportValue<char> (lChar, "demand generation.method");
00080   if (hasDemandGenMethodBeenRetrieved == true) {
00081     oStr << " Demand Generation method: " << lChar << std::endl;
00082   }
00083
00084   // Look for the number of runs value.
00085   Count_T lTotalNumberOfRuns;
00086   const bool hasNumberofRunsBeenRetrieved =
00087     exportValue<Count_T> (lTotalNumberOfRuns, "runs.number");
00088   if (hasNumberofRunsBeenRetrieved == true) {
00089     oStr << " Number Of Runs: " << lTotalNumberOfRuns << std::endl;
00090   }
00091
00092   // Look for the input files.
00093   stdair::Filename_T lFilename ("");
00094   const bool hasScheduleFileBeenRetrieved =
00095     exportValue<stdair::Filename_T> (lFilename, "input.schedule");
00096   if (hasScheduleFileBeenRetrieved == true) {
00097     oStr << " Schedule input file: " << lFilename << std::endl;
00098   }
00099   const bool hasODFfileBeenRetrieved =

```

```

00100     exportValue<stdair::Filename_T> (lFilename, "input.ond");
00101     if (hasODFFileBeenRetrieved == true) {
00102         oStr << " OnD input file: " << lFilename << std::endl;
00103     }
00104     const bool hasFrat5FileBeenRetrieved =
00105         exportValue<stdair::Filename_T> (lFilename, "input.frat5");
00106     if (hasFrat5FileBeenRetrieved == true) {
00107         oStr << " Frat5 input file: " << lFilename << std::endl;
00108     }
00109     const bool hasFFdisutilityFileBeenRetrieved =
00110         exportValue<stdair::Filename_T> (lFilename, "input.ffdisutility");
00111     if (hasFFdisutilityFileBeenRetrieved == true) {
00112         oStr << " FFdisutility input file: " << lFilename << std::endl;
00113     }
00114     const bool hasYieldFileBeenRetrieved =
00115         exportValue<stdair::Filename_T> (lFilename, "input.yield");
00116     if (hasYieldFileBeenRetrieved == true) {
00117         oStr << " Yield input file: " << lFilename << std::endl;
00118     }
00119     const bool hasFareFileBeenRetrieved =
00120         exportValue<stdair::Filename_T> (lFilename, "input.fare");
00121     if (hasFareFileBeenRetrieved == true) {
00122         oStr << " Fare input file: " << lFilename << std::endl;
00123     }
00124     const bool hasDemandFileBeenRetrieved =
00125         exportValue<stdair::Filename_T> (lFilename, "input.demand");
00126     if (hasDemandFileBeenRetrieved == true) {
00127         oStr << " Demand input file: " << lFilename << std::endl;
00128     }
00129
00130     return oStr.str();
00131 }
00132 // /////////////////////////////////
00133 const std::string ConfigHolderStruct::jsonExport() const {
00134     std::ostringstream oStr;
00135 #if BOOST_VERSION >= 104100
00136     // Write the property tree into the JSON stream.
00137     write_json (oStr, _pt);
00138 #endif // BOOST_VERSION >= 104100
00139     return oStr.str();
00140 }
00141
00142 // /////////////////////////////////
00143 void ConfigHolderStruct::add (const bpt::ptree& iConfigPropertyTree) {
00144     // Call the dedicated recursive method with an empty path in order to merge
00145     // the config property tree with the given new one.
00146     std::string lEmptyPath ("");
00147     add (iConfigPropertyTree, lEmptyPath);
00148 }
00149
00150 // /////////////////////////////////
00151 void ConfigHolderStruct::add (const bpt::ptree& iConfigPropertyTree,
00152                               const std::string& iPath) {
00153
00154     // Are there any more children to browse?
00155     bool isThereAnyChild = false;
00156
00157 #if BOOST_VERSION >= 104100
00158     // Browse the children nodes
00159     BOOST_FOREACH(bpt::ptree::value_type itChild, iConfigPropertyTree) {
00160
00161         isThereAnyChild = true;
00162
00163         // Build the current path
00164         std::ostringstream lCurrentPathStr;
00165         const bool isPathEmptyForNow = iPath.empty();
00166         if (isPathEmptyForNow == false) {
00167             lCurrentPathStr << iPath << ".";
00168         }
00169         // Add the current node name
00170         lCurrentPathStr << itChild.first.data();
00171         const std::string lCurrentPath (lCurrentPathStr.str());
00172
00173         // Get the child tree
00174         const bpt::ptree& lChildTree = itChild.second;
00175         add(lChildTree, lCurrentPath);
00176     }
00177
00178     // If there is no child for this node, create the specified path and add
00179     // the correponding value
00180     if (isThereAnyChild == false) {
00181         std::string lValue (iConfigPropertyTree.data());
00182         const bool hasInsertionBeenSuccessful = addValue (lValue, iPath);
00183         assert (hasInsertionBeenSuccessful == true);
00184     }
00185 }
00186

```

```

00187 #endif // BOOST_VERSION >= 104100
00188 }
00189
00190 // /////////////////////////////////
00191 bool ConfigHolderStruct::addValue (const std::string& iValue,
00192                                     const std::string& iPath) {
00193     bool hasInsertionBeenSuccessful = true;
00194     // Create the given specified path and add the corresponding given value,
00195     // or replace the value if the path already exists.
00196 #if BOOST_VERSION >= 104100
00197     try {
00198         std::size_t found;
00199         const std::string lPrefix ("config");
00200         std::string lFinalPath;
00201         found = iPath.find(lPrefix);
00202         if (found == std::string::npos) {
00203             lFinalPath += lPrefix;
00204             lFinalPath += ".";
00205         }
00206         lFinalPath += iPath;
00207         if (lFinalPath != lPrefix) {
00208             _pt.put (lFinalPath, iValue);
00209         }
00210     } catch (bpt::ptree_bad_data& bptException) {
00211         hasInsertionBeenSuccessful = false;
00212     }
00213 }
00214 #endif // BOOST_VERSION >= 104100
00215
00216     return hasInsertionBeenSuccessful;
00217 }
00218
00219 // ///////////////////////////////
00220 void ConfigHolderStruct::updateAirlineFeatures (
00221     BomRoot& iBomRoot) {
00222
00223     AirlineCode_T lAirlineCode ("");
00224
00225     // Browse the children nodes
00226     BOOST_FOREACH(bpt::ptree::value_type itChild, _pt) {
00227         std::ostringstream lPathStr;
00228         lPathStr << itChild.first.data() << ".airline_code";
00229         const bool hasAirlineCodeBeenRetrieved =
00230             exportValue<AirlineCode_T> (lAirlineCode , lPathStr.str());
00231         if (hasAirlineCodeBeenRetrieved == true) {
00232             AirlineFeature* lAirlineFeature_ptr =
00233                 BomRetriever::retrieveAirlineFeatureFromKey (iBomRoot,
00234                     lAirlineCode);
00235             if (lAirlineFeature_ptr != NULL) {
00236
00237                 try {
00238
00239                     std::ostringstream lPathStr;
00240                     char lChar;
00241
00242                     // Try to extract the forecasting method from the config tree
00243                     lPathStr << itChild.first.data() << ".forecasting_method";
00244                     const bool hasForecastingMethodBeenRetrieved =
00245                         exportValue<char> (lChar, lPathStr.str());
00246                     if (hasForecastingMethodBeenRetrieved == true) {
00247                         const ForecastingMethod lForecastingMethod (lChar);
00248                         lAirlineFeature_ptr->setForecastingMethod(lForecastingMethod);
00249
00250                     // Try to extract the unconstraining method from the config tree
00251                     lPathStr.str("");
00252                     lPathStr << itChild.first.data() << ".unconstraining_method";
00253                     const bool hasUnconstrainingMethodBeenRetrieved =
00254                         exportValue<char> (lChar, lPathStr.str());
00255                     if (hasUnconstrainingMethodBeenRetrieved == true) {
00256                         const UnconstrainingMethod lUnconstrainingMethod (lChar);
00257                         lAirlineFeature_ptr->setUnconstrainingMethod(lUnconstrainingMethod);
00258
00259                     // Try to extract the partnership technique from the config tree
00260                     lPathStr.str("");
00261                     lPathStr << itChild.first.data() << ".partnership_technique";
00262                     const bool hasPartnershipTechniqueBeenRetrieved =
00263                         exportValue<char> (lChar, lPathStr.str());
00264                     if (hasPartnershipTechniqueBeenRetrieved == true) {
00265                         const PartnershipTechnique lPartnershipTechnique (lChar);
00266                         lAirlineFeature_ptr->setPartnershipTechnique(lPartnershipTechnique);
00267
00268
00269                     // Try to extract the pre optimisation method from the config tree
00270                     lPathStr.str("");
00271                     lPathStr << itChild.first.data() << ".pre_optimisation_method";

```

```

00272     const bool hasPreOptMethodBeenRetrieved =
00273         exportValue<char> (lChar, lPathStr.str());
00274     if (hasPreOptMethodBeenRetrieved == true) {
00275         const PreOptimisationMethod lPreOptimisationMethod (lChar);
00276         lAirlineFeature_ptr->setPreOptimisationMethod(lPreOptimisationMethod)
00277     }
00278
00279     // Try to extract the optimisation method from the config tree
00280     lPathStr.str("");
00281     lPathStr << itChild.first.data() << ".optimisation_method";
00282     const bool hasOptMethodBeenRetrieved =
00283         exportValue<char> (lChar, lPathStr.str());
00284     if (hasOptMethodBeenRetrieved == true) {
00285         const OptimisationMethod lOptimisationMethod (lChar);
00286         lAirlineFeature_ptr->setOptimisationMethod(lOptimisationMethod);
00287     }
00288
00289 } catch (CodeConversionException& lCodeConversionException) {
00290     std::ostringstream oMessage;
00291     oMessage << "Wrong input features for the airline '"
00292         << lAirlineCode << ' ' in the input configuration file: "
00293         << lCodeConversionException.what();
00294     STDAIR_LOG_ERROR (oMessage.str());
00295     throw CodeConversionException (oMessage.str());
00296 }
00297 }
00298 }
00299 }
00300 }
00301 }
```

### 33.263 stdair/bom/ConfigHolderStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <boost/static_assert.hpp>
#include <boost/type_traits/is_same.hpp>
#include <stdair/stdair_file.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/ConfigHolderTypes.hpp>
```

#### Classes

- struct [stdair::ConfigHolderStruct](#)

#### Namespaces

- [bpt](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.264 ConfigHolderStruct.hpp

```

00001 #ifndef __STDAIR_BOM_CONFIGHOLDERSTRUCT_HPP
00002 #define __STDAIR_BOM_CONFIGHOLDERSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
0010 // Boost
0011 #include <boost/static_assert.hpp>
0012 #include <boost/type_traits/is_same.hpp>
```

```
00013 #if BOOST_VERSION >= 104100
00014 // Boost Property Tree
00015 #include <boost/property_tree/ptree.hpp>
00016 #endif // BOOST_VERSION >= 104100
00017 // StdAir
00018 #include <stdair/stdair_file.hpp>
00019 #include <stdair/stdair_maths_types.hpp>
00020 #include <stdair/stdair_date_time_types.hpp>
00021 #include <stdair/basic/StructAbstract.hpp>
00022 #include <stdair/bom/ConfigHolderTypes.hpp>
00023
00024 #if BOOST_VERSION >= 104100
00025 namespace bpt = boost::property_tree;
00026 #else // BOOST_VERSION >= 104100
00027 namespace bpt {
00028     typedef char ptree;
00029 }
00030 #endif // BOOST_VERSION >= 104100
00031
00032 namespace stdair {
00033
00034     class BomRoot;
00035
00036     struct ConfigHolderStruct : public StructAbstract {
00037         public:
00038             // //////////////////// Getters ///////////////////
00039
00040             // ////////////////// Business Methods //////////////////
00041             void add (const bpt::ptree&);
00042
00043             bool addValue (const std::string& iValue,
00044                            const std::string& iPath);
00045
00046             template <typename ValueType>
00047             bool exportValue (ValueType& ioValue, const std::string& iPath) const;
00048
00049             void updateAirlineFeatures (BomRoot&);
00050
00051         private:
00052             void add (const bpt::ptree&,
00053                       const std::string&);
00054
00055         public:
00056             // ////////////////// Display support method //////////////////
00057             void toStream (std::ostream& ioOut) const;
00058
00059             void fromStream (std::istream& ioIn);
00060
00061             const std::string describe() const;
00062
00063             const std::string jsonExport() const;
00064
00065             // ////////////////// Constructors and Destructors //////////////////
00066         public:
00067             ConfigHolderStruct ();
00068
00069             ConfigHolderStruct (const ConfigHolderStruct&);
00070
00071         public:
00072             ~ConfigHolderStruct();
00073
00074         private:
00075             // ////////////////// Attributes //////////////////
00076             bpt::ptree _pt;
00077         };
00078
00079         // /////////////////////////////////
00080         template <typename ValueType>
00081         bool ConfigHolderStruct::exportValue (ValueType& ioValue,
00082                                               const std::string& iPath) const {
00083
00084             bool hasValueBeenSuccessfullyRetrieved = true;
00085
00086 #if BOOST_VERSION >= 104100
00087             try {
00088                 // Get the value.
00089                 // If the path key is not found, an exception is thrown.
00090                 const std::string lPrefix ("config.");
00091                 const std::string lFinalPath = lPrefix + iPath;
00092                 ioValue = _pt.get<ValueType> (lFinalPath);
00093
00094             } catch (bpt::ptree_error& bptException) {
00095                 hasValueBeenSuccessfullyRetrieved = false;
00096             }
00097
00098 #endif // BOOST_VERSION >= 104100
00099 }
```

```

00161     return hasValueBeenSuccessfullyRetrieved;
00162 }
00163 }
00164 }
00165 // ///////////////////////////////////////////////////////////////////
00166 //
00167 // Specialization of the template method exportValue above for the type
00168 // Date_T.
00169 //
00170 // ///////////////////////////////////////////////////////////////////
00171 //
00172 template<>
00173 inline bool ConfigHolderStruct::exportValue<Date_T>
00174 (Date_T& ioValue,
00175 const std::string& iPath) const {
00176     const std::string hasValueBeenSuccessfullyRetrieved = true;
00177
00178     bool hasValueBeenSuccessfullyRetrieved = true;
00179
00180 #if BOOST_VERSION >= 104100
00181     try {
00182
00183         // Get the string date value.
00184         // If the path key is not found, an exception is thrown.
00185         const std::string lPrefix ("config.");
00186         const std::string lFinalPath = lPrefix + iPath;
00187         const std::string& lDateStr =
00188             _pt.get<std::string> (lFinalPath);
00189
00190         // Convert the string into a Date_T.
00191         ioValue =
00192             boost::gregorian::from_simple_string (lDateStr);
00193
00194     } catch (bpt::ptree_error& bptException) {
00195         hasValueBeenSuccessfullyRetrieved = false;
00196     }
00197 #endif // BOOST_VERSION >= 104100
00198
00199     return hasValueBeenSuccessfullyRetrieved;
00200
00201
00202
00203 }
00204
00205 }
00206
00207 #endif // __STDAIR_BOM_CONFIGHOLDERSTRUCT_HPP

```

### 33.265 stdair/bom/ConfigHolderTypes.hpp File Reference

```
#include <list>
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef boost::shared\_ptr< ConfigHolderStruct > stdair::ConfigHolderPtr\_T**

### 33.266 ConfigHolderTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_CONFIGHOLDERTYPES_HPP
00003 #define __STDAIR_BOM_CONFIGHOLDERTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL

```

```

00009 #include <list>
00010 // Boost
00011 #include <boost/shared_ptr.hpp>
00012
00013 namespace stdair {
00014
00015 // Forward declarations
00016 struct ConfigHolderStruct;
00017
00018 // ///////////// Type definitions /////////////
00019 typedef boost::shared_ptr<ConfigHolderStruct> ConfigHolderPtr_T;
00020
00021 }
00022 #endif // __STDAIR_BOM_CONFIGHOLDERTYPES_HPP
00023
00024

```

### 33.267 stdair/bom/DatePeriod.cpp File Reference

```

#include <cassert>
#include <iostream>
#include <stdair/basic/BasConst_Period_BOM.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/DatePeriod.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.268 DatePeriod.cpp

```

00001 // /////////////
00002 // Import section
00003 // /////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Period_BOM.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 #include <stdair/bom/DatePeriod.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////
00015 DatePeriod::DatePeriod()
00016   : _key (BOOST_DEFAULT_DATE_PERIOD),
00017   _parent (NULL) {
00018   // That constructor is used by the serialisation process
00019 }
00020
00021 // /////////////
00022 DatePeriod::DatePeriod (const DatePeriod& iDatePeriod)
00023   : _key (iDatePeriod.getKey()), _parent (NULL) {
00024 }
00025
00026 // /////////////
00027 DatePeriod::DatePeriod (const Key_T& iKey)
00028   : _key (iKey), _parent (NULL) {
00029 }
00030
00031 // /////////////
00032 DatePeriod::~DatePeriod () {
00033 }
00034
00035 // /////////////
00036 std::string DatePeriod::toString() const {
00037   std::ostringstream oStr;
00038   oStr << describeKey();
00039   return oStr.str();
00040 }
00041
00042 // ///////////////

```

```
00043     bool DatePeriod::
00044         isDepartureDateValid (const Date_T& iFlightDate) const {
00045
00046             // Check if the departure date is within the date range.
00047             const DatePeriod_T& lPeriod = getDatePeriod ();
00048             if (lPeriod.contains (iFlightDate) == false) {
00049                 return false;
00050             }
00051
00052             return true;
00053         }
00054
00055     }
00056 }
```

### **33.269 stdair/bom/DatePeriod.hpp File Reference**

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/DatePeriodKey.hpp>
#include <stdair/bom/DatePeriodTypes.hpp>
```

## Classes

- class `stdair::DatePeriod`  
*Class representing the actual attributes for a fare date-period.*

## Namespaces

- **stdair**  
*Handle on the StdAir library context.*

33.270 DatePeriod.hpp

```
00001 #ifndef __STDAIR_BOM_DATEPERIOD_HPP
00002 #define __STDAIR_BOM_DATEPERIOD_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/DatePeriodKey.hpp>
00010 #include <stdair/bom/DatePeriodTypes.hpp>
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00018     class DatePeriod : public BomAbstract {
00019         template <typename BOM> friend class FacBom;
00020         template <typename BOM> friend class FacCloneBom;
00021         friend class FacBomManager;
00022
00023     public:
00024         // ////////////////// Type definitions ///////////////////
00028         typedef DatePeriodKey Key_T;
00029
00030     public:
00031         // ////////////////// Display support methods //////////////////
00037         void toStream (std::ostream& ioOut) const {
00038             ioOut << toString();
00039         }
00040
00046         void fromStream (std::istream& ioIn) {
00047     }
00048
00052         std::string toString() const;
00053
00057         const std::string describeKey() const {
00058             return _key.toString();
00059         }
00060 }
```

```

00061 public:
00062     // ////////////////// Getters //////////////////
00063     const Key_T& getKey() const {
00064         return _key;
00065     }
00066
00067     BomAbstract* const getParent() const {
00068         return _parent;
00069     }
00070
00071     const HolderMap_T& getHolderMap() const {
00072         return _holderMap;
00073     }
00074
00075     const DatePeriod_T& getDatePeriod() const {
00076         return _key.getDatePeriod();
00077     }
00078
00079
00080
00081
00082
00083
00084
00085
00086
00087
00088
00089
00090
00091
00092 public:
00093     // ////////////////// Business methods //////////////////
00094     bool isDepartureDateValid (const Date_T&) const;
00095
00096
00097 protected:
00098     // ////////////////// Constructors and destructors //////////////////
00099     DatePeriod (const Key_T&);
00100     virtual ~DatePeriod ();
00101
00102 private:
00103     DatePeriod ();
00104     DatePeriod (const DatePeriod&);
00105
00106 protected:
00107     // ////////////////// Attributes //////////////////
00108     Key_T _key;
00109
00110     BomAbstract* _parent;
00111
00112     HolderMap_T _holderMap;
00113
00114 };
00115
00116
00117
00118
00119
00120
00121
00122
00123
00124
00125
00126
00127
00128
00129
00130
00131
00132
00133
00134
00135
00136
00137
00138
00139
00140
00141 #endif // __STDAIR_BOM_DATEPERIOD_HPP
00142

```

### 33.271 stdair/bom/DatePeriodKey.cpp File Reference

```

#include <iostream>
#include <sstream>
#include <boost/date_time/gregorian/formatters.hpp>
#include <stdair/basic/BasConst_Period_BOM.hpp>
#include <stdair/bom/DatePeriodKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.272 DatePeriodKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <sstream>
00007 // Boost Date-Time
00008 #include <boost/date_time/gregorian/formatters.hpp>
00009 // STDAIR
00010 #include <stdair/basic/BasConst_Period_BOM.hpp>
00011 #include <stdair/bom/DatePeriodKey.hpp>
00012

```

```

00013 namespace stdair {
00014 // /////////////////////////////////
00015 DatePeriodKey::DatePeriodKey()
00016   : _datePeriod (BOOST_DEFAULT_DATE_PERIOD) {
00017   assert (false);
00018 }
00020 // /////////////////////////////////
00021 DatePeriodKey::DatePeriodKey (const stdair::DatePeriod_T& iDatePeriod)
00022   : _datePeriod (iDatePeriod) {
00023 }
00025 // /////////////////////////////////
00027 DatePeriodKey::DatePeriodKey (const DatePeriodKey& iKey)
00028   : _datePeriod (iKey._datePeriod) {
00029 }
00030 // /////////////////////////////////
00032 DatePeriodKey::~DatePeriodKey () {
00033 }
00034 // /////////////////////////////////
00036 void DatePeriodKey::toStream (std::ostream& ioOut) const {
00037   ioOut << "DatePeriodKey: " << toString() << std::endl;
00038 }
00039 // /////////////////////////////////
00041 void DatePeriodKey::fromStream (std::istream& ioIn) {
00042 }
00043 // /////////////////////////////////
00045 const std::string DatePeriodKey::toString() const {
00046   std::ostringstream oStr;
00047   const stdair::Date_T lStart = _datePeriod.begin();
00048   const stdair::Date_T lEnd = _datePeriod.end();
00049   oStr << "[" << boost::gregorian::to_simple_string(lStart)
00050     << "/" << boost::gregorian::to_simple_string(lEnd)
00051     << "]";
00052   return oStr.str();
00053 }
00054 }
00055 }
```

### 33.273 stdair/bom/DatePeriodKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_date_time_types.hpp>
```

#### Classes

- struct [stdair::DatePeriodKey](#)

*Key of date-period.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.274 DatePeriodKey.hpp

```

00001 #ifndef __SIMFQT_BOM_DATEPERIODKEY_HPP
00002 #define __SIMFQT_BOM_DATEPERIODKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
00010
```

```

00011 namespace stdair {
00014   struct DatePeriodKey : public KeyAbstract {
00015
00016   public:
00017     // ////////////////// Construction ///////////////////
00019     DatePeriodKey (const DatePeriod_T&);
00021     DatePeriodKey (const DatePeriodKey&);
00023     ~DatePeriodKey ();
00024
00025   private:
00027     DatePeriodKey ();
00028
00029   public:
00030     // ////////////////// Getters ///////////////////
00032     const DatePeriod_T& getDatePeriod() const {
00033       return _datePeriod;
00034     }
00035
00036   public:
00037
00038     // ////////////////// Display support methods //////////////////
00044     void toStream (std::ostream& ioOut) const;
00045
00051     void fromStream (std::istream& ioIn);
00052
00058     const std::string toString() const;
00059
00060   private:
00061     // ////////////////// Attributes ///////////////////
00065     DatePeriod_T _datePeriod;
00066
00067   };
00068
00069 }
00070 #endif // __SIMFQT_BOM_DATEPERIODKEY_HPP

```

### 33.275 stdair/bom/DatePeriodTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

#### TypeDefs

- `typedef std::list< DatePeriod * > stdair::DatePeriodList_T`
- `typedef std::map< const MapKey_T, DatePeriod * > stdair::DatePeriodMap_T`
- `typedef std::pair< MapKey_T, DatePeriod * > stdair::DatePeriodWithKey_T`
- `typedef std::list< DatePeriodWithKey_T > stdair::DatePeriodDetailedList_T`

### 33.276 DatePeriodTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_DATEPERIODTYPES_HPP
00003 #define __STDAIR_BOM_DATEPERIODTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {

```

```

00015 // Forward declarations.
00016 class DatePeriod;
00017
00018 typedef std::list<DatePeriod*> DatePeriodList_T;
00019
00020 typedef std::map<const MapKey_T, DatePeriod> DatePeriodMap_T;
00021
00022 typedef std::pair<MapKey_T, DatePeriod> DatePeriodWithKey_T;
00023
00024 typedef std::list<DatePeriodWithKey_T> DatePeriodDetailedList_T;
00025
00026 }
00027
00028 #endif // __STDAIR_BOM_DATEPERIODTYPES_HPP
00029
00030

```

### 33.277 stdair/bom/DoWStruct.cpp File Reference

```

#include <sstream>
#include <cassert>
#include <stdair/basic/BasConst_Period_BOM.hpp>
#include <stdair/bom/DoWStruct.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.278 DoWStruct.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 #include <cassert>
00007 // STDAIR
00008 #include <stdair/basic/BasConst_Period_BOM.hpp>
00009 #include <stdair/bom/DoWStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // ///////////////////////////////////////////////////////////////////
00014 DoWStruct::DoWStruct () {
00015     for (unsigned short i = 0; i < 7; ++i) {
00016         _dowList.push_back (false);
00017     }
00018 }
00019
00020 // ///////////////////////////////////////////////////////////////////
00021 DoWStruct::DoWStruct (const std::string& iDowString) {
00022     const unsigned short lDowStringSize = iDowString.size();
00023     assert (lDowStringSize == 7);
00024
00025     _dowList.reserve (lDowStringSize);
00026     for (std::string::const_iterator itChar = iDowString.begin();
00027          itChar != iDowString.end(); ++itChar) {
00028         const bool isDoWSet = (*itChar == '1')?true:false;
00029         _dowList.push_back (isDoWSet);
00030     }
00031 }
00032
00033 // ///////////////////////////////////////////////////////////////////
00034 DoWStruct::DoWStruct (const DoWStruct& iDowStruct) :
00035     _dowList (iDowStruct._dowList) {
00036
00037 }
00038
00039 // ///////////////////////////////////////////////////////////////////
00040 const std::string DoWStruct::describeShort() const {
00041     std::ostringstream ostr;
00042     short i = 0;
00043     for (BooleanList_T::const_iterator itDoW = _dowList.begin();
00044          itDoW != _dowList.end(); ++itDoW, ++i) {
00045         const char lDoW = (*itDoW == true)?'1':'0';
00046         ostr << lDoW;

```

```
00047      }
00048      return ostr.str();
00049  }
00050
00051 // /////////////////////////////////
00052 const std::string DoWStruct::describe() const {
00053   std::ostringstream ostr;
00054   short i = 0;
00055   for (BooleanList_T::const_iterator itDoW = _dowList.begin();
00056        itDoW != _dowList.end(); ++itDoW, ++i) {
00057     const bool lDoW = *itDoW;
00058     if (lDoW == true) {
00059       ostr << DOW_STR[i] << ".";
00060     }
00061   }
00062   return ostr.str();
00063 }
00064
00065 // ///////////////////////////////
00066 bool DoWStruct::getDayOfWeek (const unsigned short i) const {
00067   return _dowList.at (i);
00068 }
00069
00070 // ///////////////////////////////
00071 bool DoWStruct::getStandardDayOfWeek (const unsigned short i) const {
00072   unsigned short iStd = i;
00073   if (iStd == 0) {
00074     iStd = 6;
00075   } else {
00076     --iStd;
00077   }
00078   return _dowList.at (iStd);
00079 }
00080
00081 // ///////////////////////////////
00082 void DoWStruct::setDayOfWeek (const unsigned short i, const bool iBool) {
00083   assert (i < 7);
00084   _dowList.at (i) = iBool;
00085 }
00086
00087 // ///////////////////////////////
00088 DoWStruct DoWStruct::shift (const long& iNbOfDays) const {
00089   DoWStruct oDoW (DEFAULT_DOW_STRING);
00090
00091   for (short i = 0; i < 7; ++i) {
00092     const bool lDoWBool = _dowList.at (i);
00093     short lIndex = (i + iNbOfDays) % 7;
00094     if (lIndex < 0) {
00095       lIndex += 7;
00096     }
00097     oDoW.setDayOfWeek (lIndex, lDoWBool);
00098   }
00099
00100   return oDoW;
00101 }
00102
00103 // ///////////////////////////////
00104 DoWStruct DoWStruct::intersection (const
00105   DoWStruct& iDoW) const {
00106   DoWStruct oDoW (DEFAULT_DOW_STRING);
00107   for (unsigned short i = 0; i < 7; ++i) {
00108     if (getDayOfWeek(i) && iDoW.getDayOfWeek(i)) {
00109       oDoW.setDayOfWeek (i, true);
00110     } else {
00111       oDoW.setDayOfWeek (i, false);
00112     }
00113   }
00114   return oDoW;
00115 }
00116
00117 const bool DoWStruct::isValid () const {
00118   for (unsigned short i = 0; i < 7; ++i) {
00119     if (!getDayOfWeek(i)) {
00120       return true;
00121     }
00122   }
00123   return false;
00124 }
00125
00126 }
```

### 33.279 stdair/bom/DoWStruct.hpp File Reference

```
#include <string>
#include <vector>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::DoWStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.280 DoWStruct.hpp

```
00001 #ifndef __STDAIR_BOM_DOWSTRUCT_HPP
00002 #define __STDAIR_BOM_DOWSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 // STDAIR
00011 #include <stdair/basic/StructAbstract.hpp>
00012
00013 namespace stdair {
00014
00015     struct DoWStruct : public StructAbstract {
00016         public:
00017             typedef std::vector<bool> BooleanList_T;
00018
00019         public:
00020             // ///////////////////// Getters ///////////////////
00021             bool getDayOfWeek (const unsigned short i) const;
00022
00023             bool getStandardDayOfWeek (const unsigned short i) const;
00024
00025         public:
00026             // ////////////////// Setters ///////////////////
00027             void setDayOfWeek (const unsigned short, const bool);
00028
00029         public:
00030             // ////////////////// Display methods //////////////////
00031             const std::string describe() const;
00032
00033             const std::string describeShort() const;
00034
00035         public:
00036             // ////////////////// Business Methods //////////////////
00037             DoWStruct shift (const long&) const;
00038
00039             DoWStruct intersection (const DoWStruct&) const;
00040
00041             const bool isValid () const;
00042
00043         public:
00044             DoWStruct (const std::string& iDowString);
00045             DoWStruct ();
00046             DoWStruct (const DoWStruct&);
00047             ~DoWStruct () { }
00048
00049         private:
00050             BooleanList_T _dowList;
00051         };
00052
00053     };
00054
00055 #endif // __STDAIR_BOM_DOWSTRUCT_HPP
```

### 33.281 stdair/bom/EventStruct.cpp File Reference

```
#include <cassert>
#include <boost/shared_ptr.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_Event.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/OptimisationNotificationStruct.hpp>
#include <stdair/bom/SnapshotStruct.hpp>
#include <stdair/bom/CancellationStruct.hpp>
#include <stdair/bom/RMEventStruct.hpp>
#include <stdair/bom/BreakPointStruct.hpp>
#include <stdair/bom/EventStruct.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.282 EventStruct.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Boost
00007 #if BOOST_VERSION >= 103900
00008 #include <boost/make_shared.hpp>
00009 #else // BOOST_VERSION >= 103900
00010 #include <boost/shared_ptr.hpp>
00011 #endif // BOOST_VERSION >= 103900
00012 // StdAir
00013 #include <stdair/basic/BasConst_General.hpp>
00014 #include <stdair/basic/BasConst_Event.hpp>
00015 #include <stdair/bom/BookingRequestStruct.hpp>
00016 #include <stdair/bom/OptimisationNotificationStruct.hpp>
00017 #include <stdair/bom/SnapshotStruct.hpp>
00018 #include <stdair/bom/CancellationStruct.hpp>
00019 #include <stdair/bom/RMEventStruct.hpp>
00020 #include <stdair/bom/BreakPointStruct.hpp>
00021 #include <stdair/bom/EventStruct.hpp>
00022
00023 namespace stdair {
00024
00025 // /////////////////////////////////
00026 EventStruct::EventStruct()
00027 : _eventType (EventType::BKG_REQ), _eventTimeStamp (0) {
00028 }
00029
00030 // /////////////////////////////////
00031 EventStruct::EventStruct (const
00032 EventType::EN_EventType,
00033 BookingRequestPtr_T ioRequestPtr)
00034 : _eventType (iEventType) {
00035
00036 assert (ioRequestPtr != NULL);
00037 #if BOOST_VERSION >= 103900
00038 _bookingRequest = boost::make_shared<BookingRequestStruct> (*ioRequestPtr);
00039 #else // BOOST_VERSION >= 103900
00040 _bookingRequest = ioRequestPtr;
00041 #endif // BOOST_VERSION >= 103900
00042 assert (_bookingRequest != NULL);
00043
00044 const Duration_T lDuration =
00045 _bookingRequest->getRequestDateTime() - DEFAULT_EVENT_OLEDEST_DATETIME;
00046 _eventTimeStamp = lDuration.total_milliseconds();
00047 }
00048
00049 // /////////////////////////////////
00050 EventStruct::EventStruct (const
00051 EventType::EN_EventType& iEventType,
```

```

00056                               CancellationPtr_T ioCancellationPtr)
00057 : _eventType (iEventType) {
00058
00059 // assert (ioCancellationPtr != NULL);
00060 #if BOOST_VERSION >= 103900
00061     _cancellation = boost::make_shared<CancellationStruct> (*ioCancellationPtr);
00062 #else // BOOST_VERSION >= 103900
00063     _cancellation = ioCancellationPtr;
00064 #endif // BOOST_VERSION >= 103900
00065 assert (_cancellation != NULL);
00066
00067 const Duration_T lDuration =
00068     _cancellation->getCancellationDateTime() - DEFAULT_EVENT_OLDEST_DATETIME
00069 ;
00070     _eventTimeStamp = lDuration.total_milliseconds();
00071 }
00072
00073 // /////////////////////////////////
00074 EventStruct:::
00075 EventStruct (const EventType::EN_EventType& iEventType,
00076                 const DateTme_T& iDCPDate,
00077                 OptimisationNotificationPtr_T ioOptimisationNotificationPtr)
00078 : _eventType (iEventType) {
00079
00080 // assert (ioOptimisationNotificationPtr != NULL);
00081 #if BOOST_VERSION >= 103900
00082     _optimisationNotification =
00083         boost::make_shared<OptimisationNotificationStruct> (*ioOptimisationNotificationPtr);
00084 #else // BOOST_VERSION >= 103900
00085     _optimisationNotification = ioOptimisationNotificationPtr;
00086 #endif // BOOST_VERSION >= 103900
00087 assert (_optimisationNotification != NULL);
00088
00089 const Duration_T lDuration = iDCPDate -
00090     DEFAULT_EVENT_OLDEST_DATETIME;
00091     _eventTimeStamp = lDuration.total_milliseconds();
00092 }
00093
00094 // /////////////////////////////////
00095 EventStruct::EventStruct (const
00096     EventType::EN_EventType& iEventType,
00097             SnapshotPtr_T ioSnapshotPtr)
00098 : _eventType (iEventType) {
00099
00100 // assert (ioSnapshotPtr != NULL);
00101
00102 #if BOOST_VERSION >= 103900
00103     _snapshot = boost::make_shared<SnapshotStruct> (*ioSnapshotPtr);
00104 #else // BOOST_VERSION >= 103900
00105     _snapshot = ioSnapshotPtr;
00106 #endif // BOOST_VERSION >= 103900
00107 assert (_snapshot != NULL);
00108
00109 const Duration_T lDuration =
00110     _snapshot->getSnapshotTime() - DEFAULT_EVENT_OLDEST_DATETIME;
00111     _eventTimeStamp = lDuration.total_milliseconds();
00112 }
00113
00114 // /////////////////////////////////
00115 EventStruct::EventStruct (const
00116     EventType::EN_EventType& iEventType,
00117             RMEventPtr_T ioRMEventPtr)
00118 : _eventType (iEventType) {
00119
00120 // assert (ioRMEventPtr != NULL);
00121
00122 #if BOOST_VERSION >= 103900
00123     _rmEvent = boost::make_shared<RMEventStruct> (*ioRMEventPtr);
00124 #else // BOOST_VERSION >= 103900
00125     _rmEvent = iRMEventPtr;
00126 #endif // BOOST_VERSION >= 103900
00127 assert (_rmEvent != NULL);
00128
00129 // /////////////////////////////////
00130 EventStruct::EventStruct (const
00131     EventType::EN_EventType& iEventType,
00132             BreakPointPtr_T ioBreakPointPtr)
00133 : _eventType (iEventType) {
00134
00135 // assert (ioBreakPointPtr != NULL);
00136
00137 #if BOOST_VERSION >= 103900
00138     _breakPoint = boost::make_shared<BreakPointStruct> (*ioBreakPointPtr);
00139 #else // BOOST_VERSION >= 103900
00140     _breakPoint = iBreakPointPtr;
00141 #endif // BOOST_VERSION >= 103900
00142 assert (_breakPoint != NULL);
00143
00144 const Duration_T lDuration =
00145     _breakPoint->getBreakPointTime() - DEFAULT_EVENT_OLDEST_DATETIME;
00146     _eventTimeStamp = lDuration.total_milliseconds();
00147 }
00148
00149 // /////////////////////////////////
00150 EventStruct::EventStruct (const
00151     EventType::EN_EventType& iEventType,
00152             BreakPointPtr_T ioBreakPointPtr)
00153 : _eventType (iEventType) {
00154
00155 // assert (ioBreakPointPtr != NULL);
00156
00157 // assert (ioBreakPointPtr != NULL);

```

```

00158 // 
00159     assert (ioBreakPointPtr != NULL);
00160
00161 #if BOOST_VERSION >= 103900
00162     _breakPoint = boost::make_shared<BreakPointStruct> (*ioBreakPointPtr);
00163 #else // BOOST_VERSION >= 103900
00164     _breakPoint = ioBreakPointPtr;
00165 #endif // BOOST_VERSION >= 103900
00166     assert (_breakPoint != NULL);
00167
00168     const Duration_T lDuration =
00169         _breakPoint->getBreakPointTime() - DEFAULT_EVENT_OLEDEST_DATETIME;
00170     _eventTimeStamp = lDuration.total_milliseconds();
00171 }
00172
00173 // /////////////////////////////////
00174 EventStruct::EventStruct (const EventStruct& iEventStruct)
00175     : _eventType (iEventStruct._eventType),
00176     _eventTimeStamp (iEventStruct._eventTimeStamp) {
00177
00178     //
00179     if (iEventStruct._bookingRequest != NULL) {
00180 #if BOOST_VERSION >= 103900
00181         _bookingRequest =
00182             boost::make_shared<BookingRequestStruct>(*iEventStruct._bookingRequest);
00183 #else // BOOST_VERSION >= 103900
00184         _bookingRequest = iEventStruct._bookingRequest;
00185 #endif // BOOST_VERSION >= 103900
00186     }
00187
00188     //
00189     if (iEventStruct._cancellation != NULL) {
00190 #if BOOST_VERSION >= 103900
00191         _cancellation =
00192             boost::make_shared<CancellationStruct>(*iEventStruct._cancellation);
00193 #else // BOOST_VERSION >= 103900
00194         _cancellation = iEventStruct._cancellation;
00195 #endif // BOOST_VERSION >= 103900
00196     }
00197
00198     //
00199     if (iEventStruct._optimisationNotification != NULL) {
00200 #if BOOST_VERSION >= 103900
00201         _optimisationNotification =
00202             boost::make_shared<OptimisationNotificationStruct> (*iEventStruct._optimisationNotification);
00203 #else // BOOST_VERSION >= 103900
00204         _optimisationNotification = iEventStruct._optimisationNotification;
00205 #endif // BOOST_VERSION >= 103900
00206     }
00207
00208     //
00209     if (iEventStruct._snapshot != NULL) {
00210 #if BOOST_VERSION >= 103900
00211         _snapshot = boost::make_shared<SnapshotStruct> (*iEventStruct._snapshot);
00212 #else // BOOST_VERSION >= 103900
00213         _snapshot = iEventStruct._snapshot;
00214 #endif // BOOST_VERSION >= 103900
00215     }
00216
00217     //
00218     if (iEventStruct._rmEvent != NULL) {
00219 #if BOOST_VERSION >= 103900
00220         _rmEvent = boost::make_shared<RMEventStruct> (*iEventStruct._rmEvent);
00221 #else // BOOST_VERSION >= 103900
00222         _rmEvent = iEventStruct._rmEvent;
00223 #endif // BOOST_VERSION >= 103900
00224     }
00225
00226     //
00227     if (iEventStruct._breakPoint != NULL) {
00228 #if BOOST_VERSION >= 103900
00229         _breakPoint = boost::make_shared<BreakPointStruct> (*iEventStruct._breakPoint);
00230 #else // BOOST_VERSION >= 103900
00231         _breakPoint = iEventStruct._breakPoint;
00232 #endif // BOOST_VERSION >= 103900
00233     }
00234
00235     //
00236     if (iEventStruct._rmEvent != NULL) {
00237 #if BOOST_VERSION >= 103900
00238         _rmEvent = boost::make_shared<RMEventStruct> (*iEventStruct._rmEvent);
00239 #else // BOOST_VERSION >= 103900
00240         _rmEvent = iEventStruct._rmEvent;
00241 #endif // BOOST_VERSION >= 103900
00242     }
00243 EventStruct::~EventStruct () {
00244 }
00245
00246 // /////////////////////////////////
00247 void EventStruct::fromStream (std::istream& ioIn) {
00248 }
00249

```

```

00250 // /////////////////////////////////
00251 const std::string EventStruct::describe() const {
00252     std::ostringstream oStr;
00253
00254     //
00255     const Duration_T lEventDateTimeDelta =
00256         boost::posix_time::milliseconds (_eventTimeStamp);
00257     const DateTime_T lEventDateTime (DEFAULT_EVENT_OLEDEST_DATETIME
00258                                     + lEventDateTimeDelta);
00259
00260     oStr << lEventDateTime;
00261
00262     //
00263     switch (_eventType) {
00264         case EventType::BKG_REQ: {
00265             assert (_bookingRequest != NULL);
00266             oStr << ", " << EventType::getLabel (_eventType)
00267                 << ", " << _bookingRequest->describe();
00268             break;
00269         }
00270         case EventType::CX: {
00271             assert (_cancellation != NULL);
00272             oStr << ", " << EventType::getLabel (_eventType)
00273                 << ", " << _cancellation->describe();
00274             break;
00275         }
00276         case EventType::OPT_NOT_4_FD: {
00277             assert (_optimisationNotification != NULL);
00278             oStr << ", " << EventType::getLabel (_eventType)
00279                 << ", " << _optimisationNotification->describe();
00280             break;
00281         }
00282         case EventType::SNAPSHOT: {
00283             assert (_snapshot != NULL);
00284             oStr << ", " << EventType::getLabel (_eventType)
00285                 << ", " << _snapshot->describe();
00286             break;
00287         }
00288         case EventType::RM: {
00289             assert (_rmEvent != NULL);
00290             oStr << ", " << EventType::getLabel (_eventType)
00291                 << ", " << _rmEvent->describe();
00292             break;
00293         }
00294         case EventType::BRK_PT: {
00295             assert (_breakPoint != NULL);
00296             oStr << ", " << EventType::getLabel (_eventType)
00297                 << ", " << _breakPoint->describe();
00298             break;
00299         }
00300         default: {
00301             oStr << ", " << _eventType << " (not yet recognised)";
00302             break;
00303         }
00304     }
00305
00306     oStr << "\n";
00307     return oStr.str();
00308 }
00309 // ///////////////////////////////
00310 const DateTime_T& EventStruct::getEventTime() const {
00311     const DateTime_T& lDateTime (DEFAULT_EVENT_OLEDEST_DATETIME);
00312
00313     //
00314     switch (_eventType) {
00315         case EventType::BKG_REQ: {
00316             assert (_bookingRequest != NULL);
00317             return _bookingRequest->getRequestDateTime();
00318             break;
00319         }
00320         case EventType::CX: {
00321             assert (_cancellation != NULL);
00322             return _cancellation->getCancellationDateTime();
00323             break;
00324         }
00325         case EventType::OPT_NOT_4_FD: {
00326             assert (_optimisationNotification != NULL);
00327             return _optimisationNotification->getNotificationDateTime();
00328             break;
00329         }
00330         case EventType::SNAPSHOT: {
00331             assert (_snapshot != NULL);
00332             return _snapshot->getSnapshotTime();
00333             break;
00334         }
00335         case EventType::RM: {
00336

```

```

00337     assert (_rmEvent != NULL);
00338     return _rmEvent->getRMEventTime();
00339     break;
00340 }
00341 case EventType::BRK_PT: {
00342     assert (_breakPoint != NULL);
00343     return _breakPoint->getBreakPointTime();
00344     break;
00345 }
00346 default: {
00347     assert(false);
00348     return lDateTime;
00349     break;
00350 }
00351 }
00352
00353     return lDateTime;
00354 }
00355
00356 // /////////////////////////////////
00357 void EventStruct::incrementEventTimeStamp() {
00358     // The date-time is counted in milliseconds (1e-3 second). Hence,
00359     // one thousand (1e3) of attempts correspond to 1 second.
00360     // Increment the time stamp of one millisecond.
00361     ++_eventTimeStamp;
00362 }
00363
00364 }
```

### 33.283 stdair/bom/EventStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_event_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/basic/EventType.hpp>
#include <stdair/bom/EventTypes.hpp>
#include <stdair/bom/BookingRequestTypes.hpp>
#include <stdair/bom/OptimisationNotificationTypes.hpp>
#include <stdair/bom/SnapshotTypes.hpp>
#include <stdair/bom/CancellationTypes.hpp>
#include <stdair/bom/RMEventTypes.hpp>
#include <stdair/bom/BreakPointTypes.hpp>
```

#### Classes

- struct [stdair::EventStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.284 EventStruct.hpp

```

00001 #ifndef __STDAIR_BAS_EVENTSTRUCT_HPP
00002 #define __STDAIR_BAS_EVENTSTRUCT_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
```

```

00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_date_time_types.hpp>
00013 #include <stdair/stdair_event_types.hpp>
00014 #include <stdair/basic/StructAbstract.hpp>
00015 #include <stdair/basic/EventType.hpp>
00016 #include <stdair/bom/EventTypes.hpp>
00017 #include <stdair/bom/BookingRequestTypes.hpp>
00018 #include <stdair/bom/OptimisationNotificationTypes.hpp>
00019 #include <stdair/bom/SnapshotTypes.hpp>
00020 #include <stdair/bom/CancellationTypes.hpp>
00021 #include <stdair/bom/RMEventTypes.hpp>
00022 #include <stdair/bom/BreakPointTypes.hpp>
00023
00024 namespace stdair {
00025
00026     struct EventStruct : public StructAbstract {
00027
00028         // //////////// Getters ///////////
00029     public:
00030         const EventType::EN_EventType& getEventType() const {
00031             return _eventType;
00032         }
00033
00034         const LongDuration_T& getEventTimeStamp() const {
00035             return _eventTimeStamp;
00036         }
00037
00038         const DateTime_T& getEventTime () const;
00039
00040         const BookingRequestStruct& getBookingRequest() const {
00041             assert (_bookingRequest != NULL);
00042             return *_bookingRequest;
00043         }
00044
00045         const CancellationStruct& getCancellation() const {
00046             assert (_cancellation != NULL);
00047             return *_cancellation;
00048         }
00049
00050         const OptimisationNotificationStruct&
00051         getOptimisationNotification() const {
00052             assert (_optimisationNotification != NULL);
00053             return *_optimisationNotification;
00054         }
00055
00056         const SnapshotStruct& getSnapshotStruct() const {
00057             assert (_snapshot != NULL);
00058             return *_snapshot;
00059         }
00060
00061         const RMEventStruct& getRMEvent() const {
00062             assert (_rmEvent != NULL);
00063             return *_rmEvent;
00064         }
00065
00066         const BreakPointStruct& getBreakPoint() const {
00067             assert (_breakPoint != NULL);
00068             return *_breakPoint;
00069         }
00070
00071         // /////////// Display methods ///////////
00072     public:
00073         void fromStream (std::istream& ioIn);
00074
00075         const std::string describe() const;
00076
00077         // /////////// Constructors and destructors ///////////
00078     public:
00079         EventStruct();
00080         EventStruct (const EventType::EN_EventType&,
00081                     BookingRequestPtr_T);
00082         EventStruct (const EventType::EN_EventType&,
00083                     CancellationPtr_T);
00084         EventStruct (const EventType::EN_EventType&, const
00085                     DateTime_T& iDCPDate,
00086                     OptimisationNotificationPtr_T);
00087         EventStruct (const EventType::EN_EventType&,
00088                     SnapshotPtr_T);
00089         EventStruct (const EventType::EN_EventType&,
00090                     RMEventPtr_T);
00091         EventStruct (const EventType::EN_EventType&,
00092                     BreakPointPtr_T);
00093         EventStruct (const EventStruct&,
00094                     ~EventStruct());
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```

00155 // //////////////////// Modifiers ///////////////////
00156 public:
00157     void incrementEventTimeStamp();
00158 // //////////////////// Attributes ///////////////////
00159 private:
00160     EventType::EN_EventType _eventType;
00161
00162     LongDuration_T _eventTimeStamp;
00163
00164     BookingRequestPtr_T _bookingRequest;
00165
00166     CancellationPtr_T _cancellation;
00167
00168     OptimisationNotificationPtr_T _optimisationNotification;
00169
00170     SnapshotPtr_T _snapshot;
00171
00172     RMEventPtr_T _rmEvent;
00173
00174     BreakPointPtr_T _breakPoint;
00175 };
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00213 }
00214 #endif // __STDAIR_BAS_EVENTSTRUCT_HPP

```

### 33.285 stdair/bom/EventTypes.hpp File Reference

```

#include <map>
#include <boost/shared_ptr.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_event_types.hpp>
#include <stdair/basic/ProgressStatus.hpp>
#include <stdair/bom/key_types.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::pair< const LongDuration\_T, EventStruct > stdair::EventListElement\_T**
- **typedef std::map< const LongDuration\_T, EventStruct > stdair::EventList\_T**

### 33.286 EventTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_EVENTTYPES_HPP
00003 #define __STDAIR_BOM_EVENTTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 // Boost Smart Pointers
00011 #include <boost/shared_ptr.hpp>
00012 // StdAir
00013 #include <stdair/stdair_basic_types.hpp>
00014 #include <stdair/stdair_date_time_types.hpp>
00015 #include <stdair/stdair_event_types.hpp>
00016 #include <stdair/basic/ProgressStatus.hpp>
00017 #include <stdair/bom/key_types.hpp>
00018
00019 namespace stdair {
00020

```

```

00022     struct EventStruct;
00023
00027     typedef std::pair<const LongDuration_T, EventStruct> EventListElement_T;
00028
00032     typedef std::map<const LongDuration_T, EventStruct> EventList_T;
00033 }
00034 #endif // __STDAIR_BOM_EVENTTYPES_HPP
00035

```

### 33.287 stdair/bom/FareFamily.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/FareFamily.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.288 FareFamily.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/FareFamily.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 FareFamily::FareFamily() : _key (DEFAULT_FAIR_FAMILY_CODE), _parent (NULL) {
00019     assert (false);
00020 }
00021
00022 // /////////////////////////////////
00023 FareFamily::FareFamily (const FareFamily& iFareFamily)
00024     : _key (iFareFamily._key),
00025     _parent (NULL),
00026     _frat5Curve (iFareFamily._frat5Curve),
00027     _disutilityCurve (iFareFamily._disutilityCurve),
00028     _meanStdDev (iFareFamily._meanStdDev) {
00029 }
00030
00031 // /////////////////////////////////
00032 FareFamily::FareFamily (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00033 }
00034
00035 // /////////////////////////////////
00036 FareFamily::~FareFamily() {
00037 }
00038
00039 // /////////////////////////////////
00040 std::string FareFamily::toString() const {
00041     std::ostringstream oStr;
00042     oStr << describeKey();
00043     return oStr.str();
00044 }
00045
00046 // /////////////////////////////////

```

```

00047 void FareFamily::serialisationImplementationExport() const {
00048     std::ostringstream oStr;
00049     boost::archive::text_oarchive oa (oStr);
00050     oa << *this;
00051 }
00052 // ///////////////////////////////////////////////////////////////////
00053 void FareFamily::serialisationImplementationImport() {
00054     std::istringstream iStr;
00055     boost::archive::text_iarchive ia (iStr);
00056     ia >> *this;
00057 }
00058 // ///////////////////////////////////////////////////////////////////
00059 template<class Archive>
00060 void FareFamily::serialize (Archive& ioArchive,
00061                             const unsigned int iFileVersion) {
00062     ioArchive & _key;
00063 }
00064
00065 }
00066
00067 }
00068
00069

```

### 33.289 stdair/bom/FareFamily.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/FareFamilyKey.hpp>
#include <stdair/bom/FareFamilyTypes.hpp>

```

#### Classes

- class [stdair::FareFamily](#)

*Class representing the actual attributes for a family fare.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.290 FareFamily.hpp

```

00001 #ifndef __STDAIR_BOM_FAREFAMILY_HPP
00002 #define __STDAIR_BOM_FAREFAMILY_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_rm_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/FareFamilyKey.hpp>
00014 #include <stdair/bom/FareFamilyTypes.hpp>
00015
00016
00017 namespace boost {
00018     namespace serialization {
00019         class access;
00020     }

```

```

00021 }
00022
00023 namespace stdair {
00024
00025     class FareFamily : public BomAbstract {
00026         template <typename BOM> friend class FacBom;
00027         template <typename BOM> friend class FacCloneBom;
00028         friend class FacBomManager;
00029         friend class boost::serialization::access;
00030
00031     public:
00032         // /////////// Type definitions ///////////
00033         typedef FareFamilyKey Key_T;
00034
00035     public:
00036         // /////////// Getters ///////////
00037         const Key_T& getKey() const {
00038             return _key;
00039         }
00040
00041     public:
00042         // /////////// Setters ///////////
00043         void setFrat5Curve (const FRAT5Curve_T& iFRAT5Curve) {
00044             _frat5Curve = iFRAT5Curve;
00045         }
00046
00047         void setDisutilityCurve (const FFDisutilityCurve_T& iDisutilityCurve) {
00048             _disutilityCurve = iDisutilityCurve;
00049         }
00050
00051         void setMean (const MeanValue_T& iMean) { _mean = iMean; }
00052         void setStdDev (const StdDevValue_T& iStdDev) { _stdDev = iStdDev; }
00053
00054     public:
00055         // /////////// Display support methods ///////////
00056         void toStream (std::ostream& ioOut) const {
00057             ioOut << toString();
00058         }
00059
00060         void fromStream (std::istream& ioIn) {
00061
00062             std::string toString() const;
00063
00064             const std::string describeKey() const {
00065                 return _key.toString();
00066             }
00067
00068         public:
00069             // /////////// (Boost) Serialisation support methods ///////////

```

```

00141     template<class Archive>
00142     void serialize (Archive& ar, const unsigned int iFileVersion);
00143
00144
00145     private:
00146         void serialisationImplementationExport() const;
00147         void serialisationImplementationImport();
00148
00149
00150     protected:
00151         // ////////// Constructors and destructors //////////
00152         FareFamily (const Key_T&);
00153
00154         virtual ~FareFamily();
00155
00156
00157     private:
00158         FareFamily();
00159
00160         FareFamily (const FareFamily&);
00161
00162
00163     public:
00164         // ////////// Attributes //////////
00165         Key_T _key;
00166
00167         BomAbstract* _parent;
00168
00169         HolderMap_T _holderMap;
00170
00171         FRAT5Curve_T _frat5Curve;
00172
00173         FFDisutilityCurve_T _disutilityCurve;
00174
00175         MeanValue_T _mean;
00176         StdDevValue_T _stdDev;
00177
00178         MeanStdDevPairVector_T _meanStdDev;
00179     };
00180
00181
00182     }
00183
00184 #endif // __STDAIR_BOM_FAREFAMILY_HPP
00185
00186

```

### 33.291 stdair/bom/FareFamilyKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/FareFamilyKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- template void **stdair::FareFamilyKey::serialize< ba::text\_oarchive >** (ba::text\_oarchive &, unsigned int)
- template void **stdair::FareFamilyKey::serialize< ba::text\_iarchive >** (ba::text\_iarchive &, unsigned int)

### 33.292 FareFamilyKey.cpp

```

00001 // ///////////
00002 // Import section
00003 // ///////////

```

```

00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/FareFamilyKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 FareFamilyKey::FareFamilyKey() : _familyCode (DEFAULT_FARE_FAMILY_CODE) {
00019     assert (false);
00020 }
00021
00022 // ///////////////////////////////
00023 FareFamilyKey::FareFamilyKey (const FareFamilyKey& iFareFamilyKey)
00024     : _familyCode (iFareFamilyKey._familyCode) {
00025 }
00026
00027 // ///////////////////////////////
00028 FareFamilyKey::FareFamilyKey (const FamilyCode_T& iFamilyCode)
00029     : _familyCode (iFamilyCode) {
00030 }
00031
00032 // ///////////////////////////////
00033 FareFamilyKey::~FareFamilyKey() {
00034 }
00035
00036 // ///////////////////////////////
00037 void FareFamilyKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "FareFamilyKey: " << toString();
00039 }
00040
00041 // ///////////////////////////////
00042 void FareFamilyKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // ///////////////////////////////
00046 const std::string FareFamilyKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _familyCode;
00049     return oStr.str();
00050 }
00051
00052 // ///////////////////////////////
00053 void FareFamilyKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // ///////////////////////////////
00060 void FareFamilyKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // ///////////////////////////////
00067 template<class Archive>
00068 void FareFamilyKey::serialize (Archive& ioArchive,
00069                                 const unsigned int iFileVersion) {
00070     ioArchive & _familyCode;
00071 }
00072
00073 // ///////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void FareFamilyKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00077                                                               unsigned int);
00078 template void FareFamilyKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00079                                                               unsigned int);
00080
00081 // ///////////////////////////////
00082
00083
00084
00085
00086 }

```

### 33.293 stdair/bom/FareFamilyKey.hpp File Reference

```
#include <iostream>
```

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

## Classes

- struct **stdair::FareFamilyKey**

*Key of a given fare family, made of a fare family code.*

## Namespaces

- **boost**

*Forward declarations.*

- **boost::serialization**

- **stdair**

*Handle on the StdAir library context.*

## 33.294 FareFamilyKey.hpp

```
00001 #ifndef __STDAIR_BOM_FAREFAMILYKEY_HPP
00002 #define __STDAIR_BOM_FAREFAMILYKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023   struct FareFamilyKey : public KeyAbstract {
00024     friend class boost::serialization::access;
00025
00026     // ////////////////// Constructors and destructors ///////////////////
00027     private:
00028       FareFamilyKey();
00029
00030     public:
00031       FareFamilyKey (const FamilyCode_T& iFamilyCode);
00032
00033       FareFamilyKey (const FareFamilyKey&);
00034
00035       ~FareFamilyKey();
00036
00037     public:
00038       // ////////////////// Getters ///////////////////
00039       const FamilyCode_T& getFamilyCode () const {
00040         return _familyCode;
00041       }
00042
00043     public:
00044       // ////////////////// Display support methods ///////////////////
00045       void toStream (std::ostream& ioOut) const;
00046
00047       void fromStream (std::istream& ioIn);
00048
00049       const std::string toString() const;
00050
00051     public:
```

```

00090 // ////////////////// (Boost) Serialisation support methods //////////////////
00094 template<class Archive>
00095 void serialize (Archive& ar, const unsigned int iFileVersion);
00096
00097 private:
00102     void serialisationImplementationExport() const;
00103     void serialisationImplementationImport();
00104
00105
00106 private:
00107     // ////////////////// Attributes //////////////////
00111     FamilyCode_T _familyCode;
00112 };
00113
00114 }
00115 #endif // __STDAIR_BOM_FAREFAMILYKEY_HPP

```

### 33.295 stdair/bom/FareFamilyTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< FareFamily \* > stdair::FareFamilyList\_T**
- **typedef std::map< const MapKey\_T, FareFamily \* > stdair::FareFamilyMap\_T**

### 33.296 FareFamilyTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_FAREFAMILYTYPES_HPP
00003 #define __STDAIR_BOM_FAREFAMILYTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class FareFamily;
00018
00019     typedef std::list<FareFamily*> FareFamilyList_T;
00020
00021     typedef std::map<const MapKey_T, FareFamily*> FareFamilyMap_T;
00022 }
00023
00024 #endif // __STDAIR_BOM_FAREFAMILYTYPES_HPP

```

### 33.297 stdair/bom/FareFeatures.cpp File Reference

```
#include <cassert>
```

```
#include <iostream>
#include <stdair/basic/BasConst_DefaultObject.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/FareFeatures.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.298 FareFeatures.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_DefaultObject.hpp>
00009 #include <stdair/basic/BasConst_Request.hpp>
00010 #include <stdair/service/Logger.hpp>
00011 #include <stdair/bom/FareFeatures.hpp>
00012
00013 namespace stdair {
00014
00015 // /////////////////////////////////
00016 FareFeatures::FareFeatures()
00017   : _key (TRIP_TYPE_ONE_WAY,
00018           NO_ADVANCE_PURCHASE,
00019           SATURDAY_STAY,
00020           CHANGE_FEES,
00021           NON_REFUNDABLE,
00022           NO_STAY_DURATION),
00023   _parent (NULL) {
00024   // That constructor is used by the serialisation process
00025 }
00026
00027 // /////////////////////////////////
00028 FareFeatures::FareFeatures (const FareFeatures& iFeatures)
00029   : _key (iFeatures.getKey()), _parent (NULL) {
00030 }
00031
00032 // /////////////////////////////////
00033 FareFeatures::FareFeatures (const Key_T& iKey)
00034   : _key (iKey), _parent (NULL) {
00035 }
00036
00037 // /////////////////////////////////
00038 FareFeatures::~FareFeatures () {
00039 }
00040
00041 // /////////////////////////////////
00042 std::string FareFeatures::toString() const {
00043   std::ostringstream oStr;
00044   oStr << describeKey();
00045   return oStr.str();
00046 }
00047
00048 // /////////////////////////////////
00049 bool FareFeatures::
00050 isTripTypeValid (const TripType_T& iBookingRequestTripType) const {
00051   bool oIsTripTypeValidFlag = true;
00052
00053   const TripType_T& lFareTripType = getTripType();
00054   // Check whether the fare trip type is the same as the booking request
00055   // trip type
00056   if (iBookingRequestTripType == lFareTripType) {
00057     // One way case
00058     return oIsTripTypeValidFlag;
00059   }
00060
00061   if (iBookingRequestTripType == TRIP_TYPE_INBOUND
00062     || iBookingRequestTripType == TRIP_TYPE_OUTBOUND) {
00063     // Round trip case
00064     if (lFareTripType == TRIP_TYPE_ROUND_TRIP) {
```

```

00065     return oIsTripTypeValidFlag;
00066 }
00067 }
00068
00069     oIsTripTypeValidFlag = false;
00070     return oIsTripTypeValidFlag;
00071 }
00072
00073 // /////////////////////////////////
00074 bool FareFeatures::
00075 isStayDurationValid (const DayDuration_T& iStayDuration) const {
00076
00077     // Check if the stay duration is lower or equal to the minimum one.
00078     const DayDuration_T& lMinimumDayDuration = getMinimumStay();
00079     if (lMinimumDayDuration > iStayDuration) {
00080         return false;
00081     }
00082
00083     return true;
00084 }
00085
00086 // ///////////////////////////////
00087 bool FareFeatures::
00088 isAdvancePurchaseValid (const DateTime_T& iBookingRequestDateTime,
00089                         const DateTime_T& iFlightDateTime) const {
00090     bool oIsAdvancePurchaseValidFlag = true;
00091
00092     // Check whether the departure date is within the date range.
00093     const DayDuration_T& lAdvancedPurchase = getAdvancePurchase();
00094     const DateOffset_T lMinimumAdvancedPurchase (lAdvancedPurchase);
00095     const DateTime_T lCriticalDate = iFlightDateTime - lMinimumAdvancedPurchase;
00096
00097     if (lCriticalDate < iBookingRequestDateTime) {
00098         oIsAdvancePurchaseValidFlag = false;
00099         return oIsAdvancePurchaseValidFlag;
00100    }
00101
00102    return true;
00103 }
00104
00105 }
00106

```

### 33.299 stdair/bom/FareFeatures.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/FareFeaturesKey.hpp>
#include <stdair/bom/FareFeaturesTypes.hpp>
```

#### Classes

- class **stdair::FareFeatures**

*Class representing the actual attributes for a fare date-period.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.300 FareFeatures.hpp

```

00001 #ifndef __STDAIR_BOM_FAREFEATURES_HPP
00002 #define __STDAIR_BOM_FAREFEATURES_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/FareFeaturesKey.hpp>
00010 #include <stdair/bom/FareFeaturesTypes.hpp>

```

```
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00015     class FareFeatures : public BomAbstract {
00016         template <typename BOM> friend class FacBom;
00017         template <typename BOM> friend class FacCloneBom;
00018         friend class FacBomManager;
00019
00020     public:
00021         // //////////// Type definitions ///////////
00022         typedef FareFeaturesKey Key_T;
00023
00024     public:
00025         // //////////// Display support methods ///////////
00026         void toStream (std::ostream& ioOut) const {
00027             ioOut << toString();
00028         }
00029
00030         void fromStream (std::istream& ioIn) {
00031             }
00032
00033         std::string toString() const;
00034
00035         const std::string describeKey() const {
00036             return _key.toString();
00037         }
00038
00039     public:
00040         // //////////// Getters ///////////
00041         const Key_T& getKey() const {
00042             return _key;
00043         }
00044
00045         BomAbstract* const getParent() const {
00046             return _parent;
00047         }
00048
00049         const HolderMap_T& getHolderMap() const {
00050             return _holderMap;
00051         }
00052
00053         const TripType_T& getTripType() const {
00054             return _key.getTripType();
00055         }
00056
00057         const DayDuration_T& getAdvancePurchase() const {
00058             return _key.getAdvancePurchase();
00059         }
00060
00061         const SaturdayStay_T& getSaturdayStay() const {
00062             return _key.getSaturdayStay();
00063         }
00064
00065         const ChangeFees_T& getChangeFees() const {
00066             return _key.getChangeFees();
00067         }
00068
00069         const NonRefundable_T& getRefundableOption() const {
00070             return _key.getRefundableOption();
00071         }
00072
00073         const DayDuration_T& getMinimumStay() const {
00074             return _key.getMinimumStay();
00075         }
00076
00077
00078     public:
00079         // //////////// Business methods ///////////
00080         bool isTripTypeValid (const TripType_T&) const;
00081
00082         bool isStayDurationValid (const DayDuration_T&) const;
00083
00084         bool isAdvancePurchaseValid (const DateTime_T& iBookingRequestDateTime,
00085                                     const DateTime_T& iFlightDateTime) const;
00086
00087
00088     protected:
00089         // //////////// Constructors and destructors ///////////
00090         FareFeatures (const Key_T&);
00091         virtual ~FareFeatures ();
00092
00093     private:
00094         FareFeatures ();
00095         FareFeatures (const FareFeatures&);
00096
```

```

00171 protected:
00172     // ////////////////// Attributes ///////////////////
00173     Key_T _key;
00174
00175     BomAbstract* _parent;
00176
00177     HolderMap_T _holderMap;
00178 };
00179 }
00180 #endif // __STDAIR_BOM_FAREFEATURES_HPP
00181
00182
00183
00184
00185
00186
00187
00188
00189
00190
00191

```

### 33.301 stdair/bom/FareFeaturesKey.cpp File Reference

```

#include <iostream>
#include <sstream>
#include <stdair/basic/BasConst_DefaultObject.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/FareFeaturesKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.302 FareFeaturesKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_DefaultObject.hpp>
00009 #include <stdair/basic/BasConst_Request.hpp>
00010 #include <stdair/bom/FareFeaturesKey.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 FareFeaturesKey::FareFeaturesKey()
00016     : _tripType (TRIP_TYPE_ONE WAY),
00017     _advancePurchase (NO_ADVANCE_PURCHASE),
00018     _saturdayStay (SATURDAY_STAY),
00019     _changeFees (CHANGE_FEES),
00020     _nonRefundable (NON_REFUNDABLE),
00021     _minimumStay (NO_STAY_DURATION) {
00022     assert (false);
00023 }
00024
00025 // /////////////////////////////////
00026 FareFeaturesKey::FareFeaturesKey (const TripType_T& iTripType,
00027                                     const DayDuration_T& iAdvancePurchase,
00028                                     const SaturdayStay_T& iSaturdayStay,
00029                                     const ChangeFees_T& iChangeFees,
00030                                     const NonRefundable_T& iNonRefundable,
00031                                     const DayDuration_T& iMinimumStay)
00032     : _tripType (iTripType), _advancePurchase (iAdvancePurchase),
00033     _saturdayStay (iSaturdayStay), _changeFees (iChangeFees),
00034     _nonRefundable (iNonRefundable), _minimumStay (iMinimumStay) {
00035 }
00036
00037 // /////////////////////////////////
00038 FareFeaturesKey::FareFeaturesKey (const FareFeaturesKey& iKey)
00039     : _tripType (iKey.getTripType()),
00040     _advancePurchase (iKey.getAdvancePurchase()),
00041     _saturdayStay (iKey.getSaturdayStay()),
00042     _changeFees (iKey.getChangeFees()),
00043     _nonRefundable (iKey.getNonRefundable()),
00044     _minimumStay (iKey.getMinimumStay()) {
00045 }

```

```

00046 // ///////////////////////////////// FareFeaturesKey::~FareFeaturesKey() {
00047 // ///////////////////////////////// FareFeaturesKey::toStream (std::ostream& ioOut) const {
00048 // ///////////////////////////////// FareFeaturesKey::fromStream (std::istream& ioIn) {
00049 // ///////////////////////////////// const std::string FareFeaturesKey::toString() const {
00050 // ///////////////////////////////// std::ostringstream oStr;
00051 // ///////////////////////////////// oStr << _tripType << " -- " << _advancePurchase << "-"
00052 void FareFeaturesKey::toStream (std::ostream& ioOut) const {
00053     ioOut << "FareFeaturesKey: " << toString() << std::endl;
00054 }
00055 // ///////////////////////////////// void FareFeaturesKey::fromStream (std::istream& ioIn) {
00056 // ///////////////////////////////// {
00057 // ///////////////////////////////// const std::string FareFeaturesKey::toString() const {
00058 // ///////////////////////////////// std::ostringstream oStr;
00059 // ///////////////////////////////// oStr << _tripType << " -- " << _advancePurchase << "-"
00060 // ///////////////////////////////// << _saturdayStay << " - " << _changeFees << " - "
00061 // ///////////////////////////////// << _nonRefundable << " - " << _minimumStay;
00062     return oStr.str();
00063 }
00064 }
00065 }
00066 }
00067 }
00068 }
00069 }

```

### 33.303 stdair/bom/FareFeaturesKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
```

#### Classes

- struct **stdair::FareFeaturesKey**

*Key of date-period.*

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.304 FareFeaturesKey.hpp

```

00001 #ifndef __STDAIR_BOM_FAREFEATURESKEY_HPP
00002 #define __STDAIR_BOM_FAREFEATURESKEY_HPP
00003
00004 // ///////////////////////////////// Import section
00005 // StdAir
00006 // ///////////////////////////////// StdAir
00007 // ///////////////////////////////// StdAir
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
00010 #include <stdair/stdair_demand_types.hpp>
00011 #include <stdair/stdair_inventory_types.hpp>
00012
00013 namespace stdair {
00014
00015     struct FareFeaturesKey : public KeyAbstract {
00016         public:
00017             // ////////////////// Construction ///////////////////
00018             FareFeaturesKey (const TripType_T&, const
00019                             DayDuration_T&,
00020                             const SaturdayStay_T&, const ChangeFees_T&,
00021                             const NonRefundable_T&, const DayDuration_T&);
00022             FareFeaturesKey (const FareFeaturesKey&);
00023             ~FareFeaturesKey ();
00024         private:
00025             FareFeaturesKey();
00026     };
00027 }
00028
00029
00030
00031
00032

```

```

00033
00034     public:
00035         // /////////// Getters ///////////
00039         const TripType_T& getTripType() const {
00040             return _tripType;
00041         }
00042
00046         const DayDuration_T& getAdvancePurchase() const {
00047             return _advancePurchase;
00048         }
00049
00053         const SaturdayStay_T& getSaturdayStay() const {
00054             return _saturdayStay;
00055         }
00056
00060         const ChangeFees_T& getChangeFees() const {
00061             return _changeFees;
00062         }
00063
00067         const NonRefundable_T& getRefundableOption() const {
00068             return _nonRefundable;
00069         }
00070
00074         const DayDuration_T& getMinimumStay() const {
00075             return _minimumStay;
00076         }
00077
00078
00079     public:
00080         // /////////// Display support methods ///////////
00086         void toStream (std::ostream& ioOut) const;
00087
00093         void fromStream (std::istream& ioIn);
00094
00100         const std::string toString() const;
00101
00102
00103     private:
00104         // /////////// Attributes ///////////
00108         TripType_T _tripType;
00109
00113         DayDuration_T _advancePurchase;
00114
00118         SaturdayStay_T _saturdayStay;
00119
00123         ChangeFees_T _changeFees;
00124
00128         NonRefundable_T _nonRefundable;
00129
00133         DayDuration_T _minimumStay;
00134     };
00135
00136 }
00137 #endif // __STDAIR_BOM_FAREFEATURESKEY_HPP

```

### 33.305 stdair/bom/FareFeaturesTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< FareFeatures \* > stdair::FareFeaturesList\_T**
- **typedef std::map< const MapKey\_T, FareFeatures \* > stdair::FareFeaturesMap\_T**
- **typedef std::pair< MapKey\_T, FareFeatures \* > stdair::FareFeaturesWithKey\_T**
- **typedef std::list< FareFeaturesWithKey\_T > stdair::FareFeaturesDetailedList\_T**

### 33.306 FareFeaturesTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_FAREFEATURESTYPES_HPP
00003 #define __STDAIR_BOM_FAREFEATURESTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class FareFeatures;
00018
00019 typedef std::list<FareFeatures*> FareFeaturesList_T;
00020
00021 typedef std::map<const MapKey_T, FareFeatures*> FareFeaturesMap_T;
00022
00023 typedef std::pair<MapKey_T, FareFeatures*> FareFeaturesWithKey_T;
00024
00025 typedef std::list<FareFeaturesWithKey_T> FareFeaturesDetailedList_T;
00026
00027 }
00028 }
00029 #endif // __STDAIR_BOM_FAREFEATURESTYPES_HPP
00030

```

### 33.307 stdair/bom/FareOptionStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/bom/FareOptionStruct.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.308 FareOptionStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/bom/FareOptionStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 FareOptionStruct::FareOptionStruct()
00015   : _fare (DEFAULT_FARE_VALUE), _avl (DEFAULT_AVAILABILITY) {
00016 }
00017
00018 // /////////////////////////////////
00019 FareOptionStruct::FareOptionStruct (const
00020   FareOptionStruct& iFO)
00021   : _className (iFO._className),
00022     _fare (iFO._fare), _avl (iFO._avl), _changeFee (iFO._changeFee),
00023     _nonRefundable (iFO._nonRefundable), _saturdayStay (iFO._saturdayStay) {
00024 }
00025
00026 FareOptionStruct::FareOptionStruct (const std::string& iClassName,
00027                                     const Fare_T& iFare,
00028                                     const ChangeFees_T& iChangeFee,

```

```

00029                               const NonRefundable_T& iNonRefundable,
00030                               const SaturdayStay_T& iSaturdayNightStay)
00031 : _fare (iFare), _avl (DEFAULT_AVAILABILITY),
00032     _changeFee (iChangeFee), _nonRefundable (iNonRefundable),
00033     _saturdayStay (iSaturdayNightStay) {
00034     _classList.push_back (iClassPath);
00035 }
00036 // /////////////////////////////////
00037 FareOptionStruct::~FareOptionStruct() {
00038 }
00039
00040 // /////////////////////////////////
00041 void FareOptionStruct::toStream (std::ostream& ioOut) const {
00042     ioOut << describe();
00043 }
00044
00045 // /////////////////////////////////
00046 void FareOptionStruct::fromStream (std::istream& ioIn) {
00047 }
00048
00049 // /////////////////////////////////
00050 const std::string FareOptionStruct::describe() const {
00051     std::ostringstream oStr;
00052
00053     oStr << "Class path: ";
00054     unsigned short idx = 0;
00055     for (ClassList_StringList_T::const_iterator itClassPath =
00056         _classList.begin(); itClassPath != _classList.end();
00057         ++itClassPath, ++idx) {
00058         if (idx != 0) {
00059             oStr << "-";
00060         }
00061         const std::string& lClassPath = *itClassPath;
00062         oStr << lClassPath;
00063     }
00064
00065     oStr << "; " << _fare << " EUR";
00066     oStr << "; conditions: " << _changeFee << " " << _nonRefundable
00067     << " " << _saturdayStay;
00068     return oStr.str();
00069 }
00070
00071 // /////////////////////////////////
00072 const std::string FareOptionStruct::display() const {
00073     std::ostringstream oStr;
00074
00075     unsigned short idx = 0;
00076     for (ClassList_StringList_T::const_iterator itClassPath =
00077         _classList.begin(); itClassPath != _classList.end();
00078         ++itClassPath, ++idx) {
00079         if (idx != 0) {
00080             oStr << "-";
00081         }
00082         const std::string& lClassPath = *itClassPath;
00083         oStr << lClassPath;
00084     }
00085
00086     oStr << ", " << _fare << ", " << _changeFee << " " << _nonRefundable
00087     << " " << _saturdayStay;
00088     return oStr.str();
00089 }
00090
00091 // /////////////////////////////////
00092 void FareOptionStruct::addClassList (const std::string iClassCodeList) {
00093     _classList.push_back (iClassCodeList);
00094 }
00095
00096 // /////////////////////////////////
00097 void FareOptionStruct::emptyclassList () {
00098     _classList.clear();
00099 }
00100
00101
00102 }

```

### 33.309 stdair/bom/FareOptionStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>

```

**Classes**

- struct **stdair::FareOptionStruct**

*Structure holding the elements of a fare option.*

**Namespaces**

- **stdair**

*Handle on the StdAir library context.*

**33.310 FareOptionStruct.hpp**

```

00001 #ifndef __STDAIR_BOM_FAEOPTIONSTRUCT_HPP
00002 #define __STDAIR_BOM_FAEOPTIONSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_types.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013 #include <stdair/bom/BookingClassTypes.hpp>
00014
00015 namespace stdair {
00016
00020   struct FareOptionStruct : public StructAbstract {
00021     public:
00022       // ////////////////// Getters ///////////////////
00024       const ClassList_StringList_T& getClassPath() const {
00025         return _classList;
00026       }
00027
00029       const Fare_T& getFare() const {
00030         return _fare;
00031     }
00032
00034       const Availability_T& getAvailability() const {
00035         return _avl;
00036     }
00037
00039       const ChangeFees_T getChangeFees() const {
00040         return _changeFee;
00041     }
00042
00044       const NonRefundable_T getNonRefundable() const {
00045         return _nonRefundable;
00046     }
00047
00049       const SaturdayStay_T getSaturdayStay() const {
00050         return _saturdayStay;
00051     }
00052
00053
00054     public:
00055       // ////////////////// Setters ///////////////////
00057       void addClassList (const std::string);
00058
00060       void emptyClassList ();
00061
00063       void setFare (const Fare_T& iFare) {
00064         _fare = iFare;
00065     }
00066
00068       void setAvailability (const Availability_T& iAvl) {
00069         _avl = iAvl;
00070     }
00071
00073       void setChangeFees (const ChangeFees_T iRes) {
00074         _changeFee = iRes;
00075     }
00076
00078       void setNonRefundable (const NonRefundable_T iRes) {

```

```

00079     _nonRefundable = iRes;
00080 }
00081
00083 void setSaturdayStay (const SaturdayStay_T iRes) {
00084     _saturdayStay = iRes;
00085 }
00086
00087
00088 public:
00089 // /////////// Display support method ///////////
00095 void toStream (std::ostream& ioOut) const;
00096
00102 void fromStream (std::istream& ioIn);
00103
00107 const std::string describe() const;
00108
00112 const std::string display() const;
00113
00114
00115 public:
00116 // /////////// Constructors & Destructor ///////////
00120 FareOptionStruct();
00121
00125 FareOptionStruct (const std::string& iClassPath,
00126                     const Fare_T&, const ChangeFees_T&,
00127                     const NonRefundable_T&, const
00128                     SaturdayStay_T&);
00129
00132 FareOptionStruct (const FareOptionStruct&);
00133
00137 ~FareOptionStruct();
00138
00139
00140 private:
00141 // /////////// Attributes ///////////
00145 ClassList_StringList_T _classPath;
00146
00150 Fare_T _fare;
00151
00155 Availability_T _avl;
00156
00160 ChangeFees_T _changeFee;
00161
00165 NonRefundable_T _nonRefundable;
00166
00170 SaturdayStay_T _saturdayStay;
00171 };
00172
00173 }
00174 #endif // __STDAIR_BOM_FAREOPTIONSTRUCT_HPP

```

### 33.311 stdair/bom/FareOptionTypes.hpp File Reference

```

#include <list>
#include <map>
#include <stdair/stdair_types.hpp>
#include <stdair/bom/key_types.hpp>

```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< FareOptionStruct > stdair::FareOptionList\_T**

### 33.312 FareOptionTypes.hpp

```

00001 // ///////////
00002 #ifndef __STDAIR_BOM_FAREOPTIONTYPES_HPP

```

```

00003 #define __STDAIR_BOM_FAREOPTIONTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <list>
00010 #include <map>
00011 // STDAIR
00012 #include <stdair/stdair_types.hpp>
00013 #include <stdair/bom/key_types.hpp>
00014
00015 namespace stdair {
00016
00017 // Forward declarations.
00018 struct FareOptionStruct;
00019
00020 typedef std::list<FareOptionStruct> FareOptionList_T;
00021
00022
00023 }
00024 #endif // __STDAIR_BOM_FAREOPTIONTYPES_HPP
00025

```

### 33.313 stdair/bom/FFDisutilityCurveHolderStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/FFDisutilityCurveHolderStruct.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.314 FFDisutilityCurveHolderStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/service/Logger.hpp>
00009 #include <stdair/bom/FFDisutilityCurveHolderStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 FFDisutilityCurveHolderStruct::FFDisutilityCurveHolderStruct
00015 () {
00016 }
00017
00018 FFDisutilityCurveHolderStruct::
00019 FFDisutilityCurveHolderStruct (const
00020 FFDisutilityCurveHolderStruct& iHolder)
00021 : _disutilityCurveHolder (iHolder._disutilityCurveHolder) {
00022 }
00023
00024 FFDisutilityCurveHolderStruct::~FFDisutilityCurveHolderStruct
00025 () {
00026 }
00027
00028 const FFDisutilityCurve_T& FFDisutilityCurveHolderStruct::
00029 getFFDisutilityCurve (const std::string& iKey) const {
00030     FFDisutilityCurveHolder_T::const_iterator itCurve = _disutilityCurveHolder.find (iKey);
00031     if (itCurve == _disutilityCurveHolder.end()) {
00032         STDAIR_LOG_DEBUG ("Cannot find the FFDisutility curve correponding to the "
00033                         << "given key: " << iKey);
00034         assert (false);

```

```

00035      }
00036      return itCurve->second;
00037  }
00038
00039
00040 // /////////////////////////////////
00041 void FFDisutilityCurveHolderStruct::
00042 addCurve (const std::string& iKey, const FFDisutilityCurve_T& iCurve) {
00043     bool insert = _disutilityCurveHolder.insert (FFDisutilityCurveHolder_T::value_type(iKey, iCurve)).
00044 second;
00045     if (insert == false) {
00046         STDAIR_LOG_DEBUG ("Cannot add the FFDisutility curve correponding to the "
00047                         << "given key: " << iKey
00048                         << ", the key may already exist.");
00049     assert (false);
00050 }
00051
00052 // ///////////////////////////////
00053 void FFDisutilityCurveHolderStruct::toStream (std::ostream& ioOut)
00054 const {
00055     ioOut << describe();
00056 }
00057
00058 void FFDisutilityCurveHolderStruct::fromStream (std::istream&
00059 ioIn) {
00060
00061 // ///////////////////////////////
00062 const std::string FFDisutilityCurveHolderStruct::describe() const
00063 {
00064     std::ostringstream oStr;
00065     for (FFDisutilityCurveHolder_T::const_iterator itCurve = _disutilityCurveHolder.begin();
00066         itCurve != _disutilityCurveHolder.end(); ++itCurve) {
00067         const std::string& lKey = itCurve->first;
00068         const FFDisutilityCurve_T& lCurve = itCurve->second;
00069         oStr << lKey << " ";
00070         for (FFDisutilityCurve_T::const_reverse_iterator itFFDisutility =
00071             lCurve.rbegin(); itFFDisutility != lCurve.rend(); ++itFFDisutility){
00072             const DTD_T& lDTD = itFFDisutility->first;
00073             const double& lFFDisutility = itFFDisutility->second;
00074             oStr << lDTD << ":" << lFFDisutility << ";";
00075         }
00076         oStr << std::endl;
00077     }
00078     return oStr.str();
00079 }
00080 }
```

### 33.315 stdair/bom/FFDisutilityCurveHolderStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::FFDisutilityCurveHolderStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef std::map< const std::string, FFDisutilityCurve\\_T > stdair::FFDisutilityCurveHolder\\_T](#)

### 33.316 FFDisutilityCurveHolderStruct.hpp

```

00001 #ifndef __STDAIR_BOM_FFDISUTILITYCURVEHOLDERSTRUCT_HPP
00002 #define __STDAIR_BOM_FFDISUTILITYCURVEHOLDERSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_rm_types.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013
00014 namespace stdair {
00015 // Type definition for the holder of disutility curves.
00016 typedef std::map<const std::string, FFDisutilityCurve_T>
00017 FFDisutilityCurveHolder_T;
00018
00019 struct FFDisutilityCurveHolderStruct : public
00020 StructAbstract {
00021 public:
00022 // ///////////////////// Getters ///////////////////
00023 const FFDisutilityCurve_T& getFFDisutilityCurve (const
00024 std::string&) const;
00025 // ////////////////// Business Methods //////////////////
00026 void addCurve (const std::string&, const FFDisutilityCurve_T&);
00027
00028 // ////////////////// Display support method //////////////////
00029 void toStream (std::ostream& ioOut) const;
00030
00031 void fromStream (std::istream& ioIn);
00032
00033 const std::string describe() const;
00034
00035
00036 // ////////////////// Constructors and Destructors //////////////////
00037 public:
00038 FFDisutilityCurveHolderStruct ();
00039
00040 FFDisutilityCurveHolderStruct (const
00041 FFDisutilityCurveHolderStruct&);
00042
00043 public:
00044 ~FFDisutilityCurveHolderStruct ();
00045
00046
00047 private:
00048 // ////////////////// Attributes //////////////////
00049 FFDisutilityCurveHolder_T _disutilityCurveHolder;
00050 };
00051
00052 }
00053
00054
00055
00056
00057
00058
00059
00060
00061 }
00062 #endif // __STDAIR_BOM_FFDISUTILITYCURVEHOLDERSTRUCT_HPP

```

### 33.317 stdair/bom/FlightDate.cpp File Reference

```

#include <cassert>
#include <iostream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/SegmentDate.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.318 FlightDate.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/BomManager.hpp>
00010 #include <stdair/bom/Inventory.hpp>
00011 #include <stdair/bom/FlightDate.hpp>
00012 #include <stdair/bom/LegDate.hpp>
00013 #include <stdair/bom/SegmentDate.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 FlightDate::FlightDate()
00019   : _key (DEFAULT_FLIGHT_NUMBER, DEFAULT_DEPARTURE_DATE),
00020   _parent (NULL) {
00021   // That constructor is used by the serialisation process
00022 }
00023
00024 FlightDate::FlightDate (const FlightDate& iFlightDate)
00025   : _key (iFlightDate._key), _parent (NULL) {
00026 }
00027
00028 FlightDate::FlightDate (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00029 }
00030
00031
00032 FlightDate::~FlightDate() {
00033 }
00034
00035
00036 const AirlineCode_T& FlightDate::getAirlineCode() const {
00037   const Inventory* lInventory_ptr =
00038     static_cast<const Inventory*> (getParent ());
00039   assert (lInventory_ptr != NULL);
00040   return lInventory_ptr->getAirlineCode ();
00041 }
00042
00043
00044 std::string FlightDate::toString() const {
00045   std::ostringstream oStr;
00046   oStr << describeKey ();
00047   return oStr.str ();
00048 }
00049
00050
00051 LegDate* FlightDate::getLegDate (const std::string& iLegDateKeyStr) const {
00052   LegDate* oLegDate_ptr =
00053     BomManager::getObjectPtr<LegDate> (*this, iLegDateKeyStr);
00054   return oLegDate_ptr;
00055 }
00056
00057
00058 LegDate* FlightDate::getLegDate (const LegDateKey& iLegDateKey)
00059 const {
00060   return getLegDate (iLegDateKey.toString ());
00061 }
00062
00063
00064 SegmentDate* FlightDate::
00065 getSegmentDate (const std::string& iSegmentDateKeyStr) const {
00066   SegmentDate* oSegmentDate_ptr =
00067     BomManager::getObjectPtr<SegmentDate> (*this, iSegmentDateKeyStr);
00068   return oSegmentDate_ptr;
00069 }
00070
00071
00072 SegmentDate* FlightDate::
00073 getSegmentDate (const SegmentDateKey& iSegmentDateKey) const {
00074   return getSegmentDate (iSegmentDateKey.toString ());
00075 }
00076
00077 }
00078

```

### 33.319 stdair/bom/FlightDate.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/FlightDateKey.hpp>
#include <stdair/bom/FlightDateTypes.hpp>
```

#### Classes

- class [stdair::FlightDate](#)

*Class representing the actual attributes for an airline flight-date.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.320 FlightDate.hpp

```
00001 #ifndef __STDAIR_BOM_FLIGHTDATE_HPP
00002 #define __STDAIR_BOM_FLIGHTDATE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/FlightDateKey.hpp>
00014 #include <stdair/bom/FlightDateTypes.hpp>
00015
00016 namespace boost {
00017     namespace serialization {
00018         class access;
00019     }
00020 }
00021
00022 namespace stdair {
00023
00024     struct LegDateKey;
00025     class LegDate;
00026     struct SegmentDateKey;
00027     class SegmentDate;
00028
00029     class FlightDate : public BomAbstract {
00030         template <typename BOM> friend class FacBom;
00031         template <typename BOM> friend class FacCloneBom;
00032         friend class FacBomManager;
00033         friend class boost::serialization::access;
00034
00035     public:
00036         // ////////////////// Type definitions ///////////////////
00037         typedef FlightDateKey Key_T;
00038
00039         public:
00040             // ////////////////// Getters ///////////////////
00041             const Key_T& getKey() const {
00042                 return _key;
00043             }
00044
00045             // ////////////////// Setters ///////////////////
00046             void setKey(const Key_T& key) {
00047                 _key = key;
00048             }
00049
00050             void clearKey() {
00051                 _key.clear();
00052             }
00053
00054         };
00055 }
```

```

00057     BomAbstract* const getParent() const {
00058         return _parent;
00059     }
00060
00062     const FlightNumber_T& getFlightNumber() const {
00063         return _key.getFlightNumber();
00064     }
00065
00067     const Date_T& getDepartureDate() const {
00068         return _key.getDepartureDate();
00069     }
00070
00078     const AirlineCode_T& getAirlineCode() const;
00079
00083     const HolderMap_T& getHolderMap() const {
00084         return _holderMap;
00085     }
00086
00097     LegDate* getLegDate (const std::string& iLegDateKeyStr) const;
00098
00109     LegDate* getLegDate (const LegDateKey&) const;
00110
00121     SegmentDate* getSegmentDate (const std::string& iSegmentDateKeyStr) const;
00122
00133     SegmentDate* getSegmentDate (const SegmentDateKey&) const;
00134
00135 public:
00136     // /////////// Display support methods ///////////////
00142     void toStream (std::ostream& ioOut) const {
00143         ioOut << toString();
00144     }
00145
00151     void fromStream (std::istream& ioIn) {
00152     }
00153
00157     std::string toString() const;
00158
00162     const std::string describeKey() const {
00163         return _key.toString();
00164     }
00165
00166
00167 public:
00168     // /////////// (Boost) Serialisation support methods ///////////////
00172     template<class Archive>
00173     void serialize (Archive& ar, const unsigned int iFileVersion);
00174
00175 private:
00183     void serialisationImplementationExport() const;
00184     void serialisationImplementationImport();
00185
00186
00187 protected:
00188     // /////////// Constructors and destructors ///////////////
00192     FlightDate (const Key_T&);
00193
00197     virtual ~FlightDate();
00198
00199 private:
00203     FlightDate();
00204
00208     FlightDate (const FlightDate&);
00209
00210
00211 protected:
00212     // /////////// Attributes ///////////////
00216     Key_T _key;
00217
00221     BomAbstract* _parent;
00222
00226     HolderMap_T _holderMap;
00227 };
00228
00229 }
00230 #endif // __STDAIR_BOM_FLIGHTDATE_HPP
00231

```

### 33.321 stdair/bom/FlightDateKey.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <boost/date_time/gregorian/formatters.hpp>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/FlightDateKey.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Functions

- template void `stdair::FlightDateKey::serialize< ba::text_oarchive >` (`ba::text_oarchive &`, `unsigned int`)
- template void `stdair::FlightDateKey::serialize< ba::text_iarchive >` (`ba::text_iarchive &`, `unsigned int`)

## 33.322 FlightDateKey.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost Date-Time
00008 #include <boost/date_time/gregorian/formatters.hpp>
00009 // Boost.Serialization
00010 #include <boost/archive/text_iarchive.hpp>
00011 #include <boost/archive/text_oarchive.hpp>
00012 #include <boost/serialization/access.hpp>
00013 // StdAir
00014 #include <stdair/basic/BasConst_Inventory.hpp>
00015 #include <stdair/basic/BasConst_BomDisplay.hpp>
00016 #include <stdair/bom/FlightDateKey.hpp>
00017
00018 namespace stdair {
00019
00020 // /////////////////////////////////
00021 FlightDateKey::FlightDateKey()
00022 : _flightNumber (DEFAULT_FLIGHT_NUMBER),
00023 _departureDate (DEFAULT_DEPARTURE_DATE) {
00024 assert (false);
00025 }
00026
00027 // /////////////////////////////////
00028 FlightDateKey::FlightDateKey (const FlightNumber_T& iFlightNumber,
00029 const Date_T& iFlightDate)
00030 : _flightNumber (iFlightNumber), _departureDate (iFlightDate) {
00031 }
00032
00033 // /////////////////////////////////
00034 FlightDateKey::FlightDateKey (const FlightDateKey& iKey)
00035 : _flightNumber (iKey._flightNumber), _departureDate (iKey._departureDate) {
00036 }
00037
00038 // /////////////////////////////////
00039 FlightDateKey::~FlightDateKey() {
00040 }
00041
00042 // /////////////////////////////////
00043 void FlightDateKey::toStream (std::ostream& ioOut) const {
00044 ioOut << "FlightDateKey: " << toString();
00045 }
00046
00047 // /////////////////////////////////
00048 void FlightDateKey::fromStream (std::istream& ioIn) {
00049 }
00050
00051 // /////////////////////////////////
```

```

00052     const std::string FlightDateKey::toString() const {
00053         std::ostringstream oStr;
00054         const std::string& lDepartureDateStr =
00055             boost::gregorian::to_iso_extended_string (_departureDate);
00056         oStr << _flightNumber
00057             << DEFAULT_KEY_SUB_FLD_DELIMITER << " " << lDepartureDateStr;
00058         return oStr.str();
00059     }
00060
00061 // ///////////////////////////////////////////////////////////////////
00062 void FlightDateKey::serialisationImplementationExport() const {
00063     std::ostringstream oStr;
00064     boost::archive::text_oarchive oa (oStr);
00065     oa << *this;
00066 }
00067
00068 // ///////////////////////////////////////////////////////////////////
00069 void FlightDateKey::serialisationImplementationImport() {
00070     std::istringstream iStr;
00071     boost::archive::text_iarchive ia (iStr);
00072     ia >> *this;
00073 }
00074
00075 // ///////////////////////////////////////////////////////////////////
00076 template<class Archive>
00077 void FlightDateKey::serialize (Archive& ioArchive,
00078                                 const unsigned int iFileVersion) {
00079     std::string lDepartureDateStr =
00080         boost::gregorian::to_simple_string (_departureDate);
00081     ioArchive & _flightNumber & lDepartureDateStr;
00082 }
00083
00084 // ///////////////////////////////////////////////////////////////////
00085 // Explicit template instantiation
00086 namespace ba = boost::archive;
00087 template void FlightDateKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00088                                         unsigned int);
00089 template void FlightDateKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00090                                         unsigned int);
00091
00092 // ///////////////////////////////////////////////////////////////////
00093
00094
00095
00096
00097 }

```

### 33.323 stdair/bom/FlightDateKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::FlightDateKey](#)

*Key of a given flight-date, made of a flight number and a departure date.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.324 FlightDateKey.hpp

```
00001 #ifndef __STDAIR_BOM_FLIGHTDATEKEY_HPP
00002 #define __STDAIR_BOM_FLIGHTDATEKEY_HPP
```

```

00003 // /////////////////////////////////
00004 // Import section
00005 // /////////////////////////////////
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_date_time_types.hpp>
00013 #include <stdair/bom/KeyAbstract.hpp>
00014
00016 namespace boost {
00017     namespace serialization {
00018         class access;
00019     }
00020 }
00021
00022 namespace stdair {
00023
00028     struct FlightDateKey : public KeyAbstract {
00029         friend class boost::serialization::access;
00030
00031         // ////////////////// Constructors and destructors ///////////////////
00032     private:
00033         FlightDateKey();
00034
00038     public:
00042         FlightDateKey (const FlightNumber_T&, const
00043 Date_T&);
00047         FlightDateKey (const FlightDateKey&);
00048
00052         ~FlightDateKey();
00053
00054
00055     public:
00056         // ////////////////// Getters ///////////////////
00058         const FlightNumber_T& getFlightNumber() const {
00059             return _flightNumber;
00060         }
00061
00063         const Date_T& getDepartureDate() const {
00064             return _departureDate;
00065         }
00066
00067
00068     public:
00069         // ////////////////// Display support methods ///////////////////
00070         void toStream (std::ostream& ioOut) const;
00071
00082         void fromStream (std::istream& ioIn);
00083
00093         const std::string toString() const;
00094
00095
00096     public:
00097         // ////////////////// (Boost) Serialisation support methods ///////////////////
00098         template<class Archive>
00099         void serialize (Archive& ar, const unsigned int iFileVersion);
00100
00104     private:
00105         void serialisationImplementationExport() const;
00106         void serialisationImplementationImport();
00111
00112
00113     private:
00114         // ////////////////// Attributes ///////////////////
00115         FlightNumber_T _flightNumber;
00116
00119         Date_T _departureDate;
00120     };
00125
00126 }
00127 #endif // __STDAIR_BOM_FLIGHTDATEKEY_HPP

```

### 33.325 stdair/bom/FlightDateTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## TypeDefs

- **typedef std::list< FlightDate \* > stdair::FlightDateList\_T**
- **typedef std::map< const MapKey\_T, FlightDate \* > stdair::FlightDateMap\_T**

### 33.326 FlightDateTypes.hpp

```
00001 // /////////////////////////////////  
00002 #ifndef __STDAIR_BOM_FLIGHTDATETYPES_HPP  
00003 #define __STDAIR_BOM_FLIGHTDATETYPES_HPP  
00004  
00005 // /////////////////////////////////  
00006 // Import section  
00007 // /////////////////////////////////  
00008 // STL  
00009 #include <map>  
00010 #include <list>  
00011 // StdAir  
00012 #include <stdair/bom/key_types.hpp>  
00013  
00014 namespace stdair {  
00015  
00016 // Forward declarations  
00017 class FlightDate;  
00018  
00019 // ///////////////////////////////// Type definitions ///////////////////////////////  
00020 typedef std::list<FlightDate*> FlightDateList_T;  
00021  
00022 typedef std::map<const MapKey_T, FlightDate*> FlightDateMap_T;  
00023  
00024  
00025 }  
00026  
00027 #endif // __STDAIR_BOM_FLIGHTDATETYPES_HPP  
00028
```

### 33.327 stdair/bom/FlightPeriod.cpp File Reference

```
#include <cassert>  
#include <stdair/bom/FlightPeriod.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.328 FlightPeriod.cpp

```
00001 // /////////////////////////////////  
00002 // Import section  
00003 // /////////////////////////////////  
00004 // STL  
00005 #include <cassert>  
00006 // STDAIR  
00007 #include <stdair/bom/FlightPeriod.hpp>  
00008  
00009 namespace stdair {  
00010  
00011 // /////////////////////////////////  
00012 FlightPeriod::FlightPeriod (const Key_T& iKey)  
00013 : _key (iKey), _parent (NULL) {  
00014 }  
00015  
00016 // /////////////////////////////////
```

```

00017 FlightPeriod::FlightPeriod (const FlightPeriod& iFlightPeriod)
00018   : _key (iFlightPeriod.getKey()), _parent (NULL)  {
00019 }
00020 // ///////////////////////////////////////////////////////////////////
00021 FlightPeriod::~FlightPeriod () {
00022 }
00023 // ///////////////////////////////////////////////////////////////////
00024
00025 std::string FlightPeriod::toString() const {
00026   std::ostringstream oStr;
00027   oStr << describeKey();
00028   return oStr.str();
00029 }
00030 }
00031
00032 }
00033

```

### 33.329 stdair/bom/FlightPeriod.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/FlightPeriodKey.hpp>
#include <stdair/bom/FlightPeriodTypes.hpp>
```

#### Classes

- class [stdair::FlightPeriod](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.330 FlightPeriod.hpp

```

00001 #ifndef __STDAIR_BOM_FLIGHTPERIOD_HPP
00002 #define __STDAIR_BOM_FLIGHTPERIOD_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/FlightPeriodKey.hpp>
00010 #include <stdair/bom/FlightPeriodTypes.hpp>
00011
00012 namespace stdair {
00013
00015 class FlightPeriod : public BomAbstract {
00016   template <typename BOM> friend class FacBom;
00017   template <typename BOM> friend class FacCloneBom;
00018   friend class FacBomManager;
00019
00020 public:
00021   // Type definitions.
00023   typedef FlightPeriodKey Key_T;
00024
00025 public:
00026   // /////////////////////////////////////////////////////////////////// Getters ///////////////////////////////////////////////////////////////////
00028   const Key_T& getKey () const { return _key; }
00029
00031   BomAbstract* const getParent() const { return _parent; }
00032
00034   const FlightNumber_T& getFlightNumber () const {
00035     return _key.getFlightNumber();
00036   }
00037
00039   const PeriodStruct& getPeriod () const { return _key.
00040     getPeriod(); }
00042   const HolderMap_T& getHolderMap() const { return

```

```

00043     _holderMap; }
00044
00045 public:
00046     // /////////// Display support methods ///////////
00047     void toStream (std::ostream& ioOut) const { ioOut << toString(); }
00050
00053     void fromStream (std::istream& ioIn) { }
00054
00056     std::string toString() const;
00057
00059     const std::string describeKey() const { return _key.toString(); }
00060
00061 protected:
00065     FlightPeriod (const Key_T&);
00066
00070     ~FlightPeriod ();
00071
00072 private:
00073
00077     FlightPeriod ();
00078
00082     FlightPeriod (const FlightPeriod&);
00083
00084 protected:
00085     // Attributes
00086     Key_T _key;
00087     BomAbstract* _parent;
00088     HolderMap_T _holderMap;
00089 };
00090
00091 }
00092 #endif // __STDAIR_BOM_FLIGHTPERIOD_HPP
00093

```

### 33.331 stdair/bom/FlightPeriodKey.cpp File Reference

```
#include <stdair/bom/FlightPeriodKey.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.332 FlightPeriodKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STDAIR
00005 #include <stdair/bom/FlightPeriodKey.hpp>
00006
00007 namespace stdair {
00008
00009 // /////////////////////////////////
00010 FlightPeriodKey::FlightPeriodKey (const FlightNumber_T& iFlightNumber,
00011                                     const PeriodStruct& iPeriod)
00012     : _flightNumber (iFlightNumber), _period (iPeriod) {
00013 }
00014
00015 // /////////////////////////////////
00016 FlightPeriodKey::FlightPeriodKey (const FlightPeriodKey& iKey)
00017     : _flightNumber (iKey._flightNumber), _period (iKey._period) {
00018 }
00019
00020 // /////////////////////////////////
00021 FlightPeriodKey::~FlightPeriodKey () {
00022 }
00023
00024 // /////////////////////////////////
00025 void FlightPeriodKey::toStream (std::ostream& ioOut) const {
00026     ioOut << "FlightPeriodKey: " << toString() << std::endl;
00027 }
00028
00029 // /////////////////////////////////

```

```

00030     void FlightPeriodKey::fromStream (std::istream& ioIn) {
00031     }
00032
00033     // /////////////////////////////////
00034     const std::string FlightPeriodKey::toString() const {
00035         std::ostringstream oStr;
00036         oStr << _flightNumber << ", " << _period.describeShort();
00037         return oStr.str();
00038     }
00039
00040 }
```

### 33.333 stdair/bom/FlightPeriodKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/bom/PeriodStruct.hpp>
```

#### Classes

- struct [stdair::FlightPeriodKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.334 FlightPeriodKey.hpp

```

00001 #ifndef __STDAIR_BOM_FLIGHTPERIODKEY_HPP
00002 #define __STDAIR_BOM_FLIGHTPERIODKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/bom/PeriodStruct.hpp>
00010
00011 namespace stdair {
00012     struct FlightPeriodKey : public KeyAbstract {
00013
00014     private:
00015         // ////////////////// Default constructor ///////////
00016         FlightPeriodKey ();
00017
00018     public:
00019         // ////////////////// Construction ///////////
00020         FlightPeriodKey (const FlightNumber_T&, const
00021             PeriodStruct&);
00022         FlightPeriodKey (const FlightPeriodKey&);
00023         ~FlightPeriodKey ();
00024
00025
00026     // ////////////////// Getters ///////////
00027     const FlightNumber_T& getFlightNumber() const {
00028         return _flightNumber;
00029     }
00030
00031
00032     const PeriodStruct& getPeriod () const {
00033         return _period;
00034     }
00035
00036
00037     // ////////////////// Display support methods ///////////
00038     void toStream (std::ostream& ioOut) const;
00039
00040
00041     void fromStream (std::istream& ioIn);
00042
00043
00044     const std::string toString() const;
00045
00046
00047     private:
00048         // Attributes
00049         FlightNumber_T _flightNumber;
00050
00051         PeriodStruct _period;
```

```

00060     };
00061 }
00062 }
00063 }
00064 #endif // __STDAIR_BOM_FLIGHTPERIODKEY_HPP

```

### 33.335 stdair/bom/FlightPeriodTypes.hpp File Reference

```

#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef std::list< FlightPeriod \\* > stdair::FlightPeriodList\\_T](#)
- [typedef std::map< const MapKey\\_T, FlightPeriod \\* > stdair::FlightPeriodMap\\_T](#)

### 33.336 FlightPeriodTypes.hpp

```

00001 // /////////////////////////////////
00002 ifndef __STDAIR_BOM_FLIGHTPERIODTYPES_HPP
00003 define __STDAIR_BOM_FLIGHTPERIODTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class FlightPeriod;
00018
00019 typedef std::list<FlightPeriod*> FlightPeriodList_T;
00020
00021 typedef std::map<const MapKey_T, FlightPeriod*> FlightPeriodMap_T;
00022 }
00023 #endif // __STDAIR_BOM_FLIGHTPERIODTYPES_HPP
00024
00025
00026

```

### 33.337 stdair/bom/FRAT5CurveHolderStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/FRAT5CurveHolderStruct.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## 33.338 FRAT5CurveHolderStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/service/Logger.hpp>
00009 #include <stdair/bom/FRAT5CurveHolderStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 FRAT5CurveHolderStruct::FRAT5CurveHolderStruct() {
00015 }
00016
00017 // /////////////////////////////////
00018 FRAT5CurveHolderStruct::
00019 FRAT5CurveHolderStruct (const FRAT5CurveHolderStruct&
iHolder)
00020 : _frat5CurveHolder (iHolder._frat5CurveHolder) {
00021 }
00022
00023 // /////////////////////////////////
00024 FRAT5CurveHolderStruct::~FRAT5CurveHolderStruct() {
00025 }
00026
00027 // /////////////////////////////////
00028 const FRAT5Curve_T& FRAT5CurveHolderStruct::
00029 getFRAT5Curve (const std::string& iKey) const {
00030     FRAT5CurveHolder_T::const_iterator itCurve = _frat5CurveHolder.find (iKey);
00031     if (itCurve == _frat5CurveHolder.end()) {
00032         STDAIR_LOG_DEBUG ("Cannot find the FRAT5 curve correponding to the "
00033                         << "given key: " << iKey);
00034         assert (false);
00035     }
00036
00037     return itCurve->second;
00038 }
00039
00040 // /////////////////////////////////
00041 void FRAT5CurveHolderStruct::
00042 addCurve (const std::string& iKey, const FRAT5Curve_T& iCurve) {
00043     bool insert = _frat5CurveHolder.insert (FRAT5CurveHolder_T::value_type(iKey, iCurve)).second;
00044     if (insert == false) {
00045         STDAIR_LOG_DEBUG ("Cannot add the FRAT5 curve correponding to the "
00046                         << "given key: " << iKey
00047                         << ", the key may already exist.");
00048         assert (false);
00049     }
00050 }
00051
00052 // /////////////////////////////////
00053 void FRAT5CurveHolderStruct::toStream (std::ostream& ioOut) const {
00054     ioOut << describe();
00055 }
00056
00057 // /////////////////////////////////
00058 void FRAT5CurveHolderStruct::fromStream (std::istream& ioIn) {
00059 }
00060
00061 // /////////////////////////////////
00062 const std::string FRAT5CurveHolderStruct::describe() const {
00063     std::ostringstream oStr;
00064     for (FRAT5CurveHolder_T::const_iterator itCurve = _frat5CurveHolder.begin();
00065          itCurve != _frat5CurveHolder.end(); ++itCurve) {
00066         const std::string& lKey = itCurve->first;
00067         const FRAT5Curve_T& lCurve = itCurve->second;
00068         oStr << lKey << "; ";
00069         for (FRAT5Curve_T::const_reverse_iterator itFRAT5 = lCurve.rbegin();
00070              itFRAT5 != lCurve.rend(); ++itFRAT5) {
00071             const DTD_T& lDTD = itFRAT5->first;
00072             const double& lFRAT5 = itFRAT5->second;
00073             oStr << lDTD << ":" << lFRAT5 << ";";
00074         }
00075         oStr << std::endl;
00076     }
00077     return oStr.str();
00078 }
00079
00080 }
```

### 33.339 stdair/bom/FRAT5CurveHolderStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
```

#### Classes

- struct [stdair::FRAT5CurveHolderStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- typedef std::map< const std::string, FRAT5Curve\_T > [stdair::FRAT5CurveHolder\\_T](#)

### 33.340 FRAT5CurveHolderStruct.hpp

```
00001 #ifndef __STDAIR_BOM_FRAT5CURVEHOLDERSTRUCT_HPP
00002 #define __STDAIR_BOM_FRAT5CURVEHOLDERSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_rm_types.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013
00014 namespace stdair {
00015 // Type definition for the holder of Frat5 curves.
00016 typedef std::map<const std::string, FRAT5Curve_T> FRAT5CurveHolder_T;
00017
00018 struct FRAT5CurveHolderStruct : public StructAbstract {
00019     public:
00020         // //////////////////// Getters ///////////////////
00021         const FRAT5Curve_T& getFRAT5Curve (const std::string&) const;
00022
00023         // ////////////////// Business Methods //////////////////
00024         void addCurve (const std::string&, const FRAT5Curve_T&);
00025
00026         // ////////////////// Display support method //////////////////
00027         void toStream (std::ostream& ioOut) const;
00028
00029         void fromStream (std::istream& ioIn);
00030
00031         const std::string describe() const;
00032
00033
00034     // ////////////////// Constructors and Destructors //////////////////
00035     public:
00036         FRAT5CurveHolderStruct ();
00037
00038         FRAT5CurveHolderStruct (const FRAT5CurveHolderStruct&);
00039
00040         ~FRAT5CurveHolderStruct ();
00041
00042     private:
00043         // ////////////////// Attributes //////////////////
00044         FRAT5CurveHolder_T _frat5CurveHolder;
00045     };
00046
00047 }
```

```
00061 }
00062 #endif // __STDAIR_BOM_FRAT5CURVEHOLDERSTRUCT_HPP
```

### 33.341 stdair/bom/Inventory.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.342 Inventory.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/BomManager.hpp>
00010 #include <stdair/bom/Inventory.hpp>
00011 #include <stdair/bom/FlightDate.hpp>
00012
00013 namespace stdair {
00014
00015 // /////////////////////////////////
00016 Inventory::Inventory() :
00017     _key (DEFAULT_AIRLINE_CODE),
00018     _parent (NULL),
00019     _airlineFeature (NULL) {
00020     // That constructor is used by the serialisation process
00021 }
00022
00023 // /////////////////////////////////
00024 Inventory::Inventory (const Inventory& iInventory)
00025     : _key (iInventory._key),
00026     _parent (NULL),
00027     _airlineFeature (NULL) {
00028 }
00029
00030 // /////////////////////////////////
00031 Inventory::Inventory (const Key_T& iKey) :
00032     _key (iKey),
00033     _parent (NULL),
00034     _airlineFeature (NULL) {
00035 }
00036
00037 // /////////////////////////////////
00038 Inventory::~Inventory() {
00039 }
00040
00041 // /////////////////////////////////
00042 std::string Inventory::toString() const {
00043     std::ostringstream oStr;
00044     oStr << describeKey();
00045     return oStr.str();
00046 }
00047
00048 // /////////////////////////////////
00049 FlightDate* Inventory::
00050 getFlightDate (const std::string& iFlightDateKeyStr) const {
00051     FlightDate* oFlightDate_ptr =
00052         BomManager::getObjectPtr<FlightDate> (*this, iFlightDateKeyStr);
00053     return oFlightDate_ptr;
00054 }
```

```

00055 // /////////////////////////////////
00056 FlightDate* Inventory::
00057 getFlightDate (const FlightDateKey& iFlightDateKey) const {
00058     return getFlightDate (iFlightDateKey.toString());
00059 }
00060 }
00061
00062 // ///////////////////////////////
00063 ForecastingMethod::EN_ForecastingMethod
00064 Inventory::
00065 getForecastingMethod() const {
00066     assert (_airlineFeature != NULL);
00067     return _airlineFeature->getForecastingMethod();
00068 }
00069
00070 UnconstrainingMethod::EN_UnconstrainingMethod
00071 Inventory::
00072 getUnconstrainingMethod() const {
00073     assert (_airlineFeature != NULL);
00074     return _airlineFeature->getUnconstrainingMethod();
00075 }
00076
00077 PreOptimisationMethod::EN_PreOptimisationMethod
00078 Inventory::
00079 getPreOptimisationMethod() const {
00080     assert (_airlineFeature != NULL);
00081     return _airlineFeature->getPreOptimisationMethod();
00082 }
00083
00084 OptimisationMethod::EN_OptimisationMethod
00085 Inventory::
00086 getOptimisationMethod() const {
00087     assert (_airlineFeature != NULL);
00088     return _airlineFeature->getOptimisationMethod();
00089 }
00090
00091 PartnershipTechnique::EN_PartnershipTechnique
00092 Inventory::
00093 getPartnershipTechnique() const {
00094     assert (_airlineFeature != NULL);
00095     return _airlineFeature->getPartnershipTechnique();
00096 }
00097 }
00098

```

### 33.343 stdair/bom/Inventory.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/AirlineFeature.hpp>
#include <stdair/bom/InventoryKey.hpp>
#include <stdair/bom/InventoryTypes.hpp>

```

#### Classes

- class [stdair::Inventory](#)  
*Class representing the actual attributes for an airline inventory.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)

- **stdair**

*Handle on the StdAir library context.*

### 33.344 Inventory.hpp

```

00001 #ifndef __STDAIR_BOM_INVENTORY_HPP
00002 #define __STDAIR_BOM_INVENTORY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/BomAbstract.hpp>
00014 #include <stdair/bom/AirlineFeature.hpp>
00015 #include <stdair/bom/InventoryKey.hpp>
00016 #include <stdair/bom/InventoryTypes.hpp>
00017
00018 namespace boost {
00019   namespace serialization {
00020     class access;
00021   }
00022 }
00023
00024
00025 namespace stdair {
00026
00027   struct FlightDateKey;
00028   class FlightDate;
00029
00030
00031   class Inventory : public BomAbstract {
00032     template <typename BOM> friend class FacBom;
00033     template <typename BOM> friend class FacCloneBom;
00034     friend class FacBomManager;
00035     friend class boost::serialization::access;
00036
00037   public :
00038     // ////////////////// Type definitions ///////////////////
00039     typedef InventoryKey Key_T;
00040
00041
00042   public:
00043     // ////////////////// Getters ///////////////////
00044     const Key_T& getKey() const {
00045       return _key;
00046     }
00047
00048     const AirlineCode_T& getAirlineCode() const {
00049       return _key.getAirlineCode();
00050     }
00051
00052
00053     ForecastingMethod::EN_ForecastingMethod
00054     getForecastingMethod() const;
00055
00056     UnconstrainingMethod::EN_UnconstrainingMethod
00057     getUnconstrainingMethod() const;
00058
00059     PreOptimisationMethod::EN_PreOptimisationMethod
00060     getPreOptimisationMethod() const;
00061
00062     OptimisationMethod::EN_OptimisationMethod
00063     getOptimisationMethod() const;
00064
00065     PartnershipTechnique::EN_PartnershipTechnique
00066     getPartnershipTechnique() const;
00067
00068     BomAbstract* const getParent() const {
00069       return _parent;
00070     }
00071
00072     const HolderMap_T& getHolderMap() const {
00073       return _holderMap;
00074     }
00075
00076     FlightDate* getFlightDate (const std::string& iFlightDateKeyStr) const;
00077
00078     FlightDate* getFlightDate (const FlightDateKey&) const;
00079
00080     AirlineFeature* getAirlineFeature () const {
00081       return _airlineFeature;
00082     }
00083
00084
00085
00086
00087
00088
00089
00090
00091
00092
00093
00094
00095
00096
00097
00098
00099
00100
00101
00102
00103
00104
00105
00106
00107
00108
00109
00110
00111
00112
00113

```

```

00114     }
00115
00116
00117 private:
00118     // /////////// Setters ///////////
00119     void setAirlineFeature (AirlineFeature& iAirlineFeature) {
00120         _airlineFeature = &iAirlineFeature;
00121     }
00122
00123
00124
00125 public:
00126     // /////////// Display support methods ///////////
00127     void toStream (std::ostream& ioOut) const {
00128         ioOut << toString();
00129     }
00130
00131
00132     void fromStream (std::istream& ioIn) {
00133
00134
00135         std::string toString() const;
00136
00137         const std::string describeKey() const {
00138             return _key.toString();
00139         }
00140
00141
00142
00143
00144
00145
00146
00147
00148
00149
00150
00151
00152
00153
00154
00155
00156
00157
00158     // /////////// (Boost) Serialisation support methods ///////////
00159     template<class Archive>
00160     void serialize (Archive& ar, const unsigned int iFileVersion);
00161
00162
00163
00164
00165 private:
00166     void serialisationImplementationExport() const;
00167     void serialisationImplementationImport();
00168
00169
00170
00171
00172
00173
00174
00175
00176
00177 protected:
00178     // /////////// Constructors and destructors ///////////
00179     Inventory (const Key_T&);
00180     ~Inventory();
00181
00182
00183
00184
00185
00186
00187
00188 private:
00189     Inventory();
00190     Inventory (const Inventory&);
00191
00192
00193
00194
00195
00196
00197
00198
00199 protected:
00200     // /////////// Attributes ///////////
00201     Key_T _key;
00202
00203
00204     BomAbstract* _parent;
00205
00206
00207     AirlineFeature* _airlineFeature;
00208
00209
00210     HolderMap_T _holderMap;
00211
00212     };
00213
00214
00215
00216
00217
00218
00219
00220
00221
00222 }
00223 #endif // __STDAIR_BOM_INVENTORY_HPP
00224

```

### 33.345 stdair/bom/InventoryKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/InventoryKey.hpp>

```

### Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Functions

- template void `stdair::InventoryKey::serialize< ba::text_oarchive >` (ba::text\_oarchive &, unsigned int)
- template void `stdair::InventoryKey::serialize< ba::text_iarchive >` (ba::text\_iarchive &, unsigned int)

## 33.346 InventoryKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/InventoryKey.hpp>
00014
00015 namespace stdair {
00016
00017 // ///////////////////////////////
00018 InventoryKey::InventoryKey() : _airlineCode (DEFAULT_AIRLINE_CODE) {
00019     assert (false);
00020 }
00021
00022 // ///////////////////////////////
00023 InventoryKey::InventoryKey (const AirlineCode_T& iAirlineCode)
00024     : _airlineCode (iAirlineCode) {
00025 }
00026
00027 // ///////////////////////////////
00028 InventoryKey::InventoryKey (const InventoryKey& iKey)
00029     : _airlineCode (iKey._airlineCode) {
00030 }
00031
00032 // ///////////////////////////////
00033 InventoryKey::~InventoryKey() {
00034 }
00035
00036 // ///////////////////////////////
00037 void InventoryKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "InventoryKey: " << toString();
00039 }
00040
00041 // ///////////////////////////////
00042 void InventoryKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // ///////////////////////////////
00046 const std::string InventoryKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _airlineCode;
00049     return oStr.str();
00050 }
00051
00052 // ///////////////////////////////
00053 void InventoryKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // ///////////////////////////////
00060 void InventoryKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // ///////////////////////////////
00067 template<class Archive>
00068 void InventoryKey::serialize (Archive& ioArchive,
00069                             const unsigned int iFileVersion) {
00070     ioArchive & _airlineCode;
00071 }
00072
00073 // ///////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void InventoryKey::serialize<ba::text_oarchive> (ba::text_oarchive&,

```

```

00077     unsigned int);
00078     template void InventoryKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00079                                         unsigned int);
00080     // /////////////////////////////////
00081 }
00082 }
```

### 33.347 stdair/bom/InventoryKey.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::InventoryKey](#)  
*Key of a given inventory, made of the airline code.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)  
*Handle on the StdAir library context.*

### 33.348 InventoryKey.hpp

```

00001 #ifndef __STDAIR_BOM_INVENTORYKEY_HPP
00002 #define __STDAIR_BOM_INVENTORYKEY_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015     namespace serialization {
00016         class access;
00017     }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023     struct InventoryKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         // ////////////////// Constructors and destructors //////////////////
00027     private:
00028         InventoryKey();
00029
00030         // ////////////////// Construction //////////////////
00031         InventoryKey (const AirlineCode_T& iAirlineCode);
00032
00033         InventoryKey (const InventoryKey&);
00034
00035         ~InventoryKey();
00036
00037         // ////////////////// Getters //////////////////
00038         const AirlineCode_T& getAirlineCode() const {
```

```

00059     return _airlineCode;
00060 }
00061
00062
00063 public:
00064 // ////////////////// Display support methods //////////////////
00065 void toStream (std::ostream& ioOut) const;
00066
00067 void fromStream (std::istream& ioIn);
00068
00069 const std::string toString() const;
00070
00071
00072 public:
00073 // ////////////////// (Boost) Serialisation support methods //////////////////
00074 template<class Archive>
00075 void serialize (Archive& ar, const unsigned int iFileVersion);
00076
00077 private:
00078     void serialisationImplementationExport() const;
00079     void serialisationImplementationImport();
00080
00081
00082 private:
00083 // ////////////////// Attributes //////////////////
00084     AirlineCode_T _airlineCode;
00085 };
00086
00087
00088
00089 #endif // __STDAIR_BOM_INVENTORYKEY_HPP

```

### 33.349 stdair/bom/InventoryTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< Inventory \* > stdair::InventoryList\_T**
- **typedef std::map< const MapKey\_T, Inventory \* > stdair::InventoryMap\_T**

### 33.350 InventoryTypes.hpp

```

00001 // //////////////////////////////// 
00002 #ifndef __STDAIR_BOM_INVENTORYTYPES_HPP
00003 #define __STDAIR_BOM_INVENTORYTYPES_HPP
00004
00005 // //////////////////////////////// 
00006 // Import section
00007 // //////////////////////////////// 
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // Stdair
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class Inventory;
00018
00019 typedef std::list<Inventory*> InventoryList_T;
00020
00021 typedef std::map<const MapKey_T, Inventory*> InventoryMap_T;
00022
00023
00024

```

```
00025 }
00026 #endif // __STDAIR_BOM_INVENTORYTYPES_HPP
```

### 33.351 stdair/bom/key\_types.hpp File Reference

```
#include <string>
#include <list>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef std::string stdair::MapKey\\_T](#)
- [typedef std::list< std::string > stdair::KeyList\\_T](#)

### 33.352 key\_types.hpp

```
00001 #ifndef __STDAIR_BOM_KEY_TYPES_HPP
00002 #define __STDAIR_BOM_KEY_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <list>
00010
00011 namespace stdair {
00012
00013 // ////////////////////// Type definitions ///////////////////
00015 typedef std::string MapKey_T;
00016
00018 typedef std::list<std::string> KeyList_T;
00019
00020 }
00021 #endif // __STDAIR_BOM_KEY_TYPES_HPP
```

### 33.353 stdair/bom/KeyAbstract.hpp File Reference

```
#include <iostream>
#include <string>
```

#### Classes

- [struct stdair::KeyAbstract](#)

*Base class for the keys of Business Object Model (BOM) layer.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## Functions

- template<class charT , class traits >  
std::basic\_ostream< charT, traits > & **operator<<** (std::basic\_ostream< charT, traits > &iOOut, const stdair::KeyAbstract &iKey)
- template<class charT , class traits >  
std::basic\_istream< charT, traits > & **operator>>** (std::basic\_istream< charT, traits > &iOIn, stdair::KeyAbstract &iKey)

### 33.353.1 Function Documentation

33.353.1.1 template<class charT , class traits > std::basic\_ostream<charT, traits>& operator<< ( std::basic\_ostream< charT, traits > & ioOut, const stdair::KeyAbstract & iKey ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (p653) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 74 of file [KeyAbstract.hpp](#).

33.353.1.2 template<class charT , class traits > std::basic\_istream<charT, traits>& operator>> ( std::basic\_istream< charT, traits > & iOIn, stdair::KeyAbstract & iKey ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (pp655-657) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 102 of file [KeyAbstract.hpp](#).

References [stdair::KeyAbstract::fromStream\(\)](#).

## 33.354 KeyAbstract.hpp

```

00001
00007 #ifndef __STDAIR_BOM_KEYABSTRACT_HPP
00008 #define __STDAIR_BOM_KEYABSTRACT_HPP
00009
00010 // /////////////////////////////////
00011 // Import section
00012 // /////////////////////////////////
00013 // STL
00014 #include <iostream>
00015 #include <string>
00016
00017 namespace stdair {
00018
00027   struct KeyAbstract {
00028     public:
00029
00030     // /////////// Display support methods ///////////
00036     virtual void toStream (std::ostream& ioOut) const {}
00037
00043     virtual void fromStream (std::istream& ioIn) {}
00044
00056     virtual const std::string toString() const { return std::string("Hello!"); }
00057
00061     virtual ~KeyAbstract() {}
00062   };
00063
00064 }
00065
00071 template <class charT, class traits>
00072 inline
00073 std::basic_ostream<charT, traits>-
00074 operator<< (std::basic_ostream<charT, traits>& ioOut,
00075               const stdair::KeyAbstract& iKey) {
00081   std::basic_ostringstream<charT,traits> ostr;
00082   ostr.copyfmt (ioOut);
00083   ostr.width (0);
00084
00085   // Fill string stream
00086   iKey.toStream (ostr);
00087
00088   // Print string stream
00089   ioOut << ostr.str();

```

```

00090
00091     return ioOut;
00092 }
00093
00099 template <class charT, class traits>
00100 inline
00101 std::basic_istream<charT, traits>&
00102 operator>> (std::basic_istream<charT, traits>& ioIn,
00103                 stdair::KeyAbstract& ioKey) {
00104     // Fill Key object with input stream
00105     ioKey.fromStream (ioIn);
00106     return ioIn;
00107 }
00108
00109 #endif // __STDAIR_BOM_KEYABSTRACT_HPP

```

### 33.355 stdair/bom/LegCabin.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/LegCabin.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.356 LegCabin.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/basic/BasConst_BomDisplay.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/LegDate.hpp>
00013 #include <stdair/bom/LegCabin.hpp>
00014
00015
00016 namespace stdair {
00017
00018 // /////////////////////////////////
00019 LegCabin::LegCabin() : _key (DEFAULT_CABIN_CODE), _parent (NULL) {
00020     assert (_key != false);
00021 }
00022
00023 // /////////////////////////////////
00024 LegCabin::LegCabin (const LegCabin& iLegCabin)
00025     : _key (iLegCabin._key), _parent (NULL),
00026     _offeredCapacity (iLegCabin._offeredCapacity),
00027     _physicalCapacity (iLegCabin._physicalCapacity),
00028     _soldSeat (iLegCabin._soldSeat),
00029     _committedSpace (iLegCabin._committedSpace),
00030     _availabilityPool (iLegCabin._availabilityPool),
00031     _availability (iLegCabin._availability),
00032     _currentBidPrice (iLegCabin._currentBidPrice),
00033     _dcsRegrade (iLegCabin._dcsRegrade),
00034     _au (iLegCabin._au),
00035     _upr (iLegCabin._upr),
00036     _nav (iLegCabin._nav),
00037     _gav (iLegCabin._gav),
00038     _acp (iLegCabin._acp),

```

```

00039     _etb (iLegCabin._etb),
00040     _staffNbOfBookings (iLegCabin._staffNbOfBookings),
00041     _wlNbOfBookings (iLegCabin._wlNbOfBookings),
00042     _groupNbOfBookings (iLegCabin._groupNbOfBookings) {
00043 }
00044
00045 // /////////////////////////////////
00046 LegCabin::LegCabin (const Key_T& iKey)
00047   : _key (iKey), _parent (NULL),
00048   _offeredCapacity (DEFAULT_CABIN_CAPACITY),
00049   _physicalCapacity (DEFAULT_CABIN_CAPACITY),
00050   _soldSeat (DEFAULT_CLASS_NB_OF_BOOKINGS),
00051   _committedSpace (DEFAULT_COMMITED_SPACE),
00052   _availabilityPool (DEFAULT_AVAILABILITY),
00053   _availability (DEFAULT_AVAILABILITY),
00054   _currentBidPrice (DEFAULT_BID_PRICE),
00055   _bidPriceVector (DEFAULT_BID_PRICE_VECTOR),
00056   _dcsRegrade (DEFAULT_NULL_CAPACITY_ADJUSTMENT),
00057   _au (DEFAULT_CLASS_AUTHORIZATION_LEVEL),
00058   _upr (DEFAULT_NULL_UPR),
00059   _nav (DEFAULT_AVAILABILITY),
00060   _gav (DEFAULT_AVAILABILITY),
00061   _acp (DEFAULT_CLASS_OVERBOOKING_RATE),
00062   _etb (DEFAULT_NULL_BOOKING_NUMBER),
00063   _staffNbOfBookings (DEFAULT_NULL_BOOKING_NUMBER),
00064   _wlNbOfBookings (DEFAULT_NULL_BOOKING_NUMBER),
00065   _groupNbOfBookings (DEFAULT_NULL_BOOKING_NUMBER) {
00066 }
00067
00068 // /////////////////////////////////
00069 LegCabin::~LegCabin() {
00070 }
00071
00072 // /////////////////////////////////
00073 void LegCabin::setCapacities (const CabinCapacity_T& iCapacity) {
00074   _offeredCapacity = iCapacity;
00075   _physicalCapacity = iCapacity;
00076   setAvailabilityPool (iCapacity - _committedSpace);
00077 }
00078
00079 // /////////////////////////////////
00080 const MapKey_T LegCabin::getFullerKey() const {
00081   const LegDate& lLegDate = BomManager::getParent<LegDate> (*this);
00082
00083   const MapKey_T oFullKey =
00084     lLegDate.describeKey () + DEFAULT_KEY_FLD_DELIMITER +
00085     getCabinCode ();
00086   return oFullKey;
00087 }
00088
00089 // /////////////////////////////////
00090 std::string LegCabin::toString() const {
00091   std::ostringstream oStr;
00092   oStr << describeKey ();
00093   return oStr.str ();
00094 }
00095
00096 const std::string LegCabin::displayVirtualClassList () const {
00097   std::ostringstream oStr;
00098
00099   for (VirtualClassList_T::const_iterator itVC = _virtualClassList.begin();
00100         itVC != _virtualClassList.end(); ++itVC) {
00101     const VirtualClassStruct& lVC = *itVC;
00102     oStr << std::endl << "Yield: " << std::fixed << std::setprecision (2)
00103       << lVC.getYield ()
00104       << ", Protection: " << std::fixed << std::setprecision (2)
00105       << lVC.getCumulatedProtection ()
00106       << ", Booking limit: " << std::fixed << std::setprecision (2)
00107       << lVC.getCumulatedBookingLimit ();
00108   }
00109
00110   return oStr.str ();
00111 }
00112
00113 // /////////////////////////////////
00114 void LegCabin::updateFromReservation (const
00115   NbOfBookings_T& iNbOfBookings) {
00116   _committedSpace += iNbOfBookings;
00117   _availabilityPool = _offeredCapacity -
00118   _committedSpace;
00119
00120 // /////////////////////////////////
00121 void LegCabin::updateCurrentBidPrice() {
00122   const unsigned short lAvailabilityPool =
00123     static_cast<unsigned short> (std::floor (_availabilityPool));

```

```

00123
00124     if (lAvailabilityPool >= 1) {
00125         const unsigned short lBidPriceVectorSize = _bidPriceVector.size();
00126         if (lBidPriceVectorSize >= lAvailabilityPool) {
00127             _currentBidPrice = _bidPriceVector.at (lAvailabilityPool - 1);
00128         }
00129     }
00130 }
00131
00132 // /////////////////////////////////
00133 void LegCabin::addDemandInformation (const
00134     YieldValue_T& iYield,
00135                                     const MeanValue_T& iMeanValue,
00136                                     const StdDevValue_T& iStdDevValue) {
00137     //
00138     const int lYieldLevel =
00139         static_cast<int> (std::floor (iYield + 0.5));
00140
00141     //
00142     YieldLevelDemandMap_T::iterator itDemand =
00143         _yieldLevelDemandMap.find (lYieldLevel);
00144
00145     if (itDemand == _yieldLevelDemandMap.end ()) {
00146         MeanStdDevPair_T lMeanStdDevPair (iMeanValue, iStdDevValue);
00147         const bool hasInsertSuccessful = _yieldLevelDemandMap.
00148             insert (YieldLevelDemandMap_T::value_type (lYieldLevel,
00149                                             lMeanStdDevPair)).second;
00150         assert (hasInsertSuccessful == true);
00151     } else {
00152         //
00153         MeanStdDevPair_T& lMeanStdDevPair = itDemand->second;
00154         MeanValue_T lMeanValue = iMeanValue + lMeanStdDevPair.first;
00155         StdDevValue_T lStdDevValue = iStdDevValue * iStdDevValue + lMeanStdDevPair.second *
00156             lMeanStdDevPair.second;
00157         lStdDevValue = std::sqrt (lStdDevValue);
00158
00159         //
00160         lMeanStdDevPair = MeanStdDevPair_T (lMeanValue, lStdDevValue);
00161     }
00162 }
00163 }
00164

```

### 33.357 stdair/bom/LegCabin.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/LegCabinKey.hpp>
#include <stdair/bom/LegCabinTypes.hpp>
#include <stdair/bom/VirtualClassStruct.hpp>
#include <stdair/bom/VirtualClassTypes.hpp>

```

#### Classes

- class [stdair::LegCabin](#)

*Class representing the actual attributes for an airline leg-cabin.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## 33.358 LegCabin.hpp

```
00001 #ifndef __STDAIR_BOM_LEG CABIN_HPP
00002 #define __STDAIR_BOM_LEG CABIN_HPP
00003 // ///////////////////////////////////////////////////////////////////
00004 // Import section
00005 // ///////////////////////////////////////////////////////////////////
00006 // STL
00007 #include <iostream>
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
00011 #include <stdair/stdair_maths_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/LegCabinKey.hpp>
00014 #include <stdair/bom/LegCabinTypes.hpp>
00015 #include <stdair/bom/VirtualClassStruct.hpp>
00016 #include <stdair/bom/VirtualClassTypes.hpp>
00017
00018
00019 namespace stdair {
00020
00025 class LegCabin : public BomAbstract {
00026     template <typename BOM> friend class FacBom;
00027     template <typename BOM> friend class FacCloneBom;
00028     friend class FacBomManager;
00029
00030 public:
00031     // /////////////////////////////////////////////////////////////////// Type definitions ///////////////////////////////////////////////////////////////////
00035     typedef LegCabinKey Key_T;
00036
00037 public:
00038     // /////////////////////////////////////////////////////////////////// Getters ///////////////////////////////////////////////////////////////////
00042     const Key_T& getKey() const {
00043         return _key;
00044     }
00045
00049     BomAbstract* const getParent() const {
00050         return _parent;
00051     }
00052
00056     const CabinCode_T& getCabinCode() const {
00057         return _key.getCabinCode();
00058     }
00059
00067     const MapKey_T getFullerKey() const;
00068
00072     const HolderMap_T& getHolderMap() const {
00073         return _holderMap;
00074     }
00075
00077     const CabinCapacity_T& getOfferedCapacity() const {
00078         return _offeredCapacity;
00079     }
00080
00082     const CabinCapacity_T& getPhysicalCapacity() const {
00083         return _physicalCapacity;
00084     }
00085
00087     const NbOfSeats_T& getSoldSeat() const {
00088         return _soldSeat;
00089     }
00090
00092     const CommittedSpace_T& getCommittedSpace() const {
00093         return _committedSpace;
00094     }
00095
00097     const Availability_T& getAvailabilityPool() const {
00098         return _availabilityPool;
00099     }
00100
00102     const Availability_T& getAvailability() const {
00103         return _availability;
00104     }
00105
00107     const BidPrice_T& getCurrentBidPrice() const {
00108         return _currentBidPrice;
00109     }
00110
00112     const BidPrice_T& getPreviousBidPrice() const {
00113         return _previousBidPrice;
00114     }
00115
00117     const BidPriceVector_T& getBidPriceVector() const {
00118         return _bidPriceVector;
00119     }
00120 }
```

```

00122     const CapacityAdjustment_T& getRegradeAdjustment() const {
00123         return _dcsRegrade;
00124     }
00125
00126     const AuthorizationLevel_T& getAuthorizationLevel() const {
00127         return _au;
00128     }
00129
00130     const UPR_T& getUPR() const {
00131         return _upr;
00132     }
00133
00134     const Availability_T& getNetAvailability() const {
00135         return _nav;
00136     }
00137
00138     const Availability_T& getGrossAvailability() const {
00139         return _gav;
00140     }
00141
00142     const OverbookingRate_T& getAvgCancellationPercentage()
00143     const {
00144         return _acp;
00145     }
00146
00147     const NbOfSeats_T& getETB() const {
00148         return _etb;
00149     }
00150
00151     const NbOfSeats_T& getStaffNbOfSeats() const {
00152         return _staffNbOfBookings;
00153     }
00154
00155     const NbOfSeats_T& getWLNbOfSeats() const {
00156         return _wlNbOfBookings;
00157     }
00158
00159     const NbOfSeats_T& getGroupNbOfSeats() const {
00160         return _groupNbOfBookings;
00161     }
00162
00163     VirtualClassList_T& getVirtualClassList() {
00164         return _virtualClassList;
00165     }
00166
00167     BidPriceVector_T& getBidPriceVector() {
00168         return _bidPriceVector;
00169     }
00170
00171
00172     const YieldLevelDemandMap_T& getYieldLevelDemandMap() {
00173         return _yieldLevelDemandMap;
00174     }
00175
00176
00177     public:
00178         // //////////// Setters ///////////
00179         void setCapacities (const CabinCapacity_T& iCapacity);
00180
00181         void setSoldSeat (const NbOfSeats_T& iSoldSeat) {
00182             _soldSeat = iSoldSeat;
00183         }
00184
00185         void setCommittedSpace (const CommittedSpace_T& iCommittedSpace) {
00186             _committedSpace = iCommittedSpace;
00187         }
00188
00189         void setAvailabilityPool (const Availability_T& iAvailabilityPool) {
00190             _availabilityPool = iAvailabilityPool;
00191         }
00192
00193         void setAvailability (const Availability_T& iAvailability) {
00194             _availability = iAvailability;
00195         }
00196
00197         void setCurrentBidPrice (const BidPrice_T& iBidPrice) {
00198             _currentBidPrice = iBidPrice;
00199         }
00200
00201         void setPreviousBidPrice (const BidPrice_T& iBidPrice) {
00202             _previousBidPrice = iBidPrice;
00203         }
00204
00205         void updatePreviousBidPrice () {
00206             _previousBidPrice = _currentBidPrice;
00207         }
00208
00209
00210
00211
00212
00213
00214
00215
00216
00217
00218
00219
00220
00221
00222
00223
00224
00225
00226
00227

```

```

00229     void setRegradeAdjustment (const CapacityAdjustment_T&
00230         iRegradeAdjustment) {
00231     _dcsRegrade = iRegradeAdjustment;
00232 }
00233
00234     void setAuthorizationLevel (const AuthorizationLevel_T& iAU) {
00235     _au = iAU;
00236 }
00237
00238     void setUPR (const UPR_T& iUPR) {
00239     _upr = iUPR;
00240 }
00241
00242
00243     void setNetAvailability (const Availability_T& iNAV) {
00244     _nav = iNAV;
00245 }
00246
00247
00248     void setGrossAvailability (const Availability_T& iGAV) {
00249     _gav = iGAV;
00250 }
00251
00252
00253     void setAvgCancellationPercentage (const
00254         OverbookingRate_T& iACP) {
00255     _acp = iACP;
00256 }
00257
00258     void setETB (const NbOfSeats_T& iETB) {
00259     _etb = iETB;
00260 }
00261
00262
00263     void setStaffNbOfSeats (const NbOfSeats_T& iStaffSeats) {
00264     _staffNbOfBookings = iStaffSeats;
00265 }
00266
00267
00268     void setWLNbOfSeats (const NbOfSeats_T& iWLSeats) {
00269     _wlNbOfBookings = iWLSeats;
00270 }
00271
00272
00273     void setGroupNbOfSeats (const NbOfSeats_T& iGroupSeats) {
00274     _groupNbOfBookings = iGroupSeats;
00275 }
00276
00277
00278     void updateCurrentBidPrice();
00279
00280
00281
00282 public:
00283 // /////////// Display support methods ///////////////
00284     void toStream (std::ostream& ioOut) const {
00285     ioOut << toString();
00286 }
00287
00288     void fromStream (std::istream& ioIn) {
00289 }
00290
00291     std::string toString() const;
00292
00293     const std::string describeKey() const {
00294     return _key.toString();
00295 }
00296
00297     const std::string displayVirtualClassList() const;
00298
00299
00300
00301 public:
00302 // /////////// Business methods ///////////////
00303     void updateFromReservation (const NbOfBookings_T&);
00304
00305     void addVirtualClass (const VirtualClassStruct& iVC) {
00306     _virtualClassList.push_back (iVC);
00307 }
00308
00309     void emptyVirtualClassList() {
00310     _virtualClassList.clear();
00311 }
00312
00313     void emptyBidPriceVector() {
00314     _bidPriceVector.clear();
00315 }
00316
00317     void addDemandInformation (const YieldValue_T&, const
00318         MeanValue_T&, const StdDevValue_T&);
00319
00320
00321     void emptyYieldLevelDemandMap() {
00322     _yieldLevelDemandMap.clear();
00323 }
00324
00325
00326
00327
00328
00329
00330
00331
00332
00333
00334
00335
00336
00337
00338
00339
00340
00341
00342
00343
00344
00345
00346
00347
00348
00349
00350
00351
00352
00353
00354
00355
00356
00357

```

```

00358
00359     protected:
00360         // ////////////// Constructors and destructors ///////////
00364     LegCabin (const Key_T&);
00368     ~LegCabin();
00369
00370
00371     private:
00375     LegCabin();
00379     LegCabin (const LegCabin&);
00380
00381
00382     protected:
00383         // ////////////// Attributes ///////////
00387     Key_T _key;
00388
00392     BomAbstract* _parent;
00393
00397     HolderMap_T _holderMap;
00398
00400     CabinCapacity_T _offeredCapacity;
00401
00403     CabinCapacity_T _physicalCapacity;
00404
00406     NbOfSeats_T _soldSeat;
00407
00408     /* Committed space. */
00409     CommittedSpace_T _committedSpace;
00410
00412     Availability_T _availabilityPool;
00413
00415     Availability_T _availability;
00416
00418     BidPrice_T _currentBidPrice;
00419
00421     BidPrice_T _previousBidPrice;
00422
00424     BidPriceVector_T _bidPriceVector;
00425
00427     VirtualClassList_T _virtualclassList;
00428
00430     YieldLevelDemandMap_T _yieldLevelDemandMap;
00431
00432
00433     public:
00435     CapacityAdjustment_T _dcsRegrade;
00436
00438     AuthorizationLevel_T _au;
00439
00441     UPR_T _upr;
00442
00444     Availability_T _nav;
00445
00447     Availability_T _gav;
00448
00450     OverbookingRate_T _acp;
00451
00453     NbOfSeats_T _etb;
00454
00456     NbOfSeats_T _staffNbOfBookings;
00457
00459     NbOfSeats_T _wlNbOfBookings;
00460
00462     NbOfSeats_T _groupNbOfBookings;
00463 };
00464
00465 }
00466 #endif // __STDAIR_BOM_LEGCAIN_HPP
00467

```

### 33.359 stdair/bom/LegCabinKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/LegCabinKey.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## 33.360 LegCabinKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/LegCabinKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 LegCabinKey::LegCabinKey() : _cabinCode (DEFAULT_CABIN_CODE) {
00019     assert (false);
00020 }
00021
00022 // /////////////////////////////////
00023 LegCabinKey::LegCabinKey (const CabinCode_T& iCabinCode)
00024     : _cabinCode (iCabinCode) {
00025 }
00026
00027 // /////////////////////////////////
00028 LegCabinKey::LegCabinKey (const LegCabinKey& iKey)
00029     : _cabinCode (iKey._cabinCode) {
00030 }
00031
00032 // /////////////////////////////////
00033 LegCabinKey::~LegCabinKey () {
00034 }
00035
00036 // /////////////////////////////////
00037 void LegCabinKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "LegCabinKey: " << toString() << std::endl;
00039 }
00040
00041 // /////////////////////////////////
00042 void LegCabinKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // /////////////////////////////////
00046 const std::string LegCabinKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _cabinCode;
00049     return oStr.str();
00050 }
00051
00052 // /////////////////////////////////
00053 void LegCabinKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // /////////////////////////////////
00060 void LegCabinKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // /////////////////////////////////
00067 template<class Archive>
00068 void LegCabinKey::serialize (Archive& ioArchive,
00069                             const unsigned int iFileVersion) {
00070     ioArchive & _cabinCode;
00071 }
00072
00073 }
```

### 33.361 stdair/bom/LegCabinKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct **stdair::LegCabinKey**  
*Key of a given leg-cabin, made of a cabin code (only).*

#### Namespaces

- **boost**  
*Forward declarations.*
- **boost::serialization**
- **stdair**  
*Handle on the StdAir library context.*

### 33.362 LegCabinKey.hpp

```
00001 #ifndef __STDAIR_BOM_LEG CABINKEY_HPP
00002 #define __STDAIR_BOM_LEG CABINKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015     namespace serialization {
00016         class access;
00017     }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023     struct LegCabinKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         // ////////////////// Constructors and destructors //////////////////
00027     private:
00028         LegCabinKey();
00029
00030     public:
00031         LegCabinKey (const CabinCode_T& iCabinCode);
00032
00033         LegCabinKey (const LegCabinKey& );
00034
00035         ~LegCabinKey();
00036
00037     public:
00038         // ////////////////// Getters //////////////////
00039         const CabinCode_T& getCabinCode() const {
00040             return _cabinCode;
00041         }
00042
00043     public:
00044         // ////////////////// Display support methods //////////////////
00045         void toStream (std::ostream& ioOut) const;
00046
00047         void fromStream (std::istream& ioIn);
```

```

00076
00077     const std::string toString() const;
00078
00079
00080 public:
00081     // ////////// (Boost) Serialisation support methods //////////
00082     template<class Archive>
00083     void serialize (Archive& ar, const unsigned int iFileVersion);
00084
00085 private:
00086     void serialisationImplementationExport() const;
00087     void serialisationImplementationImport();
00088
00089
00090 private:
00091     // ////////////////// Attributes //////////////////
00092     CabinCode_T _cabinCode;
00093 };
00094
00095 }
00096 #endif // __STDAIR_BOM_LEG CABINKEY_HPP

```

### 33.363 stdair/bom/LegCabinTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef std::list< LegCabin \* > stdair::LegCabinList\_T**
- **typedef std::map< const MapKey\_T, LegCabin \* > stdair::LegCabinMap\_T**

### 33.364 LegCabinTypes.hpp

```

00001 // /////////////
00002 #ifndef __STDAIR_BOM_LEG CABINTYPES_HPP
00003 #define __STDAIR_BOM_LEG CABINTYPES_HPP
00004
00005 // /////////////
00006 // Import section
00007 // /////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class LegCabin;
00018
00019     typedef std::list<LegCabin*> LegCabinList_T;
00020
00021     typedef std::map<const MapKey_T, LegCabin*> LegCabinMap_T;
00022
00023 }
00024
00025
00026 #endif // __STDAIR_BOM_LEG CABINTYPES_HPP
00027

```

### 33.365 stdair/bom/LegDate.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/LegDate.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.366 LegDate.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/basic/BasConst_BomDisplay.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/FlightDate.hpp>
00013 #include <stdair/bom/LegCabin.hpp>
00014 #include <stdair/bom/LegDate.hpp>
00015
00016 namespace stdair {
00017
00018 // /////////////////////////////////
00019 LegDate::LegDate() : _key (DEFAULT_ORIGIN), _parent (NULL) {
00020     assert (false);
00021 }
00022
00023 // /////////////////////////////////
00024 LegDate::LegDate (const LegDate& iLegDate) :
00025     _key (iLegDate._key),
00026     _parent (NULL),
00027     _offPoint (iLegDate._offPoint),
00028     _boardingDate (iLegDate._boardingDate),
00029     _boardingTime (iLegDate._boardingTime),
00030     _offDate (iLegDate._offDate),
00031     _offTime (iLegDate._offTime),
00032     _elapsedTime (iLegDate._elapsedTime),
00033     _distance (iLegDate._distance),
00034     _capacity (iLegDate._capacity) {
00035 }
00036
00037 // /////////////////////////////////
00038 LegDate::LegDate (const Key_T& iKey)
00039     : _key (iKey), _parent (NULL), _distance (DEFAULT_DISTANCE_VALUE),
00040     _capacity (DEFAULT_CABIN_CAPACITY) {
00041 }
00042
00043 // /////////////////////////////////
00044 LegDate::~LegDate () {
00045 }
00046
00047 // /////////////////////////////////
00048 const AirlineCode_T& LegDate::getAirlineCode() const {
00049     const FlightDate* lFlightDate_ptr =
00050         static_cast<const FlightDate*> (getParent());
00051     assert (lFlightDate_ptr != NULL);
00052     return lFlightDate_ptr->getAirlineCode();
00053 }
00054
00055 // /////////////////////////////////
```

```

00056     std::string LegDate::toString() const {
00057         std::ostringstream oStr;
00058         oStr << describeKey();
00059         return oStr.str();
00060     }
00061
00062 // /////////////////////////////////
00063 const std::string LegDate::describeRoutingKey() const {
00064     const FlightDate* lFlightDate_ptr =
00065         static_cast<const FlightDate*>(getParent());
00066     assert (lFlightDate_ptr != NULL);
00067     std::ostringstream oStr;
00068     oStr << _operatingAirlineCode <<
00069         DEFAULT_KEY_FLD_DELIMITER
00070             << _operatingFlightNumber <<
00071         DEFAULT_KEY_FLD_DELIMITER
00072             << lFlightDate_ptr->getDepartureDate() <<
00073         DEFAULT_KEY_FLD_DELIMITER
00074             << describeKey();
00075     return oStr.str();
00076 }
00077
00078 LegCabin* LegDate::getLegCabin (const std::string& iLegCabinKeyStr) const {
00079     LegCabin* oLegCabin_ptr =
00080         BomManager::getObjectPtr<LegCabin> (*this, iLegCabinKeyStr);
00081     return oLegCabin_ptr;
00082 }
00083
00084 LegCabin* LegDate::getLegCabin (const LegCabinKey& iLegCabinKey)
00085 const {
00086     return getLegCabin (iLegCabinKey.toString());
00087 }
00088
00089 const Duration_T LegDate::getTimeOffset() const {
00090     // TimeOffset = (OffTime - BoardingTime) + (OffDate - BoardingDate) * 24
00091     //           - ElapsedTime
00092     Duration_T oTimeOffset = (_offTime - _boardingTime);
00093
00094     const DateOffset_T& lDateOffset = getDateOffset();
00095
00096     const Duration_T lDateOffsetInHours (lDateOffset.days() * 24, 0, 0);
00097
00098     oTimeOffset += lDateOffsetInHours - _elapsedTime;
00099
00100     return oTimeOffset;
00101 }
00102
00103 void LegDate::setElapsedTime (const Duration_T& iElapsedTime) {
00104     // Set Elapsed time
00105     _elapsedTime = iElapsedTime;
00106
00107     // Update distance according to the mean plane speed
00108     updateDistanceFromElapsedTime();
00109 }
00110
00111
00112 void LegDate::updateDistanceFromElapsedTime() {
00113     //
00114     const double lElapseInHours =
00115         static_cast<const double> (_elapsedTime.hours());
00116
00117     // Normally, Distance_T is an unsigned long int
00118     const Distance_T lDistance =
00119         static_cast<const Distance_T> (DEFAULT_FLIGHT_SPEED * lElapseInHours);
00120
00121     _distance = lDistance;
00122 }
00123
00124 }
00125

```

## 33.367 stdair/bom/LegDate.hpp File Reference

```
#include <iostream>
```

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/LegDateKey.hpp>
#include <stdair/bom/LegDateTypes.hpp>
```

## Classes

- class [stdair::LegDate](#)

## Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.368 LegDate.hpp

```
00001 #ifndef __STDAIR_BOM_LEGDATE_HPP
00002 #define __STDAIR_BOM_LEGDATE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/LegDateKey.hpp>
00014 #include <stdair/bom/LegDateTypes.hpp>
00015
00016 namespace stdair {
00017
00019   struct LegCabinKey;
00020   class LegCabin;
00021
00025   class LegDate : public BomAbstract {
00026     template <typename BOM> friend class FacBom;
00027     template <typename BOM> friend class FacCloneBom;
00028     friend class FacBomManager;
00029
00030   public:
00031     // ////////////////// Type definitions ///////////////////
00033     typedef LegDateKey Key_T;
00034
00035
00036   public:
00037     // ////////////////// Getters ///////////////////
00039     const Key_T& getKey() const {
00040       return _key;
00041     }
00042
00044     BomAbstract* const getParent() const {
00045       return _parent;
00046     }
00047
00049     const AirportCode_T& getBoardingPoint() const {
00050       return _key.getBoardingPoint();
00051     }
00052
00060     const AirlineCode_T& getAirlineCode() const;
00061
00065     const HolderMap_T& getHolderMap() const {
00066       return _holderMap;
00067     }
00068
00079     LegCabin* getLegCabin (const std::string& iLegCabinKeyStr) const;
00080
00091     LegCabin* getLegCabin (const LegCabinKey&) const;
00092
00094     const AirportCode_T& getOffPoint() const {
00095       return _offPoint;
00096     }
```

```
00097
00099     const Date_T& getBoardingDate() const {
00100         return _boardingDate;
00101     }
00102
00104     const Duration_T& getBoardingTime() const {
00105         return _boardingTime;
00106     }
00107
00109     const Date_T& getOffDate() const {
00110         return _offDate;
00111     }
00112
00114     const Duration_T& getOffTime() const {
00115         return _offTime;
00116     }
00117
00119     const Duration_T& getElapsedTIme() const {
00120         return _elapsedTime;
00121     }
00122
00124     const Distance_T& getDistance() const {
00125         return _distance;
00126     }
00127
00129     const CabinCapacity_T& getCapacity() const {
00130         return _capacity;
00131     }
00132
00134     const DateOffset_T getDateOffset() const {
00135         return _offDate - _boardingDate;
00136     }
00137
00142     const Duration_T getTimeOffset() const;
00143
00144
00145 public:
00146     // ////////// Setters ///////////
00148     void setOffPoint (const AirportCode_T& iOffPoint) {
00149         _offPoint = iOffPoint;
00150     }
00151
00153     void setBoardingDate (const Date_T& iBoardingDate) {
00154         _boardingDate = iBoardingDate;
00155     }
00156
00158     void setBoardingTime (const Duration_T& iBoardingTime) {
00159         _boardingTime = iBoardingTime;
00160     }
00161
00163     void setOffDate (const Date_T& iOffDate) {
00164         _offDate = iOffDate;
00165     }
00166
00168     void setOffTime (const Duration_T& iOffTime) {
00169         _offTime = iOffTime;
00170     }
00171
00173     void setElapsedTIme (const Duration_T&);
00174
00176     void setOperatingAirlineCode (const AirlineCode_T& iAirlineCode) {
00177         _operatingAirlineCode = iAirlineCode;
00178     }
00179
00181     void setOperatingFlightNumber (const FlightNumber_T&
00182         iFlightNumber) {
00183         _operatingFlightNumber = iFlightNumber;
00184     }
00185
00185 private:
00187     void updateDistanceFromElapsedTIme();
00188
00189
00190 public:
00191     // ////////// Display support methods ///////////
00194     void toStream (std::ostream& ioOut) const {
00195         ioOut << toString();
00196     }
00197
00200     void fromStream (std::istream& ioIn) {
00201     }
00202
00204     std::string toString() const;
00205
00207     const std::string describeKey() const {
00208         return _key.toString();
00209     }
```

```

00210     const std::string describeRoutingKey() const;
00211
00212     protected:
00213         // ////////////// Constructors and destructors ///////////
00214         LegDate (const Key_T&);
00215         virtual ~LegDate();
00216
00217     private:
00218         LegDate();
00219         LegDate (const LegDate&);
00220
00221     protected:
00222         // ////////////// Attributes ///////////
00223         Key_T _key;
00224
00225         BomAbstract* _parent;
00226
00227         HolderMap_T _holderMap;
00228
00229         AirportCode_T _offPoint;
00230
00231         Date_T _boardingDate;
00232
00233         Duration_T _boardingTime;
00234
00235         Date_T _offDate;
00236
00237         Duration_T _offTime;
00238
00239         Duration_T _elapsedTime;
00240
00241         Distance_T _distance;
00242
00243         CabinCapacity_T _capacity;
00244
00245         AirlineCode_T _operatingAirlineCode;
00246
00247         FlightNumber_T _operatingFlightNumber;
00248     };
00249
00250 }
00251 #endif // __STDAIR_BOM_LEGDATE_HPP
00252

```

### 33.369 stdair/bom/LegDateKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/LegDateKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.370 LegDateKey.cpp

```

00001 // //////////////////////////////////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/LegDateKey.hpp>
00010
00011 namespace stdair {
00012
00013     // //////////////////////////////////////////////////////////////////
00014     LegDateKey::LegDateKey() : _boardingPoint (DEFAULT_ORIGIN) {

```

```

00015     assert (false);
00016 }
00017 // /////////////////////////////////
00018 LegDateKey::LegDateKey (const AirportCode_T& iBoardingPoint)
00019   : _boardingPoint (iBoardingPoint) {
00020 }
00021 // ///////////////////////////////
00022 LegDateKey::LegDateKey (const LegDateKey& iKey)
00023   : _boardingPoint (iKey._boardingPoint) {
00024 }
00025 // ///////////////////////////////
00026 LegDateKey::~LegDateKey () {
00027 }
00028 // ///////////////////////////////
00029 void LegDateKey::toStream (std::ostream& ioOut) const {
00030   ioOut << "LegDateKey: " << toString();
00031 }
00032 // ///////////////////////////////
00033 void LegDateKey::fromStream (std::istream& ioIn) {
00034 }
00035 // ///////////////////////////////
00036 const std::string LegDateKey::toString() const {
00037   std::ostringstream oStr;
00038   oStr << _boardingPoint;
00039   return oStr.str();
00040 }
00041 // ///////////////////////////////
00042
00043
00044
00045
00046
00047
00048 }

```

### 33.371 stdair/bom/LegDateKey.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::LegDateKey](#)

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.372 LegDateKey.hpp

```

00001 #ifndef __STDAIR_BOM_LEGDATEKEY_HPP
00002 #define __STDAIR_BOM_LEGDATEKEY_HPP
00003 // ///////////////////////////////
00004 // Import section
00005 // ///////////////////////////////
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/KeyAbstract.hpp>
00010
00011 namespace stdair {
00012
00016   struct LegDateKey : public KeyAbstract {
00017     // ////////////////// Constructors and destructors //////////////////
00018     private:
00019       LegDateKey();
00022
00023     public:
00025       LegDateKey (const AirportCode_T& iBoardingPoint);
00027       LegDateKey (const LegDateKey&);
```

```

00029     ~LegDateKey();
00030
00031
00032     // /////////// Getters ///////////
00033     const AirportCode_T& getBoardingPoint() const {
00034         return _boardingPoint;
00035     }
00036
00037
00038
00039     // /////////// Display support methods ///////////
00040     void toStream (std::ostream& ioOut) const;
00041
00042     void fromStream (std::istream& ioIn);
00043
00044     const std::string toString() const;
00045
00046
00047     private:
00048         // /////////// Attributes ///////////
00049         AirportCode_T _boardingPoint;
00050     };
00051
00052
00053
00054
00055
00056
00057
00058
00059
00060
00061
00062
00063 #endif // __STDAIR_BOM_LEGDATEKEY_HPP

```

### 33.373 stdair/bom/LegDateTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< LegDate \* > stdair::LegDateList\_T**
- **typedef std::map< const MapKey\_T, LegDate \* > stdair::LegDateMap\_T**

### 33.374 LegDateTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_LEGDATETYPES_HPP
00003 #define __STDAIR_BOM_LEGDATETYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class LegDate;
00018
00019     typedef std::list<LegDate*> LegDateList_T;
00020
00021     typedef std::map<const MapKey_T, LegDate*> LegDateMap_T;
00022
00023
00024 }
00025 #endif // __STDAIR_BOM_LEGDATETYPES_HPP
00026

```

### 33.375 stdair/bom/NestingNode.cpp File Reference

```
#include <sstream>
#include <cassert>
#include <iomanip>
#include <iostream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/NestingNode.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.376 NestingNode.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 #include <cassert>
00007 #include <iomanip>
00008 #include <iostream>
00009 //STDAIR
00010 #include <stdair/basic/BasConst_Inventory.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/BookingClass.hpp>
00013 #include <stdair/bom/BookingClassTypes.hpp>
00014 #include <stdair/bom/NestingNode.hpp>
00015
00016 namespace stdair {
00017
00018 // /////////////////////////////////
00019 NestingNode::NestingNode () :
00020     _key (DEFAULT_NESTING_NODE_CODE), _parent (NULL) {
00021     assert (false);
00022 }
00023
00024 // /////////////////////////////////
00025 NestingNode::NestingNode (const NestingNode& iNestingNode)
00026 : _key (DEFAULT_NESTING_NODE_CODE), _parent (NULL) {
00027     assert (false);
00028 }
00029
00030 // /////////////////////////////////
00031 NestingNode::NestingNode (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00032 }
00033
00034 // /////////////////////////////////
00035 NestingNode::~NestingNode () {
00036 }
00037
00038 // /////////////////////////////////
00039 std::string NestingNode::toString () const {
00040     std::ostringstream oStr;
00041     oStr << describeKey ();
00042
00043     oStr << _yield << std::endl;
00044
00045     return oStr.str ();
00046 }
00047
00048 }
```

### 33.377 stdair/bom/NestingNode.hpp File Reference

```
#include <cmath>
```

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/NestingNodeKey.hpp>
```

## Classes

- class stdair::NestingNode

## Namespaces

- boost
 

*Forward declarations.*
- boost::serialization
- stdair
 

*Handle on the StdAir library context.*

### 33.378 NestingNode.hpp

```
00001 #ifndef __STDAIR_BOM_NESTINGNODE_HPP
00002 #define __STDAIR_BOM_NESTINGNODE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <cmath>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_rm_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/BookingClassTypes.hpp>
00014 #include <stdair/bom/NestingNodeKey.hpp>
00015
00016 namespace boost {
00017     namespace serialization {
00018         class access;
00019     }
00020 }
00021 }
00022
00023 namespace stdair {
00024
00025     class NestingNode : public BomAbstract {
00026         template <typename BOM> friend class FacBom;
00027         friend class FacBomManager;
00028         friend class boost::serialization::access;
00029
00030     public:
00031         // ////////////////// Type definitions ///////////////////
00032         typedef NestingNodeKey Key_T;
00033
00034     public:
00035         // ////////////////// Getters ///////////////////
00036         const Key_T& getKey() const {
00037             return _key;
00038         }
00039
00040         BomAbstract* const getParent() const {
00041             return _parent;
00042         }
00043
00044         const HolderMap_T& getHolderMap() const {
00045             return _holderMap;
00046         }
00047
00048         const Yield_T& getYield() const {
00049             return _yield;
00050         }
00051
00052     public:
00053         // ////////////////// Setters ///////////////////
00054 }
```

```

00068     void setYield (const Yield_T& iYield) {
00069         _yield = iYield;
00070     }
00071
00072
00073     public:
00074     // /////////// Display support methods ///////////
00075     void toStream (std::ostream& ioOut) const {
00076         ioOut << toString();
00077     }
00078
00079     void fromStream (std::istream& ioIn) {
00080     }
00081
00082     std::string toString() const;
00083
00084     const std::string describeKey() const {
00085         return _key.toString();
00086     }
00087
00088
00089     public:
00090     // /////////// (Boost) Serialisation support methods ///////////
00091     template<class Archive>
00092     void serialize (Archive& ar, const unsigned int iFileVersion);
00093
00094
00095     private:
00096         void serialisationImplementationExport() const;
00097         void serialisationImplementationImport();
00098
00099
00100     protected:
00101     // /////////// Constructors and destructor. ///////////
00102     NestingNode (const Key_T&);

00103
00104     virtual ~NestingNode();
00105
00106
00107     private:
00108         NestingNode();
00109
00110         NestingNode (const NestingNode&);

00111
00112     private:
00113     // /////////// Attributes ///////////
00114     Key_T _key;
00115
00116     BomAbstract* _parent;
00117
00118     HolderMap_T _holderMap;
00119
00120     Yield_T _yield;
00121
00122     };
00123 #endif // __STDAIR_BOM_NESTINGNODE_HPP

```

### 33.379 stdair/bom/NestingNodeKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/NestingNodeKey.hpp>

```

### Namespaces

- stdair

*Handle on the StdAir library context.*

## Functions

- template void `stdair::NestingNodeKey::serialize< ba::text_oarchive >` (`ba::text_oarchive &`, `unsigned int`)
- template void `stdair::NestingNodeKey::serialize< ba::text_iarchive >` (`ba::text_iarchive &`, `unsigned int`)

### 33.380 NestingNodeKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_oarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/NestingNodeKey.hpp>
00014
00015 namespace stdair {
00016
00017 // ///////////////////////////////
00018 NestingNodeKey::NestingNodeKey() : _nestingNodeCode (DEFAULT_POLICY_CODE) {
00019     assert (false);
00020 }
00021
00022 // ///////////////////////////////
00023 NestingNodeKey::NestingNodeKey (const NestingNodeKey& iNestingNodeKey)
00024     : _nestingNodeCode (iNestingNodeKey._nestingNodeCode) {
00025 }
00026
00027 // ///////////////////////////////
00028 NestingNodeKey::NestingNodeKey (const NestingNodeCode_T& iNestingNodeCode)
00029     : _nestingNodeCode (iNestingNodeCode) {
00030 }
00031
00032 // ///////////////////////////////
00033 NestingNodeKey::~NestingNodeKey() {
00034 }
00035
00036 // ///////////////////////////////
00037 void NestingNodeKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "NestingNodeKey: " << toString();
00039 }
00040
00041 // ///////////////////////////////
00042 void NestingNodeKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // ///////////////////////////////
00046 const std::string NestingNodeKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _nestingNodeCode;
00049     return oStr.str();
00050 }
00051
00052 // ///////////////////////////////
00053 void NestingNodeKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // ///////////////////////////////
00060 void NestingNodeKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // ///////////////////////////////
00067 template<class Archive>
00068 void NestingNodeKey::serialize (Archive& ioArchive,
00069                                 const unsigned int iFileVersion) {
00070     ioArchive & _nestingNodeCode;
00071 }
00072
00073 // ///////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void NestingNodeKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00077

```

```

00081                                     unsigned int);
00082     template void NestingNodeKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00083                                     unsigned int);
00084 //////////////////////////////////////////////////////////////////
00085 }
00086 }
```

### 33.381 stdair/bom/NestingNodeKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct **stdair::NestingNodeKey**

*Key of a given policy, made of a policy code.*

#### Namespaces

- **boost**

*Forward declarations.*

- **boost::serialization**
- **stdair**

*Handle on the StdAir library context.*

### 33.382 NestingNodeKey.hpp

```

00001 #ifndef __STDAIR_BOM_NESTINGNODEKEY_HPP
00002 #define __STDAIR_BOM_NESTINGNODEKEY_HPP
00003
00004 //////////////////////////////////////////////////////////////////
00005 // Import section
00006 //////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015     namespace serialization {
00016         class access;
00017     }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023     struct NestingNodeKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         ////////////////////////////////////////////////////////////////// Constructors and destructors ///////////////
00027     private:
00028         NestingNodeKey();
00029
00030     public:
00031         NestingNodeKey (const NestingNodeCode_T& iNestingNodeCode);
00032
00033         NestingNodeKey (const NestingNodeKey& );
00034
00035         ~NestingNodeKey();
00036
00037     public:
00038         ////////////////////////////////////////////////////////////////// Getters ///////////////////
00039         const NestingNodeCode_T& getNestingNodeCode () const {
```

```

00057     return _nestingNodeCode;
00058 }
00059
00060
00061 public:
00062 // /////////// Display support methods ///////////
00063 void toStream (std::ostream& ioOut) const;
00064
00065 void fromStream (std::istream& ioIn);
00066
00067 const std::string toString() const;
00068
00069
00070 public:
00071 // /////////// (Boost) Serialisation support methods ///////////
00072 template<class Archive>
00073 void serialize (Archive& ar, const unsigned int iFileVersion);
00074
00075
00076 private:
00077     void serialisationImplementationExport() const;
00078     void serialisationImplementationImport();
00079
00080
00081 private:
00082 // /////////// Attributes ///////////
00083 NestingNodeCode_T _nestingNodeCode;
00084 };
00085
00086
00087
00088
00089
00090
00091
00092
00093
00094
00095
00096
00097
00098
00099
00100
00101
00102
00103
00104
00105
00106
00107
00108
00109
00110
00111
00112
00113
00114 }
00115 #endif // __STDAIR_BOM_NESTINGNODEKEY_HPP

```

### 33.383 stdair/bom/NestingNodeTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< NestingNode \* > stdair::NestingNodeList\_T**
- **typedef std::map< const MapKey\_T, NestingNode \* > stdair::NestingNodeMap\_T**

### 33.384 NestingNodeTypes.hpp

```

00001 // /////////// NestingNodeTypes.hpp ///////////
00002 #ifndef __STDAIR_BOM_NESTINGNODETYPES_HPP
00003 #define __STDAIR_BOM_NESTINGNODETYPES_HPP
00004
00005 // /////////// Import section ///////////
00006 // StdAir
00007 // STL
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class NestingNode;
00018
00019 typedef std::list<NestingNode*> NestingNodeList_T;
00020
00021 typedef std::map<const MapKey_T, NestingNode*> NestingNodeMap_T;
00022
00023
00024

```

```
00025 }
00026 #endif // __STDAIR_BOM_NESTINGNODETYPES_HPP
```

### 33.385 stdair/bom/NestingStructureKey.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/NestingStructureKey.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Functions

- template void [stdair::NestingStructureKey::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::NestingStructureKey::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)

### 33.386 NestingStructureKey.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/NestingStructureKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 NestingStructureKey::NestingStructureKey() : _nestingStructureCode (
00019     DEFAULT_NESTING_STRUCTURE_CODE) {
00020     assert (false);
00021 }
00022
00023 NestingStructureKey::NestingStructureKey (const NestingStructureKey&
00024     iNestingStructureKey)
00025     : _nestingStructureCode (iNestingStructureKey._nestingStructureCode) {
00026 }
00027
00028 NestingStructureKey::NestingStructureKey (const NestingStructureCode\_T&
00029     iNestingStructureCode)
00030     : _nestingStructureCode (iNestingStructureCode) {
00031 }
00032
00033 NestingStructureKey::~NestingStructureKey() {
00034 }
00035
00036 void NestingStructureKey::toStream (std::ostream& ioOut) const {
00037     ioOut << "NestingStructureKey: " << toString\(\);
00038 }
```

```

00042     void NestingStructureKey::fromStream (std::istream& ioIn) {
00043     }
00044
00045     // /////////////////////////////////
00046     const std::string NestingStructureKey::toString() const {
00047         std::ostringstream oStr;
00048         oStr << _nestingStructureCode;
00049         return oStr.str();
00050     }
00051
00052     // /////////////////////////////////
00053     void NestingStructureKey::serialisationImplementationExport() const {
00054         std::ostringstream oStr;
00055         boost::archive::text_oarchive oa (oStr);
00056         oa << *this;
00057     }
00058
00059     // /////////////////////////////////
00060     void NestingStructureKey::serialisationImplementationImport() {
00061         std::istringstream iStr;
00062         boost::archive::text_iarchive ia (iStr);
00063         ia >> *this;
00064     }
00065
00066     // /////////////////////////////////
00067     template<class Archive>
00068     void NestingStructureKey::serialize (Archive& ioArchive,
00069                                         const unsigned int iFileVersion) {
00070         ioArchive & _nestingStructureCode;
00071     }
00072
00073     // /////////////////////////////////
00074     // Explicit template instantiation
00075     namespace ba = boost::archive;
00076     template void NestingStructureKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00077                                         unsigned int);
00078     template void NestingStructureKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00079                                         unsigned int);
00080     // /////////////////////////////////
00081
00082     // /////////////////////////////////
00083
00084     // /////////////////////////////////
00085
00086 }
```

### 33.387 stdair/bom/NestingStructureKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::NestingStructureKey](#)

*Key of a given policy, made of a policy code.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.388 NestingStructureKey.hpp

```

00001 #ifndef __STDAIR_BOM_NESTINGSTRUCTUREKEY_HPP
00002 #define __STDAIR_BOM_NESTINGSTRUCTUREKEY_HPP
00003
00004 // /////////////////////////////////
```

```

00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015     namespace serialization {
00016         class access;
00017     }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023     struct NestingStructureKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         // ////////////////// Constructors and destructors //////////////////
00027     private:
00028         NestingStructureKey();
00029
00030     public:
00031         NestingStructureKey (const NestingStructureCode_T&
00032                             iNestingStructureCode);
00033
00034         NestingStructureKey (const NestingStructureKey&);

00035         ~NestingStructureKey();

00036     public:
00037         // ////////////////// Getters //////////////////
00038         const NestingStructureCode_T& getNestingStructureCode () const {
00039             return _nestingStructureCode;
00040         }

00041
00042         // ////////////////// Display support methods //////////////////
00043         void toStream (std::ostream& ioOut) const;
00044
00045         void fromStream (std::istream& ioIn);
00046
00047         const std::string toString() const;

00048
00049     public:
00050         // ////////////////// (Boost) Serialisation support methods //////////////////
00051         template<class Archive>
00052         void serialize (Archive& ar, const unsigned int iFileVersion);
00053
00054     private:
00055         void serialisationImplementationExport() const;
00056         void serialisationImplementationImport();
00057
00058     private:
00059         // ////////////////// Attributes //////////////////
00060         NestingStructureCode_T _nestingStructureCode;
00061     };
00062
00063 }
00064
00065 #endif // __STDAIR_BOM_NESTINGSTRUCTUREKEY_HPP

```

### 33.389 stdair/bom/OnDDate.cpp File Reference

```

#include <cassert>
#include <iostream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/OnDDate.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.390 OnDDate.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/basic/BasConst_General.hpp>
00010 #include <stdair/bom/BomManager.hpp>
00011 #include <stdair/bom/Inventory.hpp>
00012 #include <stdair/bom/OnDDate.hpp>
00013
00014 namespace stdair {
00015
00016 // /////////////////////////////////
00017 OnDDate::OnDDate()
00018   : _key (DEFAULT_OND_STRING_LIST), _parent (NULL) {
00019   assert (false);
00020 }
00021
00022 // /////////////////////////////////
00023 OnDDate::OnDDate (const OnDDate& iOnDDate)
00024   : _key (iOnDDate.getKey()), _parent (NULL) {
00025 }
00026
00027 // /////////////////////////////////
00028 OnDDate::OnDDate (const Key_T& iKey)
00029   : _key (iKey), _parent (NULL) {
00030 }
00031
00032 // /////////////////////////////////
00033 OnDDate::~OnDDate() {
00034 }
00035
00036 // /////////////////////////////////
00037 std::string OnDDate::toString() const {
00038   std::ostringstream oStr;
00039   oStr << describeKey();
00040   return oStr.str();
00041 }
00042
00043 // /////////////////////////////////
00044 const AirlineCode_T& OnDDate::getAirlineCode() const {
00045   const Inventory* lInventory_ptr =
00046     static_cast<const Inventory*> (getParent());
00047   assert (lInventory_ptr != NULL);
00048   return lInventory_ptr->getAirlineCode();
00049 }
00050
00051 // /////////////////////////////////
00052 void OnDDate::
00053 setDemandInformation (const CabinClassPairList_T&
00054   iCabinClassPairList,
00055           const YieldDemandPair_T& iYieldDemandPair) {
00056   std::ostringstream oStr;
00057   for(CabinClassPairList_T::const_iterator itCCP = iCabinClassPairList.begin();
00058       itCCP != iCabinClassPairList.end(); ++itCCP) {
00059     oStr << itCCP->first << ":" << itCCP->second << ",";
00060   }
00061   std::string lCabinClassPath = oStr.str();
00062   StringDemandStructMap_T::iterator it =
00063     _classPathDemandMap.find(lCabinClassPath);
00064   if (it == _classPathDemandMap.end()) {
00065     const StringDemandStructPair_T lPairStringDemandChar (lCabinClassPath,
00066                                                       iYieldDemandPair);
00067     _classPathDemandMap.insert (lPairStringDemandChar);
00068     const StringCabinClassPair_T lStringCabinClassPair (lCabinClassPath,
00069                                                       iCabinClassPairList);
00070     _stringCabinClassPairListMap.insert (lStringCabinClassPair);
00071   } else {
00072     it->second = iYieldDemandPair;
00073   }
00074 }
00075 // /////////////////////////////////

```

```

00076     void OnDDate::setTotalForecast (const CabinCode_T& iCabinCode,
00077                                     const WTPDemandPair_T& iWTPDemandPair) {
00078
00079     CabinForecastMap_T::iterator it =
00080         _cabinForecastMap.find (iCabinCode);
00081     if (it == _cabinForecastMap.end ()) {
00082         const CabinForecastPair_T lPairCabinForecastChar (iCabinCode,
00083                                         iWTPDemandPair);
00084         _cabinForecastMap.insert (lPairCabinForecastChar);
00085     } else {
00086         assert (false);
00087     }
00088 }
00089
00090 }
```

### 33.391 stdair/bom/OnDDate.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/OnDDateKey.hpp>
#include <stdair/bom/OnDDateTypes.hpp>
```

#### Classes

- class **stdair::OnDDate**  
*Class representing the actual attributes for an airline flight-date.*

#### Namespaces

- **boost**  
*Forward declarations.*
- **boost::serialization**
- **stdair**  
*Handle on the StdAir library context.*

### 33.392 OnDDate.hpp

```

00001 #ifndef __STDAIR_BOM_ONDDATE_HPP
00002 #define __STDAIR_BOM_ONDDATE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_maths_types.hpp>
00013 #include <stdair/stdair_basic_types.hpp>
00014 #include <stdair/stdair_demand_types.hpp>
00015 #include <stdair/stdair_rm_types.hpp>
00016 #include <stdair/bom/BomAbstract.hpp>
00017 #include <stdair/bom/OnDDateKey.hpp>
00018 #include <stdair/bom/OnDDateTypes.hpp>
00019
00021 namespace boost {
00022     namespace serialization {
```

```

00023     class access;
00024 }
00025 }
00026
00027 namespace stdair {
00028
00029     class OnDDate : public BomAbstract {
00030         template <typename BOM> friend class FacBom;
00031         template <typename BOM> friend class FacCloneBom;
00032         friend class FacBomManager;
00033         friend class boost::serialization::access;
00034
00035     public:
00036         // /////////// Type definitions ///////////
00037         typedef OnDDateKey Key_T;
00038
00039     public:
00040         // /////////// Getters ///////////
00041         const Key_T& getKey() const {
00042             return _key;
00043         }
00044
00045         BomAbstract* const getParent() const {
00046             return _parent;
00047         }
00048
00049         const AirlineCode_T& getAirlineCode() const;
00050
00051
00052         const stdair::Date_T getDate() const {
00053             return _key.getDate();
00054         }
00055
00056         const stdair::AirportCode_T getOrigin() const {
00057             return _key.getOrigin();
00058         }
00059
00060         const stdair::AirportCode_T getDestination() const {
00061             return _key.getDestination();
00062         }
00063
00064         const HolderMap_T& getHolderMap() const {
00065             return _holderMap;
00066         }
00067
00068         const StringDemandStructMap_T& getDemandInfoMap () const {
00069             return _classPathDemandMap;
00070         }
00071
00072         const CabinForecastMap_T& getTotalForecastMap () const {
00073             return _cabinForecastMap;
00074         }
00075
00076         const WTPDemandPair_T& getTotalForecast (const
00077             CabinCode_T& iCC) const {
00078             assert (_cabinForecastMap.find(iCC)!=_cabinForecastMap.end());
00079             return _cabinForecastMap.find(iCC)->second;
00080         }
00081
00082         const CabinClassPairList_T& getCabinClassPairList (const
00083             std::string& iStr) const {
00084             assert (_stringCabinClassPairListMap.find(iStr)!=
00085                 _stringCabinClassPairListMap.end());
00086             return _stringCabinClassPairListMap.find(iStr)->second;
00087         }
00088
00089         const short getNbOfSegments () const {
00090             return _key.getNbOfSegments();
00091         }
00092
00093     public:
00094         // /////////// Setters ///////////
00095         void setDemandInformation (const CabinClassPairList_T&,
00096                                     const YieldDemandPair_T&);
00097
00098
00099         void setTotalForecast (const CabinCode_T&,
00100                               const WTPDemandPair_T&);
00101
00102     public:
00103         // /////////// Display support methods ///////////
00104         void toStream (std::ostream& ioOut) const {
00105             ioOut << toString();
00106         }
00107
00108
00109
00110
00111
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00150

```

```

00156     void fromStream (std::istream& ioIn) {
00157     }
00158
00162     std::string toString() const;
00163
00167     const std::string describeKey() const {
00168         return _key.toString();
00169     }
00170
00171
00172 public:
00173     // ////////// (Boost) Serialisation support methods //////////
00174     template<class Archive>
00175     void serialize (Archive& ar, const unsigned int iFileVersion);
00176
00177
00180 private:
00181     void serialisationImplementation();
00182
00183
00188 protected:
00189     // ////////// Constructors and destructors //////////
00190     OnDDate (const Key_T&);
00191
00192     virtual ~OnDDate();
00193
00194
00200 private:
00201     OnDDate();
00202
00203
00209     OnDDate (const OnDDate&);
00210
00211
00212 protected:
00213     // ////////// Attributes //////////
00214     Key_T _key;
00215
00216
00222     BomAbstract* _parent;
00223
00227     HolderMap_T _holderMap;
00228
00232     StringDemandStructMap_T _classPathDemandMap;
00233
00237     StringCabinClassPairListMap_T
     _stringCabinClassPairListMap;
00238
00242     CabinForecastMap_T _cabinForecastMap;
00243 }
00244
00245 }
00246 #endif // __STDAIR_BOM_ONDDATE_HPP

```

### 33.393 stdair/bom/OnDDateKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/date_time/gregorian/formatters.hpp>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/OnDDateKey.hpp>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/BomDisplay.hpp>

```

### Namespaces

- stdair

*Handle on the StdAir library context.*

## Functions

- template void `stdair::OnDDateKey::serialize< ba::text_oarchive >` (ba::text\_oarchive &, unsigned int)
- template void `stdair::OnDDateKey::serialize< ba::text_iarchive >` (ba::text\_iarchive &, unsigned int)

### 33.394 OnDDateKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost Date-Time
00008 #include <boost/date_time/gregorian/formatters.hpp>
00009 // Boost.Serialization
00010 #include <boost/archive/text_iarchive.hpp>
00011 #include <boost/archive/text_oarchive.hpp>
00012 #include <boost/serialization/access.hpp>
00013 // StdAir
00014 #include <stdair/basic/BasConst_Inventory.hpp>
00015 #include <stdair/basic/BasConst_BomDisplay.hpp>
00016 #include <stdair/basic/BasConst_General.hpp>
00017 #include <stdair/bom/OnDDateKey.hpp>
00018 #include <stdair/bom/BomKeyManager.hpp>
00019 #include <stdair/bom/Inventory.hpp>
00020 #include <stdair/bom/FlightDate.hpp>
00021 #include <stdair/bom/SegmentDate.hpp>
00022 #include <stdair/bom/BomDisplay.hpp>
00023
00024 namespace stdair {
00025
00026 // ///////////////////////////////
00027 OnDDateKey::OnDDateKey()
00028   : _OnDStringList (DEFAULT_OND_STRING_LIST) {
00029   assert (false);
00030 }
00031
00032 // ///////////////////////////////
00033 OnDDateKey::OnDDateKey (const OnDStringList_T& iOnDStringList)
00034   : _OnDStringList (iOnDStringList) {
00035 }
00036
00037 // ///////////////////////////////
00038 OnDDateKey::OnDDateKey (const OnDateKey& iKey)
00039   : _OnDStringList (iKey._OnDStringList) {
00040 }
00041
00042 // ///////////////////////////////
00043 OnDDateKey::~OnDDateKey() {
00044 }
00045
00046 // ///////////////////////////////
00047 const Date_T OnDDateKey::getDate() const {
00048   assert (_OnDStringList.empty() == false);
00049   const OnDString_T& lFrontOnDString = _OnDStringList.front();
00050   return BomKeyManager::extractFlightDateKey (lFrontOnDString).
00051     getDepartureDate();
00052 }
00053
00054 // ///////////////////////////////
00055 const AirportCode_T OnDDateKey::getOrigin() const {
00056   assert (_OnDStringList.empty() == false);
00057   const OnDString_T& lFrontOnDString = _OnDStringList.front();
00058   return BomKeyManager::extractSegmentDateKey (lFrontOnDString).
00059     getBoardingPoint();
00060
00061 // ///////////////////////////////
00062 const AirportCode_T OnDDateKey::getDestination() const {
00063   assert (_OnDStringList.empty() == false);
00064   const OnDString_T& lLastOnDString = _OnDStringList.back();
00065   return BomKeyManager::extractSegmentDateKey (lLastOnDString).
00066     getOffPoint();
00067 }
00068
00069 // ///////////////////////////////
00070 void OnDDateKey::toStream (std::ostream& ioOut) const {
00071   ioOut << "OnDDateKey: " << toString();
00072 }
00073
00074 // ///////////////////////////////
00075 void OnDDateKey::fromStream (std::istream& ioIn) {

```

```

00074     }
00075
00076 // ///////////////////////////////////////////////////////////////////
00077 const std::string OnDDateKey::toString() const {
00078     std::ostringstream oStr;
00079     for (OnDStringList_T::const_iterator itOnDString = _OnDStringList.begin();
00080          itOnDString != _OnDStringList.end(); ++itOnDString) {
00081         oStr << *itOnDString << " ";
00082     }
00083     return oStr.str();
00084 }
00085
00086 // ///////////////////////////////////////////////////////////////////
00087 void OnDDateKey::serialisationImplementationExport() const {
00088     std::ostringstream oStr;
00089     boost::archive::text_oarchive oa (oStr);
00090     oa << *this;
00091 }
00092
00093 // ///////////////////////////////////////////////////////////////////
00094 void OnDDateKey::serialisationImplementationImport() {
00095     std::istringstream iStr;
00096     boost::archive::text_iarchive ia (iStr);
00097     ia >> *this;
00098 }
00099
00100 // ///////////////////////////////////////////////////////////////////
00101 template<class Archive>
00102 void OnDDateKey::serialize (Archive& ioArchive,
00103                           const unsigned int iFileVersion) {
00104 }
00105
00106 // ///////////////////////////////////////////////////////////////////
00107 // Explicit template instantiation
00108 namespace ba = boost::archive;
00109 template void OnDDateKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00110                                                       unsigned int);
00111 template void OnDDateKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00112                                                       unsigned int);
00113
00114 // ///////////////////////////////////////////////////////////////////
00115
00116
00117
00118
00119
00120 }
```

### 33.395 stdair/bom/OnDDateKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::OnDDateKey](#)

*Key of a given O&D-date, made of a list of OnD strings. a OnD string contains the airline code, the flight number, the date and the segment (origin and destination).*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.396 OnDDateKey.hpp

```

00001 #ifndef __STDAIR_BOM_ONDDATEKEY_HPP
00002 #define __STDAIR_BOM_ONDDATEKEY_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
```

```

00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/stdair_date_time_types.hpp>
00014 #include <stdair/bom/KeyAbstract.hpp>
00015
00016 namespace stdair {
00017
00023     struct OnDDateKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         // ////////////////// Constructors and destructors //////////////////
00027     private:
00031         OnDDateKey();
00032
00033     public:
00037         OnDDateKey (const OnDStringList_T&);
00038
00042         OnDDateKey (const OnDDateKey&);
00043
00047         ~OnDDateKey();
00048
00049     public:
00051         // ////////////////// Getters //////////////////
00055         const Date_T getDate() const;
00056
00060         const AirportCode_T getOrigin() const;
00061
00065         const AirportCode_T getDestination() const;
00066
00070         const short getNbOfSegments () const {
00071             return _OnDStringList.size();
00072         }
00073
00074     public:
00075         // ////////////////// Display support methods //////////////////
00081         void toStream (std::ostream& ioOut) const;
00082
00088         void fromStream (std::istream& ioIn);
00089
00099         const std::string toString() const;
00100
00101     public:
00103         // ////////////////// (Boost) Serialisation support methods //////////////////
00107         template<class Archive>
00108         void serialize (Archive& ar, const unsigned int iFileVersion);
00109
00110     private:
00115         void serialisationImplementationExport() const;
00116         void serialisationImplementationImport();
00117
00118
00119     private:
00120         // ////////////////// Attributes //////////////////
00121         OnDStringList_T _OnDStringList;
00122
00123     };
00124
00125 }
00126 #endif // __STDAIR_BOM_ONDDATEKEY_HPP

```

### 33.397 stdair/bom/OnDDateTypes.hpp File Reference

```

#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_demand_types.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## TypeDefs

- **typedef std::list< OnDDate \* > stdair::OnDDateList\_T**
- **typedef std::map< const MapKey\_T, OnDDate \* > stdair::OnDDateMap\_T**
- **typedef std::pair< std::string, YieldDemandPair\_T > stdair::StringDemandStructPair\_T**
- **typedef std::map< std::string, YieldDemandPair\_T > stdair::StringDemandStructMap\_T**
- **typedef std::map< std::string, CabinClassPairList\_T > stdair::StringCabinClassPairListMap\_T**
- **typedef std::pair< std::string, CabinClassPairList\_T > stdair::StringCabinClassPair\_T**
- **typedef std::map< CabinCode\_T, WTPDemandPair\_T > stdair::CabinForecastMap\_T**
- **typedef std::pair< CabinCode\_T, WTPDemandPair\_T > stdair::CabinForecastPair\_T**

## 33.398 OnDDateTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_ONDDATETYPES_HPP
00003 #define __STDAIR_BOM_ONDDATETYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // Stdair
00012 #include <stdair/bom/key_types.hpp>
00013 #include <stdair/stdair_maths_types.hpp>
00014 #include <stdair/stdair_demand_types.hpp>
00015
00016 namespace stdair {
00017
00018 // Forward declarations.
00019 class OnDDate;
00020
00022 typedef std::list<OnDDate*> OnDDateList_T;
00023
00025 typedef std::map<const MapKey_T, OnDDate*> OnDDateMap_T;
00026
00032 typedef std::pair<std::string, YieldDemandPair_T> StringDemandStructPair_T;
00033 typedef std::map<std::string, YieldDemandPair_T> StringDemandStructMap_T;
00034
00041 typedef std::map<std::string, CabinClassPairList_T>
    StringCabinClassPairListMap_T;
00042 typedef std::pair<std::string, CabinClassPairList_T> StringCabinClassPair_T;
00043
00048 typedef std::map<CabinCode_T, WTPDemandPair_T> CabinForecastMap_T;
00049 typedef std::pair<CabinCode_T, WTPDemandPair_T> CabinForecastPair_T;
00050
00051 }
00052 #endif // __STDAIR_BOM_ONDDATETYPES_HPP

```

## 33.399 stdair/bom/OptimisationNotificationStruct.cpp File Reference

```
#include <cassert>
#include <iostream>
#include <stdair/bom/OptimisationNotificationStruct.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.400 OptimisationNotificationStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/bom/OptimisationNotificationStruct.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 OptimisationNotificationStruct::OptimisationNotificationStruct()
00014   : _partySize (0), _stayDuration (0), _wtp (0.0), _valueOfTime (0.0) {
00015   assert (false);
00016 }
00017
00018 // /////////////////////////////////
00019 OptimisationNotificationStruct::
00020 OptimisationNotificationStruct (const OptimisationNotificationStruct&
iOptimisationNotification)
00021   : _origin (iOptimisationNotification._origin),
00022   _destination (iOptimisationNotification._destination),
00023   _pos (iOptimisationNotification._pos),
00024   _preferredDepartureDate (iOptimisationNotification._preferredDepartureDate),
00025   _notificationDateTime (iOptimisationNotification._notificationDateTime),
00026   _preferredCabin (iOptimisationNotification._preferredCabin),
00027   _partySize (iOptimisationNotification._partySize),
00028   _channel (iOptimisationNotification._channel),
00029   _tripType (iOptimisationNotification._tripType),
00030   _stayDuration (iOptimisationNotification._stayDuration),
00031   _frequentFlyerType (iOptimisationNotification._frequentFlyerType),
00032   _preferredDepartureTime (iOptimisationNotification._preferredDepartureTime),
00033   _wtp (iOptimisationNotification._wtp),
00034   _valueOfTime (iOptimisationNotification._valueOfTime) {
00035 }
00036
00037 // /////////////////////////////////
00038 OptimisationNotificationStruct:::
00039 OptimisationNotificationStruct (const AirportCode_T& iOrigin,
00040   const AirportCode_T& iDestination,
00041   const CityCode_T& iPOS,
00042   const Date_T& iDepartureDate,
00043   const DateTime_T& iNotificationDateTime,
00044   const CabinCode_T& iPreferredCabin,
00045   const NbOfSeats_T& iPartySize,
00046   const ChannelLabel_T& iChannel,
00047   const TripType_T& iTripType,
00048   const DayDuration_T& iStayDuration,
00049   const FrequentFlyer_T& iFrequentFlyerType,
00050   const Duration_T& iPreferredDepartureTime,
00051   const WTP_T& iWTP,
00052   const PriceValue_T& iValueOfTime)
00053   : _origin (iOrigin), _destination (iDestination),
00054   _pos (iPOS), _preferredDepartureDate (iDepartureDate),
00055   _notificationDateTime (iNotificationDateTime),
00056   _preferredCabin (iPreferredCabin), _partySize (iPartySize),
00057   _channel (iChannel), _tripType (iTripType),
00058   _stayDuration (iStayDuration), _frequentFlyerType (iFrequentFlyerType),
00059   _preferredDepartureTime (iPreferredDepartureTime), _wtp (iWTP),
00060   _valueOfTime (iValueOfTime) {
00061 }
00062
00063 // /////////////////////////////////
00064 OptimisationNotificationStruct::~OptimisationNotificationStruct
00065 () {
00066 }
00067
00068 void OptimisationNotificationStruct::toStream (std::ostream&
ioOut) const {
00069   ioOut << describe();
00070 }
00071
00072 // /////////////////////////////////
00073 void OptimisationNotificationStruct::fromStream (std::istream&
ioIn) {
00074 }
00075
00076 // /////////////////////////////////
00077 const std::string OptimisationNotificationStruct::describe()
00078 const {
00079   std::ostringstream oStr;
00080   oStr << "At " << _notificationDateTime
00081     << ", for (" << _pos << ")" " << _origin << "-" << _destination

```

```

00081     << " " << _preferredDepartureDate << " " << _preferredCabin
00082     << " " << _partySize << " " << _channel << " " << _tripType
00083     << " " << _stayDuration << " " << _frequentFlyerType
00084     << " " << _preferredDepartureTime << " " << _wtp
00085     << " " << _valueOfTime;
00086     return oStr.str();
00087 }
00088
00089 }
```

### 33.401 stdair/bom/OptimisationNotificationStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/OptimisationNotificationTypes.hpp>
```

#### Classes

- struct [stdair::OptimisationNotificationStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.402 OptimisationNotificationStruct.hpp

```

00001 #ifndef __STDAIR_BOM_OPTIMISATIONNOTIFICATIONSTRUCT_HPP
00002 #define __STDAIR_BOM_OPTIMISATIONNOTIFICATIONSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/bom/OptimisationNotificationTypes.hpp>
00015
00016 namespace stdair {
00017
00018     struct OptimisationNotificationStruct : public
00019         StructAbstract {
00020     public:
00021         // ///////////////////// Getters /////////////////////
00022         const AirportCode_T& getOrigin() const {
00023             return _origin;
00024         }
00025
00026         const AirportCode_T& getDestination() const {
00027             return _destination;
00028         }
00029
00030         const CityCode_T& getPOS() const {
00031             return _pos;
00032         }
00033
00034         const Date_T& getPreferredDepartureDate() const {
00035             return _preferredDepartureDate;
00036         }
00037
00038         const DateTime_T& getNotificationDateTime() const {
00039             return _notificationDateTime;
00040         }
00041
00042 }
```

```

00046
00048     const CabinCode_T& getPreferredCabin() const {
00049         return _preferredCabin;
00050     }
00051
00053     const NbOfSeats_T& getPartySize() const {
00054         return _partySize;
00055     }
00056
00058     const ChannelLabel_T& getOptimisationChannel() const {
00059         return _channel;
00060     }
00061
00063     const TripType_T& getTripType() const {
00064         return _tripType;
00065     }
00066
00068     const DayDuration_T& getStayDuration() const {
00069         return _stayDuration;
00070     }
00071
00073     const FrequentFlyer_T& getFrequentFlyerType() const {
00074         return _frequentFlyerType;
00075     }
00076
00078     const Duration_T& getPreferredDepartureTime() const {
00079         return _preferredDepartureTime;
00080     }
00081
00083     const WTP_T& getWTP() const {
00084         return _wtp;
00085     }
00086
00088     const PriceValue_T& getValueOfTime () const {
00089         return _valueOfTime;
00090     }
00091
00092 // //////////// Display support method ////////////
00093 void toStream (std::ostream& ioOut) const;
00094
00095 void fromStream (std::istream& ioIn);
00096
00102 const std::string describe() const;
00103
00104
00105 // //////////// Constructors and Destructors ///////////
00106 public:
00108     OptimisationNotificationStruct (const
00109         AirportCode_T& iOrigin,
00110             const AirportCode_T& iDestination,
00111             const CityCode_T& iPOS,
00112             const Date_T& iDepartureDate,
00113             const DateTime_T& iNotificationDateTime,
00114             const CabinCode_T& iPreferredCabin,
00115             const NbOfSeats_T& iPartySize,
00116             const ChannelLabel_T& iChannel,
00117             const TripType_T& iTripType,
00118             const DayDuration_T& iStayDuration,
00119             const FrequentFlyer_T& iFrequentFlyerType,
00120             const Duration_T& iPreferredDepartureTime,
00121             const WTP_T& iWTP,
00122             const PriceValue_T& iValueOfTime);
00123
00124     OptimisationNotificationStruct (const
00125         OptimisationNotificationStruct&);
00126
00127 private:
00128     OptimisationNotificationStruct ();
00129
00130 public:
00131     ~OptimisationNotificationStruct ();
00132
00133
00134
00135
00136 private:
00137     // //////////// Attributes ///////////
00138     const AirportCode_T _origin;
00139
00140     const AirportCode_T _destination;
00141
00142     const CityCode_T _pos;
00143
00144     const Date_T _preferredDepartureDate;
00145
00146     const DateTime_T _notificationDateTime;
00147
00148     const CabinCode_T _preferredCabin;
00149
00150
00151
00152
00153
00154
00155

```

```

00157     const NbOfSeats_T _partySize;
00158
00159     const ChannelLabel_T _channel;
00160
00161     const TripType_T _tripType;
00162
00163     const DayDuration_T _stayDuration;
00164
00165     const FrequentFlyer_T _frequentFlyerType;
00166
00167     const Duration_T _preferredDepartureTime;
00168
00169     const WTP_T _wtp;
00170
00171     const PriceValue_T _valueOfTime;
00172
00173 };
00174
00175
00176
00177
00178
00179
00180
00181
00182
00183 #endif // __STDAIR_BOM_OPTIMISATIONNOTIFICATIONSTRUCT_HPP

```

### 33.403 stdair/bom/OptimisationNotificationTypes.hpp File Reference

```
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef boost::shared\_ptr< OptimisationNotificationStruct > stdair::OptimisationNotificationPtr\_T**

### 33.404 OptimisationNotificationTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_OPTIMISATIONNOTIFICATIONTYPES_HPP
00003 #define __STDAIR_BOM_OPTIMISATIONNOTIFICATIONTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // Boost
00009 #include <boost/shared_ptr.hpp>
00010
00011 namespace stdair {
00012
00013 // Forward declarations
00014 struct OptimisationNotificationStruct;
00015
00016 // /////////////////////////////////////////////////////////////////// Type definitions ///////////////////////////////////////////////////////////////////
00017
00018 typedef boost::
00019 shared_ptr<OptimisationNotificationStruct> OptimisationNotificationPtr_T;
00020
00021 }
00022 #endif // __STDAIR_BOM_OPTIMISATIONNOTIFICATIONTYPES_HPP
00023

```

### 33.405 stdair/bom/ParsedKey.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <boost/tokenizer.hpp>
#include <boost/lexical_cast.hpp>
#include <boost/date_time/gregorian/parsers.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/InventoryKey.hpp>
#include <stdair/bom/FlightDateKey.hpp>
#include <stdair/bom/SegmentDateKey.hpp>
#include <stdair/bom/LegDateKey.hpp>
#include <stdair/bom/ParsedKey.hpp>
#include <stdair/service/Logger.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Functions

- const boost::char\_separator< char > **stdair::TokeniserDashSeparator** ("")
- const boost::char\_separator< char > **stdair::TokeniserTimeSeparator** (":")

## 33.406 ParsedKey.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <iostream>
00007 // Boost
00008 #include <boost/tokenizer.hpp>
00009 #include <boost/lexical_cast.hpp>
00010 #include <boost/date_time/gregorian/parsers.hpp>
00011 // StdAir
00012 #include <stdair/stdair_exceptions.hpp>
00013 #include <stdair/basic/BasConst_Inventory.hpp>
00014 #include <stdair/basic/BasConst_BomDisplay.hpp>
00015 #include <stdair/bom/InventoryKey.hpp>
00016 #include <stdair/bom/FlightDateKey.hpp>
00017 #include <stdair/bom/SegmentDateKey.hpp>
00018 #include <stdair/bom/LegDateKey.hpp>
00019 #include <stdair/bom/ParsedKey.hpp>
00020 #include <stdair/service/Logger.hpp>
00021
00022 namespace stdair {
00023
00024 // ///////////////////// Tokenising support ///////////////////
00025 typedef boost::tokenizer<boost::char_separator<char> > Tokeniser_T;
00026
00027 const boost::char_separator<char> TokeniserDashSeparator ("");
00028 const boost::char_separator<char> TokeniserTimeSeparator (:);
00029
00030 // /////////////////////////////////
00031
00032 ParsedKey::ParsedKey() : _fullKey (""), _airlineCode (""),
00033                               _flightNumber (""),
00034                               _departureDate (""), _boardingPoint (""),
00035                               _offPoint (""), _boardingTime ("") {
00036 }
00037
00038 // /////////////////////////////////
00039 ParsedKey::~ParsedKey() {
00040 }
00041
00042 // /////////////////////////////////
00043
00044 InventoryKey ParsedKey::getInventoryKey() const {
00045     if (_airlineCode.size() < 2 || _airlineCode.size() > 3) {
```

```

00053     STDAIR_LOG_ERROR ("No airline code can be found in '" <>
00054     _fullKey << "'");
00055     STDAIR_LOG_DEBUG ("Parsed key: " << toString());
00056     throw KeyNotFoundException ("No airline code can be found in '" +
00057         + _fullKey + "'");
00058 }
00059 }
00060
00061 // /////////////////////////////////
00062 FlightDateKey ParsedKey::getFlightDateKey() const {
00063     // Check whether the departure date has been parsed correctly.
00064     Tokeniser_T lDateTokens (_departureDate,
00065     TokeniserDashSeparator);
00066
00067     if (lDateTokens.begin() == lDateTokens.end()) {
00068         STDAIR_LOG_ERROR ("No date can be found in '" << _fullKey << "'");
00069         STDAIR_LOG_DEBUG ("Parsed key: " << toString());
00070         throw KeyNotFoundException ("No date can be found in '" +
00071             _fullKey + "'");
00072     }
00073
00074     const FlightNumber_T lFlightNumber =
00075         boost::lexical_cast<FlightNumber_T> (_flightNumber);
00076
00077     const Date_T lDepartureDate =
00078         boost::gregorian::from_simple_string (_departureDate);
00079
00080     const FlightDateKey oFlightDateKey (lFlightNumber, lDepartureDate);
00081
00082     return oFlightDateKey;
00083 }
00084
00085 // ///////////////////////////////
00086 LegDateKey ParsedKey::getLegKey() const {
00087     if (_boardingPoint.size() != 3) {
00088         STDAIR_LOG_ERROR ("No airport code can be found in '" <<
00089             _fullKey << "'");
00090         STDAIR_LOG_DEBUG ("Parsed key: " << toString());
00091         throw KeyNotFoundException ("No airport code can be found in '" +
00092             + _fullKey + "'");
00093     }
00094
00095     const LegDateKey oLegDateKey (_boardingPoint);
00096
00097     return oLegDateKey;
00098 }
00099
00100 // ///////////////////////////////
00101 SegmentDateKey ParsedKey::getSegmentKey() const {
00102     if (_boardingPoint.size() != 3 || _offPoint.size() != 3) {
00103         STDAIR_LOG_ERROR ("No airport code can be found in '" <<
00104             _fullKey << "'");
00105         STDAIR_LOG_DEBUG ("Parsed key: " << toString());
00106         throw KeyNotFoundException ("No airport code can be found in '" +
00107             + _fullKey + "'");
00108     }
00109
00110     const SegmentDateKey oSegmentDateKey (_boardingPoint,
00111     _offPoint);
00112
00113     return oSegmentDateKey;
00114 }
00115
00116 // ///////////////////////////////
00117 const Duration_T ParsedKey::getBoardingTime() const {
00118     // Check whether the boarding time has been parsed correctly.
00119     Tokeniser_T lTimeTokens (_boardingTime, TokeniserTimeSeparator);
00120
00121     if (lTimeTokens.begin() == lTimeTokens.end()) {
00122         STDAIR_LOG_ERROR ("No boarding time can be found in '" <<
00123             _fullKey << "'");
00124         STDAIR_LOG_DEBUG ("Parsed key: " << toString());
00125         throw KeyNotFoundException ("No boarding time can be found in '" +
00126             + _fullKey + "'");
00127     }
00128
00129     const Duration_T oBoardingTime (boost::posix_time::
00130         duration_from_string (_boardingTime));
00131
00132     return oBoardingTime;
00133 }
00134
00135 // ///////////////////////////////
00136 void ParsedKey::toStream (std::ostream& ioOut) const {
00137     ioOut << "ParsedKey: " << toString();
00138 }
```

```

00133 // ///////////////////////////////////////////////////////////////////
00134 void ParsedKey::fromStream (std::istream& ioIn) {
00135 }
00136 // ///////////////////////////////////////////////////////////////////
00137 const std::string ParsedKey::toString() const {
00138     std::ostringstream oStr;
00139
00140     oStr << _airlineCode
00141         << DEFAULT_KEY_FLD_DELIMITER << " "
00142         << _flightNumber
00143         << DEFAULT_KEY_SUB_FLD_DELIMITER << " "
00144         << _departureDate
00145         << DEFAULT_KEY_FLD_DELIMITER << " "
00146         << _boardingPoint
00147         << DEFAULT_KEY_SUB_FLD_DELIMITER << " "
00148         << _offPoint
00149         << DEFAULT_KEY_FLD_DELIMITER << " "
00150         << _boardingTime;
00151
00152     return oStr.str();
00153 }
00154
00155 }
00156
00157 }
```

### 33.407 stdair/bom/ParsedKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::ParsedKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.408 ParsedKey.hpp

```

00001 #ifndef __STDAIR_BOM_PARSEDKEY_HPP
00002 #define __STDAIR_BOM_PARSEDKEY_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_date_time_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace stdair {
00015     struct InventoryKey;
00016     struct FlightDateKey;
00017     struct SegmentDateKey;
00018     struct LegDateKey;
00019
00020     struct ParsedKey : public KeyAbstract{
00021
00022         // /////////////////////////////////////////////////////////////////// Getter ///////////////////////////////////////////////////////////////////
00023         InventoryKey getInventoryKey () const;
00024
00025         FlightDateKey getFlightDateKey () const;
00026
00027         SegmentDateKey getSegmentKey () const;
00028
00029 }
```

```

00033
00035     LegDateKey getLegKey () const;
00036
00038     const Duration_T getBoardingTime () const;
00039
00040 public:
00041     // /////////// Display support methods ///////////
00042     void toStream (std::ostream& ioOut) const;
00043
00044     void fromStream (std::istream& ioIn);
00045
00046     const std::string toString() const;
00047
00048 public:
00049     // /////////// Constructor and destructor. ///////////
00050     // Default constructor
00051     ParsedKey ();
00052     // Default destructor
00053     ~ParsedKey ();
00054
00055 public:
00056     // /////////// Attributes ///////////
00057     std::string _fullKey;
00058     std::string _airlineCode;
00059     std::string _flightNumber;
00060     std::string _departureDate;
00061     std::string _boardingPoint;
00062     std::string _offPoint;
00063     std::string _boardingTime;
00064 };
00065
00066
00067 #endif // __STDAIR_BOM_PARSEDKEY_HPP

```

### 33.409 stdair/bom/PeriodStruct.cpp File Reference

```

#include <sstream>
#include <cassert>
#include <stdair/basic/BasConst_Period_BOM.hpp>
#include <stdair/bom/PeriodStruct.hpp>

```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.410 PeriodStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 #include <cassert>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Period_BOM.hpp>
00009 #include <stdair/bom/PeriodStruct.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 PeriodStruct::PeriodStruct ()
00015     : _dateRange (BOOST_DEFAULT_DATE_PERIOD), _dow () {
00016 }
00017
00018 // /////////////////////////////////
00019 PeriodStruct::PeriodStruct (const DatePeriod_T& iDateRange,
00020                             const DoWStruct& iDoW)
00021     : _dateRange (iDateRange), _dow (iDoW) {
00022 }
00023
00024 // /////////////////////////////////
00025 PeriodStruct::PeriodStruct (const PeriodStruct& iPeriodStruct)
00026     : _dateRange (iPeriodStruct._dateRange), _dow (iPeriodStruct._dow) {

```

```

00027     }
00028
00029
00030 // ///////////////////////////////////////////////////////////////////
00031 const std::string PeriodStruct::describeShort() const {
00032     std::ostringstream ostr;
00033     ostr << _dateRange << ", " << _dow.describeShort();
00034     return ostr.str();
00035 }
00036
00037 // ///////////////////////////////////////////////////////////////////
00038 const std::string PeriodStruct::describe() const {
00039     std::ostringstream ostr;
00040     ostr << _dateRange << ", " << _dow.describe();
00041     return ostr.str();
00042 }
00043
00044 // ///////////////////////////////////////////////////////////////////
00045 PeriodStruct PeriodStruct:::
00046 addDateOffset (const DateOffset_T& iDateOffset) const {
00047     // Create a new date range by shifting the date range of this object with
00048     // iDateOffset.
00049     DatePeriod_T lNewDateRange = getDateRange();
00050     lNewDateRange.shift (iDateOffset);
00051
00052     // Create a new DoWStruct by shifting the DoWStruct of this object with
00053     // iDateOffset.
00054     const long lNbOfDaysOffset = iDateOffset.days();
00055     const DoWStruct& lDoW = getDoW();
00056     const DoWStruct lNewDoW = lDoW.shift (lNbOfDaysOffset);
00057
00058     return PeriodStruct (lNewDateRange, lNewDoW);
00059 }
00060
00061 // ///////////////////////////////////////////////////////////////////
00062 PeriodStruct PeriodStruct:::
00063 intersection (const PeriodStruct& iPeriodStruct) const {
00064     const DatePeriod_T lNewDateRange =
00065         _dateRange.intersection (iPeriodStruct._dateRange);
00066     const DoWStruct lNewDoW = _dow.intersection (iPeriodStruct._dow);
00067
00068     return PeriodStruct (lNewDateRange, lNewDoW);
00069 }
00070
00071 // ///////////////////////////////////////////////////////////////////
00072 const bool PeriodStruct::isValid () const {
00073     if (_dateRange.is_null() == false && _dow.isValid()) {
00074         return true;
00075     }
00076     return false;
00077 }
00078
00079 }

```

### 33.411 stdair/bom/PeriodStruct.hpp File Reference

```
#include <string>
#include <vector>
#include <stdair/stdair_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/DoWStruct.hpp>
```

#### Classes

- struct [stdair::PeriodStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.412 PeriodStruct.hpp

```

00001 #ifndef __STDAIR_BOM_PERIODSTRUCT_HPP
00002 #define __STDAIR_BOM_PERIODSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 // StdAir
00011 #include <stdair/stdair_types.hpp>
00012 #include <stdair/basic/StructAbstract.hpp>
00013 #include <stdair/bom/DoWStruct.hpp>
00014
00015 namespace stdair {
00016
00019 struct PeriodStruct : public StructAbstract {
00020 public:
00021     // ////////// Getters //////////
00023     const DatePeriod_T& getDateRange () const {
00024         return _dateRange;
00025     }
00026     const DoWStruct& getDoW () const {
00027         return _dow;
00028     }
00029
00030     public:
00031     // ////////// Setters //////////
00033     void setDateRange (const DatePeriod_T& iDateRange) {
00034         _dateRange = iDateRange;
00035     }
00036     void setDoW (const DoWStruct& iDoW) { _dow = iDoW; }
00037
00038     public:
00040     const std::string describe() const;
00041
00043     const std::string describeShort() const;
00044
00045     public:
00046     // ////////// Business Methods //////////
00048     PeriodStruct addDateOffset (const DateOffset_T&) const;
00049
00052     PeriodStruct intersection (const PeriodStruct&) const;
00053
00055     const bool isValid () const;
00056
00057     public:
00059     PeriodStruct (const DatePeriod_T&, const DoWStruct&);
00061     PeriodStruct ();
00062     PeriodStruct (const PeriodStruct&);
00064     ~PeriodStruct () { }
00065
00066     private:
00067     // Attributes
00068     DatePeriod_T _dateRange;
00069     DoWStruct _dow;
00070 };
00071
00072 }
00073 #endif // __STDAIR_BOM_PERIODSTRUCT_HPP

```

### 33.413 stdair/bom/Policy.cpp File Reference

```

#include <sstream>
#include <cassert>
#include <iomanip>
#include <iostream>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/Policy.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.414 Policy.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 #include <cassert>
00007 #include <iomanip>
00008 #include <iostream>
00009 //STDAIR
00010 #include <stdair/basic/BasConst_Inventory.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/BookingClass.hpp>
00013 #include <stdair/bom/BookingClassTypes.hpp>
00014 #include <stdair/bom/Policy.hpp>
00015
00016 namespace stdair {
00017
00018 // /////////////////////////////////
00019 Policy::Policy () :
00020     _key (DEFAULT_POLICY_CODE), _parent (NULL) {
00021     assert (false);
00022 }
00023
00024 // /////////////////////////////////
00025 Policy::Policy (const Policy& iPolicy)
00026 : _key (DEFAULT_POLICY_CODE), _parent (NULL) {
00027     assert (false);
00028 }
00029
00030 // /////////////////////////////////
00031 Policy::Policy (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00032 }
00033
00034 // /////////////////////////////////
00035 Policy::~Policy() {
00036 }
00037
00038 // /////////////////////////////////
00039 std::string Policy::toString () const {
00040     std::ostringstream oStr;
00041     oStr << describeKey();
00042
00043     oStr << std::fixed << std::setprecision (2)
00044         << "; " << _demand
00045         << "; " << _stdDev
00046         << "; " << _yield << std::endl;
00047
00048     return oStr.str();
00049 }
00050
00051 // /////////////////////////////////
00052 const BookingClassList_T& Policy::getBookingClassList()
00053 const {
00054     return BomManager::getList<BookingClass> (*this);
00055 }
00056
00057 // /////////////////////////////////
00058 const Revenue_T Policy::getTotalRevenue () const {
00059     Revenue_T oTotalRevenue = 0.0;
00060     for (YieldDemandMap_T::const_iterator itYD = _yieldDemandMap.begin();
00061          itYD != _yieldDemandMap.end(); ++itYD) {
00062         const Yield_T& lYield = itYD->first;
00063         const double& lDemand = itYD->second;
00064         oTotalRevenue += lYield*lDemand;
00065     }
00066
00067     return oTotalRevenue;
00068 }
00069
00070 // /////////////////////////////////
00071 void Policy::addYieldDemand (const Yield_T& iYield,
00072                             const NbOfBookings_T& iDemand) {
00073     YieldDemandMap_T::iterator itYD = _yieldDemandMap.find (iYield);
00074     if (itYD == _yieldDemandMap.end()) {
00075         bool insert = _yieldDemandMap.insert (YieldDemandMap_T::value_type
00076                                              (iYield, iDemand)).second;

```

```

00076     assert (insert == true);
00077 } else {
00078     NbOfBookings_T& lDemand = itYD->second;
00079     lDemand += iDemand;
00080 }
00081 }
00082
00083 }
```

### 33.415 stdair/bom/Policy.hpp File Reference

```

#include <cmath>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/PolicyKey.hpp>
```

#### Classes

- class [stdair::Policy](#)

#### Namespaces

- [boost](#)

*Forward declarations.*

- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.416 Policy.hpp

```

00001 #ifndef __STDAIR_BOM_POLICY_HPP
00002 #define __STDAIR_BOM_POLICY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <cmath>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_rm_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/BookingClassTypes.hpp>
00014 #include <stdair/bom/PolicyKey.hpp>
00015
00016 namespace boost {
00017     namespace serialization {
00018         class access;
00019     }
00020 }
00021
00022 namespace stdair {
00023
00024     class Policy : public BomAbstract {
00025         template <typename BOM> friend class FacBom;
00026         friend class FacBomManager;
00027         friend class boost::serialization::access;
00028
00029     public:
00030         // ////////// Type definitions //////////
00031         typedef PolicyKey Key_T;
00032
00033     public:
00034         // ////////// Getters //////////
00035         const Key_T& getKey() const {
00036             return _key;
00037         }
00038     };
00039 }
```

```

00047     }
00048
00049     BomAbstract* const getParent() const {
00050         return _parent;
00051     }
00052
00053
00054     const HolderMap_T& getHolderMap() const {
00055         return _holderMap;
00056     }
00057
00058     const BookingClassList_T& getBookingClassList() const;
00059
00060
00061     const NbOfBookings_T& getDemand() const {
00062         return _demand;
00063     }
00064
00065     const StdDevValue_T& getStdDev() const {
00066         return _stdDev;
00067     }
00068
00069
00070     const Yield_T& getYield() const {
00071         return _yield;
00072     }
00073
00074
00075     const Revenue_T getTotalRevenue () const;
00076
00077
00078
00079
00080
00081
00082 public:
00083     // ////////////////////////////// Setters //////////////////////////////
00084     void setDemand (const NbOfBookings_T& iDemand) {
00085         _demand = iDemand;
00086     }
00087
00088
00089     void setStdDev (const StdDevValue_T& iStdDev) {
00090         _stdDev = iStdDev;
00091     }
00092
00093
00094     void setYield (const Yield_T& iYield) {
00095         _yield = iYield;
00096     }
00097
00098
00099     void resetDemandForecast () {
00100         _demand = 0.0;
00101         _stdDev = 0.0;
00102         _yieldDemandMap.clear();
00103     }
00104
00105
00106     void addYieldDemand (const Yield_T&, const
00107     NbOfBookings_T&);
00108
00109 public:
00110     // //////////// Display support methods ///////////
00111     void toStream (std::ostream& ioOut) const {
00112         ioOut << toString();
00113     }
00114
00115
00116     void fromStream (std::istream& ioIn) {
00117
00118
00119
00120     std::string toString() const;
00121
00122
00123     const std::string describeKey() const {
00124         return _key.toString();
00125     }
00126
00127
00128
00129
00130
00131
00132
00133
00134
00135
00136     const std::string describeKey() const {
00137         return _key.toString();
00138     }
00139
00140
00141 public:
00142     // //////////// (Boost) Serialisation support methods //////////
00143     template<class Archive>
00144     void serialize (Archive& ar, const unsigned int iFileVersion);
00145
00146
00147     private:
00148         void serialisationImplementationExport() const;
00149         void serialisationImplementationImport();
00150
00151
00152 protected:
00153     // //////////// Constructors and destructor. //////////
00154     Policy (const Key_T&);
00155
00156
00157     virtual ~Policy();
00158
00159
00160 private:
00161     Policy();
00162
00163
00164     Policy (const Policy&);
00165
00166
00167
00168
00169
00170
00171
00172
00173
00174
00175
00176
00177
00178
00179
00180
00181
00182
00183
00184

```

```

00185 private:
00186     // ////////////////// Attributes ///////////////////
00187     Key_T _key;
00188
00189     BomAbstract* _parent;
00190
00191     HolderMap_T _holderMap;
00192
00193     NbOfBookings_T _demand;
00194
00195     StdDevValue_T _stdDev;
00196
00197     Yield_T _yield;
00198
00199     YieldDemandMap_T _yieldDemandMap;
00200
00201 };
00202
00203 #endif // __STDAIR_BOM_POLICY_HPP

```

### 33.417 stdair/bom/PolicyKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/PolicyKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- template void **stdair::PolicyKey::serialize< ba::text\_oarchive >** (ba::text\_oarchive &, unsigned int)
- template void **stdair::PolicyKey::serialize< ba::text\_iarchive >** (ba::text\_iarchive &, unsigned int)

### 33.418 PolicyKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/PolicyKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 PolicyKey::PolicyKey() : _policyCode (DEFAULT_POLICY_CODE) {
00019     assert (false);
00020 }
00021
00022 // /////////////////////////////////
00023 PolicyKey::PolicyKey (const PolicyKey& iPolicyKey)
00024     : _policyCode (iPolicyKey._policyCode) {
00025 }
00026
00027 // /////////////////////////////////

```

```

00028 PolicyKey::PolicyKey (const PolicyCode_T& iPolicyCode)
00029   : _policyCode (iPolicyCode) {
00030 }
00031
00032 // /////////////////////////////////
00033 PolicyKey::~PolicyKey () {
00034 }
00035
00036 // /////////////////////////////////
00037 void PolicyKey::toStream (std::ostream& ioOut) const {
00038   ioOut << "PolicyKey: " << toString();
00039 }
00040
00041 // /////////////////////////////////
00042 void PolicyKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // /////////////////////////////////
00046 const std::string PolicyKey::toString() const {
00047   std::ostringstream oStr;
00048   oStr << _policyCode;
00049   return oStr.str();
00050 }
00051
00052 // /////////////////////////////////
00053 void PolicyKey::serialisationImplementationExport() const {
00054   std::ostringstream oStr;
00055   boost::archive::text_oarchive oa (oStr);
00056   oa << *this;
00057 }
00058
00059 // /////////////////////////////////
00060 void PolicyKey::serialisationImplementationImport() {
00061   std::istringstream iStr;
00062   boost::archive::text_iarchive ia (iStr);
00063   ia >> *this;
00064 }
00065
00066 // /////////////////////////////////
00067 template<class Archive>
00068 void PolicyKey::serialize (Archive& ioArchive,
00069                           const unsigned int iFileVersion) {
00070   ioArchive & _policyCode;
00071 }
00072
00073 // /////////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void PolicyKey::serialize<ba::text_oarchive> (ba::text_oarchive&,
00077                                                       unsigned int);
00078 template void PolicyKey::serialize<ba::text_iarchive> (ba::text_iarchive&,
00079                                                       unsigned int);
00080
00081 // /////////////////////////////////
00082
00083 // /////////////////////////////////
00084
00085 // /////////////////////////////////
00086 }

```

### 33.419 stdair/bom/PolicyKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct **stdair::PolicyKey**

*Key of a given policy, made of a policy code.*

#### Namespaces

- **boost**

*Forward declarations.*

- **boost::serialization**

- **stdair**

*Handle on the StdAir library context.*

### 33.420 PolicyKey.hpp

```

00001 #ifndef __STDAIR_BOM_POLICYKEY_HPP
00002 #define __STDAIR_BOM_POLICYKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023   struct PolicyKey : public KeyAbstract {
00024     friend class boost::serialization::access;
00025
00026     // ////////////////// Constructors and destructors //////////////////
00027   private:
00028     PolicyKey();
00029
00030   public:
00031     PolicyKey (const PolicyCode_T& iPolicyCode);
00032
00033     PolicyKey (const PolicyKey&);
00034
00035     ~PolicyKey();
00036
00037
00038   public:
00039     // ////////////////// Getters //////////////////
00040     const PolicyCode_T& getPolicyCode () const {
00041       return _policyCode;
00042     }
00043
00044
00045   public:
00046     // ////////////////// Display support methods //////////////////
00047     void toStream (std::ostream& ioOut) const;
00048
00049     void fromStream (std::istream& ioIn);
00050
00051     const std::string toString() const;
00052
00053
00054   public:
00055     // ////////////////// (Boost) Serialisation support methods //////////////////
00056     template<class Archive>
00057     void serialize (Archive& ar, const unsigned int iFileVersion);
00058
00059   private:
00060     void serialisationImplementationExport() const;
00061     void serialisationImplementationImport();
00062
00063
00064   private:
00065     // ////////////////// Attributes //////////////////
00066     PolicyCode_T _policyCode;
00067   };
00068
00069
00070 }
00071
00072 #endif // __STDAIR_BOM_POLICYKEY_HPP

```

### 33.421 stdair/bom/PolicyTypes.hpp File Reference

```
#include <map>
```

```
#include <list>
#include <stdair/bom/key_types.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## Typedefs

- **typedef std::list< Policy \* > stdair::PolicyList\_T**
- **typedef std::map< const MapKey\_T, Policy \* > stdair::PolicyMap\_T**

### 33.422 PolicyTypes.hpp

```
00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_POLICYTYPES_HPP
00003 #define __STDAIR_BOM_POLICYTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class Policy;
00018
00019 typedef std::list<Policy*> PolicyList_T;
00020
00021 typedef std::map<const MapKey_T, Policy*> PolicyMap_T;
00022
00023
00024
00025 }
00026 #endif // __STDAIR_BOM_POLICYTYPES_HPP
```

### 33.423 stdair/bom/PosChannel.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/PosChannel.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.424 PosChannel.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
```

```

00007 // StdAir
00008 #include <stdair/basic/BasConst_Request.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 #include <stdair/bom/PosChannel.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 PosChannel::PosChannel()
00016   : _key (DEFAULT_POS,
00017             DEFAULT_CHANNEL),
00018   _parent (NULL) {
00019   // That constructor is used by the serialisation process
00020 }
00021
00022 // ///////////////////////////////
00023 PosChannel::PosChannel (const PosChannel& iPosChannel)
00024   : _key (iPosChannel.getKey()), _parent (NULL) {
00025 }
00026
00027 // ///////////////////////////////
00028 PosChannel::PosChannel (const Key_T& iKey)
00029   : _key (iKey), _parent (NULL) {
00030 }
00031
00032 // ///////////////////////////////
00033 PosChannel::~PosChannel () {
00034 }
00035
00036 // ///////////////////////////////
00037 std::string PosChannel::toString() const {
00038   std::ostringstream oStr;
00039   oStr << describeKey();
00040   return oStr.str();
00041 }
00042 }

```

### 33.425 stdair/bom/PosChannel.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/PosChannelKey.hpp>
#include <stdair/bom/PosChannelTypes.hpp>
```

#### Classes

- class **stdair::PosChannel**  
*Class representing the actual attributes for a fare point of sale.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.426 PosChannel.hpp

```

00001 #ifndef __STDAIR_BOM_POSCHANNEL_HPP
00002 #define __STDAIR_BOM_POSCHANNEL_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/PosChannelKey.hpp>
00010 #include <stdair/bom/PosChannelTypes.hpp>
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00019 class PosChannel : public BomAbstract {
00020   template <typename BOM> friend class FacBom;

```

```

00021     template <typename BOM> friend class FacCloneBom;
00022     friend class FacBomManager;
00023
00024 public:
00025     // ////////// Type definitions
00026     typedef PosChannelKey Key_T;
00027
00028     // ////////// Display support methods ///////////
00029     void toStream (std::ostream& ioOut) const {
00030         ioOut << toString();
00031     }
00032
00033     void fromStream (std::istream& ioIn) {
00034     }
00035
00036     std::string toString() const;
00037
00038     const std::string describeKey() const {
00039         return _key.toString();
00040     }
00041
00042 public:
00043     // ////////// Getters ///////////
00044     const Key_T& getKey() const {
00045         return _key;
00046     }
00047
00048     BomAbstract* const getParent() const {
00049         return _parent;
00050     }
00051
00052     const stdair::HolderMap_T& getHolderMap() const {
00053         return _holderMap;
00054     }
00055
00056     const CityCode_T& getPos() const {
00057         return _key.getPos();
00058     }
00059
00060     const ChannelLabel_T& getChannel() const {
00061         return _key.getChannel();
00062     }
00063
00064 protected:
00065     // ////////// Constructors and destructors ///////////
00066     PosChannel (const Key_T&);
00067
00068     virtual ~PosChannel();
00069
00070 private:
00071     PosChannel ();
00072
00073     PosChannel (const PosChannel&);
00074
00075 protected:
00076     // ////////// Attributes ///////////
00077     Key_T _key;
00078
00079     BomAbstract* _parent;
00080
00081     HolderMap_T _holderMap;
00082
00083 };
00084
00085 #endif // __STDAIR_BOM_POSCHANNEL_HPP
00086
00087

```

### 33.427 stdair/bom/PosChannelKey.cpp File Reference

```

#include <iostream>
#include <sstream>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/PosChannelKey.hpp>

```

## Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

## 33.428 PosChannelKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <sstream>
00007 // STDAIR
00008 #include <stdair/basic/BasConst_BomDisplay.hpp>
00009 #include <stdair/basic/BasConst_Request.hpp>
00010 #include <stdair/bom/PosChannelKey.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 PosChannelKey::PosChannelKey()
00016   : _pos (DEFAULT_POS),
00017     _channel (DEFAULT_CHANNEL) {
00018   assert (false);
00019 }
00020
00021 // /////////////////////////////////
00022 PosChannelKey::PosChannelKey (const CityCode_T& iPos,
00023                               const ChannelLabel_T& iChannel)
00024   : _pos (iPos), _channel(iChannel) {
00025 }
00026
00027 // /////////////////////////////////
00028 PosChannelKey::PosChannelKey (const PosChannelKey& iKey)
00029   : _pos (iKey._pos), _channel (iKey._channel) {
00030 }
00031
00032 // /////////////////////////////////
00033 PosChannelKey::~PosChannelKey () {
00034 }
00035
00036 // /////////////////////////////////
00037 void PosChannelKey::toStream (std::ostream& ioOut) const {
00038   ioOut << "PosChannelKey: " << toString() << std::endl;
00039 }
00040
00041 // /////////////////////////////////
00042 void PosChannelKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // /////////////////////////////////
00046 const std::string PosChannelKey::toString() const {
00047   std::ostringstream oStr;
00048   oStr << _pos << DEFAULT_KEY_SUB_FLD_DELIMITER
00049     << " " << _channel;
00050   return oStr.str();
00051 }
00052
00053 }
```

## 33.429 stdair/bom/PosChannelKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_types.hpp>
```

## Classes

- struct [stdair::PosChannelKey](#)

*Key of point of sale and channel.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.430 PosChannelKey.hpp

```

00001 #ifndef __STDAIR_BOM_POSCHANNELKEY_HPP
00002 #define __STDAIR_BOM_POSCHANNELKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // SIMFQT
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_types.hpp>
00010
00011 namespace stdair {
00015   struct PosChannelKey : public KeyAbstract {
00016
00017   public:
00018     ////////////////// Construction //////////////////
00022     PosChannelKey (const stdair::CityCode_T&, const
00023                      stdair::ChannelLabel_T&);
00026     PosChannelKey (const PosChannelKey&);
00030     ~PosChannelKey ();
00031   private:
00035     PosChannelKey ();
00036
00037   public:
00038     ////////////////// Getters //////////////////
00039
00043     const stdair::CityCode_T& getPos() const {
00044       return _pos;
00045     }
00046
00050     const stdair::ChannelLabel_T& getChannel() const {
00051       return _channel;
00052     }
00053
00054   public:
00055     ////////////////// Display support methods //////////////////
00060     void toStream (std::ostream& ioOut) const;
00061
00066     void fromStream (std::istream& ioIn);
00067
00072     const std::string toString() const;
00073
00074   private:
00075     ////////////////// Attributes //////////////////
00079     CityCode_T _pos;
00080
00085     ChannelLabel_T _channel;
00086
00087   };
00088
00089 }
00090 #endif // __STDAIR_BOM_POSCHANNELKEY_HPP

```

### 33.431 stdair/bom/PosChannelTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### Typedefs

- `typedef std::list< PosChannel * > stdair::PosChannelList_T`
- `typedef std::map< const MapKey_T, PosChannel * > stdair::PosChannelMap_T`
- `typedef std::pair< MapKey_T, PosChannel * > stdair::PosChannelWithKey_T`
- `typedef std::list< PosChannelWithKey_T > stdair::PosChannelDetailedList_T`

### 33.432 PosChannelTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_POSCHANNELTYPES_HPP
00003 #define __STDAIR_BOM_POSCHANNELTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class PosChannel;
00018
00019 typedef std::list<PosChannel*> PosChannelList_T;
00020
00021 typedef std::map<const MapKey_T, PosChannel*> PosChannelMap_T;
00022
00023 typedef std::pair<MapKey_T, PosChannel*> PosChannelWithKey_T;
00024
00025 typedef std::list<PosChannelWithKey_T> PosChannelDetailedList_T;
00026
00027
00028 }
00029 #endif // __STDAIR_BOM_POSCHANNELTYPES_HPP

```

### 33.433 stdair/bom/RMEventStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/bom/RMEventStruct.hpp>

```

### Namespaces

- `stdair`  
*Handle on the StdAir library context.*

### 33.434 RMEventStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/bom/RMEventStruct.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 RMEventStruct::RMEventStruct() {
00014     assert (false);
00015 }
00016
00017 // /////////////////////////////////
00018 RMEventStruct::
00019 RMEventStruct (const RMEventStruct& iRMEvent)
00020     : _airlineCode (iRMEvent._airlineCode),

```

```

00021     _flightDateDescription (iRMEvent._flightDateDescription),
00022     _RMEventTime (iRMEvent._RMEventTime) {
00023 }
00024
00025 // /////////////////////////////////
00026 RMEventStruct::
00027 RMEventStruct (const AirlineCode_T& iAirlineCode,
00028                 const KeyDescription_T& iFlightDateDescription,
00029                 const DateTime_T& iRMEventTime)
00030     : _airlineCode (iAirlineCode),
00031     _flightDateDescription (iFlightDateDescription),
00032     _RMEventTime (iRMEventTime) {
00033 }
00034
00035 // /////////////////////////////////
00036 RMEventStruct::~RMEventStruct () {
00037 }
00038
00039 // /////////////////////////////////
00040 void RMEventStruct::toStream (std::ostream& ioOut) const {
00041     ioOut << describe();
00042 }
00043
00044 // /////////////////////////////////
00045 void RMEventStruct::fromStream (std::istream& ioIn) {
00046 }
00047
00048 // /////////////////////////////////
00049 const std::string RMEventStruct::describe() const {
00050     std::ostringstream oStr;
00051     oStr << _airlineCode << ", " << _flightDateDescription << ", "
00052     << _RMEventTime;
00053     return oStr.str();
00054 }
00055
00056 }

```

### 33.435 stdair/bom/RMEventStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/RMEventTypes.hpp>

```

#### Classes

- struct [stdair::RMEventStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.436 RMEventStruct.hpp

```

00001 #ifndef __STDAIR_BOM_RMEVENTSTRUCT_HPP
00002 #define __STDAIR_BOM_RMEVENTSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>

```

```

00014 #include <stdair/bom/RMEventTypes.hpp>
00015
00016 namespace stdair {
00017
00019     struct RMEventStruct : public StructAbstract {
00020     public:
00021         // ////////////////// Getters ///////////////////
00023         const AirlineCode_T& getAirlineCode() const {
00024             return _airlineCode;
00025         }
00026
00028         const KeyDescription_T& getFlightDateDescription() const {
00029             return _flightDateDescription;
00030         }
00031
00033         const DateTime_T& getRMEventTime() const {
00034             return _RMEventTime;
00035         }
00036
00037         // ////////////////// Display support method //////////////////
00040         void toStream (std::ostream& ioOut) const;
00041
00044         void fromStream (std::istream& ioIn);
00045
00047         const std::string describe() const;
00048
00049
00050         // ////////////////// Constructors and Destructors //////////////////
00051     public:
00053         RMEventStruct (const AirlineCode_T&, const
00054             KeyDescription_T&, const DateTime_T&,
00055
00057             RMEventStruct (const RMEventStruct&);
00058
00061         RMEventStruct ();
00062
00063     public:
00065         ~RMEventStruct();
00066
00067
00068     private:
00069         // ////////////////// Attributes //////////////////
00071         const AirlineCode_T _airlineCode;
00072
00074         const KeyDescription_T _flightDateDescription;
00075
00077         const DateTime_T _RMEventTime;
00078     };
00079
00080 }
00081 #endif // __STDAIR_BOM_RMEVENTSTRUCT_HPP

```

### 33.437 stdair/bom/RMEventTypes.hpp File Reference

```
#include <list>
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

#### Typedefs

- typedef boost::shared\_ptr< RMEventStruct > stdair::RMEventPtr\_T
- typedef std::list< RMEventStruct > stdair::RMEventList\_T

### 33.438 RMEventTypes.hpp

```
00001 // /////////////////////////////////
```

```

00002 #ifndef __STDAIR_BOM_RMEVENTTYPES_HPP
00003 #define __STDAIR_BOM_RMEVENTTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <list>
00010 // Boost
00011 #include <boost/shared_ptr.hpp>
00012
00013 namespace stdair {
00014
00015     // Forward declarations
00016     struct RMEventStruct;
00017
00018     // ///////////////////// Type definitions ///////////////////
00019     typedef boost::shared_ptr<RMEventStruct> RMEventPtr_T;
00020
00021     typedef std::list<RMEventStruct> RMEventList_T;
00022
00023 }
00024
00025 }
00026 #endif // __STDAIR_BOM_RMEVENTTYPES_HPP
00027

```

### 33.439 stdair/bom/SegmentCabin.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_Yield.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/Policy.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.440 SegmentCabin.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>
00010 #include <stdair/basic/BasConst_Yield.hpp>
00011 #include <stdair/basic/BasConst_BomDisplay.hpp>
00012 #include <stdair/bom/BomManager.hpp>
00013 #include <stdair/bom/SegmentDate.hpp>
00014 #include <stdair/bom/SegmentCabin.hpp>
00015 #include <stdair/bom/BookingClass.hpp>
00016 #include <stdair/bom/BookingClassTypes.hpp>
00017 #include <stdair/bom/Policy.hpp>
00018
00019 namespace stdair {
00020
00021     // /////////////////////////////////
00022     SegmentCabin::SegmentCabin() : _key (DEFAULT_CABIN_CODE), _parent (NULL) {
00023         assert (false);

```

```

00024     }
00025
00026 ///////////////////////////////////////////////////////////////////
00027 SegmentCabin::SegmentCabin (const SegmentCabin& iSegmentCabin)
00028     : _key (iSegmentCabin._key), _parent (NULL),
00029     _capacity (iSegmentCabin._capacity),
00030     _blockSpace (iSegmentCabin._blockSpace),
00031     _bookingCounter (iSegmentCabin._bookingCounter),
00032     _committedSpace (iSegmentCabin._committedSpace),
00033     _availabilityPool (iSegmentCabin._availabilityPool),
00034     _currentBidPrice (iSegmentCabin._currentBidPrice),
00035     _fareFamilyActivation (iSegmentCabin._fareFamilyActivation) {
00036 }
00037
00038 ///////////////////////////////////////////////////////////////////
00039 SegmentCabin::SegmentCabin (const Key_T& iKey)
00040     : _key (iKey), _parent (NULL),
00041     _capacity (DEFAULT_CABIN_CAPACITY),
00042     _blockSpace (DEFAULT_BLOCK_SPACE),
00043     _bookingCounter (DEFAULT_CLASS_NB_OF_BOOKINGS),
00044     _committedSpace (DEFAULT_COMMITED_SPACE),
00045     _availabilityPool (DEFAULT_AVAILABILITY),
00046     _bidPriceVector (DEFAULT_BID_PRICE_VECTOR),
00047     _currentBidPrice (DEFAULT_BID_PRICE),
00048     _fareFamilyActivation (false) {
00049 }
00050
00051 ///////////////////////////////////////////////////////////////////
00052 SegmentCabin::~SegmentCabin() {
00053 }
00054
00055 ///////////////////////////////////////////////////////////////////
00056 const MapKey_T SegmentCabin::getFullerKey() const {
00057     const SegmentDate& lSegmentDate = BomManager::getParent<SegmentDate>(*this);
00058
00059     const MapKey_T oFullKey =
00060         lSegmentDate.describeKey() + DEFAULT_KEY_FLD_DELIMITER +
00061         getCabinCode();
00062     return oFullKey;
00063 }
00064
00065 std::string SegmentCabin::toString() const {
00066     std::ostringstream oStr;
00067     oStr << describeKey();
00068     return oStr.str();
00069 }
00070
00071 ///////////////////////////////////////////////////////////////////
00072 const std::string SegmentCabin::describeConvexHull() const{
00073     std::ostringstream oStr;
00074     for (PolicyList_T::const_iterator itP = _convexHull.begin();
00075          itP != _convexHull.end(); ++itP) {
00076         const Policy* lPolicy = *itP;
00077         assert (lPolicy != NULL);
00078         oStr << lPolicy->toString();
00079     }
00080     return oStr.str();
00081 }
00082
00083 ///////////////////////////////////////////////////////////////////
00084 void SegmentCabin::
00085 updateFromReservation (const NbOfBookings_T& iNbOfBookings) {
00086     _committedSpace += iNbOfBookings;
00087 }
00088
00089 ///////////////////////////////////////////////////////////////////
00090 void SegmentCabin::addPolicy (Policy& ioPolicy) {
00091     _convexHull.push_back (&ioPolicy);
00092 }
00093 }
00094

```

## 33.441 stdair/bom/SegmentCabin.hpp File Reference

```
#include <iostream>
```

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/SegmentCabinKey.hpp>
#include <stdair/bom/SegmentCabinTypes.hpp>
#include <stdair/bom/PolicyTypes.hpp>
```

## Classes

- class `stdair::SegmentCabin`

*Class representing the actual attributes for an airline segment-cabin.*

## Namespaces

- `boost`  
*Forward declarations.*
- `boost::serialization`
- `stdair`

*Handle on the StdAir library context.*

## 33.442 SegmentCabin.hpp

```
00001 #ifndef __STDAIR_BOM_SEGMENTCABIN_HPP
00002 #define __STDAIR_BOM_SEGMENTCABIN_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/SegmentCabinKey.hpp>
00014 #include <stdair/bom/SegmentCabinTypes.hpp>
00015 #include <stdair/bom/PolicyTypes.hpp>
00016
00017 namespace boost {
00018     namespace serialization {
00019         class access;
00020     }
00021 }
00022 }
00023
00024 namespace stdair {
00025     // Forward declarations
00026     class SegmentSnapshotTable;
00027     class Policy;
00028
00029     class SegmentCabin : public BomAbstract {
00030         template <typename BOM> friend class FacBom;
00031         template <typename BOM> friend class FacCloneBom;
00032         friend class FacBomManager;
00033         friend class boost::serialization::access;
00034
00035     public:
00036         // ////////////////// Type definitions ///////////////////
00037         typedef SegmentCabinKey Key_T;
00038
00039         const Key_T& getKey() const {
00040             return _key;
00041         }
00042
00043         BomAbstract* const getParent() const {
00044             return _parent;
00045         }
00046
00047         const HolderMap_T& getHolderMap() const {
```

```
00067     return _holderMap;
00068 }
00069
00073 const CabinCode_T& getCabinCode() const {
00074     return _key.getCabinCode();
00075 }
00076
00078 const MapKey_T getFullerKey() const;
00079
00081 const SegmentSnapshotTable& getSegmentSnapshotTable() const
{
00082     assert (_segmentSnapshotTable != NULL);
00083     return *_segmentSnapshotTable;
00084 }
00085
00086
00088 const CabinCapacity_T& getCapacity() const {
00089     return _capacity;
00090 }
00091
00093 const BlockSpace_T& getBlockSpace() const {
00094     return _blockSpace;
00095 }
00096
00098 const BlockSpace_T& getMIN() const {
00099     return _min;
00100 }
00101
00103 const UPR_T& getUPR() const {
00104     return _upr;
00105 }
00106
00108 const NbOfBookings_T& getBookingCounter() const {
00109     return _bookingCounter;
00110 }
00111
00115 const CommittedSpace_T& getCommittedSpace() const {
00116     return _committedSpace;
00117 }
00118
00122 const Availability_T& getAvailabilityPool() const {
00123     return _availabilityPool;
00124 }
00125
00129 const BidPrice_T& getCurrentBidPrice() const {
00130     return _currentBidPrice;
00131 }
00132
00136 const BidPriceVector_T& getBidPriceVector() const {
00137     return _bidPriceVector;
00138 }
00139
00143 const bool getFareFamilyStatus() const {
00144     return _fareFamilyActivation;
00145 }
00146
00149 const PolicyList_T& getConvexHull() const {
00150     return _convexHull;
00151 }
00152
00153 public:
00154 // /////////// Setters ///////////
00155 void setSegmentSnapshotTable (SegmentSnapshotTable& ioTable)
{
00156     _segmentSnapshotTable = &ioTable;
00157 }
00158
00159 void setCapacity (const CabinCapacity_T& iCapacity) {
00160     _capacity = iCapacity;
00161 }
00162
00163 void setBlockSpace (const BlockSpace_T& iBlockSpace) {
00164     _blockSpace = iBlockSpace;
00165 }
00166
00167 void setMIN (const BlockSpace_T& iMIN) {
00168     _min = iMIN;
00169 }
00170
00171 void setUPR (const UPR_T& iUPR) {
00172     _upr = iUPR;
00173 }
00174
00175 void setBookingCounter (const NbOfBookings_T& iBookingCounter) {
00176     _bookingCounter = iBookingCounter;
00177 }
00178
00179 void setCommittedSpace (const CommittedSpace_T& iCommittedSpace) {
```

```

00182     _committedSpace = iCommittedSpace;
00183 }
00184
00185 void setAvailabilityPool (const Availability_T& iAvailabilityPool) {
00186     _availabilityPool = iAvailabilityPool;
00187 }
00188
00189
00190 void setBidPriceVector (const BidPriceVector_T& iBPV) {
00191     _bidPriceVector = iBPV;
00192 }
00193
00194
00195 void activateFareFamily () {
00196     _fareFamilyActivation = true;
00197 }
00198
00199
00200 public:
00201 // ////////// Business methods ///////////
00202 void updateFromReservation (const NbOfBookings_T&);
00203
00204
00205 void resetConvexHull () { _convexHull.clear(); }
00206
00207 void addPolicy (Policy&);
00208
00209
00210 public:
00211 // ////////// Display support methods ///////////
00212 void toStream (std::ostream& ioOut) const {
00213     ioOut << toString();
00214 }
00215
00216 void fromStream (std::istream& ioIn) {
00217 }
00218
00219 std::string toString() const;
00220
00221 const std::string describeKey() const {
00222     return _key.toString();
00223 }
00224
00225 const std::string describeConvexHull() const;
00226
00227
00228 public:
00229 // ////////// (Boost) Serialisation support methods ///////////
00230 template<class Archive>
00231 void serialize (Archive& ar, const unsigned int iFileVersion);
00232
00233
00234 private:
00235     void serialisationImplementationExport() const;
00236     void serialisationImplementationImport();
00237
00238
00239 protected:
00240 // ////////// Constructors and destructors ///////////
00241 SegmentCabin (const Key_T&);
00242
00243 virtual ~SegmentCabin();
00244
00245
00246 private:
00247     SegmentCabin();
00248
00249 SegmentCabin (const SegmentCabin&);
00250
00251
00252 protected:
00253 // ////////// Attributes ///////////
00254 Key_T _key;
00255
00256 BomAbstract* _parent;
00257
00258 HolderMap_T _holderMap;
00259
00260 SegmentSnapshotTable* _segmentSnapshotTable;
00261
00262 CabinCapacity_T _capacity;
00263
00264 BlockSpace_T _blockSpace;
00265
00266 BlockSpace_T _min;
00267
00268 UPR_T _upr;
00269
00270 NbOfBookings_T _bookingCounter;
00271
00272 CommittedSpace_T _committedSpace;
00273
00274 Availability_T _availabilityPool;
00275
00276

```

```

00339     BidPriceVector_T _bidPriceVector;
00340
00342     BidPrice_T _currentBidPrice;
00343
00345     bool _fareFamilyActivation;
00346
00348     PolicyList_T _convexHull;
00349
00350 };
00351
00352 }
00353 #endif // __STDAIR_BOM_SEGMENTCABIN_HPP
00354

```

### 33.443 stdair/bom/SegmentCabinKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/SegmentCabinKey.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- template void **stdair::SegmentCabinKey::serialize< ba::text\_oarchive >** (ba::text\_oarchive &, unsigned int)
- template void **stdair::SegmentCabinKey::serialize< ba::text\_iarchive >** (ba::text\_iarchive &, unsigned int)

### 33.444 SegmentCabinKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/SegmentCabinKey.hpp>
00014
00015 namespace stdair {
00016
00017 // /////////////////////////////////
00018 SegmentCabinKey::SegmentCabinKey() : _cabinCode (DEFAULT_CABIN_CODE) {
00019     assert (false);
00020 }
00021
00022 // /////////////////////////////////
00023 SegmentCabinKey::SegmentCabinKey (const CabinCode_T& iCabinCode)
00024     : _cabinCode (iCabinCode) {
00025 }
00026
00027 // /////////////////////////////////
00028 SegmentCabinKey::SegmentCabinKey (const SegmentCabinKey& iKey)
00029     : _cabinCode (iKey._cabinCode) {
00030 }
00031
00032 // /////////////////////////////////
00033 SegmentCabinKey::~SegmentCabinKey () {

```

```

00034     }
00035
00036 // /////////////////////////////////
00037 void SegmentCabinKey::toStream (std::ostream& ioOut) const {
00038     ioOut << "SegmentCabinKey: " << toString();
00039 }
00040
00041 // /////////////////////////////////
00042 void SegmentCabinKey::fromStream (std::istream& ioIn) {
00043 }
00044
00045 // /////////////////////////////////
00046 const std::string SegmentCabinKey::toString() const {
00047     std::ostringstream oStr;
00048     oStr << _cabinCode;
00049     return oStr.str();
00050 }
00051
00052 // /////////////////////////////////
00053 void SegmentCabinKey::serialisationImplementationExport() const {
00054     std::ostringstream oStr;
00055     boost::archive::text_oarchive oa (oStr);
00056     oa << *this;
00057 }
00058
00059 // /////////////////////////////////
00060 void SegmentCabinKey::serialisationImplementationImport() {
00061     std::istringstream iStr;
00062     boost::archive::text_iarchive ia (iStr);
00063     ia >> *this;
00064 }
00065
00066 // /////////////////////////////////
00067 template<class Archive>
00068 void SegmentCabinKey::serialize (Archive& ioArchive,
00069                                     const unsigned int iFileVersion) {
00070     ioArchive & _cabinCode;
00071 }
00072
00073 // /////////////////////////////////
00074 // Explicit template instantiation
00075 namespace ba = boost::archive;
00076 template void SegmentCabinKey::
00077     serialize<ba::text_oarchive> (ba::text_oarchive&, unsigned int);
00078 template void SegmentCabinKey::
00079     serialize<ba::text_iarchive> (ba::text_iarchive&, unsigned int);
00080
00081 // /////////////////////////////////
00082
00083
00084 // /////////////////////////////////
00085
00086 }

```

### 33.445 stdair/bom/SegmentCabinKey.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>

```

#### Classes

- struct [stdair::SegmentCabinKey](#)

*Key of a given segment-cabin, made of a cabin code (only).*

#### Namespaces

- [boost](#)

*Forward declarations.*

- [boost::serialization](#)

- [stdair](#)

*Handle on the StdAir library context.*

### 33.446 SegmentCabinKey.hpp

```

00001 #ifndef __STDAIR_BOM_SEGMENTCABINKEY_HPP
00002 #define __STDAIR_BOM_SEGMENTCABINKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023   struct SegmentCabinKey : public KeyAbstract {
00024     friend class boost::serialization::access;
00025
00026     // ////////////////// Constructors and destructors //////////////////
00027   private:
00028     SegmentCabinKey();
00029
00030   public:
00031     SegmentCabinKey (const CabinCode_T& iCabinCode);
00032
00033     SegmentCabinKey (const SegmentCabinKey&);
00034
00035     ~SegmentCabinKey();
00036
00037
00038   public:
00039     // ////////////////// Getters //////////////////
00040     const CabinCode_T& getCabinCode() const {
00041       return _cabinCode;
00042     }
00043
00044
00045   public:
00046     // ////////////////// Display support methods //////////////////
00047     void toStream (std::ostream& ioOut) const;
00048
00049     void fromStream (std::istream& ioIn);
00050
00051     const std::string toString() const;
00052
00053
00054   public:
00055     // ////////////////// (Boost) Serialisation support methods //////////////////
00056     template<class Archive>
00057     void serialize (Archive& ar, const unsigned int iFileVersion);
00058
00059
00060   private:
00061     void serialisationImplementationExport() const;
00062     void serialisationImplementationImport();
00063
00064
00065   private:
00066     // ////////////////// Attributes //////////////////
00067     CabinCode_T _cabinCode;
00068   };
00069 }
00070
00071 #endif // __STDAIR_BOM_SEGMENTCABINKEY_HPP

```

### 33.447 stdair/bom/SegmentCabinTypes.hpp File Reference

```

#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## TypeDefs

- **typedef std::list< SegmentCabin \* > stdair::SegmentCabinList\_T**
- **typedef std::map< const MapKey\_T, SegmentCabin \* > stdair::SegmentCabinMap\_T**

### 33.448 SegmentCabinTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_SEGMENTCABINTYPES_HPP
00003 #define __STDAIR_BOM_SEGMENTCABINTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class SegmentCabin;
00018
00020 typedef std::list<SegmentCabin*> SegmentCabinList_T;
00021
00023 typedef std::map<const MapKey_T, SegmentCabin*> SegmentCabinMap_T;
00024
00025 }
00026 #endif // __STDAIR_BOM_SEGMENTCABINTYPES_HPP
00027

```

### 33.449 stdair/bom/SegmentDate.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>

```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.450 SegmentDate.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/basic/BasConst_Inventory.hpp>

```

```

00010 #include <stdair/bom/BomManager.hpp>
00011 #include <stdair/bom/SegmentDate.hpp>
00012 #include <stdair/bom/SegmentCabin.hpp>
00013
00014 namespace stdair {
00015
00016 // /////////////////////////////////////////////////
00017 SegmentDate::SegmentDate()
00018   : _key (DEFAULT_ORIGIN, DEFAULT_DESTINATION), _parent (NULL),
00019   _operatingSegmentDate (NULL) {
00020   assert (false);
00021 }
00022
00023 // /////////////////////////////////////////////////
00024 SegmentDate::SegmentDate (const SegmentDate& iSegmentDate)
00025   : _key (iSegmentDate._key),
00026   _parent (NULL),
00027   _operatingSegmentDate (NULL),
00028   _boardingDate (iSegmentDate._boardingDate),
00029   _boardingTime (iSegmentDate._boardingTime),
00030   _offDate (iSegmentDate._offDate),
00031   _offTime (iSegmentDate._offTime),
00032   _elapsedTime (iSegmentDate._elapsedTime),
00033   _distance (iSegmentDate._distance),
00034   _routingLegKeyList (iSegmentDate._routingLegKeyList) {
00035 }
00036
00037 // /////////////////////////////////////////////////
00038 SegmentDate::SegmentDate (const Key_T& iKey)
00039   : _key (iKey), _parent (NULL) ,
00040   _operatingSegmentDate (NULL) {
00041 }
00042
00043 // /////////////////////////////////////////////////
00044 SegmentDate::~SegmentDate() {
00045 }
00046
00047 // /////////////////////////////////////////////////
00048 std::string SegmentDate::toString() const {
00049   std::ostringstream oStr;
00050   oStr << describeKey();
00051   return oStr.str();
00052 }
00053
00054 // /////////////////////////////////////////////////
00055 const Duration_T SegmentDate::getTimeOffset() const {
00056   // TimeOffset = (Offtime - BoardingTime) + (OffDate - BoardingDate) * 24
00057   //           - ElapsedTime
00058   Duration_T oTimeOffset = (_offTime - _boardingTime);
00059   const DateOffset_T lDateOffset = getDateOffset();
00060   const Duration_T lDateOffsetInHours (lDateOffset.days() * 24, 0, 0);
00061   oTimeOffset += lDateOffsetInHours - _elapsedTime;
00062   return oTimeOffset;
00063 }
00064 }
00065

```

### 33.451 stdair/bom/SegmentDate.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/SegmentDateKey.hpp>
#include <stdair/bom/SegmentDateTypes.hpp>

```

#### Classes

- class **stdair::SegmentDate**

*Class representing the actual attributes for an airline segment-date.*

## Namespaces

- **boost**  
*Forward declarations.*
  - **boost::serialization**
  - **stdair**  
*Handle on the StdAir library context.*

## TypeDefs

- `typedef std::list< std::string > stdair::RoutingLegKeyList_T`

## 33.452 SegmentDate.hpp

```

00091     return _boardingDate;
00092 }
00093
00097 const Duration_T& getBoardingTime() const {
00098     return _boardingTime;
00099 }
00100
00104 const Date_T& getOffDate() const {
00105     return _offDate;
00106 }
00107
00111 const Duration_T& getOffTime() const {
00112     return _offTime;
00113 }
00114
00118 const Duration_T& getElapsedTime() const {
00119     return _elapsedTime;
00120 }
00121
00125 const Distance_T& getDistance() const {
00126     return _distance;
00127 }
00128
00132 const DateOffset_T getDateOffset() const {
00133     return _offDate - _boardingDate;
00134 }
00135
00144 const Duration_T getTimeOffset() const;
00145
00149 SegmentDate* getOperatingSegmentDate () const {
00150     return _operatingSegmentDate;
00151 }
00152
00156 const SegmentDateList_T& getMarketingSegmentDateList () const {
00157     return _marketingSegmentDateList;
00158 }
00159
00163 const RoutingLegKeyList_T& getLegKeyList () const {
00164     return _routingLegKeyList;
00165 }
00166
00167 public:
00168 // /////////// Setters ///////////
00172 void setBoardingDate (const Date_T& iBoardingDate) {
00173     _boardingDate = iBoardingDate;
00174 }
00175
00179 void setBoardingTime (const Duration_T& iBoardingTime) {
00180     _boardingTime = iBoardingTime;
00181 }
00182
00186 void setOffDate (const Date_T& iOffDate) {
00187     _offDate = iOffDate;
00188 }
00189
00193 void setOffTime (const Duration_T& iOffTime) {
00194     _offTime = iOffTime;
00195 }
00196
00200 void setElapsedTime (const Duration_T& iElapsedTime) {
00201     _elapsedTime = iElapsedTime;
00202 }
00203
00207 void setDistance (const Distance_T& iDistance) {
00208     _distance = iDistance;
00209 }
00210
00214 void addLegKey (const std::string& iLegKey) {
00215     _routingLegKeyList.push_back(iLegKey);
00216 }
00217
00218 private:
00222 void linkWithOperating (SegmentDate& iSegmentDate) {
00223     _operatingSegmentDate = &iSegmentDate;
00224 }
00225
00226 public:
00227 // /////////// Display support methods ///////////
00233 void toStream (std::ostream& ioOut) const {
00234     ioOut << toString();
00235 }
00236
00242 void fromStream (std::istream& ioIn) {
00243 }
00244
00248 std::string toString() const;

```

```

00249
00250     const std::string describeKey() const {
00251         return _key.toString();
00252     }
00253
00254
00255
00256
00257
00258 public:
00259     // ////////// (Boost) Serialisation support methods //////////
00260     template<class Archive>
00261     void serialize (Archive& ar, const unsigned int iFileVersion);
00262
00263
00264 private:
00265     void serialisationImplementationExport() const;
00266     void serialisationImplementationImport();
00267
00268 protected:
00269     // ////////// Constructors and destructors //////////
00270     SegmentDate (const Key_T&);
00271
00272     virtual ~SegmentDate();
00273
00274 private:
00275     SegmentDate();
00276
00277     SegmentDate (const SegmentDate&);
00278
00279 protected:
00280     // ////////// Attributes //////////
00281     Key_T _key;
00282
00283     BomAbstract* _parent;
00284
00285     HolderMap_T _holderMap;
00286
00287     SegmentDate* _operatingSegmentDate;
00288
00289     SegmentDateList_T _marketingSegmentDateList;
00290
00291     Date_T _boardingDate;
00292
00293     Duration_T _boardingTime;
00294
00295     Date_T _offDate;
00296
00297     Duration_T _offTime;
00298
00299     Duration_T _elapsedTime;
00300
00301     Distance_T _distance;
00302
00303     RoutingLegKeyList_T _routingLegKeyList;
00304
00305 };
00306
00307 }
00308
00309 #endif // __STDAIR_BOM_SEGMENTDATE_HPP
00310
00311
00312
00313
00314
00315
00316
00317
00318
00319
00320
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00369
00370
00371
00372
00373

```

### 33.453 stdair/bom/SegmentDateKey.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/SegmentDateKey.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

## Functions

- template void `stdair::SegmentDateKey::serialize< ba::text_oarchive >` (ba::text\_oarchive &, unsigned int)
- template void `stdair::SegmentDateKey::serialize< ba::text_iarchive >` (ba::text\_iarchive &, unsigned int)

## 33.454 SegmentDateKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/basic/BasConst_BomDisplay.hpp>
00014 #include <stdair/bom/SegmentDateKey.hpp>
00015
00016 namespace stdair {
00017
00018 // ///////////////////////////////
00019 SegmentDateKey::SegmentDateKey()
00020   : _boardingPoint (DEFAULT_ORIGIN), _offPoint (
00021     DEFAULT_DESTINATION) {
00022   assert (false);
00023 }
00024
00025 SegmentDateKey::SegmentDateKey (const AirportCode_T& iBoardingPoint,
00026                                   const AirportCode_T& iOffPoint)
00027   : _boardingPoint (iBoardingPoint), _offPoint (iOffPoint) {
00028 }
00029
00030
00031 SegmentDateKey::SegmentDateKey (const SegmentDateKey& iKey)
00032   : _boardingPoint (iKey._boardingPoint), _offPoint (iKey._offPoint) {
00033 }
00034
00035
00036 SegmentDateKey::~SegmentDateKey() {
00037 }
00038
00039
00040 void SegmentDateKey::toStream (std::ostream& ioOut) const {
00041   ioOut << "SegmentDateKey: " << toString() << std::endl;
00042 }
00043
00044
00045 void SegmentDateKey::fromStream (std::istream& ioIn) {
00046 }
00047
00048
00049 const std::string SegmentDateKey::toString() const {
00050   std::ostringstream oStr;
00051   oStr << _boardingPoint
00052     << DEFAULT_KEY_SUB_FLD_DELIMITER << " " << _offPoint;
00053   return oStr.str();
00054 }
00055
00056
00057 void SegmentDateKey::serialisationImplementationExport() const {
00058   std::ostringstream ostr;
00059   boost::archive::text_oarchive oa (ostr);
00060   oa << *this;
00061 }
00062
00063
00064 void SegmentDateKey::serialisationImplementationImport() {
00065   std::istringstream iStr;
00066   boost::archive::text_iarchive ia (iStr);
00067   ia >> *this;
00068 }
00069
00070
00071 template<class Archive>
00072 void SegmentDateKey::serialize (Archive& ioArchive,
00073                                 const unsigned int iFileVersion) {
00074   ioArchive & _boardingPoint & _offPoint;
00075 }
```

```

00076 // ///////////////////////////////////////////////////////////////////
00077 // Explicit template instantiation
00078 namespace ba = boost::archive;
00079 template void SegmentDateKey::serialize<ba::text_oarchive>(ba::text_oarchive&,
00080                                         unsigned int);
00081 template void SegmentDateKey::serialize<ba::text_iarchive>(ba::text_iarchive&,
00082                                         unsigned int);
00083 // ///////////////////////////////////////////////////////////////////
00084
00085
00086 }

```

### 33.455 stdair/bom/SegmentDateKey.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct **stdair::SegmentDateKey**

*Key of a given segment-date, made of an origin and a destination airports.*

#### Namespaces

- **boost**

*Forward declarations.*

- **boost::serialization**

- **stdair**

*Handle on the StdAir library context.*

### 33.456 SegmentDateKey.hpp

```

00001 #ifndef __STDAIR_BOM_SEGMENTDATEKEY_HPP
00002 #define __STDAIR_BOM_SEGMENTDATEKEY_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/KeyAbstract.hpp>
00010
00012 namespace boost {
00013     namespace serialization {
00014         class access;
00015     }
00016 }
00017
00018 namespace stdair {
00019
00024     struct SegmentDateKey : public KeyAbstract {
00025         friend class boost::serialization::access;
00026
00027         // /////////////////////////////////////////////////////////////////// Constructors and destructors ///////////////////////////////////////////////////////////////////
00028     private:
00032         SegmentDateKey();
00033
00034     public:
00038         SegmentDateKey (const AirportCode_T&, const
00039                         AirportCode_T&);
00042         SegmentDateKey (const SegmentDateKey&);
00046         ~SegmentDateKey();
00047
00048
00049     // /////////////////////////////////////////////////////////////////// Getters ///////////////////////////////////////////////////////////////////
00051     const AirportCode_T& getBoardingPoint() const {
00052         return _boardingPoint;
00053     }
00054

```

```

00056     const AirportCode_T& getOffPoint() const {
00057         return _offPoint;
00058     }
00059
00060
00061     // /////////// Display support methods ///////////
00062     void toStream (std::ostream& ioOut) const;
00063
00064     void fromStream (std::istream& ioIn);
00065
00066     const std::string toString() const;
00067
00068
00069     public:
00070     // /////////// (Boost) Serialisation support methods ///////////
00071     template<class Archive>
00072     void serialize (Archive& ar, const unsigned int iFileVersion);
00073
00074     private:
00075         void serialisationImplementationExport() const;
00076         void serialisationImplementationImport();
00077
00078
00079     private:
00080     // /////////// Attributes ///////////
00081     AirportCode_T _boardingPoint;
00082
00083     AirportCode_T _offPoint;
00084 };
00085
00086
00087
00088 #endif // __STDAIR_BOM_SEGMENTDATEKEY_HPP

```

### 33.457 stdair/bom/SegmentDateTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< SegmentDate \* > stdair::SegmentDateList\_T**
- **typedef std::map< const MapKey\_T, SegmentDate \* > stdair::SegmentDateMap\_T**

### 33.458 SegmentDateTypes.hpp

```

00001 // /////////// SegmentDateTypes.hpp ///////////
00002 #ifndef __STDAIR_BOM_SEGMENTDATETYPES_HPP
00003 #define __STDAIR_BOM_SEGMENTDATETYPES_HPP
00004
00005 // /////////// Import section ///////////
00006 // Import section
00007 // /////////// STL ///////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class SegmentDate;
00018
00019     typedef std::list<SegmentDate*> SegmentDateList_T;
00020
00021

```

```

00023     typedef std::map<const MapKey_T, SegmentDate*> SegmentDateMap_T;
00024 }
00025
00026 #endif // __STDAIR_BOM_SEGMENTDATETYPES_HPP
00027

```

### 33.459 stdair/bom/SegmentPeriod.cpp File Reference

```

#include <cassert>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/bom/SegmentPeriod.hpp>

```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.460 SegmentPeriod.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // STDAIR
00007 #include <stdair/basic/BasConst_BookingClass.hpp>
00008 #include <stdair/bom/SegmentPeriod.hpp>
00009
00010 namespace stdair {
00011
00012 // ///////////////////////////////////////////////////////////////////
00013 SegmentPeriod::SegmentPeriod (const Key_T& iKey)
00014 : _key (iKey), _parent (NULL), _boardingDateOffset (0), _offDateOffset (0) {
00015 }
00016
00017 // ///////////////////////////////////////////////////////////////////
00018 SegmentPeriod::SegmentPeriod (const SegmentPeriod& iSegmentPeriod)
00019 : _key (iSegmentPeriod.getKey()),
00020   _parent (NULL),
00021   _boardingTime (iSegmentPeriod._boardingTime),
00022   _offTime (iSegmentPeriod._offTime),
00023   _boardingDateOffset (iSegmentPeriod._boardingDateOffset),
00024   _offDateOffset (iSegmentPeriod._offDateOffset),
00025   _elapsedTime (iSegmentPeriod._elapsedTime) {
00026 }
00027
00028 // ///////////////////////////////////////////////////////////////////
00029 SegmentPeriod::~SegmentPeriod () {
00030 }
00031
00032 // ///////////////////////////////////////////////////////////////////
00033 std::string SegmentPeriod::toString() const {
00034   std::ostringstream oStr;
00035   oStr << describeKey();
00036   return oStr.str();
00037 }
00038
00039 // ///////////////////////////////////////////////////////////////////
00040 void SegmentPeriod::
00041 addCabinBookingClassList (const CabinCode_T& iCabinCode,
00042                           const ClassList_String_T& iClassCodeList) {
00043   const bool insert = _cabinBookingClassMap.
00044     insert (CabinBookingClassMap_T::value_type (iCabinCode,
00045                                               iClassCodeList)).second;
00046   assert (insert == true);
00047 }
00048
00049 }

```

### 33.461 stdair/bom/SegmentPeriod.hpp File Reference

```

#include <stdair/bom/BomAbstract.hpp>

```

```
#include <stdair/bom/SegmentPeriodKey.hpp>
#include <stdair/bom/SegmentPeriodTypes.hpp>
```

## Classes

- class stdair::SegmentPeriod

## Namespaces

- stdair

*Handle on the StdAir library context.*

## 33.462 SegmentPeriod.hpp

```
00001 #ifndef __STDAIR_BOM_SEGMENTPERIOD_HPP
00002 #define __STDAIR_BOM_SEGMENTPERIOD_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/SegmentPeriodKey.hpp>
00010 #include <stdair/bom/SegmentPeriodTypes.hpp>
00011
00012 namespace stdair {
00013
00015   class SegmentPeriod : public BomAbstract {
00016     template <typename BOM> friend class FacBom;
00017     template <typename BOM> friend class FacCloneBom;
00018     friend class FacBomManager;
00019
00020   public:
00021     // Type definitions.
00023     typedef SegmentPeriodKey Key_T;
00024
00025   public:
00026     // ////////////////// Getters //////////////////
00028     const Key_T& getKey() const { return _key; }
00029
00031     BomAbstract* const getParent() const { return _parent; }
00032
00034     const AirportCode_T& getBoardingPoint () const {
00035       return _key.getBoardingPoint();
00036     }
00037
00039     const AirportCode_T& getOffPoint () const { return
00040       _key.getOffPoint(); }
00041
00042     const Duration_T& getBoardingTime () const { return
00043       _boardingTime; }
00044
00045     const Duration_T& getOffTime () const { return _offTime; }
00046
00048     const DateOffset_T& getBoardingDateOffset () const {
00049       return _boardingDateOffset;
00050     }
00051
00053     const DateOffset_T& getOffDateOffset () const { return
00054       _offDateOffset; }
00055
00056     const Duration_T& getElapsedTime() const { return
00057       _elapsedTime; }
00058
00059     const CabinBookingClassMap_T& getCabinBookingClassMap ()
00060     const {
00061       return _cabinBookingClassMap;
00062     }
00063
00064     const HolderMap_T& getHolderMap() const { return
00065       _holderMap; }
00066
00067   public:
00068     // ////////////////// Setters //////////////////
00069     void setBoardingTime (const Duration_T& iBoardingTime) {
```

```

00070     _boardingTime = iBoardingTime;
00071 }
00072
00074 void setOffTime (const Duration_T& iOffTime) { _offTime = iOffTime; }
00075
00077 void setBoardingDateOffset (const DateOffset_T& iDateOffset) {
00078     _boardingDateOffset = iDateOffset;
00079 }
00080
00082 void setOffDateOffset (const DateOffset_T& iDateOffset) {
00083     _offDateOffset = iDateOffset;
00084 }
00085
00087 void setElapsedTime (const Duration_T& iElapsedTime) {
00088     _elapsedTime = iElapsedTime;
00089 }
00090
00093 void addCabinBookingClassList (const CabinCode_T&,
00094 const ClassList_String_T&);
00095
00096 public:
00097 // /////////// Display support methods ///////////
00100 void toStream (std::ostream& ioOut) const { ioOut << toString(); }
00101
00104 void fromStream (std::istream& ioIn) { }
00105
00107 std::string toString() const;
00108
00110 const std::string describeKey() const { return _key.toString(); }
00111
00112 protected:
00113 // /////////// Constructors and destructors ///////////
00117 SegmentPeriod (const Key_T&);
00121 virtual ~SegmentPeriod();
00122
00123 private:
00127 SegmentPeriod();
00131 SegmentPeriod (const SegmentPeriod&);
00132
00133 protected:
00134 // Attributes
00135 Key_T _key;
00136 BomAbstract* _parent;
00137 Duration_T _boardingTime;
00138 Duration_T _offTime;
00139 DateOffset_T _boardingDateOffset;
00140 DateOffset_T _offDateOffset;
00141 Duration_T _elapsedTime;
00142 CabinBookingClassMap_T _cabinBookingClassMap;
00143 HolderMap_T _holderMap;
00144 };
00145
00146 }
00147 #endif // __STDAIR_BOM_SEGMENTPERIOD_HPP
00148

```

### 33.463 stdair/bom/SegmentPeriodKey.cpp File Reference

```
#include <sstream>
#include <stdair/bom/SegmentPeriodKey.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.464 SegmentPeriodKey.cpp

```

00001 // /////////// Import section ///////////
00002 // Import section
00003 // /////////// STL ///////////
00004 // STL
00005 #include <sstream>
00006 // StdAir
00007 #include <stdair/bom/SegmentPeriodKey.hpp>

```

```

00008
00009 namespace stdair {
00010
00011 // /////////////////////////////////
00012 SegmentPeriodKey::SegmentPeriodKey (const AirportCode_T& iBoardingPoint,
00013           const AirportCode_T& iOffPoint)
00014   : _boardingPoint (iBoardingPoint), _offPoint (iOffPoint) {
00015 }
00016
00017 // /////////////////////////////////
00018 SegmentPeriodKey::SegmentPeriodKey (const SegmentPeriodKey& iKey)
00019   : _boardingPoint (iKey._boardingPoint), _offPoint (iKey._offPoint) {
00020 }
00021
00022 // /////////////////////////////////
00023 SegmentPeriodKey::~SegmentPeriodKey () {
00024 }
00025
00026 // /////////////////////////////////
00027 void SegmentPeriodKey::toStream (std::ostream& ioOut) const {
00028   ioOut << "SegmentPeriodKey: " << toString() << std::endl;
00029 }
00030
00031 // /////////////////////////////////
00032 void SegmentPeriodKey::fromStream (std::istream& ioIn) {
00033 }
00034
00035 // /////////////////////////////////
00036 const std::string SegmentPeriodKey::toString() const {
00037   std::ostringstream oStr;
00038   oStr << _boardingPoint << "-" << _offPoint;
00039   return oStr.str();
00040 }
00041
00042 }

```

### 33.465 stdair/bom/SegmentPeriodKey.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::SegmentPeriodKey](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.466 SegmentPeriodKey.hpp

```

00001 #ifndef __STDAIR_BOM_SEGMENTPERIODKEY_HPP
00002 #define __STDAIR_BOM_SEGMENTPERIODKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/KeyAbstract.hpp>
00010
00011 namespace stdair {
00012
00014 struct SegmentPeriodKey : public KeyAbstract {
00015
00016 private:
00017   // ////////////////// Default constructor //////////////////
00018   SegmentPeriodKey () { };
00019
00020 public:
00021   // ////////////////// Construction //////////////////
00022   SegmentPeriodKey (const AirportCode_T&, const

```

```

    AirportCode_T&);
00023     SegmentPeriodKey (const SegmentPeriodKey&);
00025     ~SegmentPeriodKey ();
00026
00027     // /////////// Getters ///////////
00029     const AirportCode_T& getBoardingPoint() const {
00030         return _boardingPoint;
00031     }
00032
00034     const AirportCode_T& getOffPoint() const {
00035         return _offPoint;
00036     }
00037
00038     // /////////// Display support methods ///////////
00041     void toStream (std::ostream& ioOut) const;
00042
00045     void fromStream (std::istream& ioIn);
00046
00052     const std::string toString() const;
00053
00054 private:
00055     // Attributes
00056     AirportCode_T _boardingPoint;
00058
00060     AirportCode_T _offPoint;
00061 };
00062
00063 }
00064 #endif // __STDAIR_BOM_SEGMENTPERIODKEY_HPP

```

### 33.467 stdair/bom/SegmentPeriodTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< SegmentPeriod \* > stdair::SegmentPeriodList\_T**
- **typedef std::map< const MapKey\_T, SegmentPeriod \* > stdair::SegmentPeriodMap\_T**
- **typedef std::pair< MapKey\_T, SegmentPeriod \* > stdair::SegmentPeriodWithKey\_T**
- **typedef std::list< SegmentPeriodWithKey\_T > stdair::SegmentPeriodDetailedList\_T**

### 33.468 SegmentPeriodTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_SEGMENTPERIODTYPES_HPP
00003 #define __STDAIR_BOM_SEGMENTPERIODTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     class SegmentPeriod;
00018
00020     typedef std::list<SegmentPeriod*> SegmentPeriodList_T;
00021

```

```

00023     typedef std::map<const MapKey_T, SegmentPeriod*> SegmentPeriodMap_T;
00024
00026     typedef std::pair<MapKey_T, SegmentPeriod*> SegmentPeriodWithKey_T;
00027     typedef std::list<SegmentPeriodWithKey_T> SegmentPeriodDetailedList_T;
00028 }
00029 #endif // __STDAIR_BOM_SEGMENTPERIODTYPES_HPP
00030

```

### 33.469 stdair/bom/SegmentSnapshotTable.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <boost/multi_array.hpp>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/SegmentSnapshotTable.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.470 SegmentSnapshotTable.cpp

```

00001 // ////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost
00008 #include <boost/multi_array.hpp>
00009 // Boost.Serialization
00010 #include <boost/archive/text_iarchive.hpp>
00011 #include <boost/archive/text_oarchive.hpp>
00012 #include <boost/serialization/access.hpp>
00013 // StdAir
00014 #include <stdair/basic/BasConst_Inventory.hpp>
00015 #include <stdair/bom/BomManager.hpp>
00016 #include <stdair/bom/SegmentSnapshotTable.hpp>
00017
00018 namespace stdair {
00019
00020 // ////////////////////////////////
00021 SegmentSnapshotTable::SegmentSnapshotTable()
00022   : _key (DEFAULT_TABLE_ID), _parent (NULL) {
00023   assert (false);
00024 }
00025
00026 // ////////////////////////////////
00027 SegmentSnapshotTable::SegmentSnapshotTable (const SegmentSnapshotTable&)
00028   : _key (DEFAULT_TABLE_ID), _parent (NULL) {
00029   assert (false);
00030 }
00031
00032 // ////////////////////////////////
00033 SegmentSnapshotTable::
00034 SegmentSnapshotTable (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00035 }
00036
00037 // ////////////////////////////////
00038 SegmentSnapshotTable::~SegmentSnapshotTable() {
00039 }
00040
00041 // ////////////////////////////////
00042 std::string SegmentSnapshotTable::toString() const {
00043   std::ostringstream oStr;
00044   oStr << describeKey();

```

```

00045     return oStr.str();
00046 }
00047
00048 // /////////////////////////////////
00049 void SegmentSnapshotTable::
00050 initSnapshotBlocks (const SegmentCabinIndexMap_T&
00051   iSegmentCabinIndexMap,
00052   const ClassIndexMap_T& iClassIndexMap) {
00053   _segmentCabinIndexMap = iSegmentCabinIndexMap;
00054   _classIndexMap = iClassIndexMap;
00055
00056   unsigned int lNumberOfSegmentCabins = _segmentCabinIndexMap.size();
00057   unsigned int lNumberOfClasses = _classIndexMap.size();
00058
00059   // Initialise the snapshot blocks
00060   // Normally, the block includes snapshots from DTD MAX to DTD 0, thus
00061   // DEFAULT_MAX_DTD + 1 values. However, we would like to add the day
00062   // before DTD MAX (this value will be initialised to zero).
00063   _bookingSnapshotBlock.
00064   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00065           [DEFAULT_MAX_DTD + 2]);
00066   _cancellationSnapshotBlock.
00067   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00068           [DEFAULT_MAX_DTD + 2]);
00069   _productOrientedNetBookingSnapshotBlock.
00070   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00071           [DEFAULT_MAX_DTD + 2]);
00072   _priceOrientedNetBookingSnapshotBlock.
00073   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00074           [DEFAULT_MAX_DTD + 2]);
00075   _productOrientedGrossBookingSnapshotBlock.
00076   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00077           [DEFAULT_MAX_DTD + 2]);
00078   _priceOrientedGrossBookingSnapshotBlock.
00079   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00080           [DEFAULT_MAX_DTD + 2]);
00081   _availabilitySnapshotBlock.
00082   resize (boost::extents[lNumberOfSegmentCabins*lNumberOfClasses]
00083           [DEFAULT_MAX_DTD + 2]);
00084 }
00085
00086 // /////////////////////////////////
00087 const ClassIndex_T& SegmentSnapshotTable::
00088 getClassIndex (const MapKey_T& iKey) const {
00089   ClassIndexMap_T::const_iterator itVTIdx =
00090     _classIndexMap.find (iKey);
00091   assert (itVTIdx != _classIndexMap.end());
00092   return itVTIdx->second;
00093 }
00094
00095 // /////////////////////////////////
00096 const SegmentDataID_T& SegmentSnapshotTable::
00097 getSegmentDataID (const SegmentCabin& iSegmentCabin) const {
00098   SegmentCabinIndexMap_T::const_iterator itSCIIdx =
00099     _segmentCabinIndexMap.find (&iSegmentCabin);
00100   assert (itSCIIdx != _segmentCabinIndexMap.end());
00101   return itSCIIdx->second;
00102 }
00103
00104 // /////////////////////////////////
00105 ConstSegmentCabinDTDSnapshotView_T
00106 SegmentSnapshotTable::
00107   getConstSegmentCabinDTDBookingSnapshotView (const
00108     SegmentDataID_T iSCIIdxBegin,
00109     const SegmentDataID_T iSCIIdxEnd,
00110     const DTD_T iDTD) const {
00111   const unsigned int lNbOfClasses = _classIndexMap.size();
00112   const unsigned int lClassIdxBegin = iSCIIdxBegin * lNbOfClasses;
00113   const unsigned int lClassIdxEnd = (iSCIIdxEnd + 1) * lNbOfClasses;
00114
00115   return _bookingSnapshotBlock [ boost::indices[
00116     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00117
00118 // /////////////////////////////////
00119 ConstSegmentCabinDTDRangeSnapshotView_T
00120 SegmentSnapshotTable::
00121   getConstSegmentCabinDTDRangeBookingSnapshotView
00122   (const SegmentDataID_T iSCIIdxBegin, const SegmentDataID_T iSCIIdxEnd,
00123    const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00124   const unsigned int lNbOfClasses = _classIndexMap.size();
00125   const unsigned int lClassIdxBegin = iSCIIdxBegin * lNbOfClasses;
00126   const unsigned int lClassIdxEnd = (iSCIIdxEnd + 1) * lNbOfClasses;
00127
00128   return _bookingSnapshotBlock [ boost::indices[SnapshotBlockRange_T(lClassIdxBegin,
00129     lClassIdxEnd)][SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];

```

```

00126    }
00127
00128 ///////////////////////////////////////////////////////////////////
00129 SegmentCabinTDSnapshotView_T
00130 SegmentSnapshotTable:::
00131     getSegmentCabinTDBookingSnapshotView (const
00132     SegmentDataID_T iSCIdxBegin,
00133                                     const SegmentDataID_T iSCIdxEnd,
00134                                     const DTD_T iDTD) {
00135     const unsigned int lNbOfClasses = _classIndexMap.size();
00136     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00137     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00138
00139     return _bookingSnapshotBlock [ boost::indices[
00140     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00141 }
00142 ///////////////////////////////////////////////////////////////////
00143 SegmentCabinTDRangeSnapshotView_T
00144 SegmentSnapshotTable:::
00145     getSegmentCabinTDRangeBookingSnapshotView (const
00146     SegmentDataID_T iSCIdxBegin,
00147                                     const SegmentDataID_T iSCIdxEnd,
00148                                     const DTD_T iDTDBegin,
00149                                     const DTD_T iDTDEnd) {
00150     const unsigned int lNbOfClasses = _classIndexMap.size();
00151     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00152     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00153
00154     return _bookingSnapshotBlock [ boost::indices[
00155     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00156     SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00157 }
00158 ///////////////////////////////////////////////////////////////////
00159 ConstSegmentCabinTDSnapshotView_T
00160 SegmentSnapshotTable:::
00161     getConstSegmentCabinTDCancellationSnapshotView (const
00162     SegmentDataID_T iSCIdxBegin,
00163                                     const SegmentDataID_T iSCIdxEnd,
00164                                     const DTD_T iDTD) const {
00165     const unsigned int lNbOfClasses = _classIndexMap.size();
00166     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00167     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00168
00169     return _cancellationSnapshotBlock [ boost::indices[
00170     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00171 }
00172 ///////////////////////////////////////////////////////////////////
00173 ConstSegmentCabinTDRangeSnapshotView_T
00174 SegmentSnapshotTable:::
00175     getConstSegmentCabinTDRangeCancellationSnapshotView
00176     (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00177      const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00178     const unsigned int lNbOfClasses = _classIndexMap.size();
00179     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00180     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00181
00182     return _cancellationSnapshotBlock [ boost::indices[SnapshotBlockRange_T(
00183     lClassIdxBegin, lClassIdxEnd)][SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00184 }
00185 ///////////////////////////////////////////////////////////////////
00186 SegmentCabinTDSnapshotView_T
00187 SegmentSnapshotTable:::
00188     getSegmentCabinTDCancellationSnapshotView (const
00189     SegmentDataID_T iSCIdxBegin,
00190                                     const SegmentDataID_T iSCIdxEnd,
00191                                     const DTD_T iDTD) {
00192     const unsigned int lNbOfClasses = _classIndexMap.size();
00193
00194     return _cancellationSnapshotBlock [ boost::indices[
00195     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00196 }
00197 ///////////////////////////////////////////////////////////////////
00198 SegmentCabinTDRangeSnapshotView_T
00199 SegmentSnapshotTable:::
00200     getSegmentCabinTDRangeCancellationSnapshotView(const
00201     SegmentDataID_T iSCIdxBegin,
00202                                     const SegmentDataID_T iSCIdxEnd,
00203                                     const DTD_T iDTDBegin,
00204                                     const DTD_T iDTDEnd) {
00205     const unsigned int lNbOfClasses = _classIndexMap.size();
00206
00207     return _cancellationSnapshotBlock [ boost::indices[
00208     SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00209 }
00210 ///////////////////////////////////////////////////////////////////
00211 
```

```

00196     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00197     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00198
00199     return _cancellationSnapshotBlock [ boost::indices[
00200         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00201         SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00202     }
00203
00204 // /////////////////////////////////////////////////
00205 ConstSegmentCabinTDSSnapshotView_T
00206 SegmentSnapshotTable:::
00207     getConstSegmentCabinTDProductOrientedNetBookingSnapshotView
00208     (const SegmentDataID_T iSCIdxBegin,
00209      const SegmentDataID_T iSCIdxEnd,
00210      const DTD_T iDTD) const {
00211     const unsigned int lNbOfClasses = _classIndexMap.size();
00212     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00213     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00214
00215     return _productOrientedNetBookingSnapshotBlock [ boost::indices[
00216         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00217     }
00218
00219 // /////////////////////////////////////////////////
00220 ConstSegmentCabinTDRangeSnapshotView_T
00221 SegmentSnapshotTable:::
00222     getConstSegmentCabinTDRangeProductOrientedNetBookingSnapshotView
00223     (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00224      const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00225     const unsigned int lNbOfClasses = _classIndexMap.size();
00226     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00227     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00228
00229     return _productOrientedNetBookingSnapshotBlock [ boost::indices[
00230         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00231         SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00232     }
00233
00234 // /////////////////////////////////////////////////
00235 SegmentCabinTDSSnapshotView_T
00236 SegmentSnapshotTable:::
00237     getSegmentCabinTDProductOrientedNetBookingSnapshotView
00238     (const SegmentDataID_T iSCIdxBegin,
00239      const SegmentDataID_T iSCIdxEnd,
00240      const DTD_T iDTD) {
00241     const unsigned int lNbOfClasses = _classIndexMap.size();
00242     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00243     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00244
00245     return _productOrientedNetBookingSnapshotBlock [ boost::indices[
00246         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00247     }
00248
00249 // /////////////////////////////////////////////////
00250 ConstSegmentCabinTDRangeSnapshotView_T
00251 SegmentSnapshotTable:::
00252     getSegmentCabinTDRangeProductOrientedNetBookingSnapshotView
00253     (const SegmentDataID_T iSCIdxBegin,
00254      const SegmentDataID_T iSCIdxEnd,
00255      const DTD_T iDTDBegin,
00256      const DTD_T iDTDEnd) {
00257     const unsigned int lNbOfClasses = _classIndexMap.size();
00258     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00259     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00260
00261     return _productOrientedNetBookingSnapshotBlock [ boost::indices[
00262         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00263     }
00264

```

```

00265 ConstSegmentCabinDTDRangeSnapshotView_T
00266 SegmentSnapshotTable:::
00267 getConstSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView
00268 (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00269 const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00270 const unsigned int lNbOfClasses = _classIndexMap.size();
00271 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00272 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00273 return _priceOrientedNetBookingSnapshotBlock [ boost::indices[
00274 SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00275 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00276 }
00277 // /////////////////////////////////
00278 SegmentCabinDTDSnapshotView_T
00279 SegmentSnapshotTable:::
00280 getSegmentCabinDTDPPriceOrientedNetBookingSnapshotView
00281 (const SegmentDataID_T iSCIdxBegin,
00282 const SegmentDataID_T iSCIdxEnd,
00283 const DTD_T iDTD) {
00284 const unsigned int lNbOfClasses = _classIndexMap.size();
00285 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00286 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00287 return _priceOrientedNetBookingSnapshotBlock [ boost::indices[
00288 SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00289 }
00290 // ///////////////////////////////
00291 SegmentCabinDTDRangeSnapshotView_T
00292 SegmentSnapshotTable:::
00293 getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView
00294 (const SegmentDataID_T iSCIdxBegin,
00295 const SegmentDataID_T iSCIdxEnd,
00296 const DTD_T iDTDBegin,
00297 const DTD_T iDTDEnd) {
00298 const unsigned int lNbOfClasses = _classIndexMap.size();
00299 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00300 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00301 return _priceOrientedNetBookingSnapshotBlock [ boost::indices[
00302 SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00303 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00304 }
00305 // ///////////////////////////////
00306 ConstSegmentCabinDTDSnapshotView_T
00307 SegmentSnapshotTable:::
00308 getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView
00309 (const SegmentDataID_T iSCIdxBegin,
00310 const SegmentDataID_T iSCIdxEnd,
00311 const DTD_T iDTD) const {
00312 const unsigned int lNbOfClasses = _classIndexMap.size();
00313 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00314 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00315 return _productOrientedGrossBookingSnapshotBlock [
00316 boost::indices[SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00317 }
00318 // ///////////////////////////////
00319 ConstSegmentCabinDTDRangeSnapshotView_T
00320 SegmentSnapshotTable:::
00321 getConstSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView
00322 (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00323 const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00324 const unsigned int lNbOfClasses = _classIndexMap.size();
00325 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00326 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00327 return _productOrientedGrossBookingSnapshotBlock [ boost::indices[
00328 SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00329 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00330 }
00331 // ///////////////////////////////
00332 SegmentCabinDTDSnapshotView_T
00333 SegmentSnapshotTable:::
00334 getSegmentCabinDTDProductOrientedGrossBookingSnapshotView
00335 (const SegmentDataID_T iSCIdxBegin,
00336 const SegmentDataID_T iSCIdxEnd,
00337 const DTD_T iDTD) {
00338 const unsigned int lNbOfClasses = _classIndexMap.size();
00339 const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00340 const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;

```

```

00334     return _productOrientedGrossBookingSnapshotBlock [
00335         boost::indices[SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00336     }
00337     // /////////////////////////////////////////////////
00338     SegmentCabinTDRangeSnapshotView_T
00339     SegmentSnapshotTable:::
00340     getSegmentCabinTDRangeProductOrientedGrossBookingSnapshotView
00341         (const SegmentDataID_T iSCIdxBegin,
00342          const SegmentDataID_T iSCIdxEnd,
00343          const DTD_T iDTDBegin,
00344          const DTD_T iDTDEnd) {
00345         const unsigned int lNbOfClasses = _classIndexMap.size();
00346         const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00347         const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00348         return _productOrientedGrossBookingSnapshotBlock [
00349             boost::indices[SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00350                 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00351     // ///////////////////////////////////////////////
00352     ConstSegmentCabinTDSnapshotView_T
00353     SegmentSnapshotTable:::
00354     getConstSegmentCabinTDPriceOrientedGrossBookingSnapshotView
00355         (const SegmentDataID_T iSCIdxBegin,
00356          const SegmentDataID_T iSCIdxEnd,
00357          const DTD_T iDTD) const {
00358         const unsigned int lNbOfClasses = _classIndexMap.size();
00359         const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00360         const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00361         return _priceOrientedGrossBookingSnapshotBlock [ boost::indices[
00362             SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00363     // ///////////////////////////////////////////////
00364     ConstSegmentCabinTDRangeSnapshotView_T
00365     SegmentSnapshotTable:::
00366     getConstSegmentCabinTDRangePriceOrientedGrossBookingSnapshotView
00367         (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00368          const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00369         const unsigned int lNbOfClasses = _classIndexMap.size();
00370         const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00371         const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00372         return _priceOrientedGrossBookingSnapshotBlock [ boost::indices[
00373             SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00374                 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00375     // ///////////////////////////////////////////////
00376     SegmentCabinTDSnapshotView_T
00377     SegmentSnapshotTable:::
00378     getSegmentCabinTDPriceOrientedGrossBookingSnapshotView
00379         (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00380          const DTD_T iDTD) {
00381         const unsigned int lNbOfClasses = _classIndexMap.size();
00382         const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00383         const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00384         return _priceOrientedGrossBookingSnapshotBlock [ boost::indices[
00385             SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][iDTD] ];
00386     // ///////////////////////////////////////////////
00387     ConstSegmentCabinTDRangeSnapshotView_T
00388     SegmentSnapshotTable:::
00389     getSegmentCabinTDRangePriceOrientedGrossBookingSnapshotView
00390         (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00391          const DTD_T iDTDBegin, const DTD_T iDTDEnd) {
00392         const unsigned int lNbOfClasses = _classIndexMap.size();
00393         const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00394         const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00395         return _priceOrientedGrossBookingSnapshotBlock [ boost::indices[
00396             SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00397                 SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00398     // ///////////////////////////////////////////////
00399     ConstSegmentCabinTDSnapshotView_T
00400     SegmentSnapshotTable:::
00401     getConstSegmentCabinTDAvailabilitySnapshotView
00402         (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00403          const DTD_T iDTD) const {

```

```

00404     const unsigned int lNbOfClasses = _classIndexMap.size();
00405     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00406     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00407
00408     return _availabilitySnapshotBlock [ boost::indices[SnapshotBlockRange_T(
00409         lClassIdxBegin, lClassIdxEnd)] [iDTD] ];
00410 }
00411 // /////////////////////////////////////////////////
00412 ConstSegmentCabinTDRangeSnapshotView_T
00413 SegmentSnapshotTable:::
00414     getConstSegmentCabinTDRangeAvailabilitySnapshotView
00415     (const SegmentDataID_T iSCIdxBegin, const SegmentDataID_T iSCIdxEnd,
00416      const DTD_T iDTDBegin, const DTD_T iDTDEnd) const {
00417     const unsigned int lNbOfClasses = _classIndexMap.size();
00418     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00419     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00420
00421     return _availabilitySnapshotBlock [ boost::indices[SnapshotBlockRange_T(
00422         lClassIdxBegin, lClassIdxEnd)] [SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00423 }
00424 // /////////////////////////////////////////////////
00425 SegmentCabinTDRangeSnapshotView_T
00426 SegmentSnapshotTable:::
00427     getSegmentCabinTDRangeAvailabilitySnapshotView (const
00428         SegmentDataID_T iSCIdxBegin,
00429                     const SegmentDataID_T iSCIdxEnd,
00430                     const DTD_T iDTD) {
00431     const unsigned int lNbOfClasses = _classIndexMap.size();
00432     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00433     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00434
00435     return _availabilitySnapshotBlock [ boost::indices[
00436         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)] [iDTD] ];
00437 }
00438 // /////////////////////////////////////////////////
00439 SegmentCabinTDRangeSnapshotView_T
00440 SegmentSnapshotTable:::
00441     getSegmentCabinTDRangeAvailabilitySnapshotView(const
00442         SegmentDataID_T iSCIdxBegin,
00443                     const SegmentDataID_T iSCIdxEnd,
00444                     const DTD_T iDTDBegin,
00445                     const DTD_T iDTDEnd) {
00446     const unsigned int lNbOfClasses = _classIndexMap.size();
00447     const unsigned int lClassIdxBegin = iSCIdxBegin * lNbOfClasses;
00448     const unsigned int lClassIdxEnd = (iSCIdxEnd + 1) * lNbOfClasses;
00449
00450     return _availabilitySnapshotBlock [ boost::indices[
00451         SnapshotBlockRange_T(lClassIdxBegin, lClassIdxEnd)][
00452         SnapshotBlockRange_T(iDTDBegin, iDTDEnd + 1)] ];
00453 }
00454 // /////////////////////////////////////////////////
00455 void SegmentSnapshotTable::serialisationImplementationExport() const {
00456     std::ostringstream oStr;
00457     boost::archive::text_oarchive oa (oStr);
00458     oa << *this;
00459 }
00460
00461 // /////////////////////////////////////////////////
00462 void SegmentSnapshotTable::serialisationImplementationImport() {
00463     std::istringstream iStr;
00464     boost::archive::text_iarchive ia (iStr);
00465     ia >> *this;
00466 }
00467 // /////////////////////////////////////////////////
00468 template<class Archive>
00469 void SegmentSnapshotTable::serialize (Archive& ioArchive,
00470                                         const unsigned int iFileVersion) {
00471     ioArchive & _key;
00472 }
00473
00474 }
```

### 33.471 stdair/bom/SegmentSnapshotTable.hpp File Reference

```
#include <iostream>
```

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/SegmentSnapshotTableKey.hpp>
#include <stdair/bom/SegmentSnapshotTableTypes.hpp>
```

## Classes

- class **stdair::SegmentSnapshotTable**

*Class representing the actual attributes for an airline segment data tables.*

## Namespaces

- **boost**  
*Forward declarations.*
- **boost::serialization**
- **stdair**  
*Handle on the StdAir library context.*

### 33.472 SegmentSnapshotTable.hpp

```
00001 #ifndef __STDAIR_BOM_SEGMENTSNAPSHOTTABLE_HPP
00002 #define __STDAIR_BOM_SEGMENTSNAPSHOTTABLE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/bom/BomAbstract.hpp>
00013 #include <stdair/bom/SegmentSnapshotTableKey.hpp>
00014 #include <stdair/bom/SegmentSnapshotTableTypes.hpp>
00015
00016 namespace boost {
00017     namespace serialization {
00018         class access;
00019     }
00020 }
00021 }
00022
00023 namespace stdair {
00024     // Forward declarations
00025     class SegmentCabin;
00026
00027     class SegmentSnapshotTable : public BomAbstract {
00028         template <typename BOM> friend class FacBom;
00029         friend class FacBomManager;
00030         friend class boost::serialization::access;
00031
00032     public:
00033         // ////////////////// Type definitions ///////////////////
00034         typedef SegmentSnapshotTableKey Key_T;
00035
00036     public:
00037         // ////////////////// Getters ///////////////////
00038         const Key_T& getKey() const {
00039             return _key;
00040         }
00041
00042         BomAbstract* const getParent() const {
00043             return _parent;
00044         }
00045
00046         const TableID_T& getTableID() const {
00047             return _key.getTableID();
00048         }
00049
00050         const HolderMap_T& getHolderMap() const {
```

```
00065     return _holderMap;
00066 }
00067
00069 const SegmentCabinIndexMap_T& getSegmentCabinIndexMap()
00070 const {
00071     return _segmentCabinIndexMap;
00072 }
00073
00074 const ClassIndexMap_T& getClassIndexMap() const {
00075     return _classIndexMap;
00076 }
00077
00079 const ClassIndex_T& getClassIndex (const MapKey_T&) const;
00080
00082 const SegmentDataID_T& getSegmentDataID (const
00083 SegmentCabin&) const;
00084
00086 ConstSegmentCabinDTDSnapshotView_T
00087 getConstSegmentCabinDTDBookingSnapshotView (const
00088 SegmentDataID_T,
00089                                         const SegmentDataID_T,
00090                                         const DTD_T) const;
00091
00093 ConstSegmentCabinDTDRangeSnapshotView_T
00094 getConstSegmentCabinDTDRangeBookingSnapshotView (const
00095 SegmentDataID_T,
00096                                         const SegmentDataID_T,
00097                                         const DTD_T) const;
00098
00101 SegmentCabinDTDSnapshotView_T
00102 getSegmentCabinDTDBookingSnapshotView (const
00103 SegmentDataID_T,
00104                                         const SegmentDataID_T, const
00105 DTD_T);
00106
00107 SegmentCabinDTDRangeSnapshotView_T
00108 getSegmentCabinDTDRangeBookingSnapshotView (const
00109 SegmentDataID_T,
00110                                         const SegmentDataID_T,
00111                                         const DTD_T, const DTD_T);
00112
00114 ConstSegmentCabinDTDSnapshotView_T
00115 getConstSegmentCabinDTDCancellationSnapshotView (const
00116 SegmentDataID_T,
00117                                         const SegmentDataID_T,
00118                                         const DTD_T) const;
00119
00121 ConstSegmentCabinDTDRangeSnapshotView_T
00122 getConstSegmentCabinDTDRangeCancellationSnapshotView
00123 (const SegmentDataID_T,
00124                                         const SegmentDataID_T,
00125                                         const DTD_T) const;
00126
00129 SegmentCabinDTDSnapshotView_T
00130 getSegmentCabinDTDCancellationSnapshotView (const
00131 SegmentDataID_T,
00132                                         const SegmentDataID_T,
00133                                         const DTD_T);
00134
00136 SegmentCabinDTDRangeSnapshotView_T
00137 getSegmentCabinDTDRangeCancellationSnapshotView (const
00138 SegmentDataID_T,
00139                                         const SegmentDataID_T,
00140                                         const DTD_T) const;
00141
00143 ConstSegmentCabinDTDSnapshotView_T
00144 getConstSegmentCabinDTDProductOrientedNetBookingSnapshotView
00145 (const SegmentDataID_T, const SegmentDataID_T, const
00146 DTD_T) const;
00147
00149 ConstSegmentCabinDTDRangeSnapshotView_T
00150 getConstSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView
00151 (const SegmentDataID_T, const SegmentDataID_T, const
00152 DTD_T, const DTD_T) const;
00153
00155 SegmentCabinDTDSnapshotView_T
00156 getSegmentCabinDTDProductOrientedNetBookingSnapshotView
00157 (const SegmentDataID_T, const SegmentDataID_T, const
00158 DTD_T);
00159
00161 SegmentCabinDTDRangeSnapshotView_T
00162 getSegmentCabinDTDRangeProductOrientedNetBookingSnapshotView
00163 (const SegmentDataID_T, const SegmentDataID_T, const
00164 DTD_T, const DTD_T);
```

```
00164     ConstSegmentCabinDTDSnapshotView_T
00165     getConstSegmentCabinDTDPriceOrientedNetBookingSnapshotView
00166     (const SegmentDataID_T, const SegmentDataID_T, const
00167      DTD_T) const;
00168
00169     ConstSegmentCabinDTDRangeSnapshotView_T
00170     getConstSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView
00171     (const SegmentDataID_T, const SegmentDataID_T, const
00172      DTD_T, const DTD_T) const;
00173
00174     SegmentCabinDTDSnapshotView_T
00175     getSegmentCabinDTDPriceOrientedNetBookingSnapshotView
00176     (const SegmentDataID_T, const SegmentDataID_T, const
00177      DTD_T);
00178
00179     SegmentCabinDTDRangeSnapshotView_T
00180     getSegmentCabinDTDRangePriceOrientedNetBookingSnapshotView
00181     (const SegmentDataID_T, const SegmentDataID_T, const
00182      DTD_T);
00183
00184     ConstSegmentCabinDTDSnapshotView_T
00185     getConstSegmentCabinDTDProductOrientedGrossBookingSnapshotView
00186     (const SegmentDataID_T, const SegmentDataID_T, const
00187      DTD_T) const;
00188
00189     ConstSegmentCabinDTDRangeSnapshotView_T
00190     getConstSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView
00191     (const SegmentDataID_T, const SegmentDataID_T, const
00192      DTD_T, const DTD_T) const;
00193
00194     SegmentCabinDTDSnapshotView_T
00195     getSegmentCabinDTDProductOrientedGrossBookingSnapshotView
00196     (const SegmentDataID_T, const SegmentDataID_T, const
00197      DTD_T);
00198
00199     SegmentCabinDTDRangeSnapshotView_T
00200     getSegmentCabinDTDRangeProductOrientedGrossBookingSnapshotView
00201     (const SegmentDataID_T, const SegmentDataID_T, const
00202      DTD_T, const DTD_T) const;
00203
00204     ConstSegmentCabinDTDSnapshotView_T
00205     getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView
00206     (const SegmentDataID_T, const SegmentDataID_T, const
00207      DTD_T);
00208
00209     ConstSegmentCabinDTDRangeSnapshotView_T
00210     getConstSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView
00211     (const SegmentDataID_T, const SegmentDataID_T, const
00212      DTD_T, const DTD_T) const;
00213
00214     ConstSegmentCabinDTDSnapshotView_T
00215     getConstSegmentCabinDTDPriceOrientedGrossBookingSnapshotView
00216     (const SegmentDataID_T, const SegmentDataID_T, const
00217      DTD_T) const;
00218
00219     ConstSegmentCabinDTDRangeSnapshotView_T
00220     getConstSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView
00221     (const SegmentDataID_T, const SegmentDataID_T, const
00222      DTD_T, const DTD_T) const;
00223
00224     SegmentCabinDTDSnapshotView_T
00225     getSegmentCabinDTDPriceOrientedGrossBookingSnapshotView
00226     (const SegmentDataID_T, const SegmentDataID_T, const
00227      DTD_T);
00228
00229     SegmentCabinDTDRangeSnapshotView_T
00230     getSegmentCabinDTDRangePriceOrientedGrossBookingSnapshotView
00231     (const SegmentDataID_T, const SegmentDataID_T, const
00232      DTD_T, const DTD_T) const;
00233
00234     ConstSegmentCabinDTDSnapshotView_T
00235     getConstSegmentCabinDTDRangeAvailabilitySnapshotView (const
00236     SegmentDataID_T,
00237
00238     const SegmentDataID_T,
00239     const DTD_T) const;
00240
00241     ConstSegmentCabinDTDRangeSnapshotView_T
00242     getConstSegmentCabinDTDAvailabilitySnapshotView (const
00243     SegmentDataID_T,
00244
00245     const SegmentDataID_T,
00246     const DTD_T) const;
00247
00248     ConstSegmentCabinDTDRangeSnapshotView_T
00249     getConstSegmentCabinDTDRangeAvailabilitySnapshotView
00250     (const SegmentDataID_T,
00251
00252     const SegmentDataID_T,
00253     const DTD_T) const;
00254
00255     SegmentCabinDTDSnapshotView_T
00256     getSegmentCabinDTDAvailabilitySnapshotView (const
00257     SegmentDataID_T,
00258
00259     const SegmentDataID_T,
00260     const DTD_T);
00261
00262     SegmentCabinDTDRangeSnapshotView_T
00263     getSegmentCabinDTDRangeAvailabilitySnapshotView (const
00264     SegmentDataID_T,
00265
00266     const SegmentDataID_T,
00267     const DTD_T, const
```

```

00267     DTD_T);
00268
00269 public:
00270     // /////////// Setters ///////////
00271     void initSnapshotBlocks (const SegmentCabinIndexMap_T&,
00272                             const ClassIndexMap_T&);
00273
00274 public:
00275     // /////////// Display support methods ///////////
00276     void toStream (std::ostream& ioOut) const {
00277         ioOut << toString();
00278     }
00279
00280     void fromStream (std::istream& ioIn) {
00281     }
00282
00283     std::string toString() const;
00284
00285     const std::string describeKey() const {
00286         return _key.toString();
00287     }
00288
00289 public:
00290     // /////////// (Boost) Serialisation support methods ///////////
00291     template<class Archive>
00292     void serialize (Archive& ar, const unsigned int iFileVersion);
00293
00294 private:
00295     void serialisationImplementationExport() const;
00296     void serialisationImplementationImport();
00297
00298 protected:
00299     // /////////// Constructors and destructors ///////////
00300     SegmentSnapshotTable (const Key_T&);
00301
00302     virtual ~SegmentSnapshotTable();
00303
00304 private:
00305     SegmentSnapshotTable();
00306
00307     SegmentSnapshotTable (const SegmentSnapshotTable&);
00308
00309 protected:
00310     // /////////// Attributes ///////////
00311     Key_T _key;
00312
00313     BomAbstract* _parent;
00314
00315     HolderMap_T _holderMap;
00316
00317     SegmentCabinIndexMap_T _segmentCabinIndexMap;
00318
00319     ClassIndexMap_T _classIndexMap;
00320
00321     SnapshotBlock_T _bookingSnapshotBlock;
00322
00323     SnapshotBlock_T _cancellationSnapshotBlock;
00324
00325     SnapshotBlock_T _productOrientedNetBookingSnapshotBlock
00326 ;
00327
00328     SnapshotBlock_T _priceOrientedNetBookingSnapshotBlock
00329 ;
00330
00331     SnapshotBlock_T _productOrientedGrossBookingSnapshotBlock
00332 ;
00333
00334     SnapshotBlock_T _priceOrientedGrossBookingSnapshotBlock
00335 ;
00336
00337     SnapshotBlock_T _availabilitySnapshotBlock;
00338
00339 };
00340 #endif // __STDAIR_BOM_SEGMENTSNAPSHOTTABLE_HPP
00341

```

### 33.473 stdair/bom/SegmentSnapshotTableKey.cpp File Reference

```
#include <cassert>
```

```
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/basic/BasConst_BomDisplay.hpp>
#include <stdair/bom/SegmentSnapshotTableKey.hpp>
```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## Functions

- template void `stdair::SegmentSnapshotTableKey::serialize< ba::text_oarchive >` (`ba::text_oarchive &`, `unsigned int`)
- template void `stdair::SegmentSnapshotTableKey::serialize< ba::text_iarchive >` (`ba::text_iarchive &`, `unsigned int`)

## 33.474 SegmentSnapshotTableKey.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/access.hpp>
00011 // StdAir
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/basic/BasConst_BomDisplay.hpp>
00014 #include <stdair/bom/SegmentSnapshotTableKey.hpp>
00015
00016 namespace stdair {
00017
00018 // /////////////////////////////////
00019 SegmentSnapshotTableKey::SegmentSnapshotTableKey()
00020   : _tableID (DEFAULT_TABLE_ID) {
00021   assert (false);
00022 }
00023
00024 // /////////////////////////////////
00025 SegmentSnapshotTableKey::
00026 SegmentSnapshotTableKey (const TableID_T& iTableID)
00027   : _tableID (iTableID)
00028 }
00029
00030 // /////////////////////////////////
00031 SegmentSnapshotTableKey::SegmentSnapshotTableKey (const
00032   SegmentSnapshotTableKey& iKey)
00033   : _tableID (iKey._tableID) {
00034
00035 // /////////////////////////////////
00036 SegmentSnapshotTableKey::~SegmentSnapshotTableKey() {
00037 }
00038
00039 // /////////////////////////////////
00040 void SegmentSnapshotTableKey::toStream (std::ostream& ioOut) const {
00041   ioOut << "SegmentSnapshotTableKey: " << toString();
00042 }
00043
00044 // /////////////////////////////////
00045 void SegmentSnapshotTableKey::fromStream (std::istream& ioIn) {
00046 }
00047
00048 // /////////////////////////////////
```

```

00049 const std::string SegmentSnapshotTableKey::toString() const {
00050     std::ostringstream oStr;
00051     oStr << _tableID;
00052     return oStr.str();
00053 }
00054
00055 // /////////////////////////////////
00056 void SegmentSnapshotTableKey::serialisationImplementationExport() const {
00057     std::ostringstream oStr;
00058     boost::archive::text_oarchive oa (oStr);
00059     oa << *this;
00060 }
00061
00062 // ///////////////////////////////
00063 void SegmentSnapshotTableKey::serialisationImplementationImport() {
00064     std::istringstream iStr;
00065     boost::archive::text_iarchive ia (iStr);
00066     ia >> *this;
00067 }
00068
00069 // ///////////////////////////////
00070 template<class Archive>
00071 void SegmentSnapshotTableKey::serialize (Archive& ioArchive,
00072                                         const unsigned int iFileVersion) {
00073     ioArchive & _tableID;
00074 }
00075
00076 // ///////////////////////////////
00077 // Explicit template instantiation
00078 namespace ba = boost::archive;
00079 template void SegmentSnapshotTableKey::
00080     serialize<ba::text_oarchive> (ba::text_oarchive&, unsigned int);
00081 template void SegmentSnapshotTableKey::
00082     serialize<ba::text_iarchive> (ba::text_iarchive&, unsigned int);
00083 // ///////////////////////////////
00084
00085
00086
00087
00088
00089 }
```

### 33.475 stdair/bom/SegmentSnapshotTableKey.hpp File Reference

```
#include <iostream>
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

#### Classes

- struct [stdair::SegmentSnapshotTableKey](#)  
*Key of a given guillotine block, made of a guillotine number.*

#### Namespaces

- [boost](#)  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.476 SegmentSnapshotTableKey.hpp

```

00001 #ifndef __STDAIR_BOM_SEGMENTSNAPSHOTTABLEKEY_HPP
00002 #define __STDAIR_BOM_SEGMENTSNAPSHOTTABLEKEY_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
```

```

00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/bom/KeyAbstract.hpp>
00013
00014 namespace boost {
00015     namespace serialization {
00016         class access;
00017     }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023     struct SegmentSnapshotTableKey : public KeyAbstract {
00024         friend class boost::serialization::access;
00025
00026         // ////////////////// Constructors and destructors //////////////////
00027     private:
00028         SegmentSnapshotTableKey();
00029
00030     public:
00031         SegmentSnapshotTableKey (const TableID_T&);
00032
00033         SegmentSnapshotTableKey (const SegmentSnapshotTableKey&);
00034
00035     ~SegmentSnapshotTableKey();
00036
00037     // ////////////////// Getters //////////////////
00038     const TableID_T& getTableID() const {
00039         return _tableID;
00040     }
00041
00042
00043     // ////////////////// Display support methods //////////////////
00044     void toStream (std::ostream& ioOut) const;
00045
00046     void fromStream (std::istream& ioIn);
00047
00048     const std::string toString() const;
00049
00050
00051     // ////////////////// (Boost) Serialisation support methods //////////////////
00052     template<class Archive>
00053     void serialize (Archive& ar, const unsigned int iFileVersion);
00054
00055     private:
00056         void serialisationImplementationExport() const;
00057         void serialisationImplementationImport();
00058
00059
00060     private:
00061         // ////////////////// Attributes //////////////////
00062         TableID_T _tableID;
00063     };
00064 }
00065 }
00066
00067 #endif // __STDAIR_BOM_SEGMENTSNAPSHOTTABLEKEY_HPP

```

### 33.477 stdair/bom/SegmentSnapshotTableTypes.hpp File Reference

```

#include <map>
#include <list>
#include <boost/multi_array.hpp>
#include <stdair/bom/key_types.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### Typedefs

- `typedef std::list< SegmentSnapshotTable * > stdair::SegmentSnapshotTableList_T`
- `typedef std::map< const MapKey_T, SegmentSnapshotTable * > stdair::SegmentSnapshotTableMap_T`
- `typedef std::map< const SegmentCabin *, SegmentDataID_T > stdair::SegmentCabinIndexMap_T`
- `typedef std::map< const MapKey_T, ClassIndex_T > stdair::ClassIndexMap_T`

### 33.478 SegmentSnapshotTableTypes.hpp

```

00001 // //////////////////////////////// Type definitions //////////////////////////////
00002 #ifndef __STDAIR_BOM_SEGMENTSNAPSHOTTABLETYPES_HPP
00003 #define __STDAIR_BOM_SEGMENTSNAPSHOTTABLETYPES_HPP
00004
00005 // //////////////////////////////
00006 // Import section
00007 // //////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // BOOST
00012 #include <boost/multi_array.hpp>
00013 // StdAir
00014 #include <stdair/bom/key_types.hpp>
00015
00016 namespace stdair {
00017
00018 // Forward declarations
00019 class SegmentSnapshotTable;
00020 class SegmentCabin;
00021
00022 // ////////////////////////////// Type definitions //////////////////////////////
00023 typedef std::list<SegmentSnapshotTable*> SegmentSnapshotTableList_T;
00024
00025 typedef std::map<const MapKey_T, SegmentSnapshotTable*>
00026 SegmentSnapshotTableMap_T;
00027
00028 typedef std::map<const SegmentCabin*, SegmentDataID_T> SegmentCabinIndexMap_T;
00029
00030 typedef std::map<const MapKey_T, ClassIndex_T> ClassIndexMap_T;
00031
00032
00033
00034
00035 }
00036 #endif // __STDAIR_BOM_SEGMENTSNAPSHOTTABLETYPES_HPP
00037

```

### 33.479 stdair/bom/SimpleNestingStructure.cpp File Reference

```

#include <sstream>
#include <cassert>
#include <iomanip>
#include <iostream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/SimpleNestingStructure.hpp>
#include <stdair/bom/NestingNode.hpp>
#include <stdair/bom/NestingNodeType.hpp>
#include <stdair/service/Logger.hpp>

```

### Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.480 SimpleNestingStructure.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <sstream>
00006 #include <cassert>
00007 #include <iomanip>
00008 #include <iostream>
00009 //STDAIR
00010 #include <stdair/stdair_exceptions.hpp>
00011 #include <stdair/basic/BasConst_Inventory.hpp>
00012 #include <stdair/bom/BomManager.hpp>
00013 #include <stdair/bom/BookingClass.hpp>
00014 #include <stdair/bom/BookingClass.hpp>
00015 #include <stdair/bom/SimpleNestingStructure.hpp>
00016 #include <stdair/bom/NestingNode.hpp>
00017 #include <stdair/bom/NestingNodeType.hpp>
00018 #include <stdair/service/Logger.hpp>
00019
00020 namespace stdair {
00021
00022 // /////////////////////////////////
00023 SimpleNestingStructure::SimpleNestingStructure () :
00024     _key (DEFAULT_NESTING_STRUCTURE_CODE), _parent (NULL) {
00025     assert (false);
00026 }
00027
00028 // /////////////////////////////////
00029 SimpleNestingStructure::SimpleNestingStructure (const SimpleNestingStructure& iSimpleNestingStructure)
00030 : _key (DEFAULT_NESTING_STRUCTURE_CODE), _parent (NULL) {
00031     assert (false);
00032 }
00033
00034
00035 // /////////////////////////////////
00036 SimpleNestingStructure::SimpleNestingStructure (const Key_T& iKey)
00037 : _key (iKey), _parent (NULL) {
00038 }
00039
00040 // /////////////////////////////////
00041 SimpleNestingStructure::~SimpleNestingStructure() {
00042 }
00043
00044 // /////////////////////////////////
00045 // const bool SimpleNestingStructure::insertBookingClassList(const Yield_T& iYield,
00046 //                                         const BookingClassList_T& iBookingClassList) {
00047 //     const bool isBookinClassListEmpty = iBookingClassList.empty();
00048 //     if (isBookinClassListEmpty == true) {
00049 //         std::ostringstream ostr;
00050 //         ostr << "The booking class list is empty and it should not be. "
00051 //             "No insertion done in the nesting structure (";
00052 //         toStream(ostr);
00053 //         ostr << ")";
00054 //         STDAIR_LOG_DEBUG(ostr.str());
00055 //         throw BookingClassListEmptyInNestingStructException(ostr.str());
00056 //     }
00057 //     assert (isBookinClassListEmpty == false);
00058 //     NestingNodeMap_T::iterator itNestingNode = _nestingNodeMap.find (iYield);
00059 //     bool insertionSucceeded = false;
00060 //     // Search a node with the same yield and add the
00061 //     // booking classes to the booking class list of the node.
00062 //     // If there is not a node with the same yield, create it.
00063 //     if (itNestingNode == _nestingNodeMap.end()) {
00064 //         NestingNode_T lNode (iYield, iBookingClassList);
00065 //         insertionSucceeded = _nestingNodeMap.insert(lNode).second;
00066 //     } else {
00067 //         NestingNode_T& lNode = *itNestingNode;
00068 //         const Yield_T& lYield = lNode.first;
00069 //         assert (lYield == iYield);
00070 //         BookingClassList_T& lBCList = lNode.second;
00071 //         for (BookingClassList_T::const_iterator itBC = iBookingClassList.begin();
00072 //              itBC != iBookingClassList.end(); ++itBC) {
00073 //             BookingClass* lBC_ptr = *itBC;
00074 //             assert (lBC_ptr != NULL);
00075 //             lBCList.push_back(lBC_ptr);
00076 //         }
00077 //         insertionSucceeded = true;
00078 //     }
00079
00080 //     return insertionSucceeded;
00081 // }
00082
00083 // /////////////////////////////////
00084 // const bool SimpleNestingStructure::
00085 // alreadyInNestingStructure(const ClassCode_T& iClassCode) const {

```

```

00086 //     bool isAlreadyInTheMap = false;
00087 //     NestingNodeMap_T::const_iterator itMap = _nestingNodeMap.begin();
00088 //     for( ; itMap != _nestingNodeMap.end(); ++itMap) {
00089 //         const NestingNode_T& lNestingNode = *itMap;
00090 //         const BookingClassList_T& lBCList = lNestingNode.second;
00091 //         BookingClassList_T::const_iterator itBC = lBCList.begin();
00092 //         for( ; itBC != lBCList.end(); ++itBC) {
00093 //             BookingClass* lBC_ptr = *itBC;
00094 //             assert(lBC_ptr != NULL);
00095 //             const BookingClassKey& lBookingClassKey = lBC_ptr->getKey();
00096 //             const ClassCode_T& lClassCode = lBookingClassKey.getClassCode();
00097 //             if (lClassCode == iClassCode) {
00098 //                 isAlreadyInTheMap = true;
00099 //                 return isAlreadyInTheMap;
00100 //             }
00101 //         }
00102 //     }
00103 //     return isAlreadyInTheMap;
00104 // }
00105 ///////////////////////////////////////////////////////////////////
00106 std::string SimpleNestingStructure::toString () const {
00107     std::ostringstream oStr;
00108     oStr << describeKey();
00109
00110     return oStr.str();
00111 }
00112 }
00113 ///////////////////////////////////////////////////////////////////
00114 const NestingNodeList_T&
00115 SimpleNestingStructure::getNestingNodeList() const {
00116     return BomManager::getList<NestingNode> (*this);
00117 }
00118 }
00119 }
```

### 33.481 stdair/bom/SimpleNestingStructure.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/NestingNodeTypes.hpp>
#include <stdair/bom/SimpleNestingStructureTypes.hpp>
#include <stdair/bom/NestingStructureKey.hpp>
```

#### Classes

- class [stdair::SimpleNestingStructure](#)

#### Namespaces

- **boost**  
*Forward declarations.*
- [boost::serialization](#)
- [stdair](#)  
*Handle on the StdAir library context.*

### 33.482 SimpleNestingStructure.hpp

```

00001 #ifndef __STDAIR_BOM_SIMPLENESTINGSTRUCTURE_HPP
00002 #define __STDAIR_BOM_SIMPLENESTINGSTRUCTURE_HPP
00003
00004 ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 ///////////////////////////////////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/BomAbstract.hpp>
00010 #include <stdair/bom/NestingNodeTypes.hpp>
```

```

00011 #include <stdair/bom/SimpleNestingStructureTypes.hpp>
00012 #include <stdair/bom/NestingStructureKey.hpp>
00013
00014 namespace boost {
00015   namespace serialization {
00016     class access;
00017   }
00018 }
00019 }
00020
00021 namespace stdair {
00022
00023   class SimpleNestingStructure : public BomAbstract {
00024     template <typename BOM> friend class FacBom;
00025     friend class FacBomManager;
00026     friend class boost::serialization::access;
00027
00028   public:
00029     // /////////// Type definitions ///////////
00030     typedef NestingStructureKey Key_T;
00031
00032   public:
00033     // /////////// Getters ///////////
00034     const Key_T& getKey() const {
00035       return _key;
00036     }
00037
00038     BomAbstract* const getParent() const {
00039       return _parent;
00040     }
00041
00042     const HolderMap_T& getHolderMap() const {
00043       return _holderMap;
00044     }
00045
00046     const NestingNodeList_T& getNestingNodeList() const;
00047
00048   public:
00049     // /////////// Display support methods ///////////
00050     void toStream (std::ostream& ioOut) const {
00051       ioOut << toString();
00052     }
00053
00054     void fromStream (std::istream& ioIn) {
00055
00056       std::string toString() const;
00057
00058       const std::string describeKey() const {
00059         return _key.toString();
00060       }
00061
00062     public:
00063       // /////////// (Boost) Serialisation support methods ///////////
00064       template<class Archive>
00065       void serialize (Archive& ar, const unsigned int iFileVersion);
00066
00067   private:
00068     void serialisationImplementationExport() const;
00069     void serialisationImplementationImport();
00070
00071
00072   public:
00073     // /////////// Constructors and destructor. ///////////
00074     SimpleNestingStructure (const Key_T&);
00075
00076     virtual ~SimpleNestingStructure();
00077
00078   private:
00079     SimpleNestingStructure();
00080
00081     SimpleNestingStructure (const SimpleNestingStructure&);
00082
00083   private:
00084     Key_T _key;
00085
00086     BomAbstract* _parent;
00087
00088     HolderMap_T _holderMap;
00089   };
00090 }
00091
00092 #endif // __STDAIR_BOM_SIMPLENESTINGSTRUCTURE_HPP

```

### 33.483 stdair/bom/SimpleNestingStructureTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< SimpleNestingStructure \* > stdair::SimpleNestingStructureList\_T**
- **typedef std::map< const MapKey\_T, SimpleNestingStructure \* > stdair::SimpleNestingStructureMap\_T**

### 33.484 SimpleNestingStructureTypes.hpp

```
00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_SIMPLENESTINGSTRUCTURETYPES_HPP
00003 #define __STDAIR_BOM_SIMPLENESTINGSTRUCTURETYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class SimpleNestingStructure;
00018
00020 typedef std::list<SimpleNestingStructure*> SimpleNestingStructureList_T;
00021
00023 typedef std::map<const MapKey_T, SimpleNestingStructure*>
SimpleNestingStructureMap_T;
00024
00025 }
00026 #endif // __STDAIR_BOM_SIMPLENESTINGSTRUCTURETYPES_HPP
```

### 33.485 stdair/bom/SnapshotStruct.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/bom/SnapshotStruct.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.486 SnapshotStruct.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
```

```

00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/bom/SnapshotStruct.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 SnapshotStruct::SnapshotStruct() {
00014     assert (false);
00015 }
00016
00017 // /////////////////////////////////
00018 SnapshotStruct:::
00019 SnapshotStruct (const SnapshotStruct& iSnapshot)
00020 : _airlineCode (iSnapshot._airlineCode),
00021 _snapshotTime (iSnapshot._snapshotTime) {
00022 }
00023
00024 // /////////////////////////////////
00025 SnapshotStruct:::
00026 SnapshotStruct (const AirlineCode_T& iAirlineCode,
00027 const DateTime_T& iSnapshotTime)
00028 : _airlineCode (iAirlineCode), _snapshotTime (iSnapshotTime) {
00029 }
00030
00031 // /////////////////////////////////
00032 SnapshotStruct::~SnapshotStruct() {
00033 }
00034
00035 // /////////////////////////////////
00036 void SnapshotStruct::toStream (std::ostream& ioOut) const {
00037     ioOut << describe();
00038 }
00039
00040 // /////////////////////////////////
00041 void SnapshotStruct::fromStream (std::istream& ioIn) {
00042 }
00043
00044 // /////////////////////////////////
00045 const std::string SnapshotStruct::describe() const {
00046     std::ostringstream oStr;
00047     oStr << _airlineCode << ", " << _snapshotTime;
00048     return oStr.str();
00049 }
00050 }
00051 }

```

### 33.487 stdair/bom/SnapshotStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/SnapshotTypes.hpp>

```

#### Classes

- struct [stdair::SnapshotStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.488 SnapshotStruct.hpp

```
00001 #ifndef __STDAIR_BOM_SNAPSHOTSTRUCT_HPP
```

```

00002 #define __STDAIR_BOM_SNAPSHOTSTRUCT_HPP
00003 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_inventory_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/bom/SnapshotTypes.hpp>
00015
00016 namespace stdair {
00017
00019 struct SnapshotStruct : public StructAbstract {
00020 public:
00021     // ///////////////////// Getters ///////////////////
00023     const AirlineCode_T& getAirlineCode() const {
00024         return _airlineCode;
00025     }
00026
00028     const DateTime_T& getSnapshotTime() const {
00029         return _snapshotTime;
00030     }
00031
00032     // ////////////////// Display support method //////////////////
00035     void toStream (std::ostream& ioOut) const;
00036
00039     void fromStream (std::istream& ioIn);
00040
00042     const std::string describe() const;
00043
00044
00045     // ////////////////// Constructors and Destructors //////////////////
00046 public:
00048     SnapshotStruct (const AirlineCode_T&, const
00049     DateTime_T&);
00051     SnapshotStruct (const SnapshotStruct&);
00052
00053 private:
00056     SnapshotStruct ();
00057
00058 public:
00060     ~SnapshotStruct ();
00061
00062 private:
00064     // ////////////////// Attributes //////////////////
00066     const AirlineCode_T _airlineCode;
00067
00069     const DateTime_T _snapshotTime;
00070 };
00071
00072 }
00073 #endif // __STDAIR_BOM_SNAPSHOTSTRUCT_HPP

```

### 33.489 stdair/bom/SnapshotTypes.hpp File Reference

```
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef boost::shared\_ptr< SnapshotStruct > stdair::SnapshotPtr\_T**

### 33.490 SnapshotTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_SNAPSHOTTYPES_HPP
00003 #define __STDAIR_BOM_SNAPSHOTTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // Boost
00009 #include <boost/shared_ptr.hpp>
00010
00011 namespace stdair {
00012
00013 // Forward declarations
00014 struct SnapshotStruct;
00015
00016 // ///////////////////// Type definitions ///////////////////
00018 typedef boost::shared_ptr<SnapshotStruct> SnapshotPtr_T;
00019
00020 }
00021 #endif // __STDAIR_BOM_SNAPSHOTTYPES_HPP
00022

```

### 33.491 stdair/bom/TimePeriod.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/TimePeriod.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.492 TimePeriod.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 #include <stdair/bom/TimePeriod.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 TimePeriod::TimePeriod()
00016   : _key (DEFAULT_EPSILON_DURATION,
00017             DEFAULT_EPSILON_DURATION),
00018   _parent (NULL) {
00019   // That constructor is used by the serialisation process
00020 }
00021
00022 TimePeriod::TimePeriod (const TimePeriod& iTimePeriod)
00023   : _key (iTimePeriod.getKey()), _parent (NULL) {
00024 }
00025
00026 TimePeriod::TimePeriod (const Key_T& iKey)
00027   : _key (iKey), _parent (NULL) {
00028 }
00029
00030
00031 TimePeriod::~TimePeriod () {
00032 }
00033

```

```

00034
00035 // /////////////////////////////////
00036 std::string TimePeriod::toString() const {
00037     std::ostringstream oStr;
00038     oStr << describeKey();
00039     return oStr.str();
00040 }
00041
00042 // /////////////////////////////////
00043 bool TimePeriod:::
00044 isDepartureTimeValid (const Time_T& iFlightTime) const {
00045     const Time_T& lTimeRangeStart = getTimeRangeStart();
00046     const Time_T& lTimeRangeEnd = getTimeRangeEnd();
00048
00049 // Check if the departure time is within the time range.
00050 if (lTimeRangeStart >= iFlightTime) {
00051     // DEBUG
00052     STDAIR_LOG_DEBUG ("Time range begin: " << lTimeRangeStart << ", "
00053             << "time: " << iFlightTime);
00054     return false;
00055 }
00056 if (lTimeRangeEnd <= iFlightTime) {
00057     // DEBUG
00058     STDAIR_LOG_DEBUG ("Time range end: " << lTimeRangeEnd << ", "
00059             << "time: " << iFlightTime);
00060     return false;
00061 }
00062
00063     return true;
00064 }
00065
00066 }
00067

```

### 33.493 stdair/bom/TimePeriod.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/TimePeriodKey.hpp>
#include <stdair/bom/TimePeriodTypes.hpp>
```

#### Classes

- class **stdair::TimePeriod**  
*Class representing the actual attributes for a fare time-period.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.494 TimePeriod.hpp

```

00001 #ifndef __STDAIR_BOM_FARETIMEPERIOD_HPP
00002 #define __STDAIR_BOM_FARETIMEPERIOD_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/TimePeriodKey.hpp>
00010 #include <stdair/bom/TimePeriodTypes.hpp>
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00018     class TimePeriod : public BomAbstract {
00019         template <typename BOM> friend class FacBom;
00020         template <typename BOM> friend class FacCloneBom;
00021         friend class FacBomManager;

```

```

00022
00023     public:
00024         // /////////// Type definitions ///////////
00028     typedef TimePeriodKey Key_T;
00029
00030     public:
00031         // /////////// Display support methods ///////////
00032         // /////////// Display support methods ///////////
00038     void toStream (std::ostream& ioOut) const {
00039         ioOut << toString();
00040     }
00041
00047     void fromStream (std::istream& ioIn) {
00048     }
00049
00053     std::string toString() const;
00054
00058     const std::string describeKey() const {
00059         return _key.toString();
00060     }
00061
00062     public:
00063         // /////////// Getters ///////////
00067     const Key_T& getKey() const {
00068         return _key;
00069     }
00070
00074     BomAbstract* const getParent() const {
00075         return _parent;
00076     }
00077
00081     const HolderMap_T& getHolderMap() const {
00082         return _holderMap;
00083     }
00084
00088     const Time_T& getTimeRangeStart() const {
00089         return _key.getTimeRangeStart();
00090     }
00091
00095     const Time_T& getTimeRangeEnd() const {
00096         return _key.getTimeRangeEnd();
00097     }
00098
00099     public:
00100         // /////////// Business methods ///////////
00105     bool isDepartureTimeValid (const Time_T&) const;
00106
00107     protected:
00108         // /////////// Constructors and destructors ///////////
00112     TimePeriod (const Key_T&);
00116     virtual ~TimePeriod();
00117
00118     private:
00119     TimePeriod();
00120     TimePeriod (const TimePeriod&);
00127
00128     protected:
00129         // /////////// Attributes ///////////
00133     Key_T _key;
00134
00138     BomAbstract* _parent;
00139
00143     HolderMap_T _holderMap;
00144
00145 };
00146
00147 }
00148 #endif // __STDAIR_BOM_FARETIMEPERIOD_HPP
00149

```

### 33.495 stdair/bom/TimePeriodKey.cpp File Reference

```

#include <iostream>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/bom/TimePeriodKey.hpp>

```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.496 TimePeriodKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <sstream>
00007 // STDAIR
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/bom/TimePeriodKey.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014 TimePeriodKey::TimePeriodKey ()
00015   : _timeRangeStart (DEFAULT_EPSILON_DURATION),
00016   _timeRangeEnd (DEFAULT_EPSILON_DURATION) {
00017   assert (false);
00018 }
00019
00020 // /////////////////////////////////
00021 TimePeriodKey::TimePeriodKey (const Time_T& iTimeRangeStart,
00022                               const Time_T& iTimeRangeEnd)
00023   : _timeRangeStart (iTimeRangeStart),
00024   _timeRangeEnd (iTimeRangeEnd) {
00025 }
00026
00027 // /////////////////////////////////
00028 TimePeriodKey::TimePeriodKey (const TimePeriodKey& iKey)
00029   : _timeRangeStart (iKey.getTimeRangeStart()),
00030   _timeRangeEnd (iKey.getTimeRangeEnd()) {
00031 }
00032
00033 // /////////////////////////////////
00034 TimePeriodKey::~TimePeriodKey () {
00035 }
00036
00037 // /////////////////////////////////
00038 void TimePeriodKey::toStream (std::ostream& ioOut) const {
00039   ioOut << "TimePeriodKey: " << toString() << std::endl;
00040 }
00041
00042 // /////////////////////////////////
00043 void TimePeriodKey::fromStream (std::istream& ioIn) {
00044 }
00045
00046 // /////////////////////////////////
00047 const std::string TimePeriodKey::toString() const {
00048   std::ostringstream oStr;
00049   oStr << _timeRangeStart << "-" << _timeRangeEnd;
00050   return oStr.str();
00051 }
00052
00053 }
```

## 33.497 stdair/bom/TimePeriodKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_date_time_types.hpp>
```

## Classes

- struct `stdair::TimePeriodKey`

*Key of time-period.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.498 TimePeriodKey.hpp

```

00001 #ifndef __STDAIR_BOM_TIMEPERIODKEY_HPP
00002 #define __STDAIR_BOM_TIMEPERIODKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STDAIR
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
00010
00011 namespace stdair {
00015   struct TimePeriodKey : public KeyAbstract {
00016
00017   public:
00018     // ////////////////// Construction //////////////////
00019     TimePeriodKey (const Time_T&,
00020                     const Time_T&);
00023     TimePeriodKey (const TimePeriodKey&);
00025     ~TimePeriodKey ();
00026   private:
00028     TimePeriodKey ();
00029
00030   public:
00031     // ////////////////// Getter //////////////////
00035     const Time_T& getTimeRangeStart() const {
00036       return _timeRangeStart;
00037     }
00038
00042     const Time_T& getTimeRangeEnd() const {
00043       return _timeRangeEnd;
00044     }
00045
00046     // ////////////////// Display support methods //////////////////
00047     void toStream (std::ostream& ioOut) const;
00048
00049     void fromStream (std::istream& ioIn);
00050
00056     const std::string toString() const;
00057
00058   private:
00059     // ////////////////// Attributes //////////////////
00060     Time_T _timeRangeStart;
00061     Time_T _timeRangeEnd;
00062   };
00063
00064 }
00065
00066#endif // __STDAIR_BOM_TIMEPERIODKEY_HPP

```

### 33.499 stdair/bom/TimePeriodTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

## TypeDefs

- **typedef std::list< TimePeriod \* > stdair::TimePeriodList\_T**

- `typedef std::map< const MapKey_T, TimePeriod * > stdair::TimePeriodMap_T`
- `typedef std::pair< MapKey_T, TimePeriod * > stdair::TimePeriodWithKey_T`
- `typedef std::list< TimePeriodWithKey_T > stdair::TimePeriodDetailedList_T`

### 33.500 TimePeriodTypes.hpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_TIMEPERIODTYPES_HPP
00003 #define __STDAIR_BOM_TIMEPERIODTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class TimePeriod;
00018
00019 typedef std::list<TimePeriod*> TimePeriodList_T;
00020
00021 typedef std::map<const MapKey_T, TimePeriod*> TimePeriodMap_T;
00022
00023 typedef std::pair<MapKey_T, TimePeriod*> TimePeriodWithKey_T;
00024
00025 typedef std::list<TimePeriodWithKey_T> TimePeriodDetailedList_T;
00026
00027 }
00028
00029 #endif // __STDAIR_BOM_TIMEPERIODTYPES_HPP
00030

```

### 33.501 stdair/bom/TravelSolutionStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_BookingClass.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BomKeyManager.hpp>
#include <stdair/bom/ParsedKey.hpp>

```

#### Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.502 TravelSolutionStruct.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BookingClass.hpp>
00009 #include <stdair/bom/TravelSolutionStruct.hpp>
00010 #include <stdair/bom/BomKeyManager.hpp>
00011 #include <stdair/bom/ParsedKey.hpp>
00012
00013 namespace stdair {
00014 // ///////////////////////////////////////////////////////////////////
00015 TravelSolutionStruct::TravelSolutionStruct() :
00016     _chosenFareOption (NULL)
00017 }
00018 // ///////////////////////////////////////////////////////////////////

```

```

00019 TravelSolutionStruct::~TravelSolutionStruct() {
00020 }
00021
00022 // /////////////////////////////////
00023 void TravelSolutionStruct::toStream (std::ostream& ioOut) const {
00024     ioOut << describe();
00025 }
00026
00027 // /////////////////////////////////
00028 void TravelSolutionStruct::fromStream (std::istream& ioIn) {
00029 }
00030
00031 // /////////////////////////////////
00032 const std::string TravelSolutionStruct::describeSegmentPath()
00033 const {
00034     std::ostringstream oStr;
00035
00036     //
00037     oStr << "Segment path: ";
00038     unsigned short idx = 0;
00039     for (SegmentPath_T::const_iterator lItSegmentPath = _segmentPath.begin();
00040          lItSegmentPath != _segmentPath.end(); ++lItSegmentPath, ++idx) {
00041         if (idx != 0) {
00042             oStr << " - ";
00043         }
00044         const std::string& lSegmentPathString = *lItSegmentPath;
00045         const stdair::ParsedKey& lSegmentParsedKey =
00046             stdair::BomKeyManager::extractKeys (lSegmentPathString);
00047         const std::string& lSegmentKey = lSegmentParsedKey.toString();
00048         oStr << lSegmentKey;
00049     }
00050     return oStr.str();
00051 }
00052
00053 const std::string TravelSolutionStruct::describe() const {
00054     std::ostringstream oStr;
00055
00056     //
00057     oStr << "Segment path: ";
00058     unsigned short idx = 0;
00059     for (SegmentPath_T::const_iterator lItSegmentPath = _segmentPath.begin();
00060          lItSegmentPath != _segmentPath.end(); ++lItSegmentPath, ++idx) {
00061         if (idx != 0) {
00062             oStr << " - ";
00063         }
00064         const std::string& lSegmentPathString = *lItSegmentPath;
00065         const stdair::ParsedKey& lSegmentParsedKey =
00066             stdair::BomKeyManager::extractKeys (lSegmentPathString);
00067         const std::string& lSegmentKey = lSegmentParsedKey.toString();
00068         oStr << lSegmentKey;
00069     }
00070     oStr << " ### ";
00071
00072     //
00073     if (_chosenFareOption != NULL) {
00074         oStr << "Chosen fare option: " << _chosenFareOption->describe()
00075             << " ## Among: ";
00076     } else {
00077         oStr << "Fare options: ";
00078     }
00079
00080     //
00081     idx = 0;
00082     for (FareOptionList_T::const_iterator lItFareOption= _fareOptionList.begin();
00083          lItFareOption != _fareOptionList.end(); ++lItFareOption, ++idx) {
00084         if (idx != 0) {
00085             oStr << " , ";
00086         }
00087         const FareOptionStruct& lFareOption = *lItFareOption;
00088         oStr << lFareOption.describe();
00089     }
00090
00091     return oStr.str();
00092 }
00093
00094 // /////////////////////////////////
00095 const std::string TravelSolutionStruct::display() const {
00096     std::ostringstream oStr;
00097
00098     // List of segment keys (one per segment)
00099     unsigned short idx = 0;
00100     for (SegmentPath_T::const_iterator itSegPath = _segmentPath.begin();
00101          itSegPath != _segmentPath.end(); ++itSegPath, ++idx) {
00102         if (idx != 0) {
00103             oStr << " ; ";
00104         }
00105     }

```

```

00105     const std::string& lSegmentPathString = *itSegPath;
00106     const stdair::ParsedKey& lSegmentParsedKey =
00107         stdair::KeyManager::extractKeys (lSegmentPathString);
00108     const std::string& lSegmentKey = lSegmentParsedKey.toString();
00109     oStr << "[" << idx << "] " << lSegmentKey;
00110 }
00111
00112 // List of fare options (for the whole O&D)
00113 oStr << " --- ";
00114 idx = 0;
00115 for (FareOptionList_T::const_iterator itFareOption = _fareOptionList.begin();
00116     itFareOption != _fareOptionList.end(); ++itFareOption, ++idx) {
00117     if (idx != 0) {
00118         oStr << ", ";
00119     }
00120     const FareOptionStruct& lFareOption = *itFareOption;
00121     oStr << lFareOption.display();
00122 }
00123
00124 // List of booking class availability maps: one map per segment
00125 oStr << " --- ";
00126 idx = 0;
00127 for (ClassAvailabilityMapHolder_T::const_iterator itSegMap =
00128     _classAvailabilityMapHolder.begin();
00129     itSegMap != _classAvailabilityMapHolder.end(); ++itSegMap, ++idx) {
00130     if (idx != 0) {
00131         oStr << " ; ";
00132     }
00133     // Retrieve the booking class availability map
00134     const ClassAvailabilityMap_T& lClassAvlMap = *itSegMap;
00135     oStr << "[" << idx << "] ";
00136
00137     // List (map) of booking class availabilities
00138     unsigned short jdx = 0;
00139     for (ClassAvailabilityMap_T::const_iterator itClass = lClassAvlMap.begin();
00140         itClass != lClassAvlMap.end(); ++itClass, ++jdx) {
00141         if (jdx != 0) {
00142             oStr << " ";
00143         }
00144         const ClassCode_T& lClassCode = itClass->first;
00145         const Availability_T& lAvl = itClass->second;
00146         oStr << lClassCode << ":" << lAvl;
00147     }
00148 }
00149
00150     return oStr.str();
00151 }
00152
00153 // /////////////////////////////////
00154 void TravelSolutionStruct::addSegment (const std::string& iKey) {
00155     _segmentPath.push_back (iKey);
00156 }
00157
00158 // /////////////////////////////////
00159 void TravelSolutionStruct:::
00160 addClassAvailabilityMap (const ClassAvailabilityMap_T&
00161 iMap) {
00162     _classAvailabilityMapHolder.push_back (iMap);
00163 }
00164
00165 // /////////////////////////////////
00166 void TravelSolutionStruct:::
00167 addClassObjectIDMap (const ClassObjectIDMap_T& iMap) {
00168     _classObjectIDMapHolder.push_back (iMap);
00169 }
00170
00171 // /////////////////////////////////
00172 void TravelSolutionStruct:::
00173 addClassYieldMap (const ClassYieldMap_T& iMap) {
00174     _classYieldMapHolder.push_back (iMap);
00175 }
00176
00177 // /////////////////////////////////
00178 void TravelSolutionStruct:::
00179 addBidPriceVector (const BidPriceVector_T& iBpv) {
00180     _bidPriceVectorHolder.push_back (iBpv);
00181 }
00182
00183 // /////////////////////////////////
00184 void TravelSolutionStruct:::
00185 addClassBpvMap (const ClassBpvMap_T& iMap) {
00186     _classBpvMapHolder.push_back (iMap);
00187 }
00188
00189 // /////////////////////////////////
00190 void TravelSolutionStruct:::
00191 addFareOption (const FareOptionStruct& iFareOption) {

```

```

00191     _fareOptionList.push_back (iFareOption);
00192 }
00193
00194 }
```

### 33.503 stdair/bom/TravelSolutionStruct.hpp File Reference

```

#include <iostream>
#include <string>
#include <vector>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
#include <stdair/bom/FareOptionStruct.hpp>
#include <stdair/bom/FareOptionTypes.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
```

#### Classes

- struct [stdair::TravelSolutionStruct](#)

*Structure holding the elements of a travel solution.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.504 TravelSolutionStruct.hpp

```

00001 #ifndef __STDAIR_BOM_TRAVELSOLUTIONSTRUCT_HPP
00002 #define __STDAIR_BOM_TRAVELSOLUTIONSTRUCT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
00010 #include <vector>
00011 // StdAir
00012 #include <stdair/stdair_basic_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/bom/BookingClassTypes.hpp>
00015 #include <stdair/bom/FareOptionStruct.hpp>
00016 #include <stdair/bom/FareOptionTypes.hpp>
00017 #include <stdair/bom/TravelSolutionTypes.hpp>
00018
00019 namespace stdair {
00020
00024     struct TravelSolutionStruct : public StructAbstract {
00025     public:
00026         // ///////////////////////////////////////////////////////////////////
00028         const SegmentPath_T& getSegmentPath() const {
00029             return _segmentPath;
00030         }
00031
00033         const ClassAvailabilityMapHolder_T&
00034         getClassAvailabilityMapHolder() const {
00035             return _classAvailabilityMapHolder;
00036         }
00038         const ClassObjectIDMapHolder_T&
00039         getClassObjectIDMapHolder() const {
00040             return _classObjectIDMapHolder;
00041
00043         const ClassYieldMapHolder_T& getClassYieldMapHolder() const
00044     {
```

```

00044     return _classYieldMapHolder;
00045 }
00046
00048 const BidPriceVectorHolder_T& getBidPriceVectorHolder()
00049 const {
00050     return _bidPriceVectorHolder;
00051 }
00053 const ClassBpvMapHolder_T& getClassBpvMapHolder() const {
00054     return _classBpvMapHolder;
00055 }
00056
00058 const FareOptionList_T& getFareOptionList() const {
00059     return _fareOptionList;
00060 }
00061
00063 FareOptionList_T& getFareOptionListRef() {
00064     return _fareOptionList;
00065 }
00066
00068 const FareOptionStruct& getChosenFareOption() const {
00069     assert (_chosenFareOption != NULL);
00070     return *_chosenFareOption;
00071 }
00072
00073 public:
00074 // ///////////// Setters /////////////
00076 void addSegment (const std::string&);
00077
00079 void addClassAvailabilityMap (const
00080     ClassAvailabilityMap_T&);
00082 void addClassObjectIDMap (const ClassObjectIDMap_T&);
00083
00085 void addClassYieldMap (const ClassYieldMap_T&);
00086
00088 void addBidPriceVector (const BidPriceVector_T&);
00089
00091 void addClassBpvMap (const ClassBpvMap_T&);
00092
00094 void addFareOption (const FareOptionStruct&);
00095
00097 void setChosenFareOption (const FareOptionStruct& iChosenFO) {
00098     _chosenFareOption = &iChosenFO;
00099 }
00100
00101
00102 public:
00103 // ///////////// Display support method /////////////
00104 void toStream (std::ostream& ioOut) const;
00105
00106 void fromStream (std::istream& ioIn);
00107
00108 const std::string describe() const;
00109
00110 const std::string display() const;
00111
00112 const std::string describeSegmentPath() const;
00113
00114
00115
00116
00117
00118
00119
00120
00121
00122
00123
00124
00125
00126
00127
00128
00129
00130
00131
00132
00133
00134
00135
00136
00137
00138 TravelSolutionStruct();
00139
00140 ~TravelSolutionStruct();
00141
00142
00143
00144
00145
00146 private:
00147 // ///////////// Attributes /////////////
00148 SegmentPath_T _segmentPath;
00149
00150 ClassAvailabilityMapHolder_T _classAvailabilityMapHolder;
00151
00152 ClassObjectIDMapHolder_T _classObjectIDMapHolder;
00153
00154 ClassYieldMapHolder_T _classYieldMapHolder;
00155
00156 BidPriceVectorHolder_T _bidPriceVectorHolder;
00157
00158 ClassBpvMapHolder_T _classBpvMapHolder;
00159
00160 FareOptionList_T _fareOptionList;
00161
00162 const FareOptionStruct* _chosenFareOption;
00163 };
00164
00165
00166
00167
00168
00169
00170
00171
00172
00173
00174
00175
00176
00177
00178
00179
00180
00181
00182
00183
00184
00185
00186
00187
00188
00189 }

```

```
00190 #endif // __STDAIR_BOM_TRAVELSOLUTIONSTRUCT_HPP
```

### 33.505 stdair/bom/TravelSolutionTypes.hpp File Reference

```
#include <list>
#include <map>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/key_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomIDTypes.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< TravelSolutionStruct > stdair::TravelSolutionList\_T**
- **typedef KeyList\_T stdair::SegmentPath\_T**
- **typedef std::list< SegmentPath\_T > stdair::SegmentPathList\_T**
- **typedef std::map< const ClassCode\_T, Availability\_T > stdair::ClassAvailabilityMap\_T**
- **typedef std::list< ClassAvailabilityMap\_T > stdair::ClassAvailabilityMapHolder\_T**
- **typedef std::map< const ClassCode\_T, BookingClassID\_T > stdair::ClassObjectIDMap\_T**
- **typedef std::list< ClassObjectIDMap\_T > stdair::ClassObjectIDMapHolder\_T**
- **typedef std::map< const ClassCode\_T, YieldValue\_T > stdair::ClassYieldMap\_T**
- **typedef std::list< ClassYieldMap\_T > stdair::ClassYieldMapHolder\_T**
- **typedef std::list< BidPriceVector\_T > stdair::BidPriceVectorHolder\_T**
- **typedef std::map< const ClassCode\_T, const BidPriceVector\_T \* > stdair::ClassBpvMap\_T**
- **typedef std::list< ClassBpvMap\_T > stdair::ClassBpvMapHolder\_T**

### 33.506 TravelSolutionTypes.hpp

```
00001 // ///////////////////////////////////////////////////////////////////
00002 #ifndef __STDAIR_BOM_TRAVELSOLUTIONTYPES_HPP
00003 #define __STDAIR_BOM_TRAVELSOLUTIONTYPES_HPP
00004
00005 // ///////////////////////////////////////////////////////////////////
00006 // Import section
00007 // ///////////////////////////////////////////////////////////////////
00008 // STL
00009 #include <list>
00010 #include <map>
00011 // StdAir
00012 #include <stdair/stdair_basic_types.hpp>
00013 #include <stdair/bom/key_types.hpp>
00014 #include <stdair/stdair_inventory_types.hpp> // bid price related types.
00015 #include <stdair/bom/BomIDTypes.hpp>
00016
00017 namespace stdair {
00018
00019 // Forward declarations.
00020 struct TravelSolutionStruct;
00021
00023 typedef std::list<TravelSolutionStruct> TravelSolutionList_T;
00024
00026 typedef KeyList_T SegmentPath_T;
00027
00029 typedef std::list<SegmentPath_T> SegmentPathList_T;
00030
00032 typedef std::map<const ClassCode_T, Availability_T> ClassAvailabilityMap_T;
00033
00035 typedef std::list<ClassAvailabilityMap_T> ClassAvailabilityMapHolder_T;
```

```

00036
00038     typedef std::map<const ClassCode_T, BookingClassID_T> ClassObjectIDMap_T;
00039
00041     typedef std::list<ClassObjectIDMap_T> ClassObjectIDMapHolder_T;
00042
00044     typedef std::map<const ClassCode_T, YieldValue_T> ClassYieldMap_T;
00045
00047     typedef std::list<ClassYieldMap_T> ClassYieldMapHolder_T;
00048
00050     typedef std::list<BidPriceVector_T> BidPriceVectorHolder_T;
00051
00053     typedef std::map<const ClassCode_T, const BidPriceVector_T*> ClassBpvMap_T;
00054
00056     typedef std::list<ClassBpvMap_T> ClassBpvMapHolder_T;
00057 }
00058 #endif // __STDAIR_BOM_TRAVELSOLUTIONTYPES_HPP
00059

```

### 33.507 stdair/bom/VirtualClassStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/bom/VirtualClassStruct.hpp>
#include <stdair/bom/BookingClass.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.508 VirtualClassStruct.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/bom/VirtualClassStruct.hpp>
00009 #include <stdair/bom/BookingClass.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////
00014     VirtualClassStruct::VirtualClassStruct() {
00015         assert (false);
00016     }
00017
00018 // /////////////////////////////////
00019     VirtualClassStruct::VirtualClassStruct (const VirtualClassStruct& iVC)
00020         : _bookingClassList (iVC._bookingClassList), _yield (iVC._yield),
00021         _mean (iVC._mean), _stdDev (iVC._stdDev) {
00022 }
00023
00024 // /////////////////////////////////
00025     VirtualClassStruct::
00026     VirtualClassStruct (const BookingClassList_T& ioBookingClassList) {
00027         _bookingClassList = ioBookingClassList;
00028     }
00029
00030 // /////////////////////////////////
00031     VirtualClassStruct::~VirtualClassStruct() {
00032
00033     }
00034
00035 // /////////////////////////////////
00036     void VirtualClassStruct::toStream (std::ostream& ioOut) const {
00037         ioOut << describe();
00038     }
00039
00040 // /////////////////////////////////
00041     void VirtualClassStruct::fromStream (std::istream& ioIn) {
00042

```

```

00043 // ///////////////////////////////////////////////////////////////////
00044 const std::string VirtualClassStruct::describe() const {
00045     std::ostringstream oStr;
00046     oStr << "Yield: " << _yield
00047     << ", Demand N (" << _mean << ", " << _stdDev << ")";
00048     return oStr.str();
00049 }
00050
00051 // ///////////////////////////////////////////////////////////////////
00052 const GeneratedDemandVector_T VirtualClassStruct::
00053 getGeneratedDemandVector() const {
00054     GeneratedDemandVector_T lDemandVector;
00055     const bool isBookingClassListEmpty = _bookingClassList.empty();
00056     if (isBookingClassListEmpty == false) {
00057         assert (isBookingClassListEmpty == false);
00058         BookingClassList_T::const_iterator itBC = _bookingClassList.begin();
00059         BookingClass* lBC_ptr = *itBC;
00060         const GeneratedDemandVector_T& lFirstDemandVector =
00061             lBC_ptr->getGeneratedDemandVector();
00062         const unsigned int lFirstDemandVectorSize = lFirstDemandVector.size();
00063         for (unsigned int i = 0; i < lFirstDemandVectorSize; ++i) {
00064             const double& lDemand = lFirstDemandVector[i];
00065             lDemandVector.push_back(lDemand);
00066         }
00067     }
00068     const unsigned int& lDemandVectorSize = lDemandVector.size();
00069     ++itBC;
00070     for (; itBC != _bookingClassList.end(); ++ itBC) {
00071         lBC_ptr = *itBC;
00072         assert(lBC_ptr != NULL);
00073         const GeneratedDemandVector_T& lCurrentDemandVector =
00074             lBC_ptr->getGeneratedDemandVector();
00075         const unsigned int& lCurrentDemandVectorSize =
00076             lCurrentDemandVector.size();
00077         assert(lDemandVectorSize == lCurrentDemandVectorSize);
00078         for (unsigned int i = 0; i < lDemandVectorSize; ++i) {
00079             lDemandVector[i] += lCurrentDemandVector[i];
00080         }
00081     }
00082 }
00083 return lDemandVector;
00084 }
00085 }
```

### 33.509 stdair/bom/VirtualClassStruct.hpp File Reference

```
#include <iostream>
#include <string>
#include <vector>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/bom/BookingClassTypes.hpp>
```

#### Classes

- struct [stdair::VirtualClassStruct](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.510 VirtualClassStruct.hpp

```
00001 #ifndef __STDAIR_BOM_VIRTUALCLASSSTRUCT_HPP
```

```
00002 #define __STDAIR_BOM_VIRTUALCLASSSTRUCT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <string>
0010 #include <vector>
0011 // StdAir
0012 #include <stdair/stdair_basic_types.hpp>
0013 #include <stdair/stdair_inventory_types.hpp>
0014 #include <stdair/stdair_maths_types.hpp>
0015 #include <stdair/stdair_rm_types.hpp>
0016 #include <stdair/basic/StructAbstract.hpp>
0017 #include <stdair/bom/BookingClassTypes.hpp>
0018
0019 namespace stdair {
0020     // Forward declarations.
0021     class BookingClass;
0022
0023     struct VirtualClassStruct : public StructAbstract {
0024         public:
0025             // ////////////////// Getters ///////////////////
0026             const BookingClassList_T& getBookingClassList() const {
0027                 return _bookingClassList;
0028             }
0029
0030
0031             const Yield_T& getYield() const {
0032                 return _yield;
0033             }
0034
0035
0036             const MeanValue_T& getMean() const {
0037                 return _mean;
0038             }
0039
0040
0041             const StdDevValue_T& getStdDev() const {
0042                 return _stdDev;
0043             }
0044
0045
0046             const BookingLimit_T& getCumulatedBookingLimit () const {
0047                 return _cumulatedBookingLimit;
0048             }
0049
0050
0051             const ProtectionLevel_T& getCumulatedProtection () const {
0052                 return _cumulatedProtection;
0053             }
0054
0055
0056             const GeneratedDemandVector_T
0057             getGeneratedDemandVector () const;
0058
0059         public:
0060             // ////////////////// Setters ///////////////////
0061             void setYield (const Yield_T& iYield) {
0062                 _yield = iYield;
0063             }
0064
0065
0066             void setMean (const MeanValue_T& iMean) {
0067                 _mean = iMean;
0068             }
0069
0070
0071             void setStdDev (const StdDevValue_T& iStdDev) {
0072                 _stdDev = iStdDev;
0073             }
0074
0075
0076             void setCumulatedBookingLimit (const BookingLimit_T& iBL) {
0077                 _cumulatedBookingLimit = iBL;
0078             }
0079
0080
0081             void setCumulatedProtection (const ProtectionLevel_T& iP) {
0082                 _cumulatedProtection = iP;
0083             }
0084
0085
0086             void addBookingClass (BookingClass& iBookingClass) {
0087                 _bookingClassList.push_back(&iBookingClass);
0088             }
0089
0090
0091         public:
0092             // ////////////////// Display support method ///////////////////
0093             void toStream (std::ostream& ioOut) const;
0094
0095
0096             void fromStream (std::istream& ioIn);
0097
0098             const std::string describe() const;
0099
0100
0101         public:
```

```

0011 // ////////////////// Constructors & Destructor /////////////////////
0013 VirtualClassStruct (const VirtualClassStruct&);
0015 VirtualClassStruct (const BookingClassList_T&);
0017 ~VirtualClassStruct ();
0018
0019 private:
0021     VirtualClassStruct ();
0022
0023
0024 private:
0025     // ////////////////// Attributes ///////////////////
0027     BookingClassList_T _bookingClassList;
0028
0029     Yield_T _yield;
0030
0031     MeanValue_T _mean;
0032
0033     StdDevValue_T _stdDev;
0034
0035     BookingLimit_T _cumulatedBookingLimit;
0036
0037     ProtectionLevel_T _cumulatedProtection;
0038 }
0039
0040
0041
0042
0043
0044
0045 }
0046 #endif // __STDAIR_BOM_VIRTUALCLASSTRUCT_HPP

```

### 33.511 stdair/bom/VirtualClassTypes.hpp File Reference

```
#include <list>
#include <map>
#include <stdair/stdair_basic_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef std::list< VirtualClassStruct > stdair::VirtualClassList\_T**
- **typedef std::map< const YieldLevel\_T, VirtualClassStruct > stdair::VirtualClassMap\_T**

### 33.512 VirtualClassTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_VIRTUALCLASSTYPES_HPP
00003 #define __STDAIR_BOM_VIRTUALCLASSTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <list>
00010 #include <map>
00011 // STDAIR
00012 #include <stdair/stdair_basic_types.hpp>
00013
00014 namespace stdair {
00015
00016     // Forward declarations.
00017     struct VirtualClassStruct;
00018
00019     typedef std::list<VirtualClassStruct> VirtualClassList_T;
00020
00021     typedef std::map<const YieldLevel_T, VirtualClassStruct> VirtualClassMap_T;
00022 }
00023
00024
00025 #endif // __STDAIR_BOM_VIRTUALCLASSTYPES_HPP
00026

```

### 33.513 stdair/bom/YieldFeatures.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/YieldFeatures.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.514 YieldFeatures.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Request.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 #include <stdair/bom/YieldFeatures.hpp>
00011
00012 namespace stdair {
00013
00014 // /////////////////////////////////
00015 YieldFeatures::YieldFeatures()
00016   : _key (TRIP_TYPE_ONE_WAY,
00017           DEFAULT_PREFERRED_CABIN),
00018   _parent (NULL) {
00019   // That constructor is used by the serialisation process
00020 }
00021
00022 // /////////////////////////////////
00023 YieldFeatures::YieldFeatures (const YieldFeatures& iFeatures)
00024   : _key (iFeatures.getKey()), _parent (NULL) {
00025 }
00026
00027 // /////////////////////////////////
00028 YieldFeatures::YieldFeatures (const Key_T& iKey)
00029   : _key (iKey), _parent (NULL) {
00030 }
00031
00032 // /////////////////////////////////
00033 YieldFeatures::~YieldFeatures () {
00034 }
00035
00036 // /////////////////////////////////
00037 std::string YieldFeatures::toString() const {
00038   std::ostringstream oStr;
00039   oStr << describeKey();
00040   return oStr.str();
00041 }
00042
00043 // /////////////////////////////////
00044 bool YieldFeatures::
00045 isTripTypeValid (const TripType_T& iBookingRequestTripType) const {
00046   bool oIsTripTypeValidFlag = true;
00047
00048   // Check whether the yield trip type is the same as the booking request
00049   // trip type
00050   const TripType_T& lYieldTripType = getTripType();
00051   if (iBookingRequestTripType == lYieldTripType) {
00052     // One way case
00053     return oIsTripTypeValidFlag;
00054   }
00055
00056   if (iBookingRequestTripType == TRIP_TYPE_INBOUND ||
00057       iBookingRequestTripType == TRIP_TYPE_OUTBOUND) {
00058     // Round trip case.
00059     if (lYieldTripType == TRIP_TYPE_ROUND_TRIP) {
00060       return oIsTripTypeValidFlag;
00061     }
00062 }
```

```

00062     }
00063
00064     oIsTripTypeValidFlag = false;
00065     return false;
00066 }
00067
00068 }
00069

```

### 33.515 stdair/bom/YieldFeatures.hpp File Reference

```
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/YieldFeaturesKey.hpp>
#include <stdair/bom/YieldFeaturesTypes.hpp>
```

#### Classes

- class [stdair::YieldFeatures](#)  
*Class representing the actual attributes for a yield date-period.*

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.516 YieldFeatures.hpp

```

00001 #ifndef __STDAIR_BOM_YIELDFEATURES_HPP
00002 #define __STDAIR_BOM_YIELDFEATURES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/bom/BomAbstract.hpp>
00009 #include <stdair/bom/YieldFeaturesKey.hpp>
00010 #include <stdair/bom/YieldFeaturesTypes.hpp>
00011
00012 // Forward declaration
00013 namespace stdair {
00014
00015     class YieldFeatures : public BomAbstract {
00016         template <typename BOM> friend class FacBom;
00017         template <typename BOM> friend class FacCloneBom;
00018         friend class FacBomManager;
00019
00020     public:
00021         // ////////// Type definitions
00022         typedef YieldFeaturesKey Key_T;
00023
00024     public:
00025         // ////////// Display support methods ///////////
00026         void toStream (std::ostream& ioOut) const {
00027             ioOut << toString();
00028         }
00029
00030         void fromStream (std::istream& ioIn) {
00031
00032             std::string toString() const;
00033
00034             const std::string describeKey() const {
00035                 return _key.toString();
00036             }
00037
00038             public:
00039                 // ////////// Getters ///////////
00040                 const Key_T& getKey() const {
00041                     return _key;
00042                 }
00043
00044
00045
00046
00047
00048
00049
00050
00051
00052
00053
00054
00055
00056
00057
00058
00059
00060
00061
00062
00063
00064
00065
00066
00067
00068
00069
00070

```

```

00074     BomAbstract* const getParent() const {
00075         return _parent;
00076     }
00077
00081     const HolderMap_T& getHolderMap() const {
00082         return _holderMap;
00083     }
00084
00088     const CabinCode_T& getCabinCode() const {
00089         return _key.getCabinCode();
00090     }
00091
00095     const TripType_T& getTripType() const {
00096         return _key.getTripType();
00097     }
00098
00099
00100    public:
00101        // ////////////////// Business methods ///////////////////
00106        bool isTripTypeValid (const TripType_T&) const;
00107
00108    protected:
00109        // ////////////////// Constructors and destructors //////////////////
00110        YieldFeatures (const Key_T&);
00115
00119        virtual ~YieldFeatures();
00120
00121    private:
00125        YieldFeatures();
00126
00130        YieldFeatures (const YieldFeatures&);
00131
00132
00133    protected:
00134        // ////////////////// Attributes //////////////////
00138        Key_T _key;
00139
00143        BomAbstract* _parent;
00144
00148        HolderMap_T _holderMap;
00149    };
00150
00151 }
00152 #endif // __STDAIR_BOM_YIELDFEATURES_HPP
00153

```

### 33.517 stdair/bom/YieldFeaturesKey.cpp File Reference

```

#include <iostream>
#include <iostream>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/YieldFeaturesKey.hpp>

```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.518 YieldFeaturesKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <iostream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_Request.hpp>
00009 #include <stdair/bom/YieldFeaturesKey.hpp>
00010
00011 namespace stdair {
00012
00013 // /////////////////////////////////

```

```

00014     YieldFeaturesKey::YieldFeaturesKey()
00015     : _tripType (TRIP_TYPE_ONE WAY),
00016     _cabinCode (DEFAULT_PREFERRED_CABIN) {
00017     assert (false);
00018 }
00019
00020 // /////////////////////////////////
00021 YieldFeaturesKey::YieldFeaturesKey (const stdair::TripType_T& iTripType,
00022                                     const stdair::CabinCode_T& iCabin)
00023     : _tripType (iTripType), _cabinCode (iCabin)
00024 }
00025
00026 // /////////////////////////////////
00027 YieldFeaturesKey::YieldFeaturesKey (const YieldFeaturesKey& iKey)
00028     : _tripType (iKey.getTripType()), _cabinCode (iKey.getCabinCode()) {
00029 }
00030
00031 // /////////////////////////////////
00032 YieldFeaturesKey::~YieldFeaturesKey () {
00033 }
00034
00035 // /////////////////////////////////
00036 void YieldFeaturesKey::toStream (std::ostream& ioOut) const {
00037     ioOut << "YieldFeaturesKey: " << toString() << std::endl;
00038 }
00039
00040 // /////////////////////////////////
00041 void YieldFeaturesKey::fromStream (std::istream& ioIn) {
00042 }
00043
00044 // /////////////////////////////////
00045 const std::string YieldFeaturesKey::toString() const {
00046     std::ostringstream oStr;
00047     oStr << _tripType << " -- " << _cabinCode;
00048     return oStr.str();
00049 }
00050
00051 }

```

### 33.519 stdair/bom/YieldFeaturesKey.hpp File Reference

```
#include <stdair/bom/KeyAbstract.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
```

#### Classes

- struct [stdair::YieldFeaturesKey](#)

*Key of date-period.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.520 YieldFeaturesKey.hpp

```

00001 #ifndef __STDAIR_BOM_YIELDFEATURESKEY_HPP
00002 #define __STDAIR_BOM_YIELDFEATURESKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/bom/KeyAbstract.hpp>
00009 #include <stdair/stdair_date_time_types.hpp>
00010 #include <stdair/stdair_demand_types.hpp>
00011 #include <stdair/stdair_inventory_types.hpp>
00012

```

```

00013 namespace stdair {
00014
00018     struct YieldFeaturesKey : public KeyAbstract {
00019     public:
00020         // ////////////////// Construction //////////////////
00021         YieldFeaturesKey (const TripType_T&, const
00022             CabinCode_T&);
00023         YieldFeaturesKey (const YieldFeaturesKey&);
00024         ~YieldFeaturesKey ();
00025     private:
00026         YieldFeaturesKey ();
00027
00028     public:
00029         // ////////////////// Getters //////////////////
00030         const TripType_T& getTripType() const {
00031             return _tripType;
00032         }
00033
00034         const CabinCode_T& getCabinCode() const {
00035             return _cabinCode;
00036         }
00037
00038     public:
00039         // ////////////////// Display support methods //////////////////
00040         void toStream (std::ostream& ioOut) const;
00041
00042         void fromStream (std::istream& ioIn);
00043
00044         const std::string toString() const;
00045
00046     private:
00047         // ////////////////// Attributes //////////////////
00048         TripType_T _tripType;
00049
00050         CabinCode_T _cabinCode;
00051     };
00052
00053
00054
00055
00056
00057
00058
00059
00060
00061
00062
00063
00064
00065
00066
00067
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00075
00076
00077
00078
00079
00080
00081
00082
00083
00084
00085
00086
00087
00088
00089
00090 #endif // __STDAIR_BOM_YIELDFEATURESKEY_HPP

```

### 33.521 stdair/bom/YieldFeaturesTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef std::list< YieldFeatures \* > stdair::YieldFeaturesList\_T**
- **typedef std::map< const MapKey\_T, YieldFeatures \* > stdair::YieldFeaturesMap\_T**
- **typedef std::pair< MapKey\_T, YieldFeatures \* > stdair::YieldFeaturesWithKey\_T**
- **typedef std::list< YieldFeaturesWithKey\_T > stdair::YieldFeaturesDetailedList\_T**

### 33.522 YieldFeaturesTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_YIELDFEATURESTYPES_HPP
00003 #define __STDAIR_BOM_YIELDFEATURESTYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>

```

```

00011 // STDAIR
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {
00015
00016 // Forward declarations.
00017 class YieldFeatures;
00018
00019 typedef std::list<YieldFeatures*> YieldFeaturesList_T;
00020
00021 typedef std::map<const MapKey_T, YieldFeatures*> YieldFeaturesMap_T;
00022
00023 typedef std::pair<MapKey_T, YieldFeatures*> YieldFeaturesWithKey_T;
00024
00025 typedef std::list<YieldFeaturesWithKey_T> YieldFeaturesDetailedList_T;
00026
00027
00028 }
00029 #endif // __STDAIR_BOM_YIELDFEATURESTYPES_HPP
00030

```

### 33.523 stdair/bom/YieldStore.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/bom/YieldStore.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.524 YieldStore.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/bom/YieldStore.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 YieldStore::YieldStore (const Key_T& iKey) : _key (iKey), _parent (NULL) {
00014 }
00015
00016 // /////////////////////////////////
00017 YieldStore::~YieldStore () {
00018 }
00019
00020 // /////////////////////////////////
00021 std::string YieldStore::toString() const {
00022     std::ostringstream oStr;
00023     oStr << _key.toString();
00024     return oStr.str();
00025 }
00026
00027 }
00028

```

### 33.525 stdair/bom/YieldStore.hpp File Reference

```
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/bom/YieldStoreKey.hpp>
#include <stdair/bom/YieldStoreTypes.hpp>
```

## Classes

- class `stdair::YieldStore`

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## 33.526 YieldStore.hpp

```

00001 #ifndef __STDAIR_BOM_YIELDSTORE_HPP
00002 #define __STDAIR_BOM_YIELDSTORE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
00011 #include <stdair/bom/BomAbstract.hpp>
00012 #include <stdair/bom/YieldStoreKey.hpp>
00013 #include <stdair/bom/YieldStoreTypes.hpp>
00014
00015 namespace stdair {
00016
00018   class YieldStore : public BomAbstract {
00019     template <typename BOM> friend class FacBom;
00020     friend class FacBomManager;
00021
00022   public :
00023     // Type definitions
00025     typedef YieldStoreKey Key_T;
00026
00027   public:
00028     // ////////////////// Display support methods //////////////////
00029     void toStream (std::ostream& ioOut) const { ioOut << toString(); }
00030
00034     BomAbstract* const getParent() const { return _parent; }
00035
00038     void fromStream (std::istream& ioIn) { }
00039
00041     std::string toString() const;
00042
00044     const std::string describeKey() const { return _key.toString(); }
00045
00046   public:
00047     // ////////////////// Getters //////////////////
00049     const Key_T& getKey() const { return _key; }
00050
00052     const AirlineCode_T& getAirlineCode () const {
00053       return _key.getAirlineCode();
00054     }
00055
00056   protected:
00058     YieldStore (const Key_T&);
00059     YieldStore (const YieldStore&);
00061     ~YieldStore();
00062
00063   protected:
00064     // Attributes
00066     Key_T _key;
00067     BomAbstract* _parent;
00068   };
00069
00070 }
00071 #endif // __STDAIR_BOM_YIELDSTORE_HPP
00072

```

## 33.527 stdair/bom/YieldStoreKey.cpp File Reference

```
#include <stdair/bom/YieldStoreKey.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.528 YieldStoreKey.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // StdAir
00005 #include <stdair/bom/YieldStoreKey.hpp>
00006
00007 namespace stdair {
00008
00009 // /////////////////////////////////
00010 YieldStoreKey::YieldStoreKey (const AirlineCode_T& iAirlineCode)
00011   : _airlineCode (iAirlineCode) {
00012 }
00013 // /////////////////////////////////
00014 YieldStoreKey::YieldStoreKey (const YieldStoreKey& iKey)
00015   : _airlineCode (iKey._airlineCode) {
00016 }
00017
00018 // /////////////////////////////////
00019 YieldStoreKey::~YieldStoreKey () {
00020 }
00021
00022 // /////////////////////////////////
00023 void YieldStoreKey::toStream (std::ostream& ioOut) const {
00024   ioOut << "YieldStoreKey: " << toString() << std::endl;
00025 }
00026
00027 // /////////////////////////////////
00028 void YieldStoreKey::fromStream (std::istream& ioIn) {
00029 }
00030
00031 // /////////////////////////////////
00032 const std::string YieldStoreKey::toString() const {
00033   std::ostringstream oStr;
00034   oStr << _airlineCode;
00035   return oStr.str();
00036 }
00037
00038 }
```

### 33.529 stdair/bom/YieldStoreKey.hpp File Reference

```
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/KeyAbstract.hpp>
```

## Classes

- struct **stdair::YieldStoreKey**

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.530 YieldStoreKey.hpp

```

00001 #ifndef __STDAIR_BOM_YIELDSTOREKEY_HPP
00002 #define __STDAIR_BOM_YIELDSTOREKEY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
```

```

00006 // /////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_inventory_types.hpp>
00009 #include <stdair/bom/KeyAbstract.hpp>
00010
00011 namespace stdair {
00012
00014 struct YieldStoreKey : public KeyAbstract {
00015
00016 private:
00017     // ////////////////// Default constructor //////////////////
00018     YieldStoreKey () { };
00019
00020 public:
00021     // ////////////////// Construction //////////////////
00023     YieldStoreKey (const AirlineCode_T& iAirlineCode);
00024     YieldStoreKey (const YieldStoreKey&);
00026     ~YieldStoreKey ();
00027
00028     // ////////////////// Getters //////////////////
00030     const AirlineCode_T& getAirlineCode() const {
00031         return _airlineCode;
00032     }
00033
00034     // ////////////////// Display support methods //////////////////
00037     void toStream (std::ostream& ioOut) const;
00038
00041     void fromStream (std::istream& ioIn);
00048     const std::string toString() const;
00049
00050 private:
00051     // Attributes
00053     AirlineCode_T _airlineCode;
00054 };
00055
00056 }
00057 #endif // __STDAIR_BOM_YIELDSTOREKEY_HPP

```

### 33.531 stdair/bom/YieldStoreTypes.hpp File Reference

```
#include <map>
#include <list>
#include <stdair/bom/key_types.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### TypeDefs

- [typedef std::list< YieldStore \\* > stdair::YieldStoreList\\_T](#)
- [typedef std::map< const MapKey\\_T, YieldStore \\* > stdair::YieldStoreMap\\_T](#)

### 33.532 YieldStoreTypes.hpp

```

00001 // /////////////////////////////////
00002 #ifndef __STDAIR_BOM_YIELDSTORETYPES_HPP
00003 #define __STDAIR_BOM_YIELDSTORETYPES_HPP
00004
00005 // /////////////////////////////////
00006 // Import section
00007 // /////////////////////////////////
00008 // STL
00009 #include <map>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/bom/key_types.hpp>
00013
00014 namespace stdair {

```

```

00015 // Forward declarations.
00016 class YieldStore;
00017
00018
00019
00020 typedef std::list<YieldStore*> YieldStoreList_T;
00021
00022 typedef std::map<const MapKey_T, YieldStore*> YieldStoreMap_T;
00023
00024
00025 }
00026 #endif // __STDAIR_BOM_YIELDSTORETYPES_HPP
00027

```

### 33.533 stdair/command/CmdAbstract.cpp File Reference

```
#include <stdair/command/CmdAbstract.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.534 CmdAbstract.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // StdAir
00005 #include <stdair/command/CmdAbstract.hpp>
00006
00007 namespace stdair {
00008
00009 }

```

### 33.535 stdair/command/CmdAbstract.hpp File Reference

#### Classes

- class **stdair::CmdAbstract**

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.536 CmdAbstract.hpp

```

00001 #ifndef __STDAIR_CMD_CMDABSTRACT_HPP
00002 #define __STDAIR_CMD_CMDABSTRACT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007
00008 namespace stdair {
00009
00010   class CmdAbstract {
00011     public:
00012
00013   };
00014
00015 }
00016
00017 #endif // __STDAIR_CMD_CMDABSTRACT_HPP

```

## 33.537 stdair/command/CmdBomManager.cpp File Reference

## 33.538 CmdBomManager.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 ///////////////
00009 #include <stdair/basic/BasConst_General.hpp>
00010 #include <stdair/basic/BasConst_DefaultObject.hpp>
00011 #include <stdair/basic/BasConst_Request.hpp>
00012 #include <stdair/basic/BasConst_Inventory.hpp>
00013 #include <stdair/bom/BomRetriever.hpp>
00014 #include <stdair/bom/BomRoot.hpp>
00015 #include <stdair/bom/Inventory.hpp>
00016 #include <stdair/bom/AirlineFeature.hpp>
00017 #include <stdair/bom/FlightDate.hpp>
00018 #include <stdair/bom/LegDate.hpp>
00019 #include <stdair/bom/LegCabin.hpp>
00020 #include <stdair/bom/SegmentDate.hpp>
00021 #include <stdair/bom/SegmentCabin.hpp>
00022 #include <stdair/bom/FareFamily.hpp>
00023 #include <stdair/bom/BookingClass.hpp>
00024 #include <stdair/bom/AirportPair.hpp>
00025 #include <stdair/bom/PosChannel.hpp>
00026 #include <stdair/bom/DatePeriod.hpp>
00027 #include <stdair/bom/TimePeriod.hpp>
00028 #include <stdair/bom/YieldFeatures.hpp>
00029 #include <stdair/bom/AirlineClassList.hpp>
00030 #include <stdair/bom/TravelSolutionStruct.hpp>
00031 #include <stdair/bom/FareFeatures.hpp>
00032 #include <stdair/bom/BookRequestStruct.hpp>
00033 #include <stdair/factory/FacBomManager.hpp>
00034 #include <stdair/command/CmdBomManager.hpp>
00035 #include <stdair/service/Logger.hpp>
00036 #include <stdair/bom/OnDDate.hpp>
00037 #include <stdair/bom/SegmentPeriod.hpp>
00038 #include <stdair/bom/FlightPeriod.hpp>
00039 namespace stdair {
00040 ///////////////////////////////
00041 void CmdBomManager::buildSampleBom (BomRoot& ioBomRoot) {
00042     // DEBUG
00043     STDAIR_LOG_DEBUG ("StdAir is building the BOM tree from built-in "
00044                     << "specifications.");
00045     // ////////// Basic Bom Tree //////////
00046     // Build the inventory (flight-dates) and the schedule (flight period)
00047     // parts.
00048     buildSampleInventorySchedule (ioBomRoot);
00049     // ////////// Partnership Bom Tree //////////
00050     // Build the inventory (flight-dates) and the schedule (flight period)
00051     // parts.
00052     buildPartnershipsSampleInventoryAndRM (ioBomRoot);
00053     // Build the pricing (fare rules) and revenue accounting (yields) parts.
00054     buildSamplePricing (ioBomRoot);
00055     // ////////// Fare Families Bom Tree //////////
00056     // Build the inventory (flight-dates) and the schedule (flight period)
00057     // parts with fare families.
00058     buildSampleInventoryScheduleForFareFamilies (ioBomRoot);
00059     // Build the pricing (fare rules) and revenue accounting (yields) parts.
00060     buildSamplePricingForFareFamilies (ioBomRoot);
00061     // Build a dummy inventory, needed by RMOL.
00062     buildCompleteDummyInventory (ioBomRoot);
00063     // ////////// Dummy Bom Tree //////////
00064     // Build the inventory (flight-dates) and the schedule (flight period)
00065     // parts.
00066     buildCompleteDummyInventoryForFareFamilies (ioBomRoot);
00067 }
```

```

00085 // /////////////////////////////////
00086 void CmdBomManager::buildSampleInventorySchedule (BomRoot& ioBomRoot) {
00087
00088     // Inventory
00089     // Step 0.1: Inventory level
00090     // Create an Inventory for BA
00091     const AirlineCode_T lAirlineCodeBA ("BA");
00092     const InventoryKey lBAKey (lAirlineCodeBA);
00093     Inventory& lBAInv = FacBom<Inventory>::instance().
00094         create (lBAKey);
00095     FacBomManager::addToListAndMap (ioBomRoot, lBAInv);
00096     FacBomManager::linkWithParent (ioBomRoot, lBAInv);
00097
00098     // Add the airline feature object to the BA inventory
00099     const AirlineFeatureKey lAirlineFeatureBAKey (lAirlineCodeBA);
00100     AirlineFeature& lAirlineFeatureBA =
00101         FacBom<AirlineFeature>::instance().create (lAirlineFeatureBAKey
00102     );
00103     FacBomManager::setAirlineFeature (lBAInv, lAirlineFeatureBA);
00104     FacBomManager::linkWithParent (lBAInv, lAirlineFeatureBA);
00105     // Link the airline feature object with the top of the BOM tree
00106     FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureBA);
00107
00108     // Create an Inventory for AF
00109     const AirlineCode_T lAirlineCodeAF ("AF");
00110     const InventoryKey lAFKey (lAirlineCodeAF);
00111     Inventory& lAFInv = FacBom<Inventory>::instance().
00112         create (lAFKey);
00113     FacBomManager::addToListAndMap (ioBomRoot, lAFInv);
00114     FacBomManager::linkWithParent (ioBomRoot, lAFInv);
00115
00116     // Add the airline feature object to the AF inventory
00117     const AirlineFeatureKey lAirlineFeatureAFKey (lAirlineCodeAF);
00118     AirlineFeature& lAirlineFeatureAF =
00119         FacBom<AirlineFeature>::instance().create (lAirlineFeatureAFKey
00120     );
00121     FacBomManager::setAirlineFeature (lAFInv, lAirlineFeatureAF);
00122     FacBomManager::linkWithParent (lAFInv, lAirlineFeatureAF);
00123     // Link the airline feature object with the top of the BOM tree
00124     FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureAF);
00125
00126     // BA
00127     // Step 0.2: Flight-date level
00128     // Create a FlightDate (BA9/10-JUN-2011) for BA's Inventory
00129     FlightNumber_T lFlightNumber = 9;
00130     Date_T lDate (2011, 6, 10);
00131     FlightDateKey lFlightDateKey (lFlightNumber, lDate);
00132
00133     FlightDate& lBA9_20110610_FD =
00134         FacBom<FlightDate>::instance().create (lFlightDateKey);
00135     FacBomManager::addToListAndMap (lBAInv, lBA9_20110610_FD);
00136     FacBomManager::linkWithParent (lBAInv, lBA9_20110610_FD);
00137
00138     // Display the flight-date
00139     // STDAIR_LOG_DEBUG ("FlightDate: " << lBA9_20110610_FD.toString());
00140
00141     // Step 0.3: Segment-date level
00142     // Create a first SegmentDate (LHR-SYD) for BA's Inventory
00143     // See
00144     http://www.britishairways.com/travel/flightinformation/public/fr\_fr?&Carrier=BA&FlightNumber=0009&from=LHR&to=SYD&depDate=2011-06-10T00:00:00Z&arrDate=2011-06-10T23:55:00Z
00145     const AirportCode_T lLHR ("LHR");
00146     const AirportCode_T lSYD ("SYD");
00147     const DateOffset_T l1Day (1);
00148     const DateOffset_T l2Days (2);
00149     const Duration_T l2135 (21, 45, 0);
00150     const Duration_T l0610 (6, 10, 0);
00151     const Duration_T l2205 (22, 05, 0);
00152     SegmentDateKey lSegmentDateKey (lLHR, lSYD);
00153
00154     SegmentDate& lLHRSYDSegment =
00155         FacBom<SegmentDate>::instance().create (lSegmentDateKey);
00156     FacBomManager::addToListAndMap (lBA9_20110610_FD, lLHRSYDSegment);
00157     FacBomManager::linkWithParent (lBA9_20110610_FD, lLHRSYDSegment);
00158
00159     // Add the routing leg keys to the LHR-SYD segment.
00160     const std::string lBALHRRoutingLegStr = "BA;9;2011-Jun-10;LHR";
00161     const std::string lBABKKRoutingLegStr = "BA;9;2011-Jun-10;BKK";
00162     lLHRSYDSegment.addLegKey (lBALHRRoutingLegStr);
00163     lLHRSYDSegment.addLegKey (lBABKKRoutingLegStr);
00164
00165     // Fill the SegmentDate content
00166     lLHRSYDSegment.setBoardingDate (lDate);
00167     lLHRSYDSegment.setOffDate (lDate + l2Days);
00168     lLHRSYDSegment.setBoardingTime (l2135);
00169     lLHRSYDSegment.setOffTime (l0610);
00170     lLHRSYDSegment.setElapsedtime (l2135);

```

```

00167 // Display the segment-date
00168 // STDAIR_LOG_DEBUG ("SegmentDate: " << lLHRSYDSegment);
00169
00170 // Create a second SegmentDate (LHR-BKK) for BA's Inventory
00171 // See
00172 http://www.britishairways.com/travel/flightinformation/public/fr_fr?&Carrier=BA&FlightNumber=0009&from=LHR&to=BKK&depDa
00173 const AirportCode_T lBKK ("BKK");
00174 const Duration_T l1540 (15, 40, 0);
00175 const Duration_T l1105 (11, 5, 0);
00176 lSegmentDateKey = SegmentDateKey (lLHR, lBKK);
00177
00178 SegmentDate& lLHRBKKSegment =
00179     FacBom<SegmentDate>::instance().create (lSegmentDateKey);
00180 FacBomManager::addToListAndMap (lBA9_20110610_FD, lLHRBKKSegment);
00181 FacBomManager::linkWithParent (lBA9_20110610_FD, lLHRBKKSegment);
00182
00183 // Add the routing leg key to the LHR-BKK segment.
00184 lLHRBKKSegment.addLegKey (lBALHRRoutingLegStr);
00185
00186 // Fill the SegmentDate content
00187 lLHRBKKSegment.setBoardingDate (lDate);
00188 lLHRBKKSegment.setOffDate (lDate + l1Day);
00189 lLHRBKKSegment.setBoardingTime (l2135);
00190 lLHRBKKSegment.setOffTime (l1540);
00191 lLHRBKKSegment.setElapsedTime (l1105);
00192
00193 // Display the segment-date
00194 // STDAIR_LOG_DEBUG ("SegmentDate: " << lLHRBKKSegment);
00195
00196 // Create a third SegmentDate (BKK-SYD) for BA's Inventory
00197 // See
00198 http://www.britishairways.com/travel/flightinformation/public/fr_fr?&Carrier=BA&FlightNumber=0009&from=BKK&to=SYD&depDa
00199 const Duration_T l1705 (17, 5, 0);
00200 const Duration_T l10905 (9, 5, 0);
00201 lSegmentDateKey = SegmentDateKey (lBKK, lSYD);
00202
00203 SegmentDate& lBKKSYDSegment =
00204     FacBom<SegmentDate>::instance().create (lSegmentDateKey);
00205 FacBomManager::addToListAndMap (lBA9_20110610_FD, lBKKSYDSegment);
00206 FacBomManager::linkWithParent (lBA9_20110610_FD, lBKKSYDSegment);
00207
00208 // Add the routing leg key to the BKK-SYD segment.
00209 lBKKSYDSegment.addLegKey (lBABKKRoutingLegStr);
00210
00211 // Fill the SegmentDate content
00212 lBKKSYDSegment.setBoardingDate (lDate + l1Day);
00213 lBKKSYDSegment.setOffDate (lDate + l2Days);
00214 lBKKSYDSegment.setBoardingTime (l1705);
00215 lBKKSYDSegment.setOffTime (l1540);
00216 lBKKSYDSegment.setElapsedTime (l10905);
00217
00218 // Display the segment-date
00219 // STDAIR_LOG_DEBUG ("SegmentDate: " << lBKKSYDSegment);
00220
00221 // Step 0.4: Leg-date level
00222 // Create a first LegDate (LHR) for BA's Inventory
00223 LegDateKey lLegDateKey (lLHR);
00224
00225 LegDate& lLHRLeg = FacBom<LegDate>::instance().
00226     create (lLegDateKey);
00227 FacBomManager::addToListAndMap (lBA9_20110610_FD, lLHRLeg);
00228 FacBomManager::linkWithParent (lBA9_20110610_FD, lLHRLeg);
00229
00230 // Fill the LegDate content
00231 lLHRLeg.setOffPoint (lBKK);
00232 lLHRLeg.setBoardingDate (lDate);
00233 lLHRLeg.setOffDate (lDate + l1Day);
00234 lLHRLeg.setBoardingTime (l2135);
00235 lLHRLeg.setOffTime (l1540);
00236 lLHRLeg.setElapsedTime (l1105);
00237
00238 // Display the leg-date
00239 // STDAIR_LOG_DEBUG ("LegDate: " << lLHRLeg.toString());
00240
00241 // Create a second LegDate (BKK)
00242 LegDateKey lLegDateKey (lBKK);
00243
00244 LegDate& lBKKLeg = FacBom<LegDate>::instance().
00245     create (lLegDateKey);
00246 FacBomManager::addToListAndMap (lBA9_20110610_FD, lBKKLeg);
00247 FacBomManager::linkWithParent (lBA9_20110610_FD, lBKKLeg);
00248
00249 // Display the leg-date
00250 // STDAIR_LOG_DEBUG ("LegDate: " << lBKKLeg.toString());
00251
00252 // Fill the LegDate content
00253 lBKKLeg.setOffPoint (lSYD);

```

```

00250 1BKKLeg.setBoardingDate (lDate + l1Day);
00251 1BKKLeg.setOffDate (lDate + l2days);
00252 1BKKLeg.setBoardingTime (l1705);
00253 1BKKLeg.setOffTime (l1540);
00254 1BKKLeg.setElapsedTime (l0905);
00255
00256 // Step 0.5: segment-cabin level
00257 // Create a SegmentCabin (Y) for the Segment LHR-BKK of BA's Inventory
00258 const CabinCode_T lY ("Y");
00259 SegmentCabinKey lYSegmentCabinKey (lY);
00260
00261 SegmentCabin& lLHRBKKSegmentYCabin =
00262     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
00263 FacBomManager::addToListAndMap (lLHRBKKSegment, lLHRBKKSegmentYCabin);
00264 FacBomManager::linkWithParent (lLHRBKKSegment, lLHRBKKSegmentYCabin);
00265
00266 // Display the segment-cabin
00267 // STDAIR_LOG_DEBUG ("SegmentCabin: " << lLHRBKKSegmentYCabin.toString());
00268
00269 // Create a SegmentCabin (Y) of the Segment BKK-SYD;
00270 SegmentCabin& lBKKSYDSegmentYCabin =
00271     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
00272 FacBomManager::addToListAndMap (lBKKSYDSegment, lBKKSYDSegmentYCabin);
00273 FacBomManager::linkWithParent (lBKKSYDSegment, lBKKSYDSegmentYCabin);
00274
00275
00276 // Display the segment-cabin
00277 // STDAIR_LOG_DEBUG ("SegmentCabin: " << lBKKSYDSegmentYCabin.toString());
00278
00279 // Create a SegmentCabin (Y) of the Segment LHR-SYD;
00280 SegmentCabin& lLHRSYDSegmentYCabin =
00281     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
00282 FacBomManager::addToListAndMap (lLHRSYDSegment, lLHRSYDSegmentYCabin);
00283 FacBomManager::linkWithParent (lLHRSYDSegment, lLHRSYDSegmentYCabin);
00284
00285 // Display the segment-cabin
00286 // STDAIR_LOG_DEBUG ("SegmentCabin: " << lLHRSYDSegmentYCabin.toString());
00287
00288 // Step 0.6: leg-cabin level
00289 // Create a LegCabin (Y) for the Leg LHR-BKK on BA's Inventory
00290 LegCabinKey lYLegCabinKey (lY);
00291
00292 LegCabin& lLHRLegYCabin =
00293     FacBom<LegCabin>::instance().create (lYLegCabinKey);
00294 FacBomManager::addToListAndMap (lLHRLeg, lLHRLegYCabin);
00295 FacBomManager::linkWithParent (lLHRLeg, lLHRLegYCabin);
00296
00297 // Display the leg-cabin
00298 // STDAIR_LOG_DEBUG ("LegCabin: " << lLHRLegYCabin.toString());
00299
00300 // Create a LegCabin (Y) for the Leg BKK-SYD
00301 LegCabin& lBKLegYCabin =
00302     FacBom<LegCabin>::instance().create (lYLegCabinKey);
00303 FacBomManager::addToListAndMap (lBKLeg, lBKLegYCabin);
00304 FacBomManager::linkWithParent (lBKLeg, lBKLegYCabin);
00305 // Display the leg-cabin
00306 // STDAIR_LOG_DEBUG ("LegCabin: " << lBKLegYCabin.toString());
00307
00308 // Step 0.7: fare family level
00309 // Create a FareFamily (1) for the Segment LHR-BKK, cabin Y on BA's Inv
00310 const FamilyCode_T l1 ("EcoSaver");
00311 FareFamilyKey l1FareFamilyKey (l1);
00312
00313 FareFamily& lLHRBKKSegmentYCabin1Family =
00314     FacBom<FareFamily>::instance().create (l1FareFamilyKey);
00315 FacBomManager::addToListAndMap (lLHRBKKSegmentYCabin,
00316                                 lLHRBKKSegmentYCabin1Family);
00317 FacBomManager::linkWithParent (lLHRBKKSegmentYCabin,
00318                               lLHRBKKSegmentYCabin1Family);
00319
00320 // Display the booking class
00321 // STDAIR_LOG_DEBUG ("FareFamily: "
00322 //                     << lLHRBKKSegmentYCabin1Family.toString());
00323
00324 // Create a FareFamily (1) for the Segment BKK-SYD, cabin Y on BA's Inv
00325 FareFamily& lBKKSYDSegmentYCabin1Family =
00326     FacBom<FareFamily>::instance().create (l1FareFamilyKey);
00327 FacBomManager::addToListAndMap (lBKKSYDSegmentYCabin,
00328                                 lBKKSYDSegmentYCabin1Family);
00329 FacBomManager::linkWithParent (lBKKSYDSegmentYCabin,
00330                               lBKKSYDSegmentYCabin1Family);
00331
00332 // Display the booking class
00333 // STDAIR_LOG_DEBUG ("FareFamily: "
00334 //                     << lLHRBKKSegmentYCabin1Family.toString());
00335
00336 // Create a FareFamily (1) for the Segment LHR-SYD, cabin Y on BA's Inv

```

```

00337     FareFamily& lLHRSYDSegmentYCabin1Family =
00338         FacBom<FareFamily>::instance().create (l1FareFamilyKey);
00339     FacBomManager::addToListAndMap (lLHRSYDSegmentYCabin,
00340                                     lLHRSYDSegmentYCabin1Family);
00341     FacBomManager::linkWithParent (lLHRSYDSegmentYCabin,
00342                                     lLHRSYDSegmentYCabin1Family);
00343
00344     // Display the booking class
00345     // STDAIR_LOG_DEBUG ("FareFamily: "
00346     //                     << lLHRBKKSegmentYCabin1Family.toString());
00347
00348
00349     // Step 0.8: booking class level
00350     // Create a BookingClass (Q) for the Segment LHR-BKK, cabin Y,
00351     // fare family 1 on BA's Inv
00352     const ClassCode_T lQ ("Q");
00353     BookingClassKey lQBookingClassKey (lQ);
00354
00355     BookingClass& lLHRBKKSegmentYCabin1FamilyQClass =
00356         FacBom<BookingClass>::instance().create (lQBookingClassKey);
00357     FacBomManager::addToListAndMap (lLHRBKKSegmentYCabin1Family,
00358                                     lLHRBKKSegmentYCabin1FamilyQClass);
00359     FacBomManager::linkWithParent (lLHRBKKSegmentYCabin1Family,
00360                                     lLHRBKKSegmentYCabin1FamilyQClass);
00361
00362     FacBomManager::addToListAndMap (lLHRBKKSegmentYCabin,
00363                                     lLHRBKKSegmentYCabin1FamilyQClass);
00364     FacBomManager::addToListAndMap (lLHRBKKSegment,
00365                                     lLHRBKKSegmentYCabin1FamilyQClass);
00366
00367     // Display the booking class
00368     // STDAIR_LOG_DEBUG ("BookingClass: "
00369     //                     << lLHRBKKSegmentYCabin1FamilyQClass.toString());
00370
00371     // Create a BookingClass (Q) for the Segment BKK-SYD, cabin Y,
00372     // fare family 1 on BA's Inv
00373     BookingClass& lBKKSYDSegmentYCabin1FamilyQClass =
00374         FacBom<BookingClass>::instance().create (lQBookingClassKey);
00375     FacBomManager::addToListAndMap (lBKKSYDSegmentYCabin1Family,
00376                                     lBKKSYDSegmentYCabin1FamilyQClass);
00377     FacBomManager::linkWithParent (lBKKSYDSegmentYCabin1Family,
00378                                     lBKKSYDSegmentYCabin1FamilyQClass);
00379
00380     FacBomManager::addToListAndMap (lBKKSYDSegmentYCabin,
00381                                     lBKKSYDSegmentYCabin1FamilyQClass);
00382     FacBomManager::addToListAndMap (lBKKSYDSegment,
00383                                     lBKKSYDSegmentYCabin1FamilyQClass);
00384
00385     // Display the booking class
00386     // STDAIR_LOG_DEBUG ("BookingClass: "
00387     //                     << lLHRBKKSegmentYCabin1FamilyQClass.toString());
00388
00389     // Create a BookingClass (Q) for the Segment LHR-SYD, cabin Y,
00390     // fare family 1 on BA's Inv
00391     BookingClass& lLHRSYDSegmentYCabin1FamilyQClass =
00392         FacBom<BookingClass>::instance().create (lQBookingClassKey);
00393     FacBomManager::addToListAndMap (lLHRSYDSegmentYCabin1Family,
00394                                     lLHRSYDSegmentYCabin1FamilyQClass);
00395     FacBomManager::linkWithParent (lLHRSYDSegmentYCabin1Family,
00396                                     lLHRSYDSegmentYCabin1FamilyQClass);
00397
00398     FacBomManager::addToListAndMap (lLHRSYDSegmentYCabin,
00399                                     lLHRSYDSegmentYCabin1FamilyQClass);
00400     FacBomManager::addToListAndMap (lLHRSYDSegment,
00401                                     lLHRSYDSegmentYCabin1FamilyQClass);
00402
00403     // Display the booking class
00404     // STDAIR_LOG_DEBUG ("BookingClass: "
00405     //                     << lLHRBKKSegmentYCabin1FamilyQClass.toString());
00406
00407
00408     // ////////// AF //////////
00409     // Step 0.2: Flight-date level
00410     // Create a FlightDate (AF084/20-MAR-2011) for AF's Inventory
00411     lFlightNumber = 84;
00412     lDate = Date_T (2011, 3, 20);
00413     lFlightDateKey = FlightDateKey (lFlightNumber, lDate);
00414
00415     FlightDate& lAF084_20110320_FD =
00416         FacBom<FlightDate>::instance().create (lFlightDateKey);
00417     FacBomManager::addToListAndMap (lAFInv, lAF084_20110320_FD);
00418     FacBomManager::linkWithParent (lAFInv, lAF084_20110320_FD);
00419
00420     // Display the flight-date
00421     // STDAIR_LOG_DEBUG ("FlightDate: " << lAF084_20110320_FD.toString());
00422
00423     // Step 0.3: Segment-date level

```

```

00424 // Create a SegmentDate (CDG-SFO) for AF's Inventory
00425 const AirportCode_T lCDG ("CDG");
00426 const AirportCode_T lSFO ("SFO");
00427 const Duration_T l1040 (10, 40, 0);
00428 const Duration_T l1250 (12, 50, 0);
00429 const Duration_T l1110 (11, 10, 0);
00430 lSegmentDateKey = SegmentDateKey (lCDG, lSFO);
00431
00432 SegmentDate& lCDGSFOSegment =
00433     FacBom<SegmentDate>::instance().create (lSegmentDateKey);
00434 FacBomManager::addToListAndMap (lAF084_20110320_FD, lCDGSFOSegment);
00435 FacBomManager::linkWithParent (lAF084_20110320_FD, lCDGSFOSegment);
00436
00437 // Add the routing leg key to the CDG-SFO segment.
00438 const std::string lAFCDGRoutingLegStr = "AF;84;2011-Mar-20;CDG";
00439 lCDGSFOSegment.addLegKey (lAFCDGRoutingLegStr);
00440
00441 // Display the segment-date
00442 // STDAIR_LOG_DEBUG ("SegmentDate: " << lCDGSFOSegment.toString());
00443
00444 // Fill the SegmentDate content
00445 lCDGSFOSegment.setBoardingDate (lDate);
00446 lCDGSFOSegment.setOffDate (lDate);
00447 lCDGSFOSegment.setBoardingTime (l1040);
00448 lCDGSFOSegment.setOffTime (l1250);
00449 lCDGSFOSegment.setElapsedTime (l1110);
00450
00451 // Step 0.4: Leg-date level
00452 // Create a LegDate (CDG) for AF's Inventory
00453 lLegDateKey = LegDateKey (lCDG);
00454
00455 LegDate& lCDGLeg = FacBom<LegDate>::instance() .
00456     create (lLegDateKey);
00457 FacBomManager::addToListAndMap (lAF084_20110320_FD, lCDGLeg);
00458 FacBomManager::linkWithParent (lAF084_20110320_FD, lCDGLeg);
00459
00460 // Fill the LegDate content
00461 lCDGLeg.setOffPoint (lSFO);
00462 lCDGLeg.setBoardingDate (lDate);
00463 lCDGLeg.setOffDate (lDate);
00464 lCDGLeg.setBoardingTime (l1040);
00465 lCDGLeg.setOffTime (l1250);
00466 lCDGLeg.setElapsedTime (l1110);
00467
00468 // Display the leg-date
00469 // STDAIR_LOG_DEBUG ("LegDate: " << lCDGLeg.toString());
00470
00471 // Step 0.5: segment-cabin level
00472 // Create a SegmentCabin (Y) for the Segment CDG-SFO of AF's Inventory
00473 SegmentCabin& lCDGSFOSegmentYCabin =
00474     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
00475 FacBomManager::addToListAndMap (lCDGSFOSegment, lCDGSFOSegmentYCabin);
00476 FacBomManager::linkWithParent (lCDGSFOSegment, lCDGSFOSegmentYCabin);
00477
00478 // Display the segment-cabin
00479 // STDAIR_LOG_DEBUG ("SegmentCabin: " << lCDGSFOSegmentYCabin.toString());
00480
00481 // Step 0.6: leg-cabin level
00482 // Create a LegCabin (Y) for the Leg CDG-SFO on AF's Inventory
00483 LegCabin& lCDGLegYCabin =
00484     FacBom<LegCabin>::instance().create (lYLegCabinKey);
00485 FacBomManager::addToListAndMap (lCDGLeg, lCDGLegYCabin);
00486 FacBomManager::linkWithParent (lCDGLeg, lCDGLegYCabin);
00487
00488 // Display the leg-cabin
00489 // STDAIR_LOG_DEBUG ("LegCabin: " << lLHRLegYCabin.toString());
00490
00491 // Step 0.7: fare family level
00492 // Create a fareFamily (1) for the Segment CDG-SFO, cabin Y on AF's Inv
00493 FareFamily& lCDGSFOSegmentYCabin1Family =
00494     FacBom<FareFamily>::instance().create (l1FareFamilyKey);
00495 FacBomManager::addToListAndMap (lCDGSFOSegmentYCabin,
00496     lCDGSFOSegmentYCabin1Family);
00497 FacBomManager::linkWithParent (lCDGSFOSegmentYCabin,
00498     lCDGSFOSegmentYCabin1Family);
00499
00500 // Display the fare family
00501 // STDAIR_LOG_DEBUG ("fareFamily: "
00502 //     << lCDGSFOSegmentYCabin1Family.toString());
00503
00504 // Step 0.8: booking class level Create a BookingClass (Q) for the
00505 // Segment CDG-SFO, cabin Y, fare family 1 on AF's Inv
00506 BookingClass& lCDGSFOSegmentYCabin1FamilyQClass =
00507     FacBom<BookingClass>::instance().create (lQBookingClassKey);
00508 FacBomManager::addToListAndMap (lCDGSFOSegmentYCabin1Family,
00509     lCDGSFOSegmentYCabin1FamilyQClass);

```

```

00510     FacBomManager::linkWithParent (lCDGSFOSegmentYCabin1Family,
00511                                     lCDGSFOSegmentYCabin1FamilyQClass);
00512
00513     FacBomManager::addToListAndMap (lCDGSFOSegmentYCabin,
00514                                     lCDGSFOSegmentYCabin1FamilyQClass);
00515     FacBomManager::addToListAndMap (lCDGSFOSegment,
00516                                     lCDGSFOSegmentYCabin1FamilyQClass);
00517
00518     // Display the booking class
00519     // STDAIR_LOG_DEBUG ("BookingClass: "
00520     //                      << lCDGSFOSegmentYCabin1FamilyQClass.toString());
00521
00522     /*=====
00523     =====
00524     =====*/
00525     // Schedule:
00526     // BA:
00527     // Step 1: flight period level
00528     // Create a flight period for BA9:
00529     const DoWStruct lDoWSrtuct ("1111111");
00530     const Date_T lBA9DateRangeStart (2010, boost::gregorian::Jun, 6);
00531     const Date_T lBA9DateRangeEnd (2010, boost::gregorian::Jun, 7);
00532     const DatePeriod_T lBA9DatePeriod (lBA9DateRangeStart, lBA9DateRangeEnd);
00533     const PeriodStruct lBA9PeriodStruct (lBA9DatePeriod, lDoWSrtuct);
00534
00535     lFlightNumber = FlightNumber_T (9);
00536
00537     FlightPeriodKey lBA9FlightPeriodKey (lFlightNumber, lBA9PeriodStruct);
00538
00539     FlightPeriod& lBA9FlightPeriod =
00540         FacBom<FlightPeriod>::instance().create (lBA9FlightPeriodKey);
00541     FacBomManager::addToListAndMap (lBAInv, lBA9FlightPeriod);
00542     FacBomManager::linkWithParent (lBAInv, lBA9FlightPeriod);
00543
00544     // Step 2: segment period level
00545     // Create a segment period for LHR-SYD:
00546
00547     SegmentPeriodKey lLHRSYDSegmentPeriodKey (lLHR, lSYD);
00548
00549     SegmentPeriod& lLHRSYDSegmentPeriod =
00550         FacBom<SegmentPeriod>::instance().create (
00551             lLHRSYDSegmentPeriodKey);
00552     FacBomManager::addToListAndMap (lBA9FlightPeriod, lLHRSYDSegmentPeriod);
00553     FacBomManager::linkWithParent (lBA9FlightPeriod, lLHRSYDSegmentPeriod);
00554
00555     lLHRSYDSegmentPeriod.setBoardingTime (12135);
00556     lLHRSYDSegmentPeriod.setOffTime (11540);
00557     lLHRSYDSegmentPeriod.setElapsedTime (11105);
00558     ClassList_String_T lYM ("YM");
00559     lLHRSYDSegmentPeriod.addCabinBookingClassList (lY, lYM);
00560
00561     // AF:
00562     // Step 1: flight period level
00563     // Create a flight period for AF84:
00564     const Date_T lAF84DateRangeStart (2011, boost::gregorian::Mar, 20);
00565     const Date_T lAF84DateRangeEnd (2011, boost::gregorian::Mar, 21);
00566     const DatePeriod_T lAF84DatePeriod (lAF84DateRangeStart, lAF84DateRangeEnd);
00567     const PeriodStruct lAF84PeriodStruct (lAF84DatePeriod, lDoWSrtuct);
00568
00569     lFlightNumber = FlightNumber_T (84);
00570
00571     FlightPeriodKey lAF84FlightPeriodKey (lFlightNumber, lAF84PeriodStruct);
00572
00573     FlightPeriod& lAF84FlightPeriod =
00574         FacBom<FlightPeriod>::instance().create (lAF84FlightPeriodKey);
00575     FacBomManager::addToListAndMap (lAFInv, lAF84FlightPeriod);
00576     FacBomManager::linkWithParent (lAFInv, lAF84FlightPeriod);
00577
00578     // Step 2: segment period level
00579     // Create a segment period for CDG-SFO:
00580
00581     SegmentPeriodKey lCDGSFOSegmentPeriodKey (lCDG, lSFO);
00582
00583     SegmentPeriod& lCDGSFOSegmentPeriod =
00584         FacBom<SegmentPeriod>::instance().create (
00585             lCDGSFOSegmentPeriodKey);
00586     FacBomManager::addToListAndMap (lAF84FlightPeriod, lCDGSFOSegmentPeriod);
00587     FacBomManager::linkWithParent (lAF84FlightPeriod, lCDGSFOSegmentPeriod);
00588
00589     lCDGSFOSegmentPeriod.setBoardingTime (11040);
00590     lCDGSFOSegmentPeriod.setOffTime (11250);
00591     lCDGSFOSegmentPeriod.setElapsedTime (11110);
00592     lCDGSFOSegmentPeriod.addCabinBookingClassList (lY, lYM);
00593
00594     /*=====
00595     =====
00596     =====*/

```

```

00595 // O&D
00596 // Create an O&D Date (BA;9,2010-Jun-06;LHR,SYD) for BA's Inventory
00597 OnDString_T lBALHRSYDOnDStr = "BA;9,2010-Jun-06;LHR,SYD";
00598 OnDStringList_T lBAOnDStrList;
00599 lBAOnDStrList.push_back (lBALHRSYDOnDStr);
00600
00601 OnDDateKey lBAOnDDateKey (lBAOnDStrList);
00602 OnDDate& lBA_LHRSYD_OnDDate =
00603     FacBom<OnDDate>::instance().create (lBAOnDDateKey);
00604 // Link to the inventory
00605 FacBomManager::addToListAndMap (lBAInv, lBA_LHRSYD_OnDDate);
00606 FacBomManager::linkWithParent (lBAInv, lBA_LHRSYD_OnDDate);
00607
00608 // Add the segment
00609 FacBomManager::addToListAndMap (lBA_LHRSYD_OnDDate, lLHRSYDSegment);
00610
00611 // Add total forecast info for cabin Y.
00612 const MeanStdDevPair_T lMean60StdDev6 (60.0, 6.0);
00613 const WTP_T lWTP750 = 750.0;
00614 const WTPDemandPair_T lWTP750Mean60StdDev6 (lWTP750, lMean60StdDev6);
00615 lBA_LHRSYD_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);
00616
00617 // Create an O&D Date (AF;84,2011-Mar-21;CDG,SFO) for AF's Inventory
00618 OnDString_T lAFLHRSYDOnDStr = "AF;9,2011-Mar-20;CDG,SFO";
00619 OnDStringList_T lAFOnDStrList;
00620 lAFOnDStrList.push_back (lAFLHRSYDOnDStr);
00621
00622 OnDDateKey lAFOnDDateKey (lAFOnDStrList);
00623 OnDDate& lAF_LHRSYD_OnDDate =
00624     FacBom<OnDDate>::instance().create (lAFOnDDateKey);
00625 // Link to the inventory
00626 FacBomManager::addToListAndMap (lAFInv, lAF_LHRSYD_OnDDate);
00627 FacBomManager::linkWithParent (lAFInv, lAF_LHRSYD_OnDDate);
00628
00629 // Add the segment
00630 FacBomManager::addToListAndMap (lAF_LHRSYD_OnDDate, lLHRSYDSegment);
00631
00632 // Add total forecast info for cabin Y.
00633 lAF_LHRSYD_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);
00634
00635 }
00636
00637 // /////////////////////////////////
00638 void CmdBomManager:::
00639 buildSampleInventoryScheduleForFareFamilies (BomRoot& ioBomRoot) {
00640
00641 // Inventory
00642 // Step 0.1: Inventory level
00643 // Get the Inventory SQ (already built by construction)
00644 const InventoryKey lSQKey ("SQ");
00645 Inventory& lSQInv = BomManager::getObject<Inventory>(ioBomRoot,
00646                                         lSQKey.toString());
00647
00648 // SQ
00649 // Step 0.2: Flight-date level
00650 // Create a FlightDate (SQ747/8-FEB-2010) for SQ's Inventory
00651 const FlightNumber_T lFlightNumber747 = 747;
00652 const Date_T lDate (2010, 2, 8);
00653 const FlightDateKey lFlightDateKey (lFlightNumber747, lDate);
00654
00655 FlightDate& lSQ747_20100208_FD =
00656     FacBom<FlightDate>::instance().create (lFlightDateKey);
00657 FacBomManager::addToListAndMap (lSQInv, lSQ747_20100208_FD);
00658 FacBomManager::linkWithParent (lSQInv, lSQ747_20100208_FD);
00659
00660 // Display the flight-date
00661 // STDAIR_LOG_DEBUG ("FlightDate: " << lSQ747_20100208_FD.toString());
00662
00663 // Step 0.3: Segment-date level
00664 // Create a SegmentDate (SIN-BKK) for SQ's Inventory
00665 const AirportCode_T lSIN ("SIN");
00666 const AirportCode_T lBKK ("BKK");
00667 const Duration_T 10635 (6, 35, 0);
00668 const Duration_T 10800 (8, 0, 0);
00669 const Duration_T 10225 (2, 25, 0);
00670 const SegmentDateKey lSegmentDateKey (lSIN, lBKK);
00671
00672 SegmentDate& lSINBKKSegment =
00673     FacBom<SegmentDate>::instance().create (lSegmentDateKey);
00674 FacBomManager::addToListAndMap (lSQ747_20100208_FD, lSINBKKSegment);
00675 FacBomManager::linkWithParent (lSQ747_20100208_FD, lSINBKKSegment);
00676
00677 // Add the routing leg key to the SIN-BKK segment.
00678 const std::string lSQSINRoutingLegStr = "SQ;747;2010-Feb-8;SIN";
00679 lSINBKKSegment.addLegKey (lSQSINRoutingLegStr);
00680
00681 // Fill the SegmentDate content

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```

00682     lSINBKSegment.setBoardingDate (lDate);
00683     lSINBKSegment.setOffDate (lDate);
00684     lSINBKSegment.setBoardingTime (10635);
00685     lSINBKSegment.setOffTime (10800);
00686     lSINBKSegment.setElapsedTime (10225);
00687
00688     // Display the segment-date
00689     // STDAIR_LOG_DEBUG ("SegmentDate: " << lSINBKSegment);
00690
00691     // Step 0.4: Leg-date level
00692     // Create a LegDate (SIN) for SQ's Inventory
00693     const LegDateKey lLegDateKey (lSIN);
00694
00695     LegDate& lSINLeg = FacBom<LegDate>::instance().
00696     create (lLegDateKey);
00697     FacBomManager::addToListAndMap (lSQ747_20100208_FD, lSINLeg);
00698     FacBomManager::linkWithParent (lSQ747_20100208_FD, lSINLeg);
00699
00700     // Fill the LegDate content
00701     lSINLeg.setOffPoint (lBKK);
00702     lSINLeg.setBoardingDate (lDate);
00703     lSINLeg.setOffDate (lDate);
00704     lSINLeg.setBoardingTime (10635);
00705     lSINLeg.setOffTime (10800);
00706     lSINLeg.setElapsedTime (10225);
00707
00708     // Display the leg-date
00709     // STDAIR_LOG_DEBUG ("LegDate: " << lSINLeg.toString());
00710
00711     // Step 0.5: segment-cabin level
00712     // Create a SegmentCabin (Y) for the Segment SIN-BKK of SQ's Inventory
00713     const CabinCode_T lY ("Y");
00714     const SegmentCabinKey lYSegmentCabinKey (lY);
00715     SegmentCabin& lSINBKSegmentYCabin =
00716         FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
00717     FacBomManager::addToListAndMap (lSINBKSegment, lSINBKSegmentYCabin);
00718     FacBomManager::linkWithParent (lSINBKSegment, lSINBKSegmentYCabin);
00719     lSINBKSegmentYCabin.activateFareFamily ();
00720
00721     // Display the segment-cabin
00722     // STDAIR_LOG_DEBUG ("SegmentCabin: " << lSINBKSegmentYCabin.toString());
00723
00724     // Step 0.6: leg-cabin level
00725     // Create a LegCabin (Y) for the Leg SIN-BKK on SQ's Inventory
00726     const LegCabinKey lYLegCabinKey (lY);
00727     LegCabin& lSINLegYCabin =
00728         FacBom<LegCabin>::instance().create (lYLegCabinKey);
00729     FacBomManager::addToListAndMap (lSINLeg, lSINLegYCabin);
00730     FacBomManager::linkWithParent (lSINLeg, lSINLegYCabin);
00731
00732     // Display the leg-cabin
00733     // STDAIR_LOG_DEBUG ("LegCabin: " << lSINLegYCabin.toString());
00734
00735     // Step 0.7: fare family level
00736     // Create a FareFamily (1) for the Segment SIN-BKK, cabin Y on SQ's Inv
00737     const FamilyCode_T l1 ("1");
00738     const FareFamilyKey l1FareFamilyKey (l1);
00739     FareFamily& lSINBKSegmentYCabin1Family =
00740         FacBom<FareFamily>::instance().create (l1FareFamilyKey);
00741     FacBomManager::addToListAndMap (lSINBKSegmentYCabin,
00742                                     lSINBKSegmentYCabin1Family);
00743     FacBomManager::linkWithParent (lSINBKSegmentYCabin,
00744                                     lSINBKSegmentYCabin1Family);
00745
00746     // Display the booking class
00747     // STDAIR_LOG_DEBUG ("FareFamily: "
00748     //                     << lSINBKSegmentYCabin1Family.toString());
00749
00750     // Create a FareFamily (2) for the Segment SIN-BKK, cabin Y on SQ's Inv
00751     const FamilyCode_T l2 ("2");
00752     const FareFamilyKey l2FareFamilyKey (l2);
00753     FareFamily& lSINBKSegmentYCabin2Family =
00754         FacBom<FareFamily>::instance().create (l2FareFamilyKey);
00755     FacBomManager::addToListAndMap (lSINBKSegmentYCabin,
00756                                     lSINBKSegmentYCabin2Family);
00757     FacBomManager::linkWithParent (lSINBKSegmentYCabin,
00758                                     lSINBKSegmentYCabin2Family);
00759
00760     // Display the booking class
00761     // STDAIR_LOG_DEBUG ("FareFamily: "
00762     //                     << lSINBKSegmentYCabin2Family.toString());
00763
00764     // Step 0.8: booking class level
00765     // Create a BookingClass (Y) for the Segment SIN-BKK, cabin Y,
00766     // fare family 2 on SQ's Inv
00767     const ClassCode_T lClassY ("Y");
00768     const BookingClassKey lYBookingClassKey (lClassY);

```

```

00768 BookingClass& lSINBKKSegmentYCabin2FamilyYClass =
00769     FacBom<BookingClass>::instance().create (lYBookingClassKey);
00770 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin2Family,
00771                             lSINBKKSegmentYCabin2FamilyYClass);
00772 FacBomManager::linkWithParent (lSINBKKSegmentYCabin2Family,
00773                               lSINBKKSegmentYCabin2FamilyYClass);
00774
00775 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
00776                               lSINBKKSegmentYCabin2FamilyYClass);
00777 FacBomManager::addToListAndMap (lSINBKKSegment,
00778                               lSINBKKSegmentYCabin2FamilyYClass);
00779 lSINBKKSegmentYCabin2FamilyYClass.setYield(1200);
00780
00781 // Display the booking class
00782 // STDAIR_LOG_DEBUG ("BookingClass: "
00783 //                      << lSINBKKSegmentYCabin2FamilyYClass.toString());
00784
00785 // Create a BookingClass (B) for the Segment SIN-BKK, cabin Y,
00786 // fare family 2 on SQ's Inv
00787 const ClassCode_T lB ("B");
00788 const BookingClassKey lBBookingClassKey (lB);
00789 BookingClass& lSINBKKSegmentYCabin2FamilyBClass =
00790     FacBom<BookingClass>::instance().create (lBBookingClassKey);
00791 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin2Family,
00792                             lSINBKKSegmentYCabin2FamilyBClass);
00793 FacBomManager::linkWithParent (lSINBKKSegmentYCabin2Family,
00794                               lSINBKKSegmentYCabin2FamilyBClass);
00795
00796 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
00797                               lSINBKKSegmentYCabin2FamilyBClass);
00798 FacBomManager::addToListAndMap (lSINBKKSegment,
00799                               lSINBKKSegmentYCabin2FamilyBClass);
00800 lSINBKKSegmentYCabin2FamilyBClass.setYield(800);
00801
00802 // Display the booking class
00803 // STDAIR_LOG_DEBUG ("BookingClass: "
00804 //                      << lSINBKKSegmentYCabin2FamilyBClass.toString());
00805
00806 // Create a BookingClass (M) for the Segment SIN-BKK, cabin Y,
00807 // fare family 1 on SQ's Inv
00808 const ClassCode_T lM ("M");
00809 const BookingClassKey lMBookingClassKey (lM);
00810 BookingClass& lSINBKKSegmentYCabin1FamilyMClass =
00811     FacBom<BookingClass>::instance().create (lMBookingClassKey);
00812 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
00813                             lSINBKKSegmentYCabin1FamilyMClass);
00814 FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
00815                               lSINBKKSegmentYCabin1FamilyMClass);
00816
00817 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
00818                               lSINBKKSegmentYCabin1FamilyMClass);
00819 FacBomManager::addToListAndMap (lSINBKKSegment,
00820                               lSINBKKSegmentYCabin1FamilyMClass);
00821 lSINBKKSegmentYCabin1FamilyMClass.setYield(900);
00822
00823 // Display the booking class
00824 // STDAIR_LOG_DEBUG ("BookingClass: "
00825 //                      << lSINBKKSegmentYCabin1FamilyMClass.toString());
00826
00827 // Create a BookingClass (Q) for the Segment SIN-BKK, cabin Y,
00828 // fare family 1 on SQ's Inv
00829 const ClassCode_T lQ ("Q");
00830 const BookingClassKey lQBookingClassKey (lQ);
00831 BookingClass& lSINBKKSegmentYCabin1FamilyQClass =
00832     FacBom<BookingClass>::instance().create (lQBookingClassKey);
00833 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
00834                             lSINBKKSegmentYCabin1FamilyQClass);
00835 FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
00836                               lSINBKKSegmentYCabin1FamilyQClass);
00837
00838 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
00839                               lSINBKKSegmentYCabin1FamilyQClass);
00840 FacBomManager::addToListAndMap (lSINBKKSegment,
00841                               lSINBKKSegmentYCabin1FamilyQClass);
00842 lSINBKKSegmentYCabin1FamilyQClass.setYield(600);
00843
00844 // Display the booking class
00845 // STDAIR_LOG_DEBUG ("BookingClass: "
00846 //                      << lSINBKKSegmentYCabin1FamilyQClass.toString());
00847
00848 /*=====
00849 =====
00850 =====
00851 =====
00852 // Schedule:
00853 // SQ:
00854 // Step 1: flight period level

```

```

00855 // Create a flight period for SQ747:
00856 const DoWSruct lDoWSruct ("1111111");
00857 const Date_T lSQ747DateRangeStart (2010, boost::gregorian::Feb, 8);
00858 const Date_T lSQ747DateRangeEnd (2010, boost::gregorian::Feb, 9);
00859 const DatePeriod_T lSQ747DatePeriod (lSQ747DateRangeStart,
00860                                     lSQ747DateRangeEnd);
00861 const PeriodStruct lSQ747PeriodStruct (lSQ747DatePeriod, lDoWSruct);
00862
00863 const FlightPeriodKey lSQ747FlightPeriodKey (1FlightNumber747,
00864                                         lSQ747PeriodStruct);
00865 FlightPeriod& lSQ747FlightPeriod =
00866     FacBom<FlightPeriod>::instance().create (lSQ747FlightPeriodKey);
00867 FacBomManager::addToListAndMap (lSQInv, lSQ747FlightPeriod);
00868 FacBomManager::linkWithParent (lSQInv, lSQ747FlightPeriod);
00869
00870 // Step 2: segment period level
00871 // Create a segment period for SIN-BKK:
00872
00873 const SegmentPeriodKey lSINBKSegmentPeriodKey (1SIN, 1BKK);
00874 SegmentPeriod& lSINBKSegmentPeriod =
00875     FacBom<SegmentPeriod>::instance().create (
00876     lSINBKSegmentPeriodKey);
00876 FacBomManager::addToListAndMap (lSQ747FlightPeriod, lSINBKSegmentPeriod)
00877 ;
00878 FacBomManager::linkWithParent (lSQ747FlightPeriod, lSINBKSegmentPeriod);
00879
00880 ClassList_String_T lYBMO ("YBMO");
00881 lSINBKSegmentPeriod.addCabinBookingClassList (lY, lYBMO);
00882 lSINBKSegmentPeriod.setBoardingTime (10635);
00883 lSINBKSegmentPeriod.setOffTime (10800);
00884 lSINBKSegmentPeriod.setElapsedTime (10225);
00885
00886 =====
00887 =====
00888 // O&D
00889 // Create an O&D Date (SQ;747,2011-Feb-14;SIN,BKK) for SQ's Inventory
00890 const OnDString_T lSQSINBKOnDStr = "SQ;747,2011-Feb-14;SIN,BKK";
00891 OnDStringList_T lSQOnDStrList;
00892 lSQOnDStrList.push_back (lSQSINBKOnDStr);
00893
00894 const OnDDateKey lSQOnDDateKey (lSQOnDStrList);
00895 OnDDate& lSQ_SINBKK_OnDDate =
00896     FacBom<OnDDate>::instance().create (lSQOnDDateKey);
00897 // Link to the inventory
00898 FacBomManager::addToListAndMap (lSQInv, lSQ_SINBKK_OnDDate);
00899 FacBomManager::linkWithParent (lSQInv, lSQ_SINBKK_OnDDate);
00900 // Add total forecast info for cabin Y.
00901 const MeanStdDevPair_T lMean120StdDev12 (120.0, 12.0);
00902 const WTP_T lWTP1000 = 1000.0;
00903 const WTPDemandPair_T lWTP1000Mean120StdDev12 (lWTP1000, lMean120StdDev12);
00904 lSQ_SINBKK_OnDDate.setTotalForecast (lY, lWTP1000Mean120StdDev12);
00905
00906 // Add the segment
00907 FacBomManager::addToListAndMap (lSQ_SINBKK_OnDDate, lSINBKSegment);
00908 }
00909
00910 // ///////////////////////////////////////////////////////////////////
00911 void CmdBomManager::buildDummyLegSegmentAccesses (BomRoot& ioBomRoot) {
00912
00913 /* Build the direct accesses between the dummy segment cabins and the dummy
00914 * leg cabins within the dummy flight dates (the dummy fare family
00915 * flight date and the classic dummy flight date).
00916 *
00917 * As for now (May 2012), that method is called only by RMOL.
00918 * It is a substitute for the code doing it automatically located in AirInv.
00919 * See the AIRINV::InventoryManager::createDirectAccesses command.
00920 */
00921
00922 // ///////////////////////////////////////////////////////////////////
00923 // Retrieve the (sample) segment-cabin.
00924 SegmentCabin& lDummySegmentCabin =
00925     BomRetriever::retrieveDummySegmentCabin (ioBomRoot);
00926
00927 // Retrieve the (sample) leg-cabin.
00928 LegCabin& lDummyLegCabin =
00929     BomRetriever::retrieveDummyLegCabin (ioBomRoot);
00930
00931 // Links between the segment-date and the leg-date
00932 FacBomManager::addToListAndMap (lDummyLegCabin, lDummySegmentCabin);
00933 FacBomManager::addToListAndMap (lDummySegmentCabin, lDummyLegCabin);
00934
00935 // ///////////////////////////////////////////////////////////////////
00936 const bool isForFareFamilies = true;
00937 // Retrieve the (sample) segment-cabin for fare families.
00938 SegmentCabin& lFFDummySegmentCabin =
00939     BomRetriever::retrieveDummySegmentCabin (ioBomRoot,

```

```

isForFareFamilies);

00940 // Retrieve the (sample) leg-cabin for fare families.
00941 stdair::LegCabin& lFFDummyLegCabin =
00942     stdair::BomRetriever::retrieveDummyLegCabin (ioBomRoot,
00943                                         isForFareFamilies);

00945
00946 // Links between the segment-date and the leg-date for fare families.
00947 FacBomManager::addToListAndMap (lFFDummyLegCabin, lFFDummySegmentCabin);
00948 FacBomManager::addToListAndMap (lFFDummySegmentCabin, lFFDummyLegCabin);
00949 }

00950
00951 // /////////////////////////////////
00952 void CmdBomManager::buildCompleteDummyInventory (BomRoot& ioBomRoot) {
00953
00954 // Build a dummy inventory, containing a dummy flight-date with a
00955 // single segment-cabin and a single leg-cabin.
00956 const CabinCapacity_T lCapacity = DEFAULT_CABIN_CAPACITY;
00957 buildDummyInventory (ioBomRoot, lCapacity);

00958
00959 // Retrieve the (sample) segment-cabin.
00960 SegmentCabin& lDummySegmentCabin =
00961     BomRetriever::retrieveDummySegmentCabin (ioBomRoot);

00962
00963 // Retrieve the (sample) leg-cabin.
00964 LegCabin& lDummyLegCabin =
00965     BomRetriever::retrieveDummyLegCabin (ioBomRoot);

00966
00967 // Add some booking classes to the dummy segment-cabin and some
00968 // virtual ones to the dummy leg-cabin.
00969 // First booking class yield and demand information.
00970 Yield_T lYield = 100;
00971 MeanValue_T lMean = 20;
00972 StdDevValue_T lStdDev= 9;
00973 BookingClassKey lBCKey (DEFAULT_CLASS_CODE);

00974
00975 BookingClass& lDummyBookingClass =
00976     FacBom<BookingClass>::instance().create (lBCKey);
00977 lDummyBookingClass.setYield (lYield);
00978 lDummyBookingClass.setMean (lMean);
00979 lDummyBookingClass.setStdDev (lStdDev);
00980 // Add a booking class to the segment-cabin.
00981 FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);
00982 BookingClassList_T lDummyBookingClassList;
00983 lDummyBookingClassList.push_back (&lDummyBookingClass);

00984
00985 VirtualClassStruct lDummyVirtualClass (lDummyBookingClassList);
00986 lDummyVirtualClass.setYield (lYield);
00987 lDummyVirtualClass.setMean (lMean);
00988 lDummyVirtualClass.setStdDev (lStdDev);
00989 // Add the corresponding virtual class to the leg-cabin.
00990 lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

00991
00992 // Second booking class yield and demand information.
00993 lYield = 70;
00994 lMean = 45;
00995 lStdDev= 12;
00996 lDummyBookingClass.setYield (lYield);
00997 lDummyBookingClass.setMean (lMean);
00998 lDummyBookingClass.setStdDev (lStdDev);
00999 // Add a booking class to the segment-cabin.
01000 FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);

01001
01002 lDummyVirtualClass.setYield (lYield);
01003 lDummyVirtualClass.setMean (lMean);
01004 lDummyVirtualClass.setStdDev (lStdDev);
01005 // Add the corresponding virtual class to the leg-cabin.
01006 lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

01007
01008 // Third booking class yield and demand information.
01009 lYield = 42;
01010 lMean = 80;
01011 lStdDev= 16;
01012 lDummyBookingClass.setYield (lYield);
01013 lDummyBookingClass.setMean (lMean);
01014 lDummyBookingClass.setStdDev (lStdDev);
01015 // Add a booking class to the segment-cabin.
01016 FacBomManager::addToList (lDummySegmentCabin, lDummyBookingClass);

01017
01018 lDummyVirtualClass.setYield (lYield);
01019 lDummyVirtualClass.setMean (lMean);
01020 lDummyVirtualClass.setStdDev (lStdDev);
01021 // Add the corresponding virtual class to the leg-cabin.
01022 lDummyLegCabin.addVirtualClass (lDummyVirtualClass);

01023
01024 }
01025

```

```

01026 // /////////////////////////////////
01027 void CmdBomManager::buildDummyInventory (BomRoot& ioBomRoot,
01028                                     const CabinCapacity_T& iCapacity) {
01029     // Inventory
01030     const InventoryKey lInventoryKey (DEFAULT_AIRLINE_CODE);
01031     Inventory& lInv = FacBom<Inventory>::instance().
01032         create (lInventoryKey);
01033     FacBomManager::addToListAndMap (ioBomRoot, lInv);
01034     FacBomManager::linkWithParent (ioBomRoot, lInv);
01035     // Add the airline feature object to the dummy inventory
01036     const AirlineFeatureKey lAirlineFeatureKey (DEFAULT_AIRLINE_CODE);
01037     AirlineFeature& lAirlineFeature =
01038         FacBom<AirlineFeature>::instance().create (lAirlineFeatureKey);
01039     FacBomManager::setAirlineFeature (lInv, lAirlineFeature);
01040     FacBomManager::linkWithParent (lInv, lAirlineFeature);
01041     // Link the airline feature object with the top of the BOM tree
01042     FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeature);
01043
01044     // Flight-date
01045     FlightDateKey lFlightDateKey (DEFAULT_FLIGHT_NUMBER,
01046                                   DEFAULT_DEPARTURE_DATE);
01047     FlightDate& lFlightDate =
01048         FacBom<FlightDate>::instance().create (lFlightDateKey);
01049     FacBomManager::addToListAndMap (lInv, lFlightDate);
01050     FacBomManager::linkWithParent (lInv, lFlightDate);
01051
01052     // Leg-date
01053     LegDateKey lLegDateKey (DEFAULT_ORIGIN);
01054     LegDate& lLeg = FacBom<LegDate>::instance().create (lLegDateKey);
01055     FacBomManager::addToListAndMap (lFlightDate, lLeg);
01056     FacBomManager::linkWithParent (lFlightDate, lLeg);
01057
01058     // Fill the LegDate content
01059     lLeg.setOffPoint (DEFAULT_DESTINATION);
01060     lLeg.setBoardingDate (DEFAULT_DEPARTURE_DATE);
01061     lLeg.setOffDate (DEFAULT_DEPARTURE_DATE);
01062     lLeg.setBoardingTime (Duration_T (14, 0, 0));
01063     lLeg.setOffTime (Duration_T (16, 0, 0));
01064     lLeg.setElapsedTime (Duration_T (8, 0, 0));
01065
01066     // Leg-cabin
01067     LegCabinKey lLegCabinKey (DEFAULT_CABIN_CODE);
01068     LegCabin& lLegCabin = FacBom<LegCabin>::instance().
01069         create (lLegCabinKey);
01070     FacBomManager::addToListAndMap (lLeg, lLegCabin);
01071     FacBomManager::linkWithParent (lLeg, lLegCabin);
01072
01073     lLegCabin.setCapacities (iCapacity);
01074     lLegCabin.setAvailabilityPool (iCapacity);
01075
01076     // Segment-date
01077     SegmentDateKey lSegmentDateKey (DEFAULT_ORIGIN,
01078                                   DEFAULT_DESTINATION);
01079     SegmentDate& lSegment =
01080         FacBom<SegmentDate>::instance().create (lSegmentDateKey);
01081     FacBomManager::addToListAndMap (lFlightDate, lSegment);
01082     FacBomManager::linkWithParent (lFlightDate, lSegment);
01083
01084     // Add the routing leg key to the dummy segment.
01085     std::ostringstream oStr;
01086     oStr << DEFAULT_AIRLINE_CODE << ";"
01087     << DEFAULT_FLIGHT_NUMBER << ";"
01088     << DEFAULT_DEPARTURE_DATE << ";"
01089     << DEFAULT_ORIGIN;
01090     lSegment.addLegKey (oStr.str());
01091
01092     // Fill the SegmentDate content
01093     lSegment.setBoardingDate (DEFAULT_DEPARTURE_DATE);
01094     lSegment.setOffDate (DEFAULT_DEPARTURE_DATE);
01095     lSegment.setBoardingTime (Duration_T (14, 0, 0));
01096     lSegment.setOffTime (Duration_T (16, 0, 0));
01097     lSegment.setElapsedTime (Duration_T (8, 0, 0));
01098
01099     // Segment-cabin
01100     SegmentCabinKey lSegmentCabinKey (DEFAULT_CABIN_CODE);
01101     SegmentCabin& lSegmentCabin =
01102         FacBom<SegmentCabin>::instance().create (lSegmentCabinKey);
01103     FacBomManager::addToListAndMap (lSegment, lSegmentCabin);
01104     FacBomManager::linkWithParent (lSegment, lSegmentCabin);
01105
01106     // Create a FareFamily (1) for the Segment LHR-BKK, cabin Y on BA's Inv
01107     const FamilyCode_T l1 ("EcoSaver");
01108     FareFamilyKey l1FareFamilyKey (l1);
01109
01110     FareFamily& lSegmentYCabin1Family =
01111         FacBom<FareFamily>::instance().create (l1FareFamilyKey);

```

```

01109 FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin1Family);
01110 FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin1Family);
01111
01112 // Create a booking-class
01113 const ClassCode_T lQ ("Q");
01114 BookingClassKey lQBookingClassKey (lQ);
01115
01116 BookingClass& lSegmentYCabin1FamilyQClass =
01117     FacBom<BookingClass>::instance().create (lQBookingClassKey);
01118 FacBomManager::addToListAndMap (lSegmentYCabin1Family,
01119                             lSegmentYCabin1FamilyQClass);
01120 FacBomManager::linkWithParent (lSegmentYCabin1Family,
01121                             lSegmentYCabin1FamilyQClass);
01122
01123     FacBomManager::addToListAndMap (lSegmentCabin,
01124     lSegmentYCabin1FamilyQClass);
01125     FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyQClass);
01126
01127 /*=====
01128 =====
01129 =====*/
01130 // Schedule:
01131 // XX:
01132 // Step 1: flight period level
01133 // Create a flight period for XX:
01134 const DoWSrtuct lDoWSrtuct ("1111111");
01135 const Date_T lXXDateRangeStart (DEFAULT_DEPARTURE_DATE);
01136 const Date_T lXXDateRangeEnd (DEFAULT_DEPARTURE_DATE);
01137 const DatePeriod_T lXXDatePeriod (lXXDateRangeStart, lXXDateRangeEnd);
01138 const PeriodStruct lXXPeriodStruct (lXXDatePeriod, lDoWSrtuct);
01139
01140 FlightPeriodKey lXXFlightPeriodKey (DEFAULT_FLIGHT_NUMBER, lXXPeriodStruct);
01141
01142 FlightPeriod& lXXFlightPeriod =
01143     FacBom<FlightPeriod>::instance().create (lXXFlightPeriodKey);
01144 FacBomManager::addToListAndMap (lInv, lXXFlightPeriod);
01145 FacBomManager::linkWithParent (lInv, lXXFlightPeriod);
01146
01147 // Step 2: segment period level
01148 // Create a segment period
01149
01150 SegmentPeriodKey lXXSegmentPeriodKey (DEFAULT_ORIGIN, DEFAULT_DESTINATION);
01151
01152 SegmentPeriod& lXXSegmentPeriod =
01153     FacBom<SegmentPeriod>::instance().create (lXXSegmentPeriodKey);
01154 FacBomManager::addToListAndMap (lXXFlightPeriod, lXXSegmentPeriod);
01155 FacBomManager::linkWithParent (lXXFlightPeriod, lXXSegmentPeriod);
01156
01157 lXXSegmentPeriod.setBoardingTime (Duration_T (14, 0, 0));
01158 lXXSegmentPeriod.setOffTime (Duration_T (16, 0, 0));
01159 lXXSegmentPeriod.setElapsedTime (Duration_T (8, 0, 0));
01160 const CabinCode_T lY ("Y");
01161 const ClassList_String_T lYQ ("YQ");
01162 lXXSegmentPeriod.addCabinBookingClassList (lY, lYQ);
01163
01164 }
01165
01166 // ///////////////////////////////////////////////////
01167 void CmdBomManager:::
01168 buildCompleteDummyInventoryForFareFamilies (BomRoot& ioBomRoot) {
01169
01170 // Build a dummy inventory, containing a dummy flight-date with a
01171 // single segment-cabin and a single leg-cabin (for fare families
01172 // algorithms)
01173
01174 // Get the default Inventory object (already built in by construction)
01175 const InventoryKey lInventoryKey (DEFAULT_AIRLINE_CODE);
01176 Inventory& lInv = BomManager::getObject<Inventory>(ioBomRoot,
01177                                         lInventoryKey.toString());
01178
01179 // Create a dummy Flight-date
01180 const FlightDateKey lFlightDateKey (DEFAULT_FLIGHT_NUMBER_FF,
01181                                     DEFAULT_DEPARTURE_DATE);
01182 FlightDate& lFlightDate =
01183     FacBom<FlightDate>::instance().create (lFlightDateKey);
01184 FacBomManager::addToListAndMap (lInv, lFlightDate);
01185 FacBomManager::linkWithParent (lInv, lFlightDate);
01186
01187 // Create a dummy Leg-date
01188 LegDateKey lLegDateKey (DEFAULT_ORIGIN);
01189 LegDate& lLeg = FacBom<LegDate>::instance().create (lLegDateKey);
01190 FacBomManager::addToListAndMap (lFlightDate, lLeg);
01191 FacBomManager::linkWithParent (lFlightDate, lLeg);
01192
01193 // Fill the LegDate content
01194 lLeg.setOffPoint (DEFAULT_DESTINATION);

```

```

01195     lLeg.setBoardingDate (DEFAULT_DEPARTURE_DATE);
01196     lLeg.setOffDate (DEFAULT_DEPARTURE_DATE);
01197     lLeg.setBoardingTime (Duration_T (14, 0, 0));
01198     lLeg.setOffTime (Duration_T (16, 0, 0));
01199     lLeg.setElapsedTime (Duration_T (8, 0, 0));
01200
01201     // Create a dummy Leg-cabin
01202     const LegCabinKey lLegCabinKey (DEFAULT_CABIN_CODE);
01203     LegCabin& lLegCabin = FacBom<LegCabin>::instance().
01204         create (lLegCabinKey);
01205     FacBomManager::addToListAndMap (lLeg, lLegCabin);
01206     FacBomManager::linkWithParent (lLeg, lLegCabin);
01207     const CabinCapacity_T lCapacity = DEFAULT_CABIN_CAPACITY;
01208     lLegCabin.setCapacities (lCapacity);
01209     lLegCabin.setAvailabilityPool (lCapacity);
01210
01211     // Create a dummy Segment-date
01212     const SegmentDateKey lSegmentDateKey (DEFAULT_ORIGIN, DEFAULT_DESTINATION);
01213     SegmentDate& lSegment =
01214         FacBom<SegmentDate>::instance().create (lSegmentDateKey);
01215     FacBomManager::addToListAndMap (lFlightDate, lSegment);
01216     FacBomManager::linkWithParent (lFlightDate, lSegment);
01217
01218     // Add the routing leg key to the dummy segment.
01219     std::ostringstream oStr;
01220     oStr << DEFAULT_AIRLINE_CODE << ";"
01221         << DEFAULT_FLIGHT_NUMBER << ";"
01222         << DEFAULT_DEPARTURE_DATE << ","
01223         << DEFAULT_ORIGIN;
01224     lSegment.addLegKey (oStr.str());
01225
01226     // Fill the SegmentDate content
01227     lSegment.setBoardingDate (DEFAULT_DEPARTURE_DATE);
01228     lSegment.setOffDate (DEFAULT_DEPARTURE_DATE);
01229     lSegment.setBoardingTime (Duration_T (14, 0, 0));
01230     lSegment.setOffTime (Duration_T (16, 0, 0));
01231     lSegment.setElapsedTime (Duration_T (8, 0, 0));
01232
01233     // Create a dummy Segment-cabin
01234     const SegmentCabinKey lSegmentCabinKey (DEFAULT_CABIN_CODE);
01235     SegmentCabin& lSegmentCabin =
01236         FacBom<SegmentCabin>::instance().create (lSegmentCabinKey);
01237     FacBomManager::addToListAndMap (lSegment, lSegmentCabin);
01238     FacBomManager::linkWithParent (lSegment, lSegmentCabin);
01239
01240     // Create a dummy FareFamily (FF1)
01241     const FamilyCode_T l1 ("FF1");
01242     const FareFamilyKey l1FareFamilyKey (l1);
01243
01244     FareFamily& lSegmentYCabin1Family =
01245         FacBom<FareFamily>::instance().create (l1FareFamilyKey);
01246     // Set the forecasted demand
01247     // TODO change the size (hard code)
01248     MeanStdDevPairVector_T lDemandVector1FareFamily;
01249     const unsigned int size = 16;
01250     for (unsigned int idx = 0; idx < size; ++idx) {
01251         double i = static_cast<double> (idx);
01252         MeanStdDevPair_T lMeanStdDevPair (i/4.0, i/20.0);
01253         lDemandVector1FareFamily.push_back (lMeanStdDevPair);
01254     }
01255     lSegmentYCabin1Family.setMeanStdDev (lDemandVector1FareFamily);
01256     FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin1Family);
01257     FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin1Family);
01258
01259     // Create a dummy booking-class
01260     const ClassCode_T lY ("Y");
01261     const BookingClassKey lYBookingClassKey (lY);
01262
01263     BookingClass& lSegmentYCabin1FamilyYClass =
01264         FacBom<BookingClass>::instance().create (lYBookingClassKey);
01265     Yield_T lYield = 1000;
01266     lSegmentYCabin1FamilyYClass.setYield (lYield);
01267     FacBomManager::addToListAndMap (lSegmentYCabin1Family,
01268                                     lSegmentYCabin1FamilyYClass);
01269     FacBomManager::linkWithParent (lSegmentYCabin1Family,
01270                                     lSegmentYCabin1FamilyYClass);
01271
01272     FacBomManager::addToListAndMap (lSegmentCabin,
01273         lSegmentYCabin1FamilyYClass);
01274     FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyYClass);
01275
01276     // Create a second dummy booking-class
01277     const ClassCode_T lU ("U");
01278     const BookingClassKey lUBookingClassKey (lU);
01279
01280     BookingClass& lSegmentYCabin1FamilyUClass =
01281         FacBom<BookingClass>::instance().create (lUBookingClassKey);

```

```

01280     lYield = 600;
01281     lSegmentYCabin1FamilyUClass.setYield(lYield);
01282     FacBomManager::addToListAndMap (lSegmentYCabin1Family,
01283                                     lSegmentYCabin1FamilyUClass);
01284     FacBomManager::linkWithParent (lSegmentYCabin1Family,
01285                                     lSegmentYCabin1FamilyUClass);
01286
01287     FacBomManager::addToListAndMap (lSegmentCabin,
01288                                     lSegmentYCabin1FamilyUClass);
01289     FacBomManager::addToListAndMap (lSegment, lSegmentYCabin1FamilyUClass);
01290
01291     // Create a second dummy FareFamily (2)
01292     const FamilyCode_T l2 ("FF2");
01293     const FareFamilyKey l2FareFamilyKey (l2);
01294
01295     FareFamily& lSegmentYCabin2Family =
01296         FacBom<FareFamily>::instance().create (l2FareFamilyKey);
01297     // Set the forecasted demand
01298     // TODO change the size (hard code)
01299     MeanStdDevPairVector_T lDemandVector2FareFamily;
01300     for (unsigned int idx = 0; idx < size; ++idx) {
01301         double i = static_cast<double> (idx);
01302         MeanStdDevPair_T lMeanStdDevPair (i/2.0, i/10.0);
01303         lDemandVector2FareFamily.push_back(lMeanStdDevPair);
01304     }
01305     lSegmentYCabin2Family.setMeanStdDev (lDemandVector2FareFamily);
01306
01307     FacBomManager::addToListAndMap (lSegmentCabin, lSegmentYCabin2Family);
01308     FacBomManager::linkWithParent (lSegmentCabin, lSegmentYCabin2Family);
01309
01310     // Create a third dummy booking-class
01311     const ClassCode_T l0 ("O");
01312     const BookingClassKey l0BookingClassKey (l0);
01313
01314     BookingClass& lSegmentYCabin2FamilyOClass =
01315         FacBom<BookingClass>::instance().create (l0BookingClassKey);
01316     lYield = 750;
01317     lSegmentYCabin2FamilyOClass.setYield(lYield);
01318     FacBomManager::addToListAndMap (lSegmentYCabin2Family,
01319                                     lSegmentYCabin2FamilyOClass);
01320     FacBomManager::linkWithParent (lSegmentYCabin2Family,
01321                                     lSegmentYCabin2FamilyOClass);
01322
01323     FacBomManager::addToListAndMap (lSegmentCabin,
01324                                     lSegmentYCabin2FamilyOClass);
01325     FacBomManager::addToListAndMap (lSegment, lSegmentYCabin2FamilyOClass);
01326
01327     // Create a fourth dummy booking-class
01328     const ClassCode_T lQ ("Q");
01329     const BookingClassKey lQBookingClassKey (lQ);
01330
01331     BookingClass& lSegmentYCabin2FamilyQClass =
01332         FacBom<BookingClass>::instance().create (lQBookingClassKey);
01333     lYield = 400;
01334     lSegmentYCabin2FamilyQClass.setYield(lYield);
01335     FacBomManager::addToListAndMap (lSegmentYCabin2Family,
01336                                     lSegmentYCabin2FamilyQClass);
01337
01338     FacBomManager::addToListAndMap (lSegmentCabin,
01339                                     lSegmentYCabin2FamilyQClass);
01340     FacBomManager::addToListAndMap (lSegment, lSegmentYCabin2FamilyQClass);
01341
01342     /*=====
01343      =====
01344      =====*/
01345     // Schedule:
01346     // XX:
01347     // Step 1: flight period level
01348     // Create a flight period for XX:
01349     const DoWStruct lDoWSruct ("1111111");
01350     const Date_T lXXDateRangeStart (DEFAULT_DEPARTURE_DATE);
01351     const Date_T lXXDateRangeEnd (DEFAULT_DEPARTURE_DATE);
01352     const DatePeriod_T lXXDatePeriod (lXXDateRangeStart, lXXDateRangeEnd);
01353     const PeriodStruct lXXPeriodStruct (lXXDatePeriod, lDoWSruct);
01354
01355     const FlightPeriodKey lXXFlightPeriodKey (DEFAULT_FLIGHT_NUMBER_FF,
01356                                              lXXPeriodStruct);
01357
01358     FlightPeriod& lXXFlightPeriod =
01359         FacBom<FlightPeriod>::instance().create (lXXFlightPeriodKey);
01360     FacBomManager::addToListAndMap (lInv, lXXFlightPeriod);
01361     FacBomManager::linkWithParent (lInv, lXXFlightPeriod);
01362
01363     // Step 2: segment period level

```

```

01364 // Create a segment period
01365 const SegmentPeriodKey lXXSegmentPeriodKey (DEFAULT_ORIGIN,
01366                                         DEFAULT_DESTINATION);
01367
01368 SegmentPeriod& lXXSegmentPeriod =
01369     FacBom<SegmentPeriod>::instance().create (lXXSegmentPeriodKey);
01370 FacBomManager::addToListAndMap (lXXFlightPeriod, lXXSegmentPeriod);
01371 FacBomManager::linkWithParent (lXXFlightPeriod, lXXSegmentPeriod);
01372
01373 lXXSegmentPeriod.setBoardingTime (Duration_T (14, 0, 0));
01374 lXXSegmentPeriod.setOffTime (Duration_T (16, 0, 0));
01375 lXXSegmentPeriod.setElapsedTime (Duration_T (8, 0, 0));
01376 const CabinCode_T lYCabin ("Y");
01377 const ClassList_String_T lYUOQ ("YUOQ");
01378 lXXSegmentPeriod.addCabinBookingClassList (lYCabin, lYUOQ);
01379
01380 }
01381
01382 // ///////////////////////////////////////////////////////////////////
01383 void CmdBomManager::buildSamplePricing (BomRoot& ioBomRoot) {
01384
01385     // Set the airport-pair primary key.
01386     const AirportPairKey lAirportPairKey (AIRPORT_LHR, AIRPORT_SYD);
01387
01388     // Create the AirportPairKey object and link it to the BOM tree root.
01389     AirportPair& lAirportPair =
01390         FacBom<AirportPair>::instance().create (lAirportPairKey);
01391     FacBomManager::addToListAndMap (ioBomRoot, lAirportPair);
01392     FacBomManager::linkWithParent (ioBomRoot, lAirportPair);
01393
01394     // Set the fare date-period primary key.
01395     const Date_T lDateRangeStart (2011, boost::gregorian::Jan, 15);
01396     const Date_T lDateRangeEnd (2011, boost::gregorian::Dec, 31);
01397     const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
01398     const DatePeriodKey lDatePeriodKey (lDateRange);
01399
01400     // Create the DatePeriodKey object and link it to the PosChannel object.
01401     DatePeriod& lDatePeriod =
01402         FacBom<DatePeriod>::instance().create (lDatePeriodKey);
01403     FacBomManager::addToListAndMap (lAirportPair, lDatePeriod);
01404     FacBomManager::linkWithParent (lAirportPair, lDatePeriod);
01405
01406     // Set the point-of-sale-channel primary key.
01407     const PosChannelKey lPosChannelKey (POS_LHR, CHANNEL_DN);
01408
01409     // Create the PositionKey object and link it to the AirportPair object.
01410     PosChannel& lPosChannel =
01411         FacBom<PosChannel>::instance().create (lPosChannelKey);
01412     FacBomManager::addToListAndMap (lDatePeriod, lPosChannel);
01413     FacBomManager::linkWithParent (lDatePeriod, lPosChannel);
01414
01415     // Set the fare time-period primary key.
01416     const Time_T lTimeRangeStart (0, 0, 0);
01417     const Time_T lTimeRangeEnd (23, 0, 0);
01418     const TimePeriodKey lTimePeriodKey (lTimeRangeStart, lTimeRangeEnd);
01419
01420     // Create the TimePeriodKey and link it to the DatePeriod object.
01421     TimePeriod& lTimePeriod =
01422         FacBom<TimePeriod>::instance().create (lTimePeriodKey);
01423     FacBomManager::addToListAndMap (lPosChannel, lTimePeriod);
01424     FacBomManager::linkWithParent (lPosChannel, lTimePeriod);
01425
01426     // Pricing -- Generate the FareRule
01427     const FareFeaturesKey lFareFeaturesKey (TRIP_TYPE_ROUND_TRIP,
01428                                         NO_ADVANCE_PURCHASE,
01429                                         SATURDAY_STAY,
01430                                         CHANGE_FEES,
01431                                         NON_REFUNDABLE,
01432                                         NO_STAY_DURATION);
01433
01434     // Create the FareFeaturesKey and link it to the TimePeriod object.
01435     FareFeatures& lFareFeatures =
01436         FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
01437     FacBomManager::addToListAndMap (lTimePeriod, lFareFeatures);
01438     FacBomManager::linkWithParent (lTimePeriod, lFareFeatures);
01439
01440     // Revenue Accounting -- Generate the YieldRule
01441     const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ROUND_TRIP,
01442                                         CABIN_Y);
01443
01444     // Create the YieldFeaturesKey and link it to the TimePeriod object.
01445     YieldFeatures& lYieldFeatures =
01446         FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
01447     FacBomManager::addToListAndMap (lTimePeriod, lYieldFeatures);
01448     FacBomManager::linkWithParent (lTimePeriod, lYieldFeatures);
01449
01450     // Generate Segment Features and link them to their respective

```

```

01451 // fare and yield rules.
01452 AirlineCodeList_T lAirlineCodeList;
01453 lAirlineCodeList.push_back (AIRLINE_CODE_BA);
01454 ClassList_StringList_T lClassCodeList;
01455 lClassCodeList.push_back (CLASS_CODE_Y);
01456 const AirlineClassListKey lAirlineClassListKey (lAirlineCodeList,
01457 lClassCodeList);

01458 // Create the AirlineClassList
01459 AirlineClassList& lAirlineClassList =
01460 FacBom<AirlineClassList>::instance().
01461 create (lAirlineClassListKey);
01462 // Link the AirlineClassList to the FareFeatures object
01463 lAirlineClassList.setFare (900);
01464 FacBomManager::addToListAndMap (lFareFeatures, lAirlineClassList);
01465 FacBomManager::linkWithParent (lFareFeatures, lAirlineClassList);

01466 // Link the AirlineClassList to the YieldFeatures object
01467 lAirlineClassList.setYield (900);
01468 FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassList);
01469 // \todo (gsabatier): the following calls overrides the parent for
01470 // lAirlineClassList. Check that it is what is actually wanted.
01471 FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassList);
01472 }

01473 // /////////////////////////////////
01474 void CmdBomManager::buildSamplePricingForFareFamilies (BomRoot& ioBomRoot) {
01475
01476 // Get the airport-pair primary key SIN-BKK
01477 // (already built by construction)
01478 const AirportPairKey lAirportPairKey ("SIN", "BKK");
01479 AirportPair lAirportPair =
01480 BomManager::getObject<AirportPair>(ioBomRoot, lAirportPairKey.toString());
01481
01482 // Set the fare date-period primary key.
01483 const Date_T lDateRangeStart (2010, boost::gregorian::Feb, 1);
01484 const Date_T lDateRangeEnd (2011, boost::gregorian::Feb, 15);
01485 const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
01486 const DatePeriodKey lDatePeriodKey (lDateRange);

01487 // Create the DatePeriodKey object and link it to the PosChannel object.
01488 DatePeriod& lDatePeriod =
01489 FacBom<DatePeriod>::instance().create (lDatePeriodKey);
01490 FacBomManager::addToListAndMap (lAirportPair, lDatePeriod);
01491 FacBomManager::linkWithParent (lAirportPair, lDatePeriod);

01492 // Set the point-of-sale-channel primary key.
01493 const PosChannelKey lPosChannelKey ("SIN", CHANNEL_IN);
01494
01495 // Create the PositionKey object and link it to the AirportPair object.
01496 PosChannel& lPosChannel =
01497 FacBom<PosChannel>::instance().create (lPosChannelKey);
01498 FacBomManager::addToListAndMap (lDatePeriod, lPosChannel);
01499 FacBomManager::linkWithParent (lDatePeriod, lPosChannel);

01500 // Set the fare time-period primary key.
01501 const Time_T lTimeRangeStart (0, 0, 0);
01502 const Time_T lTimeRangeEnd (23, 0, 0);
01503 const TimePeriodKey lTimePeriodKey (lTimeRangeStart, lTimeRangeEnd);
01504
01505 // Create the TimePeriodKey and link it to the DatePeriod object.
01506 TimePeriod& lTimePeriod =
01507 FacBom<TimePeriod>::instance().create (lTimePeriodKey);
01508 FacBomManager::addToListAndMap (lPosChannel, lTimePeriod);
01509 FacBomManager::linkWithParent (lPosChannel, lTimePeriod);

01510 // Pricing -- Generate the FareRule
01511 const DayDuration_T ONE_MONTH_ADVANCE_PURCHASE = 30;
01512 // Generate the first FareFeatures for the class Q
01513 const FareFeaturesKey lFareFeaturesQKey (TRIP_TYPE_ONE WAY,
01514 ONE_MONTH_ADVANCE_PURCHASE,
01515 SATURDAY_STAY,
01516 CHANGE_FEES,
01517 NON_REFUNDABLE,
01518 NO_STAY_DURATION);

01519 // Create the FareFeaturesKey and link it to the TimePeriod object.
01520 FareFeatures& lFareFeaturesQ =
01521 FacBom<FareFeatures>::instance().create (lFareFeaturesQKey);
01522 FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesQ);
01523 FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesQ);

01524 // Generate the second FareFeatures for the class M
01525 const FareFeaturesKey lFareFeaturesMKey (TRIP_TYPE_ONE WAY,
01526 NO_ADVANCE_PURCHASE,
01527 SATURDAY_STAY,
01528 CHANGE_FEES,
01529
01530
01531
01532
01533
01534
01535
01536

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01537
01538
01539
01540 // Create the FareFeaturesKey and link it to the TimePeriod object.
01541 FareFeatures& lFareFeaturesM =
01542     FacBom<FareFeatures>::instance().create (lFareFeaturesMKey);
01543 FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesM);
01544 FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesM);
01545
01546 // Generate the third FareFeatures for the class B
01547 const FareFeaturesKey lFareFeaturesBKey (TRIP_TYPE_ONE WAY,
01548                                         ONE_MONTH_ADVANCE_PURCHASE,
01549                                         SATURDAY_STAY,
01550                                         NO_CHANGE_FEES,
01551                                         NO_NON_REFUNDABLE, //Refundable
01552                                         NO_STAY_DURATION);
01553
01554 // Create the FareFeaturesKey and link it to the TimePeriod object.
01555 FareFeatures& lFareFeaturesB =
01556     FacBom<FareFeatures>::instance().create (lFareFeaturesBKey);
01557 FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesB);
01558 FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesB);
01559
01560 // Generate the fourth FareFeatures for the class Y
01561 const FareFeaturesKey lFareFeaturesYKey (TRIP_TYPE_ONE WAY,
01562                                         NO_ADVANCE_PURCHASE,
01563                                         SATURDAY_STAY,
01564                                         NO_CHANGE_FEES,
01565                                         NO_NON_REFUNDABLE, //Refundable
01566                                         NO_STAY_DURATION);
01567
01568 // Create the FareFeaturesKey and link it to the TimePeriod object.
01569 FareFeatures& lFareFeaturesY =
01570     FacBom<FareFeatures>::instance().create (lFareFeaturesYKey);
01571 FacBomManager::addToListAndMap (lTimePeriod, lFareFeaturesY);
01572 FacBomManager::linkWithParent (lTimePeriod, lFareFeaturesY);
01573
01574 // Revenue Accounting -- Generate the YieldRule
01575 const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ONE WAY,
01576                                         CABIN_Y);
01577
01578 // Create the YieldFeaturesKey and link it to the TimePeriod object.
01579 YieldFeatures& lYieldFeatures =
01580     FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
01581 FacBomManager::addToListAndMap (lTimePeriod, lYieldFeatures);
01582 FacBomManager::linkWithParent (lTimePeriod, lYieldFeatures);
01583
01584 // Generate Segment Features and link them to their respective
01585 // fare and yield rules.
01586 AirlineCodeList_T lAirlineCodeList;
01587 lAirlineCodeList.push_back ("SQ");
01588
01589 ClassList_StringList_T lClassYList;
01590 lClassYList.push_back (CLASS_CODE_Y);
01591 const AirlineClassListKey lAirlineClassYListKey (lAirlineCodeList,
01592                                         lClassYList);
01593
01594 // Create the AirlineClassList
01595 AirlineClassList& lAirlineClassYList =
01596     FacBom<AirlineClassList>::instance().
01597     create (lAirlineClassYListKey);
01598 // Link the AirlineClassList to the FareFeatures object
01599 FacBomManager::addToListAndMap (lFareFeaturesY, lAirlineClassYList);
01600 FacBomManager::linkWithParent (lFareFeaturesY, lAirlineClassYList);
01601 lAirlineClassYList.setFare (1200);
01602 lAirlineClassYList.setYield (1200);
01603
01604 // Link the AirlineClassList to the YieldFeatures object
01605 FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassYList);
01606 // todo (gsabatier): the following calls overrides the parent for
01607 //           lAirlineClassList. Check that it is what is actually wanted.
01608 FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassYList);
01609
01610 ClassList_StringList_T lClassBList;
01611 lClassBList.push_back ("B");
01612 const AirlineClassListKey lAirlineClassBListKey (lAirlineCodeList,
01613                                         lClassBList);
01614
01615 // Create the AirlineClassList
01616 AirlineClassList& lAirlineClassBList =
01617     FacBom<AirlineClassList>::instance().
01618     create (lAirlineClassBListKey);
01619 // Link the AirlineClassList to the FareFeatures object
01620 FacBomManager::addToListAndMap (lFareFeaturesB, lAirlineClassBList);
01621 FacBomManager::linkWithParent (lFareFeaturesB, lAirlineClassBList);
01622 lAirlineClassBList.setFare (800);
01623 lAirlineClassBList.setYield (800);

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```

01622 // Link the AirlineClassList to the YieldFeatures object
01623 FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassBList);
01624 // \todo (gsabatier): the following calls overrides the parent for
01625 //     lAirlineClassList. Check that it is what is actually wanted.
01626 FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassBList);
01627
01628 ClassList_StringList_T lClassMList;
01629 lClassMList.push_back ("M");
01630 const AirlineClassListKey lAirlineClassMListKey (lAirlineCodeList,
01631                                         lClassMList);
01632
01633 // Create the AirlineClassList
01634 AirlineClassList& lAirlineClassMList =
01635     FacBom<AirlineClassList>::instance().
01636     create (lAirlineClassMListKey);
01637     // Link the AirlineClassList to the FareFeatures object
01638     FacBomManager::addToListAndMap (lFareFeaturesM, lAirlineClassMList);
01639     FacBomManager::linkWithParent (lFareFeaturesM, lAirlineClassMList);
01640     lAirlineClassMList.setFare (900);
01641     lAirlineClassMList.setYield (900);
01642
01643 // Link the AirlineClassList to the YieldFeatures object
01644 FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassMList);
01645 // \todo (gsabatier): the following calls overrides the parent for
01646 //     lAirlineClassList. Check that it is what is actually wanted.
01647 FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassMList);
01648
01649 ClassList_StringList_T lClassQList;
01650 lClassQList.push_back ("Q");
01651 const AirlineClassListKey lAirlineClassQListKey (lAirlineCodeList,
01652                                         lClassQList);
01653
01654 // Create the AirlineClassList
01655 AirlineClassList& lAirlineClassQList =
01656     FacBom<AirlineClassList>::instance().
01657     create (lAirlineClassQListKey);
01658     // Link the AirlineClassList to the FareFeatures object
01659     FacBomManager::addToListAndMap (lFareFeaturesQ, lAirlineClassQList);
01660     FacBomManager::linkWithParent (lFareFeaturesQ, lAirlineClassQList);
01661     lAirlineClassQList.setFare (600);
01662     lAirlineClassQList.setYield (600);
01663
01664 // Link the AirlineClassList to the YieldFeatures object
01665 FacBomManager::addToListAndMap (lYieldFeatures, lAirlineClassQList);
01666 // \todo (gsabatier): the following calls overrides the parent for
01667 //     lAirlineClassList. Check that it is what is actually wanted.
01668 FacBomManager::linkWithParent (lYieldFeatures, lAirlineClassQList);
01669 }
01670
01671 // /////////////////////////////////
01672 void CmdBomManager:::
01673 buildSampleTravelSolutionForPricing (TravelSolutionList_T& ioTravelSolutionList) {
01674
01675     // Clean the list
01676     ioTravelSolutionList.clear();
01677
01678     //
01679     const std::string lBA9_SegmentDateKey ("BA, 9, 2011-06-10, LHR, SYD, 21:45");
01680
01681     // Add the segment date key to the travel solution
01682     TravelSolutionStruct LTS;
01683     LTS.addSegment (lBA9_SegmentDateKey);
01684
01685     // Add the travel solution to the list
01686     ioTravelSolutionList.push_back (LTS);
01687 }
01688
01689 // /////////////////////////////////
01690 void CmdBomManager:::
01691 buildSampleTravelSolutions (TravelSolutionList_T& ioTravelSolutionList) {
01692
01693     // Clean the list
01694     ioTravelSolutionList.clear();
01695
01696     //
01697     const std::string lBA9_SegmentDateKey ("BA, 9, 2011-06-10, LHR, SYD, 21:45");
01698
01699     // Add the segment date key to the travel solution
01700     TravelSolutionStruct LTS1;
01701     LTS1.addSegment (lBA9_SegmentDateKey);
01702
01703     // Fare option number 1
01704     const ClassCode_T lClassPathQ (CLASS_CODE_Q);
01705     const Fare_T lFare900 (900);
01706     const ChangeFees_T lChangeFee (CHANGE_FEES);
01707     const NonRefundable_T isNonRefundable (NON_REFUNDABLE);
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01707     const SaturdayStay_T lSaturdayStay (SATURDAY_STAY);
01708     const FareOptionStruct lFareOption1 (lClassPathQ, lFare900, lChangeFee,
01709                                         isNonRefundable, lSaturdayStay);
01710
01711     // Add (a copy of) the fare option
01712     lTS1.addFareOption (lFareOption1);
01713
01714
01715     // Map of class availabilities: set the availability for the Q
01716     // booking class (the one corresponding to the fare option) to 8.
01717     ClassAvailabilityMap_T lClassAvailabilityMap1;
01718     const Availability_T lAvl1 (8);
01719     bool hasInsertOfQBeenSuccessful = lClassAvailabilityMap1.
01720         insert (ClassAvailabilityMap_T::value_type (lClassPathQ, lAvl1)).second;
01721     assert (hasInsertOfQBeenSuccessful == true);
01722     // Add the map to the dedicated list held by the travel solution
01723     lTS1.addClassAvailabilityMap (lClassAvailabilityMap1);
01724
01725     // Add the travel solution to the list
01726     ioTravelSolutionList.push_back (lTS1);
01727
01728
01729     const std::string lQF12_SegmentDateKey ("QF, 12, 2011-06-10, LHR, SYD, 20:45");
01730
01731     // Add the segment date key to the travel solution
01732     TravelSolutionStruct lTS2;
01733     lTS2.addSegment (lQF12_SegmentDateKey);
01734
01735     // Fare option number 2
01736     const ClassCode_T lClassPathY (CLASS_CODE_Y);
01737     const Fare_T lFare1000 (1000);
01738     const ChangeFees_T lNoChangeFee (NO_CHANGE_FEES);
01739     const NonRefundable_T isRefundable (NO_NON_REFUNDABLE);
01740     const FareOptionStruct lFareOption2 (lClassPathY, lFare1000, lNoChangeFee,
01741                                         isRefundable, lSaturdayStay);
01742
01743     // Map of class availabilities: set the availability for the Y
01744     // booking class (the one corresponding to the fare option) to 9.
01745     ClassAvailabilityMap_T lClassAvailabilityMap2;
01746     const Availability_T lAvl2 (9);
01747     const bool hasInsertOfYBeenSuccessful = lClassAvailabilityMap2.
01748         insert (ClassAvailabilityMap_T::value_type (lClassPathY, lAvl2)).second;
01749     assert (hasInsertOfYBeenSuccessful == true);
01750     // Add the map to the dedicated list held by the travel solution
01751     lTS2.addClassAvailabilityMap (lClassAvailabilityMap2);
01752
01753     // Add (a copy of) the fare option
01754     lTS2.addFareOption (lFareOption2);
01755
01756     // Fare option number 3
01757     const Fare_T lFare920 (920);
01758     const FareOptionStruct lFareOption3 (lClassPathQ, lFare920, lNoChangeFee,
01759                                         isNonRefundable, lSaturdayStay);
01760
01761     // Map of class availabilities: set the availability for the Q
01762     // booking class (the one corresponding to the fare option) to 9.
01763     hasInsertOfQBeenSuccessful = lClassAvailabilityMap2.
01764         insert (ClassAvailabilityMap_T::value_type (lClassPathQ, lAvl2)).second;
01765     assert (hasInsertOfYBeenSuccessful == true);
01766     // Add the map to the dedicated list held by the travel solution
01767     lTS2.addClassAvailabilityMap (lClassAvailabilityMap2);
01768
01769     // Add (a copy of) the fare option
01770     lTS2.addFareOption (lFareOption3);
01771
01772     // Add the travel solution to the list
01773     ioTravelSolutionList.push_back (lTS2);
01774
01775 }
01776
01777 ///////////////////////////////////////////////////////////////////
01778 BookingRequestStruct CmdBomManager::buildSampleBookingRequest () {
01779     // Origin
01780     const AirportCode_T lOrigin (AIRPORT_LHR);
01781
01782     // Destination
01783     const AirportCode_T lDestination (AIRPORT_SYD);
01784
01785     // Point of Sale (POS)
01786     const CityCode_T lPOS (POS_LHR);
01787
01788     // Preferred departure date (10-JUN-2011)
01789     const Date_T lPreferredDepartureDate (2011, boost::gregorian::Jun, 10);
01790
01791     // Preferred departure time (08:00)
01792     const Duration_T lPreferredDepartureTime (8, 0, 0);
01793

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01794 // Date of the request (15-MAY-2011)
01795 const Date_T lRequestDate (2011, boost::gregorian::May, 15);
01796
01797 // Time of the request (10:00)
01798 const Duration_T lRequestTime (10, 0, 0);
01799
01800 // Date-time of the request (made of the date and time above)
01801 const DateTime_T lRequestDateTime (lRequestDate, lRequestTime);
01802
01803 // Preferred cabin (also named class of service sometimes)
01804 const CabinCode_T lPreferredCabin (CABIN_ECO);
01805
01806 // Number of persons in the party
01807 const PartySize_T lPartySize (3);
01808
01809 // Channel (direct/indirect, on-line/off-line)
01810 const ChannelLabel_T lChannel (CHANNEL_DN);
01811
01812 // Type of the trip (one-way, inbound/outbound of a return trip)
01813 const TripType_T lTripType (TRIP_TYPE_INBOUND);
01814
01815 // Duration of the stay (expressed as a number of days)
01816 const DayDuration_T lStayDuration (DEFAULT_STAY_DURATION);
01817
01818 // Frequent flyer tier (member, silver, gold, platinum, senator, etc)
01819 const FrequentFlyer_T lFrequentFlyerType (
01820     FREQUENT_FLYER_MEMBER);
01821
01822 // Maximum willing-to-pay (WTP, expressed in monetary unit, e.g., EUR)
01823 const WTP_T lWTP (DEFAULT_WTP);
01824
01825 // Value of time, for the customer (expressed in monetary unit per
01826 // unit of time, e.g., EUR/hour)
01827 const PriceValue_T lValueOfTime (DEFAULT_VALUE_OF_TIME);
01828
01829 // Restrictions
01830 const ChangeFees_T lChangeFees = false;
01831 const Disutility_T lChangeFeeDisutility = 30;
01832 const NonRefundable_T lNonRefundable = false;
01833 const Disutility_T lNonRefundableDisutility = 50;
01834
01835 // Creation of the booking request structure
01836 BookingRequestStruct oBookingRequest (lOrigin, lDestination, lPOS,
01837     lPreferredDepartureDate,
01838     lRequestDateTime,
01839     lPreferredCabin,
01840     lPartySize, lChannel,
01841     lTripType, lStayDuration,
01842     lFrequentFlyerType,
01843     lPreferredDepartureTime,
01844     lWTP, lValueOfTime,
01845     lChangeFees, lChangeFeeDisutility,
01846     lNonRefundable,
01847     lNonRefundableDisutility);
01848
01849     return oBookingRequest;
01850 }
01851 // /////////////////////////////////
01852 BookingRequestStruct CmdBomManager::buildSampleBookingRequestForCRS () {
01853     // Origin
01854     const AirportCode_T lOrigin (AIRPORT_SIN);
01855
01856     // Destination
01857     const AirportCode_T lDestination (AIRPORT_BKK);
01858
01859     // Point of Sale (POS)
01860     const CityCode_T lPOS (POS_SIN);
01861
01862     // Preferred departure date (30-JAN-2010)
01863     const Date_T lPreferredDepartureDate (2010, boost::gregorian::Jan, 30);
01864
01865     // Preferred departure time (10:00)
01866     const Duration_T lPreferredDepartureTime (10, 0, 0);
01867
01868     // Date of the request (22-JAN-2010)
01869     const Date_T lRequestDate (2010, boost::gregorian::Jan, 22);
01870
01871     // Time of the request (10:00)
01872     const Duration_T lRequestTime (10, 0, 0);
01873
01874     // Date-time of the request (made of the date and time above)
01875     const DateTime_T lRequestDateTime (lRequestDate, lRequestTime);
01876
01877     // Preferred cabin (also named class of service sometimes)
01878     const CabinCode_T lPreferredCabin (CABIN_ECO);
01879

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01880 // Number of persons in the party
01881 const PartySize_T lPartySize (3);
01882
01883 // Channel (direct/indirect, on-line/off-line)
01884 const ChannelLabel_T lChannel (CHANNEL_IN);
01885
01886 // Type of the trip (one-way, inbound/outbound of a return trip)
01887 const TripType_T lTripType (TRIP_TYPE_INBOUND);
01888
01889 // Duration of the stay (expressed as a number of days)
01890 const DayDuration_T lStayDuration (DEFAULT_STAY_DURATION);
01891
01892 // Frequent flyer tier (member, silver, gold, platinum, senator, etc)
01893 const FrequentFlyer_T lFrequentFlyerType (
01894 FREQUENT_FLYER_MEMBER);
01895
01896 // Maximum willing-to-pay (WTP, expressed in monetary unit, e.g., EUR)
01897 const WTP_T lWTP (DEFAULT_WTP);
01898
01899 // Value of time, for the customer (expressed in monetary unit per
01900 // unit of time, e.g., EUR/hour)
01900 const PriceValue_T lValueOfTime (DEFAULT_VALUE_OF_TIME);
01901
01902 // Restrictions
01903 const ChangeFees_T lChangeFees = true;
01904 const Disutility_T lChangeFeeDisutility = 50;
01905 const NonRefundable_T lNonRefundable = true;
01906 const Disutility_T lNonRefundableDisutility = 50;
01907
01908 // Creation of the booking request structure
01909 BookingRequestStruct oBookingRequest (lOrigin,
01910                               lDestination,
01911                               lPOS,
01912                               lPreferredDepartureDate,
01913                               lRequestDateTime,
01914                               lPreferredCabin,
01915                               lPartySize, lChannel,
01916                               lTripType, lStayDuration,
01917                               lFrequentFlyerType,
01918                               lPreferredDepartureTime,
01919                               lWTP, lValueOfTime,
01920                               lChangeFees, lChangeFeeDisutility,
01921                               lNonRefundable,
01922                               lNonRefundableDisutility);
01923
01924     return oBookingRequest;
01925 }
01926
01927 // /////////////////////////////////
01928 void CmdBomManager:::
01929 buildPartnershipsSampleInventoryAndRM (BomRoot& ioBomRoot) {
01930
01931     // Step 0.1: Inventory level
01932     // Create an Inventory for SQ
01933     const AirlineCode_T lAirlineCodeSQ ("SQ");
01934     const InventoryKey lSQKey (lAirlineCodeSQ);
01935     Inventory& lSQInv = FacBom<Inventory>::instance().
01936     create (lSQKey);
01937     FacBomManager::addToListAndMap (ioBomRoot, lSQInv);
01938     FacBomManager::linkWithParent (ioBomRoot, lSQInv);
01939
01940     // Add the airline feature object to the SQ inventory
01941     const AirlineFeatureKey lAirlineFeatureSQKey (lAirlineCodeSQ);
01942     AirlineFeature& lAirlineFeatureSQ =
01943         FacBom<AirlineFeature>::instance().create (lAirlineFeatureSQKey
01944     );
01945     FacBomManager::setAirlineFeature (lSQInv, lAirlineFeatureSQ);
01946     FacBomManager::linkWithParent (lSQInv, lAirlineFeatureSQ);
01947     // Link the airline feature object with the top of the BOM tree
01948     FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureSQ);
01949
01950     // Create an Inventory for CX
01951     const AirlineCode_T lAirlineCodeCX ("CX");
01952     const InventoryKey lCXKey (lAirlineCodeCX);
01953     Inventory& lCXInv = FacBom<Inventory>::instance().
01954     create (lCXKey);
01955     FacBomManager::addToListAndMap (ioBomRoot, lCXInv);
01956     FacBomManager::linkWithParent (ioBomRoot, lCXInv);
01957
01958     // Add the airline feature object to the CX inventory
01959     const AirlineFeatureKey lAirlineFeatureCXKey (lAirlineCodeCX);
01960     AirlineFeature& lAirlineFeatureCX =
01961         FacBom<AirlineFeature>::instance().create (lAirlineFeatureCXKey
01962     );
01963     FacBomManager::setAirlineFeature (lCXInv, lAirlineFeatureCX);
01964     FacBomManager::linkWithParent (lCXInv, lAirlineFeatureCX);
01965     // Link the airline feature object with the top of the BOM tree

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01962     FacBomManager::addToListAndMap (ioBomRoot, lAirlineFeatureCX);
01963
01964 // ///// SQ //////
01965 // Step 0.2: Flight-date level
01966 // Create a FlightDate (SQ11/08-MAR-2010) for SQ's Inventory
01967 FlightNumber_T lFlightNumber = 11;
01968 Date_T lDate (2010, 3, 8);
01969 FlightDateKey lFlightDateKey (lFlightNumber, lDate);
01970
01971 FlightDate& lSQ11_20100308_FD =
01972     FacBom<FlightDate>::instance().create (lFlightDateKey);
01973 FacBomManager::addToListAndMap (lSQInv, lSQ11_20100308_FD);
01974 FacBomManager::linkWithParent (lSQInv, lSQ11_20100308_FD);
01975
01976 // Create a (mkt) FlightDate (SQ1200/08-MAR-2010) for SQ's Inventory
01977 FlightNumber_T lMktFlightNumber = 1200;
01978 //lDate = Date_T (2010, 3, 8);
01979 FlightDateKey lMktFlightDateKey (lMktFlightNumber, lDate);
01980
01981 FlightDate& lSQ1200_20100308_FD =
01982     FacBom<FlightDate>::instance().create (lMktFlightDateKey);
01983 FacBomManager::addToListAndMap (lSQInv, lSQ1200_20100308_FD);
01984 FacBomManager::linkWithParent (lSQInv, lSQ1200_20100308_FD);
01985
01986 // Display the flight-date
01987 // STDAIR_LOG_DEBUG ("FlightDate: " << lBA9_20110610_FD.toString());
01988
01989 // Step 0.3: Segment-date level
01990 // Create a first SegmentDate (SIN-BKK) for SQ's Inventory
01991 const AirportCode_T lSIN ("SIN");
01992 const AirportCode_T lBKK ("BKK");
01993 const DateTimeOffset_T l1Day (1);
01994 const DateTimeOffset_T l2Days (2);
01995 const Duration_T l0820 (8, 20, 0);
01996 const Duration_T l1100 (11, 0, 0);
01997 const Duration_T l0340 (3, 40, 0);
01998 SegmentDateKey lSegmentDateKey (lSIN, lBKK);
01999
02000 SegmentDate& lSINBKKSegment =
02001     FacBom<SegmentDate>::instance().create (lSegmentDateKey);
02002 FacBomManager::addToListAndMap (lSQ11_20100308_FD, lSINBKKSegment);
02003 FacBomManager::linkWithParent (lSQ11_20100308_FD, lSINBKKSegment);
02004
02005 // Add the routing leg key to the SIN-BKK segment.
02006 const std::string lSQSINRoutingLegStr = "SQ;11;2010-Mar-8;SIN";
02007 lSINBKKSegment.addLegKey (lSQSINRoutingLegStr);
02008
02009 // Fill the SegmentDate content
02010 lSINBKKSegment.setBoardingDate (lDate);
02011 lSINBKKSegment.setOffDate (lDate);
02012 lSINBKKSegment.setBoardingTime (l0820);
02013 lSINBKKSegment.setOffTime (l1100);
02014 lSINBKKSegment.setElapsedTime (l0340);
02015
02016 // Create a second (mkt) SegmentDate (BKK-HKG) for SQ's Inventory
02017 const AirportCode_T lHKG ("HKG");
02018 const Duration_T l1200 (12, 0, 0);
02019 const Duration_T l1540 (15, 40, 0);
02020 const Duration_T l0240 (2, 40, 0);
02021 SegmentDateKey lMktSegmentDateKey (lBKK, lHKG);
02022
02023 SegmentDate& lMktBKKHKGSegment =
02024     FacBom<SegmentDate>::instance().create (lMktSegmentDateKey);
02025 FacBomManager::addToListAndMap (lSQ1200_20100308_FD, lMktBKKHKGSegment);
02026 FacBomManager::linkWithParent (lSQ1200_20100308_FD, lMktBKKHKGSegment);
02027
02028 // Add the routing leg key CX;12;2010-Mar-8;BKK to the marketing
02029 // SQ;1200;2010-Mar-8;BKK-HKG segment.
02030 const std::string lCXBKKRoutingLegStr = "CX;12;2010-Mar-8;BKK";
02031 lMktBKKHKGSegment.addLegKey (lCXBKKRoutingLegStr);
02032
02033 // Fill the (mkt) SegmentDate content
02034 lMktBKKHKGSegment.setBoardingDate (lDate);
02035 lMktBKKHKGSegment.setOffDate (lDate);
02036 lMktBKKHKGSegment.setBoardingTime (l1200);
02037 lMktBKKHKGSegment.setOffTime (l1540);
02038 lMktBKKHKGSegment.setElapsedTime (l0240);
02039
02040 // Step 0.4: Leg-date level
02041 // Create a first LegDate (SIN) for SQ's Inventory
02042 LegDateKey lLegDateKey (lSIN);
02043
02044 LegDate& lSINLeg = FacBom<LegDate>::instance().
02045     create (lLegDateKey);
02046 FacBomManager::addToListAndMap (lSQ11_20100308_FD, lSINLeg);
02047 FacBomManager::linkWithParent (lSQ11_20100308_FD, lSINLeg);
02047

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02048 // Fill the LegDate content
02049 lSINLeg.setOffPoint (lBK);
02050 lSINLeg.setBoardingDate (lDate);
02051 lSINLeg.setOffDate (lDate);
02052 lSINLeg.setBoardingTime (10820);
02053 lSINLeg.setOffTime (11100);
02054 lSINLeg.setElapsedTime (10340);
02055
02056 // Step 0.5: segment-cabin level
02057 // Create a SegmentCabin (Y) for the Segment SIN-BKK of SQ's Inventory
02058 const CabinCode_T lY ("Y");
02059 SegmentCabinKey lYSegmentCabinKey (lY);
02060
02061 SegmentCabin& lSINBKKSegmentYCabin =
02062     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
02063 FacBomManager::addToListAndMap (lSINBKKSegment, lSINBKKSegmentYCabin);
02064 FacBomManager::linkWithParent (lSINBKKSegment, lSINBKKSegmentYCabin);
02065
02066 // Create a SegmentCabin (Y) for the (mkt) Segment BKK-HKG of SQ's Inventory
02067 SegmentCabin& lMktBKKHKGSegmentYCabin =
02068     FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
02069 FacBomManager::addToListAndMap (lMktBKKHKGSegment,
02070     lMktBKKHKGSegmentYCabin);
02071 FacBomManager::linkWithParent (lMktBKKHKGSegment, lMktBKKHKGSegmentYCabin);
02072 ;
02073
02074 // Step 0.6: leg-cabin level
02075 // Create a LegCabin (Y) for the Leg SIN-BKK on SQ's Inventory
02076 LegCabinKey lYLegCabinKey (lY);
02077
02078 LegCabin& lSINLegYCabin =
02079     FacBom<LegCabin>::instance().create (lYLegCabinKey);
02080 FacBomManager::addToListAndMap (lSINLeg, lSINLegYCabin);
02081 FacBomManager::linkWithParent (lSINLeg, lSINLegYCabin);
02082
02083 CabinCapacity_T lCapacity (100);
02084 lSINLegYCabin.setCapacities (lCapacity);
02085 lSINLegYCabin.setAvailabilityPool (lCapacity);
02086
02087 // Step 0.7: fare family level
02088 // Create a FareFamily (1) for the Segment SIN-BKK, cabin Y on SQ's Inv
02089 const FamilyCode_T l1 ("EcoSaver");
02090 FareFamilyKey l1FareFamilyKey (l1);
02091
02092 FareFamily& lSINBKKSegmentYCabin1Family =
02093     FacBom<FareFamily>::instance().create (l1FareFamilyKey);
02094 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
02095     lSINBKKSegmentYCabin1Family);
02096 FacBomManager::linkWithParent (lSINBKKSegmentYCabin,
02097     lSINBKKSegmentYCabin1Family);
02098
02099 // Create a FareFamily (1) for the (mkt) Segment BKK-HKG, cabin Y on SQ's Inv
02100 FareFamily& lMktBKKHKGSegmentYCabin1Family =
02101     FacBom<FareFamily>::instance().create (l1FareFamilyKey);
02102 FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
02103     lMktBKKHKGSegmentYCabin1Family);
02104 FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin,
02105     lMktBKKHKGSegmentYCabin1Family);
02106
02107 // Step 0.8: booking class level
02108 // Create a BookingClass (Y) for the Segment SIN-BKK, cabin Y,
02109 // fare family 1 on SQ's Inv
02110 BookingClassKey lYBookingClassKey (lY);
02111
02112 BookingClass& lSINBKKSegmentYCabin1FamilyYClass =
02113     FacBom<BookingClass>::instance().create (lYBookingClassKey);
02114 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
02115     lSINBKKSegmentYCabin1FamilyYClass);
02116 FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
02117     lSINBKKSegmentYCabin1FamilyYClass);
02118
02119 FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
02120     lSINBKKSegmentYCabin1FamilyYClass);
02121 FacBomManager::addToListAndMap (lSINBKKSegment,
02122     lSINBKKSegmentYCabin1FamilyYClass);
02123
02124 lSINBKKSegmentYCabin1FamilyYClass.setYield(700);
02125
02126 // Create a BookingClass (Y) for the (mkt) Segment BKK-HKG, cabin Y,
02127 // fare family 1 on SQ's Inv
02128 BookingClass& lMktBKKHKGSegmentYCabin1FamilyYClass =
02129     FacBom<BookingClass>::instance().create (lYBookingClassKey);
02130 FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin1Family,
02131     lMktBKKHKGSegmentYCabin1FamilyYClass);
02132 FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin1Family,
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02133                               lMktBKKHKGSegmentYCabin1FamilyYClass);
02134
02135     FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
02136                                         lMktBKKHKGSegmentYCabin1FamilyYClass);
02137     FacBomManager::addToListAndMap (lMktBKKHKGSegment,
02138                                         lMktBKKHKGSegmentYCabin1FamilyYClass);
02139
02140     lMktBKKHKGSegmentYCabin1FamilyYClass.setYield(700);
02141
02142
02143 // Create a BookingClass (M) for the Segment SIN-BKK, cabin Y,
02144 // fare family 1 on SQ's Inv
02145 const ClassCode_T lM ("M");
02146 BookingClassKey lMBookingClassKey (lM);
02147
02148 BookingClass& lSINBKKSegmentYCabin1FamilyMClass =
02149     FacBom<BookingClass>::instance().create (lMBookingClassKey);
02150     FacBomManager::addToListAndMap (lSINBKKSegmentYCabin1Family,
02151                                         lSINBKKSegmentYCabin1FamilyMClass);
02152     FacBomManager::linkWithParent (lSINBKKSegmentYCabin1Family,
02153                                         lSINBKKSegmentYCabin1FamilyMClass);
02154
02155     FacBomManager::addToListAndMap (lSINBKKSegmentYCabin,
02156                                         lSINBKKSegmentYCabin1FamilyMClass);
02157     FacBomManager::addToListAndMap (lSINBKKSegment,
02158                                         lSINBKKSegmentYCabin1FamilyMClass);
02159
02160     lSINBKKSegmentYCabin1FamilyMClass.setYield(500);
02161
02162 // Create a BookingClass (M) for the (mkt) Segment BKK-HKG, cabin Y,
02163 // fare family 1 on SQ's Inv
02164 BookingClass& lMktBKKHKGSegmentYCabin1FamilyMClass =
02165     FacBom<BookingClass>::instance().create (lMBookingClassKey);
02166     FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin1Family,
02167                                         lMktBKKHKGSegmentYCabin1FamilyMClass);
02168     FacBomManager::linkWithParent (lMktBKKHKGSegmentYCabin1Family,
02169                                         lMktBKKHKGSegmentYCabin1FamilyMClass);
02170
02171     FacBomManager::addToListAndMap (lMktBKKHKGSegmentYCabin,
02172                                         lMktBKKHKGSegmentYCabin1FamilyMClass);
02173     FacBomManager::addToListAndMap (lMktBKKHKGSegment,
02174                                         lMktBKKHKGSegmentYCabin1FamilyMClass);
02175
02176     lMktBKKHKGSegmentYCabin1FamilyMClass.setYield(500);
02177
02178 /* ===== */
02179
02180 // Step 1.0: O&D level
02181 // Create an O&D Date (SQ11/08-MAR-2010/SIN-BKK-SQ1200/08-MAR-2010/BKK-HKG)
02182 // for SQ's Inventory
02183 OnDString_T lSQSINBKKOnDStr = "SQ;11,2010-Mar-08;SIN,BKK";
02184 OnDString_T lMktSQBKKHKGOnDStr = "SQ;1200,2010-Mar-08;BKK,HKG";
02185 OnDStringList_T lOnDStringList;
02186 lOnDStringList.push_back (lSQSINBKKOnDStr);
02187 lOnDStringList.push_back (lMktSQBKKHKGOnDStr);
02188
02189 OnDDateKey lOnDDateKey (lOnDStringList);
02190 OnDDate& lSQ_SINHKG_OnDDate =
02191     FacBom<OnDDate>::instance().create (lOnDDateKey);
02192 // Link to the inventory
02193 FacBomManager::addToListAndMap (lSQInv, lSQ_SINHKG_OnDDate);
02194 FacBomManager::linkWithParent (lSQInv, lSQ_SINHKG_OnDDate);
02195
02196 // Add the segments
02197 FacBomManager::addToListAndMap (lSQ_SINHKG_OnDDate, lSINBKKSegment);
02198 FacBomManager::addToListAndMap (lSQ_SINHKG_OnDDate, lMktBKKHKGSegment);
02199
02200 // Add total forecast info for cabin Y.
02201 const MeanStdDevPair_T lMean60StdDev6 (60.0, 6.0);
02202 const WTP_T lWTP750 = 750.0;
02203 const WTPDemandPair_T lWTP750Mean60StdDev6 (lWTP750, lMean60StdDev6);
02204 lSQ_SINHKG_OnDDate.setTotalForecast (lY, lWTP750Mean60StdDev6);
02205
02206 // Add demand info (optional).
02207 // 2 legs here, so 2 CabinClassPair to add in the list.
02208 // First leg: cabin Y, class M.
02209 CabinClassPair_T lCC_YM1 (lY,lM);
02210 // Second leg: cabin Y, class M too.
02211 CabinClassPair_T lCC_YM2 (lY,lM);
02212 CabinClassPairList_T lCabinClassPairList;
02213 lCabinClassPairList.push_back(lCC_YM1);
02214 lCabinClassPairList.push_back(lCC_YM2);
02215 const MeanStdDevPair_T lMean20StdDev2 (20.0, 2.0);
02216 const Yield_T lYield850 = 850.0;
02217 const YieldDemandPair_T lYield850Mean20StdDev2 (lYield850, lMean20StdDev2);
02218 lSQ_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList, lYield850Mean20StdDev2);
02219

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02220     CabinClassPair_T lCC_YY1 (1Y,1Y);
02221     CabinClassPair_T lCC_YY2 (1Y,1Y);
02222     lCabinClassPairList.clear();
02223     lCabinClassPairList.push_back(lCC_YY1);
02224     lCabinClassPairList.push_back(lCC_YY2);
02225     const MeanStdDevPair_T lMean10StdDev1 (10.0, 1.0);
02226     const Yield_T lYield1200 = 1200.0;
02227     const YieldDemandPair_T lYield1200Mean10StdDev1 (lYield1200,
02228                                         lMean10StdDev1);
02229     lSQ_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
02230                                         lYield1200Mean10StdDev1);
02231
02232 // Create an O&D Date (SQ11/08-MAR-2010/SIN-BKK) for SQ's Inventory
02233 lOnDStringList.clear();
02234 lOnDStringList.push_back (lSQSINBKKOnDStr);
02235
02236 lOnDDateKey = OnDDateKey(lOnDStringList);
02237 OnDDate& lSQ_SINBKK_OnDDate =
02238     FacBom<OnDDate>::instance().create (lOnDDateKey);
02239 // Link to the inventory
02240 FacBomManager::addToListAndMap (lSQInv, lSQ_SINBKK_OnDDate);
02241 FacBomManager::linkWithParent (lSQInv, lSQ_SINBKK_OnDDate);
02242
02243 // Add the segments
02244 FacBomManager::addToListAndMap (lSQ_SINBKK_OnDDate, lSINBKKSegment);
02245
02246 // Add total forecast info for cabin Y.
02247 const WTP_T lWTP400 = 400.0;
02248 const WTPDemandPair_T lWTP400Mean60StdDev6 (lWTP400, lMean60StdDev6);
02249 lSQ_SINBKK_OnDDate.setTotalForecast (1Y, lWTP400Mean60StdDev6);
02250
02251 // Add demand info (optional).
02252 lCabinClassPairList.clear();
02253 lCabinClassPairList.push_back(lCC_YM1);
02254 const MeanStdDevPair_T lMean20StdDev1 (20.0, 1.0);
02255 const Yield_T lYield500 = 500.0;
02256 const YieldDemandPair_T lYield500Mean20StdDev1 (lYield500, lMean20StdDev1);
02257 lSQ_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList,
02258                                         lYield500Mean20StdDev1);
02259
02260 lCabinClassPairList.clear();
02261 lCabinClassPairList.push_back(lCC_YY1);
02262 const Yield_T lYield700 = 700.0;
02263 const YieldDemandPair_T lYield700Mean20StdDev1 (lYield700, lMean10StdDev1 );
02264 lSQ_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList,
02265                                         lYield700Mean20StdDev1);
02266
02267 //*****
02268 // Create an O&D Date (SQ1200/08-MAR-2010/BKK-HKG) for SQ's Inventory
02269 lFullKeyList.clear();
02270 lFullKeyList.push_back (lMktSQBKKHKGFullKeyStr);
02271
02272 lOnDDateKey = OnDDateKey(lFullKeyList);
02273 OnDDate& lMktSQ_BKKHKG_OnDDate =
02274     FacBom<OnDDate>::instance().create (lOnDDateKey);
02275 // Link to the inventory
02276 FacBomManager::addToListAndMap (lSQInv, lMktSQ_BKKHKG_OnDDate);
02277 FacBomManager::linkWithParent (lSQInv, lMktSQ_BKKHKG_OnDDate);
02278
02279 // Add the segments
02280 FacBomManager::addToListAndMap (lMktSQ_BKKHKG_OnDDate, lMktBKKHKGSegment);
02281
02282 // Demand info is not added for purely marketed O&Ds
02283 // Add demand info
02284 // lCabinClassPairList.clear();
02285 // lCabinClassPairList.push_back(lCC_YM2);
02286 // lMktSQ_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList, 500.0, 20.0, 1.0);
02287 ****
02288
02289 // ///// CX //////
02290 // Step 0.2: Flight-date level
02291 // Create a FlightDate (CX12/08-MAR-2010) for CX's Inventory
02292 lFlightNumber = 12;
02293 //lDate = Date_T (2010, 2, 8);
02294 lFlightDateKey = FlightDateKey (lFlightNumber, lDate);
02295
02296 FlightDate& lCX12_20100308_FD =
02297     FacBom<FlightDate>::instance().create (lFlightDateKey);
02298 FacBomManager::addToListAndMap (lCXInv, lCX12_20100308_FD);
02299 FacBomManager::linkWithParent (lCXInv, lCX12_20100308_FD);
02300
02301 // Create a (mkt) FlightDate (CX1100/08-FEB-2010) for CX's Inventory
02302 lFlightNumber = 1100;
02303 //lDate = Date_T (2010, 2, 8);
02304 lMktFlightDateKey = FlightDateKey (lFlightNumber, lDate);
02305
02306

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02307     FlightDate& lCX1100_20100308_FD =
02308         FacBom<FlightDate>::instance().create (lMktFlightDateKey);
02309     FacBomManager::addToListAndMap (lCXInv, lCX1100_20100308_FD);
02310     FacBomManager::linkWithParent (lCXInv, lCX1100_20100308_FD);
02311
02312     // Display the flight-date
02313     // STDAIR_LOG_DEBUG ("FlightDate: " << lAF084_20110320_FD.toString());
02314
02315     // Step 0.3: Segment-date level
02316     // Create a SegmentDate BKK-HKG for CX's Inventory
02317
02318     lSegmentDateKey = SegmentDateKey (1BKK, 1HKG);
02319
02320     SegmentDate& lBKKHKGSegment =
02321         FacBom<SegmentDate>::instance().create (lSegmentDateKey);
02322     FacBomManager::addToListAndMap (lCX12_20100308_FD, lBKKHKGSegment);
02323     FacBomManager::linkWithParent (lCX12_20100308_FD, lBKKHKGSegment);
02324
02325     // Add the routing leg key to the marketing BKK-HKG segment.
02326     lBKKHKGSegment.addLegKey (lCXBKKRoutingLegStr);
02327
02328     // Fill the SegmentDate content
02329     lBKKHKGSegment.setBoardingDate (lDate);
02330     lBKKHKGSegment.setOffDate (lDate);
02331     lBKKHKGSegment.setBoardingTime (11200);
02332     lBKKHKGSegment.setOffTime (11540);
02333     lBKKHKGSegment.setElapsedTime (10240);
02334
02335     // Create a second (mkt) SegmentDate (SIN-BKK) for CX's Inventory
02336     lMktSegmentDateKey = SegmentDateKey (1SIN, 1BKK);
02337
02338     SegmentDate& lMktSINBKKSegment =
02339         FacBom<SegmentDate>::instance().create (lMktSegmentDateKey);
02340     FacBomManager::addToListAndMap (lCX1100_20100308_FD, lMktSINBKKSegment);
02341     FacBomManager::linkWithParent (lCX1100_20100308_FD, lMktSINBKKSegment);
02342
02343     // Add the routing leg key SQ;11;2010-Mar-8;SIN to the marketing
02344     // CX;1100;2010-Mar-8;SIN-BKK segment.
02345     lMktSINBKKSegment.addLegKey (lSQSINRoutingLegStr);
02346
02347     // Fill the (mkt) SegmentDate content
02348     lMktSINBKKSegment.setBoardingDate (lDate);
02349     lMktSINBKKSegment.setOffDate (lDate);
02350     lMktSINBKKSegment.setBoardingTime (10820);
02351     lMktSINBKKSegment.setOffTime (11100);
02352     lMktSINBKKSegment.setElapsedTime (10340);
02353
02354     // Step 0.4: Leg-date level
02355     // Create a LegDate (BKK) for CX's Inventory
02356     lLegDateKey = LegDateKey (1BKK);
02357
02358     LegDate& lBKKLeg = FacBom<LegDate>::instance().
02359         create (lLegDateKey);
02360     FacBomManager::addToListAndMap (lCX12_20100308_FD, lBKKLeg);
02361     FacBomManager::linkWithParent (lCX12_20100308_FD, lBKKLeg);
02362
02363     // Fill the LegDate content
02364     lBKKLeg.setOffPoint (1HKG);
02365     lBKKLeg.setBoardingDate (lDate);
02366     lBKKLeg.setOffDate (lDate);
02367     lBKKLeg.setBoardingTime (11200);
02368     lBKKLeg.setOffTime (11540);
02369     lBKKLeg.setElapsedTime (10240);
02370
02371     // Display the leg-date
02372     // STDAIR_LOG_DEBUG ("LegDate: " << lCDGLeg.toString());
02373
02374     // Step 0.5: segment-cabin level
02375     // Create a SegmentCabin (Y) for the Segment BKK-HKG of CX's Inventory
02376     SegmentCabin& lBKKHKGSegmentYCabin =
02377         FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
02378     FacBomManager::addToListAndMap (lBKKHKGSegment, lBKKHKGSegmentYCabin);
02379     FacBomManager::linkWithParent (lBKKHKGSegment, lBKKHKGSegmentYCabin);
02380
02381     // Create a SegmentCabin (Y) for the (mkt) Segment SIN-BKK of CX's Inventory
02382     SegmentCabin& lMktSINBKKSegmentYCabin =
02383         FacBom<SegmentCabin>::instance().create (lYSegmentCabinKey);
02384     FacBomManager::addToListAndMap (lMktSINBKKSegment,
02385         lMktSINBKKSegmentYCabin);
02386     FacBomManager::linkWithParent (lMktSINBKKSegment, lMktSINBKKSegmentYCabin);
02387
02388     // Step 0.6: leg-cabin level
02389     // Create a LegCabin (Y) for the Leg BKK-HKG on CX's Inventory
02390     LegCabin& lBKKLegYCabin =
02391         FacBom<LegCabin>::instance().create (lYLegCabinKey);
02392     FacBomManager::addToListAndMap (lBKKLeg, lBKKLegYCabin);

```

```

02391     FacBomManager::linkWithParent (lBKKLeg, lBKKLegYCabin);
02392
02393     lCapacity = CabinCapacity_T(100);
02394     lBKKLegYCabin.setCapacities (lCapacity);
02395     lBKKLegYCabin.setAvailabilityPool (lCapacity);
02396
02397     // Step 0.7: fare family level
02398     // Create a fareFamily (1) for the Segment BKK-HKG, cabin Y on CX's Inv
02399     FareFamily& lBKKHKGSegmentYCabin1Family =
02400         FacBom<FareFamily>::instance().create (l1FareFamilyKey);
02401     FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin,
02402                                     lBKKHKGSegmentYCabin1Family);
02403     FacBomManager::linkWithParent (lBKKHKGSegmentYCabin,
02404                                     lBKKHKGSegmentYCabin1Family);
02405
02406     // Create a FareFamily (1) for the (mkt) Segment SIN-BKK, cabin Y on CX's Inv
02407     FareFamily& lMktsINBKKSegmentYCabin1Family =
02408         FacBom<FareFamily>::instance().create (l1FareFamilyKey);
02409     FacBomManager::addToListAndMap (lMktsINBKKSegmentYCabin,
02410                                     lMktsINBKKSegmentYCabin1Family);
02411     FacBomManager::linkWithParent (lMktsINBKKSegmentYCabin,
02412                                     lMktsINBKKSegmentYCabin1Family);
02413
02414
02415     // Step 0.8: booking class level
02416     // Create a BookingClass (Y) for the
02417     // Segment BKK-HKG, cabin Y, fare family 1 on CX's Inv
02418     BookingClass& lBKKHKGSegmentYCabin1FamilyYClass =
02419         FacBom<BookingClass>::instance().create (l1YBookingClassKey);
02420     FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin1Family,
02421                                     lBKKHKGSegmentYCabin1FamilyYClass);
02422     FacBomManager::linkWithParent (lBKKHKGSegmentYCabin1Family,
02423                                     lBKKHKGSegmentYCabin1FamilyYClass);
02424
02425     FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin,
02426                                     lBKKHKGSegmentYCabin1FamilyYClass);
02427     FacBomManager::addToListAndMap (lBKKHKGSegment,
02428                                     lBKKHKGSegmentYCabin1FamilyYClass);
02429
02430     lBKKHKGSegmentYCabin1FamilyYClass.setYield(700);
02431
02432     // Create a BookingClass (Y) for the (mkt) Segment SIN-BKK, cabin Y,
02433     // fare family 1 on CX's Inv
02434     BookingClass& lMktsINBKKSegmentYCabin1FamilyYClass =
02435         FacBom<BookingClass>::instance().create (l1YBookingClassKey);
02436     FacBomManager::addToListAndMap (lMktsINBKKSegmentYCabin1Family,
02437                                     lMktsINBKKSegmentYCabin1FamilyYClass);
02438     FacBomManager::linkWithParent (lMktsINBKKSegmentYCabin1Family,
02439                                     lMktsINBKKSegmentYCabin1FamilyYClass);
02440
02441     FacBomManager::addToListAndMap (lMktsINBKKSegmentYCabin,
02442                                     lMktsINBKKSegmentYCabin1FamilyYClass);
02443     FacBomManager::addToListAndMap (lMktsINBKKSegment,
02444                                     lMktsINBKKSegmentYCabin1FamilyYClass);
02445
02446     lMktsINBKKSegmentYCabin1FamilyYClass.setYield(700);
02447
02448     //Create a BookingClass (M) for the
02449     // Segment BKK-HKG, cabin Y, fare family 1 on CX's Inv
02450     BookingClass& lBKKHKGSegmentYCabin1FamilyMClass =
02451         FacBom<BookingClass>::instance().create (l1MBookingClassKey);
02452     FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin1Family,
02453                                     lBKKHKGSegmentYCabin1FamilyMClass);
02454     FacBomManager::linkWithParent (lBKKHKGSegmentYCabin1Family,
02455                                     lBKKHKGSegmentYCabin1FamilyMClass);
02456
02457     FacBomManager::addToListAndMap (lBKKHKGSegmentYCabin,
02458                                     lBKKHKGSegmentYCabin1FamilyMClass);
02459     FacBomManager::addToListAndMap (lBKKHKGSegment,
02460                                     lBKKHKGSegmentYCabin1FamilyMClass);
02461
02462     lBKKHKGSegmentYCabin1FamilyMClass.setYield(500);
02463
02464     // Create a BookingClass (M) for the (mkt) Segment SIN-BKK, cabin Y,
02465     // fare family 1 on CX's Inv
02466     BookingClass& lMktsINBKKSegmentYCabin1FamilyMClass =
02467         FacBom<BookingClass>::instance().create (l1MBookingClassKey);
02468     FacBomManager::addToListAndMap (lMktsINBKKSegmentYCabin1Family,
02469                                     lMktsINBKKSegmentYCabin1FamilyMClass);
02470     FacBomManager::linkWithParent (lMktsINBKKSegmentYCabin1Family,
02471                                     lMktsINBKKSegmentYCabin1FamilyMClass);
02472
02473     FacBomManager::addToListAndMap (lMktsINBKKSegmentYCabin,
02474                                     lMktsINBKKSegmentYCabin1FamilyMClass);
02475     FacBomManager::addToListAndMap (lMktsINBKKSegment,
02476                                     lMktsINBKKSegmentYCabin1FamilyMClass);

```

```

02478 lMktSINBKKSegmentYCabin1FamilyMClass.setYield(500);
02479 /* ===== */
02480 // Step 1.0: O&D level
02481 // Create an O&D Date (CX1100/08-MAR-2010/SIN-BKK-CX12/08-MAR-2010/BKK-HKG) for CX's Inventory
02482 OnString_T lMktCXSINBKKOnDStr = "CX;1100,2010-Mar-08;SIN,BKK";
02483 OnString_T lCXBKKHKGOnDStr = "CX;12,2010-Mar-08;BKK,HKG";
02484 lOnDStringList.clear();
02485 lOnDStringList.push_back (lMktCXSINBKKOnDStr);
02486 lOnDStringList.push_back (lCXBKKHKGOnDStr);
02487
02488 lOnDDateKey = OnDDateKey(lOnDStringList);
02489 OnDate& lCX_SINHKG_OnDDate =
02490     FacBom<OnDDate>::instance().create (lOnDDateKey);
02491 // Link to the inventory
02492 FacBomManager::addToListAndMap (lCXInv, lCX_SINHKG_OnDDate);
02493 FacBomManager::linkWithParent (lCXInv, lCX_SINHKG_OnDDate);
02494
02495 // Add the segments
02496 FacBomManager::addToListAndMap (lCX_SINHKG_OnDDate, lMktSINBKKSegment);
02497 FacBomManager::addToListAndMap (lCX_SINHKG_OnDDate, lBKKHKGSegment);
02498
02499 // Add total forecast info for cabin Y.
02500 lCX_SINHKG_OnDDate.setTotalForecast (1Y, 1WTP750Mean60StdDev6);
02501
02502 // Add demand info
02503 lCabinClassPairList.clear();
02504 lCabinClassPairList.push_back(lCC_YM1);
02505 lCabinClassPairList.push_back(lCC_YM2);
02506 lCX_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
02507                                         lYield850Mean20StdDev2);
02508
02509 lCabinClassPairList.clear();
02510 lCabinClassPairList.push_back(lCC_YY1);
02511 lCabinClassPairList.push_back(lCC_YY2);
02512 lCX_SINHKG_OnDDate.setDemandInformation (lCabinClassPairList,
02513                                         lYield1200Mean10StdDev1);
02514
02515 //*****
02516 // Create an O&D Date (CX1100/08-MAR-2010/SIN-BKK) for CX's Inventory
02517 lFullKeyList.clear();
02518 lFullKeyList.push_back (lMktCXSINBKKFullKeyStr);
02519
02520 lOnDDateKey = OnDDateKey(lFullKeyList);
02521 OnDate& lMktCX_SINBKK_OnDDate =
02522     FacBom<OnDDate>::instance().create (lOnDDateKey);
02523 // Link to the inventory
02524 FacBomManager::addToListAndMap (lCXInv, lMktCX_SINBKK_OnDDate);
02525 FacBomManager::linkWithParent (lCXInv, lMktCX_SINBKK_OnDDate);
02526
02527 // Add the segments
02528 FacBomManager::addToListAndMap (lMktCX_SINBKK_OnDDate, lMktSINBKKSegment);
02529
02530 // Demand info is not added for purely marketed O&Ds
02531 // Add demand info
02532 lCabinClassPairList.clear();
02533 // lCabinClassPairList.push_back(lCC_YM1);
02534 // lMktCX_SINBKK_OnDDate.setDemandInformation (lCabinClassPairList, 500.0, 20.0, 1.0);
02535
02536 //*****
02537 // Create an O&D Date (CX12/08-FEB-2010/BKK-HKG) for CX's Inventory
02538 lOnDStringList.clear();
02539 lOnDStringList.push_back (lCXBKKHKGOnDStr);
02540
02541 lOnDDateKey = OnDDateKey(lOnDStringList);
02542 OnDate& lCX_BKKHKG_OnDDate =
02543     FacBom<OnDDate>::instance().create (lOnDDateKey);
02544 // Link to the inventory
02545 FacBomManager::addToListAndMap (lCXInv, lCX_BKKHKG_OnDDate);
02546 FacBomManager::linkWithParent (lCXInv, lCX_BKKHKG_OnDDate);
02547
02548 // Add the segments
02549 FacBomManager::addToListAndMap (lCX_BKKHKG_OnDDate, lBKKHKGSegment);
02550
02551 // Add total forecast info for cabin Y.
02552 lCX_BKKHKG_OnDDate.setTotalForecast (1Y, 1WTP400Mean60StdDev6);
02553
02554 // Add demand info
02555 lCabinClassPairList.clear();
02556 lCabinClassPairList.push_back(lCC_YM2);
02557 lCX_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList,
02558                                         lYield500Mean20StdDev1);
02559
02560 lCabinClassPairList.clear();
02561 lCabinClassPairList.push_back(lCC_YY2);
02562 const YieldDemandPair_T lYield700Mean10StdDev1 (lYield700, lMean10StdDev1 );
02563
02564

```

```

02565     lCX_BKKHKG_OnDDate.setDemandInformation (lCabinClassPairList,
02566                                     1Yield700Mean10StdDev1);
02567
02568 /*=====
02569 =====
02570 =====*/
02571 // Schedule:
02572 // SQ:
02573 // Step 1: flight period level
02574 // Create a flight period for SQ11:
02575 const DoWSruct lDoWSruct ("1111111");
02576 const Date_T lDateRangeStart (2010, boost::gregorian::Mar, 8);
02577 const Date_T lDateRangeEnd (2010, boost::gregorian::Mar, 9);
02578 const DatePeriod_T lDatePeriod (lDateRangeStart, lDateRangeEnd);
02579 const PeriodStruct lPeriodStruct (lDatePeriod, lDoWSruct);
02580
02581 lFlightNumber = FlightNumber_T (11);
02582
02583 FlightPeriodKey lFlightPeriodKey (lFlightNumber, lPeriodStruct);
02584
02585 FlightPeriod& lSQ11FlightPeriod =
02586     FacBom<FlightPeriod>::instance().create (lFlightPeriodKey);
02587 FacBomManager::addToListAndMap (lSQInv, lSQ11FlightPeriod);
02588 FacBomManager::linkWithParent (lSQInv, lSQ11FlightPeriod);
02589
02590 // Step 2: segment period level
02591 // Create a segment period for SIN-BKK:
02592
02593 SegmentPeriodKey lSegmentPeriodKey (lSIN, lBKK);
02594
02595 SegmentPeriod& lSINBKKSegmentPeriod =
02596     FacBom<SegmentPeriod>::instance().create (lSegmentPeriodKey);
02597 FacBomManager::addToListAndMap (lSQ11FlightPeriod, lSINBKKSegmentPeriod);
02598 FacBomManager::linkWithParent (lSQ11FlightPeriod, lSINBKKSegmentPeriod);
02599
02600 lSINBKKSegmentPeriod.setBoardingTime (10820);
02601 lSINBKKSegmentPeriod.setOffTime (11100);
02602 lSINBKKSegmentPeriod.setElapsedTime (10340);
02603 ClassList_String_T lYM ("YM");
02604 lSINBKKSegmentPeriod.addCabinBookingClassList (lY, lYM);
02605
02606 // CX:
02607 // Step 1: flight period level
02608 // Create a flight period for CX12:
02609 lFlightNumber = FlightNumber_T (12);
02610
02611 lFlightPeriodKey = FlightPeriodKey(lFlightNumber, lPeriodStruct);
02612
02613 FlightPeriod& lCX12FlightPeriod =
02614     FacBom<FlightPeriod>::instance().create (lFlightPeriodKey);
02615 FacBomManager::addToListAndMap (lCXInv, lCX12FlightPeriod);
02616 FacBomManager::linkWithParent (lCXInv, lCX12FlightPeriod);
02617
02618 // Step 2: segment period level
02619 // Create a segment period for BKK-HKG:
02620
02621 lSegmentPeriodKey = SegmentPeriodKey (lBKK, lHKG);
02622
02623 SegmentPeriod& lBKKHKGSegmentPeriod =
02624     FacBom<SegmentPeriod>::instance().create (lSegmentPeriodKey);
02625 FacBomManager::addToListAndMap (lCX12FlightPeriod, lBKKHKGSegmentPeriod);
02626 FacBomManager::linkWithParent (lCX12FlightPeriod, lBKKHKGSegmentPeriod);
02627
02628 lBKKHKGSegmentPeriod.setBoardingTime (11200);
02629 lBKKHKGSegmentPeriod.setOffTime (11540);
02630 lBKKHKGSegmentPeriod.setElapsedTime (10240);
02631 lBKKHKGSegmentPeriod.addCabinBookingClassList (lY, lYM);
02632
02633 }
02634
02635 // ///////////////////////////////////////////////////////////////////
02636 void CmdBomManager::buildPartnershipsSamplePricing (BomRoot& ioBomRoot) {
02637
02638
02639 /*=====
02640 // First airport pair SIN-BKK.
02641 // Set the airport-pair primary key.
02642 AirportPairKey lAirportPairKey ("SIN", "BKK");
02643
02644 // Create the AirportPairKey object and link it to the ioBomRoot object.
02645 AirportPair& lSINBKKAirportPair =
02646     FacBom<AirportPair>::instance().create (lAirportPairKey);
02647 FacBomManager::addToListAndMap (ioBomRoot, lSINBKKAirportPair);
02648 FacBomManager::linkWithParent (ioBomRoot, lSINBKKAirportPair);
02649
02650 // Set the fare date-period primary key.
02651 const Date_T lDateRangeStart (2010, boost::gregorian::Mar, 01);
02652

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02653 const Date_T lDateRangeEnd (2010, boost::gregorian::Mar, 31);
02654 const DatePeriod_T lDateRange (lDateRangeStart, lDateRangeEnd);
02655 const DatePeriodKey lDatePeriodKey (lDateRange);
02656
02657 // Create the DatePeriodKey object and link it to the PosChannel object.
02658 DatePeriod& lSINBKKDatePeriod =
02659     FacBom<DatePeriod>::instance().create (lDatePeriodKey);
02660 FacBomManager::addToListAndMap (lSINBKKAirportPair, lSINBKKDatePeriod);
02661 FacBomManager::linkWithParent (lSINBKKAirportPair, lSINBKKDatePeriod);
02662
02663 // Set the point-of-sale-channel primary key.
02664 PosChannelKey lPosChannelKey ("SIN", "IN");
02665
02666 // Create the PositionKey object and link it to the AirportPair object.
02667 PosChannel& lSINPosChannel =
02668     FacBom<PosChannel>::instance().create (lPosChannelKey);
02669 FacBomManager::addToListAndMap (lSINBKKDatePeriod, lSINPosChannel);
02670 FacBomManager::linkWithParent (lSINBKKDatePeriod, lSINPosChannel);
02671
02672 // Set the fare time-period primary key.
02673 const Time_T lTimeRangeStart (0, 0, 0);
02674 const Time_T lTimeRangeEnd (23, 0, 0);
02675 const TimePeriodKey lFareTimePeriodKey (lTimeRangeStart,
02676                                     lTimeRangeEnd);
02677
02678 // Create the TimePeriodKey and link it to the DatePeriod object.
02679 TimePeriod& lSINBKKFareTimePeriod =
02680     FacBom<TimePeriod>::instance().create (lFareTimePeriodKey);
02681 FacBomManager::addToListAndMap (lSINPosChannel, lSINBKKFareTimePeriod);
02682 FacBomManager::linkWithParent (lSINPosChannel, lSINBKKFareTimePeriod);
02683
02684 // Generate the FareRule
02685 const FareFeaturesKey lFareFeaturesKey (TRIP_TYPE_ONE WAY,
02686                                         NO_ADVANCE PURCHASE,
02687                                         SATURDAY STAY,
02688                                         CHANGE FEES,
02689                                         NON_REFUNDABLE,
02690                                         NO STAY DURATION);
02691
02692 // Create the FareFeaturesKey and link it to the TimePeriod object.
02693 FareFeatures& lSINBKKFareFeatures =
02694     FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
02695 FacBomManager::addToListAndMap (lSINBKKFareTimePeriod,
02696     lSINBKKFareFeatures);
02697     FacBomManager::linkWithParent (lSINBKKFareTimePeriod, lSINBKKFareFeatures)
02698 ;
02699
02700 // Generate Segment Features and link them to their FareRule.
02701 AirlineCodeList_T lSQAirlineCodeList;
02702 lSQAirlineCodeList.push_back ("SQ");
02703
02704 ClassList_StringList_T lYClassCodeList;
02705 lYClassCodeList.push_back ("Y");
02706 const AirlineClassListKey lSQAirlineYClassListKey (lSQAirlineCodeList,
02707                                         lYClassCodeList);
02708
02709 ClassList_StringList_T lMClassCodeList;
02710 lMClassCodeList.push_back ("M");
02711 const AirlineClassListKey lSQAirlineMClassListKey (lSQAirlineCodeList,
02712                                         lMClassCodeList);
02713
02714 // Create the AirlineClassListKey and link it to the FareFeatures object.
02715 AirlineClassList& lSQAirlineYClassList =
02716     FacBom<AirlineClassList>::instance().
02717     create (lSQAirlineYClassListKey);
02718     lSQAirlineYClassList.setFare(700);
02719     FacBomManager::addToListAndMap (lSINBKKFareFeatures, lSQAirlineYClassList
02720 );
02721     FacBomManager::linkWithParent (lSINBKKFareFeatures, lSQAirlineYClassList);
02722
02723 AirlineClassList& lSQAirlineMClassList =
02724     FacBom<AirlineClassList>::instance().
02725     create (lSQAirlineMClassListKey);
02726     lSQAirlineMClassList.setFare(500);
02727     FacBomManager::addToListAndMap (lSINBKKFareFeatures, lSQAirlineMClassList
02728 );
02729     FacBomManager::linkWithParent (lSINBKKFareFeatures, lSQAirlineMClassList);
02730
02731 // =====
02732 // Second airport pair BKK-HKG.
02733 // Set the airport-pair primary key.
02734 lAirportPairKey = AirportPairKey ("BKK", "HKG");
02735
02736 // Create the AirportPairKey object and link it to the ioBomRoot object.
02737 AirportPair& lBKHKGAirportPair =
02738     FacBom<AirportPair>::instance().create (lAirportPairKey);
02739     FacBomManager::addToListAndMap (ioBomRoot, lBKHKGAirportPair);

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02734     FacBomManager::linkWithParent (ioBomRoot, lBKHHKGAAirportPair);
02735
02736     // Set the fare date-period primary key.
02737     // Use the same as previously.
02738
02739     // Create the DatePeriodKey object and link it to the PosChannel object.
02740     DatePeriod& lBKHKGDatePeriod =
02741         FacBom<DatePeriod>::instance().create (lDatePeriodKey);
02742     FacBomManager::addToListAndMap (lBKHHKGAAirportPair, lBKHKGDatePeriod);
02743     FacBomManager::linkWithParent (lBKHHKGAAirportPair, lBKHKGDatePeriod);
02744
02745     // Set the point-of-sale-channel primary key.
02746     lPosChannelKey = PosChannelKey("BKK", "IN");
02747
02748     // Create the PositionKey object and link it to the AirportPair object.
02749     PosChannel& lBKHKPosChannel =
02750         FacBom<PosChannel>::instance().create (lPosChannelKey);
02751     FacBomManager::addToListAndMap (lBKHKGDatePeriod, lBKHKPosChannel);
02752     FacBomManager::linkWithParent (lBKHKGDatePeriod, lBKHKPosChannel);
02753
02754     // Set the fare time-period primary key.
02755     // Use the same as previously.
02756
02757     // Create the TimePeriodKey and link it to the DatePeriod object.
02758     TimePeriod& lBKHHKGFareTimePeriod =
02759         FacBom<TimePeriod>::instance().create (lFareTimePeriodKey);
02760     FacBomManager::addToListAndMap (lBKHKPosChannel, lBKHHKGFareTimePeriod);
02761     FacBomManager::linkWithParent (lBKHKPosChannel, lBKHHKGFareTimePeriod);
02762
02763     // Generate the FareRule
02764     // Use the same key as previously.
02765
02766     // Create the FareFeaturesKey and link it to the TimePeriod object.
02767     FareFeatures& lBKHHKGFareFeatures =
02768         FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
02769     FacBomManager::addToListAndMap (lBKHHKGFareTimePeriod,
02770         lBKHHKGFareFeatures);
02770     FacBomManager::linkWithParent (lBKHHKGFareTimePeriod, lBKHHKGFareFeatures)
02771 ;
02772
02773     // Generate Segment Features and link them to their FareRule.
02774     AirlineCodeList_T lCXAirlineCodeList;
02775     lCXAirlineCodeList.push_back ("CX");
02776
02777     const AirlineClassListKey lCXAirlineYClassListKey (lCXAirlineCodeList,
02778                                         lYClassCodeList);
02779
02780     const AirlineClassListKey lCXAirlineMClassListKey (lCXAirlineCodeList,
02781                                         lMCClassCodeList);
02782
02783     // Create the AirlineClassListKey and link it to the FareFeatures object.
02784     AirlineClassList& lCXAirlineYClassList =
02785         FacBom<AirlineClassList>::instance().
02786             create (lCXAirlineYClassListKey);
02787     lCXAirlineYClassList.setFare(700);
02788     FacBomManager::addToListAndMap (lBKHHKGFareFeatures, lCXAirlineYClassList
02789 );
02790
02791     FacBomManager::linkWithParent (lBKHHKGFareFeatures, lCXAirlineYClassList);
02792
02793     AirlineClassList& lCXAirlineMClassList =
02794         FacBom<AirlineClassList>::instance().
02795             create (lCXAirlineMClassListKey);
02796     lCXAirlineMClassList.setFare(500);
02797     FacBomManager::addToListAndMap (lBKHHKGFareFeatures, lCXAirlineMClassList
02798 );
02799
02800     FacBomManager::linkWithParent (lBKHHKGFareFeatures, lCXAirlineMClassList);
02801
02802     /*=====
02803     // Third airport pair SIN-HKG.
02804     // Set the airport-pair primary key.
02805     lAirportPairKey = AirportPairKey ("SIN", "HKG");
02806
02807     // Create the AirportPairKey object and link it to the ioBomRoot object.
02808     AirportPair& lSINHKGAAirportPair =
02809         FacBom<AirportPair>::instance().create (lAirportPairKey);
02810     FacBomManager::addToListAndMap (ioBomRoot, lSINHKGAAirportPair);
02811     FacBomManager::linkWithParent (ioBomRoot, lSINHKGAAirportPair);
02812
02813     // Set the fare date-period primary key.
02814     // Use the same as previously.
02815
02816     // Create the DatePeriodKey object and link it to the PosChannel object.
02817     DatePeriod& lSINHKGDatePeriod =
02818         FacBom<DatePeriod>::instance().create (lDatePeriodKey);
02819     FacBomManager::addToListAndMap (lSINHKGAAirportPair, lSINHKGDatePeriod);
02820     FacBomManager::linkWithParent (lSINHKGAAirportPair, lSINHKGDatePeriod);
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02815 // Set the point-of-sale-channel primary key.
02816 lPosChannelKey = PosChannelKey("SIN", "IN");
02817
02818 // Create the PositionKey object and link it to the AirportPair object.
02819 PosChannel& lOnDSINPosChannel =
02820     FacBom<PosChannel>::instance().create (lPosChannelKey);
02821 FacBomManager::addToListAndMap (lSINHKGDatePeriod, lOnDSINPosChannel);
02822 FacBomManager::linkWithParent (lSINHKGDatePeriod, lOnDSINPosChannel);
02823
02824 // Set the fare time-period primary key.
02825 // Use the same as previously.
02826
02827 // Create the TimePeriodKey and link it to the DatePeriod object.
02828 TimePeriod& lSINHKGFareTimePeriod =
02829     FacBom<TimePeriod>::instance().create (lFareTimePeriodKey);
02830 FacBomManager::addToListAndMap (lOnDSINPosChannel, lSINHKGFareTimePeriod)
;
02831 FacBomManager::linkWithParent (lOnDSINPosChannel, lSINHKGFareTimePeriod);
02832
02833 // Generate the FareRule
02834 // Use the same key as previously.
02835
02836 // Create the FareFeaturesKey and link it to the TimePeriod object.
02837 FareFeatures& lSINHKGFareFeatures =
02838     FacBom<FareFeatures>::instance().create (lFareFeaturesKey);
02839 FacBomManager::addToListAndMap (lSINHKGFareTimePeriod,
1SINHKGFareFeatures);
02840 FacBomManager::linkWithParent (lSINHKGFareTimePeriod, lSINHKGFareFeatures)
;
02841
02842 // Generate Segment Features and link them to their FareRule.
02843 AirlineCodeList_T lSQ_CXAirlineCodeList;
02844 lSQ_CXAirlineCodeList.push_back ("SQ");
02845 lSQ_CXAirlineCodeList.push_back ("CX");
02846
02847 ClassList_StringList_T lY_YClassCodeList;
02848 lY_YClassCodeList.push_back ("Y");
02849 lY_YClassCodeList.push_back ("Y");
02850 const AirlineClassListKey lSQ_CXAirlineYClassListKey (lSQ_CXAirlineCodeList,
02851 lY_YClassCodeList);
02852
02853 ClassList_StringList_T lM_MClassCodeList;
02854 lM_MClassCodeList.push_back ("M");
02855 lM_MClassCodeList.push_back ("M");
02856 const AirlineClassListKey lSQ_CXAirlineMClassListKey (lSQ_CXAirlineCodeList,
02857 lM_MClassCodeList);
02858
02859 // Create the AirlineClassListKey and link it to the FareFeatures object.
02860 AirlineClassList& lSQ_CXAirlineYClassList =
02861     FacBom<AirlineClassList>::instance().
02862         create (lSQ_CXAirlineYClassListKey);
02863     lSQ_CXAirlineYClassList.setFare(1200);
02864     FacBomManager::addToListAndMap (lSINHKGFareFeatures,
02865             lSQ_CXAirlineYClassList);
02866     FacBomManager::linkWithParent (lSINHKGFareFeatures,
02867             lSQ_CXAirlineYClassList);
02868
02869 AirlineClassList& lSQ_CXAirlineMClassList =
02870     FacBom<AirlineClassList>::instance().
02871         create (lSQ_CXAirlineMClassListKey);
02872     lSQ_CXAirlineMClassList.setFare(850);
02873     FacBomManager::addToListAndMap (lSINHKGFareFeatures,
02874             lSQ_CXAirlineMClassList);
02875
02876
02877
02878 /*=====
02879 // Use the same airport pair, and date period for adding SQ SIN-BKK yields.
02880
02881 // Set the point-of-sale-channel primary key.
02882 lPosChannelKey = PosChannelKey(DEFAULT_POS, DEFAULT_CHANNEL);
02883
02884 // Create the PositionKey object and link it to the AirportPair object.
02885 PosChannel& lRAC_SINBKKPosChannel =
02886     FacBom<PosChannel>::instance().create (lPosChannelKey);
02887 FacBomManager::addToListAndMap (lSINBKKDatePeriod, lRAC_SINBKKPosChannel)
;
02888 FacBomManager::linkWithParent (lSINBKKDatePeriod, lRAC_SINBKKPosChannel);
02889
02890 // Set the yield time-period primary key.
02891 const TimePeriodKey lYieldTimePeriodKey (lTimeRangeStart,
02892                                         lTimeRangeEnd);
02893
02894 // Create the TimePeriodKey and link it to the DatePeriod object.
02895

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02897     TimePeriod& lSINBKKYieldTimePeriod =
02898         FacBom<TimePeriod>::instance().create (lYieldTimePeriodKey);
02899     FacBomManager::addToListAndMap (lRAC_SINBKPosChannel,
02900                                         lSINBKKYieldTimePeriod);
02901     FacBomManager::linkWithParent (lRAC_SINBKPosChannel,
02902                                         lSINBKKYieldTimePeriod);
02903
02904     // Generate the YieldRule
02905     const YieldFeaturesKey lYieldFeaturesKey (TRIP_TYPE_ONE WAY,
02906                                         CABIN_Y);
02907
02908     // Create the YieldFeaturesKey and link it to the TimePeriod object.
02909     YieldFeatures& lSINBKKYieldFeatures =
02910         FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
02911     FacBomManager::addToListAndMap (lSINBKKYieldTimePeriod,
02912                                         lSINBKKYieldFeatures);
02913     FacBomManager::linkWithParent (lSINBKKYieldTimePeriod,
02914                                         lSINBKKYieldFeatures);
02915
02916     // Generate Segment Features and link them to their YieldRule.
02917     // Use the same key as previously.
02918
02919     // Create the AirlineClassListKey and link it to the YieldFeatures object.
02920     AirlineClassList& lRAC_SQAirlineYClassList =
02921         FacBom<AirlineClassList>::instance().
02922             create (lSQAirlineYClassListKey);
02923     lRAC_SQAirlineYClassList.setYield(700);
02924     FacBomManager::addToListAndMap (lSINBKKYieldFeatures,
02925                                         lRAC_SQAirlineYClassList);
02926     FacBomManager::linkWithParent (lSINBKKYieldFeatures,
02927                                         lRAC_SQAirlineYClassList);
02928
02929     AirlineClassList& lRAC_SQAirlineMClassList =
02930         FacBom<AirlineClassList>::instance().
02931             create (lSQAirlineMClassListKey);
02932     lRAC_SQAirlineMClassList.setYield(500);
02933     FacBomManager::addToListAndMap (lSINBKKYieldFeatures,
02934                                         lRAC_SQAirlineMClassList);
02935     FacBomManager::linkWithParent (lSINBKKYieldFeatures,
02936                                         lRAC_SQAirlineMClassList);

02937     /*=====
02938     // Use the same airport pair, and date period for adding CX BKK-HKG yields.
02939
02940     // Set the point-of-sale-channel primary key.
02941     // Use the same as previously.
02942
02943     // Create the PositionKey object and link it to the AirportPair object.
02944     PosChannel& lRAC_BKKHKGPosChannel =
02945         FacBom<PosChannel>::instance().create (lPosChannelKey);
02946     FacBomManager::addToListAndMap (lBKKHKGDatePeriod, lRAC_BKKHKGPosChannel);

02947     FacBomManager::linkWithParent (lBKKHKGDatePeriod, lRAC_BKKHKGPosChannel);
02948
02949     // Set the yield time-period primary key.
02950     // Use the same as previously.
02951
02952     // Create the TimePeriodKey and link it to the DatePeriod object.
02953     TimePeriod& lBKKHKGYieldTimePeriod =
02954         FacBom<TimePeriod>::instance().create (lYieldTimePeriodKey);
02955     FacBomManager::addToListAndMap (lRAC_BKKHKGPosChannel,
02956                                         lBKKHKGYieldTimePeriod);
02957     FacBomManager::linkWithParent (lRAC_BKKHKGPosChannel,
02958                                         lBKKHKGYieldTimePeriod);

02959
02960     // Generate the YieldRule
02961     // Use the same key as previously.
02962
02963     // Create the YieldFeaturesKey and link it to the TimePeriod object.
02964     YieldFeatures& lBKKHKGYieldFeatures =
02965         FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
02966     FacBomManager::addToListAndMap (lBKKHKGYieldTimePeriod,
02967                                         lBKKHKGYieldFeatures);
02968     FacBomManager::linkWithParent (lBKKHKGYieldTimePeriod,
02969                                         lBKKHKGYieldFeatures);

02970
02971     // Generate Segment Features and link them to their YieldRule.
02972     // Use the same key as previously.
02973
02974     // Create the AirlineClassListKey and link it to the YieldFeatures object.
02975     AirlineClassList& lRAC_CXAirlineYClassList =
02976         FacBom<AirlineClassList>::instance().
02977             create (lCXAirlineYClassListKey);
02978     lRAC_CXAirlineYClassList.setYield(700);
02979     FacBomManager::addToListAndMap (lBKKHKGYieldFeatures,
02980                                         lRAC_CXAirlineYClassList);

```

```

02980     FacBomManager::linkWithParent (lBKHKGYieldFeatures,
02981             lRAC_CXAirlineYClassList);
02982
02983     AirlineClassList& lRAC_CXAirlineMClassList =
02984         FacBom<AirlineClassList>::instance().
02985         create (lCXAirlineMClassListKey);
02986         lRAC_CXAirlineMClassList.setYield(500);
02987         FacBomManager::addToListAndMap (lBKHKGYieldFeatures,
02988             lRAC_CXAirlineMClassList);
02989         FacBomManager::linkWithParent (lBKHKGYieldFeatures,
02990             lRAC_CXAirlineMClassList);
02991     /*=====
02992
02993     // Use the same airport pair, and date period for SQ-CX SIN-HKG
02994
02995     // Set the point-of-sale-channel primary key.
02996     // Use the same as previously.
02997
02998     // Create the PositionKey object and link it to the AirportPair object.
02999     PosChannel& lRAC_SINHKGChannel =
03000         FacBom<PosChannel>::instance().create (lPosChannelKey);
03001     FacBomManager::addToListAndMap (lSINHKGDatePeriod, lRAC_SINHKGChannel);
03002     FacBomManager::linkWithParent (lSINHKGDatePeriod, lRAC_SINHKGChannel);
03003
03004     // Set the yield time-period primary key.
03005     // Use the same as previously.
03006
03007     // Create the TimePeriodKey and link it to the DatePeriod object.
03008     TimePeriod& lSINHKGYieldTimePeriod =
03009         FacBom<TimePeriod>::instance().create (lYieldTimePeriodKey);
03010     FacBomManager::addToListAndMap (lRAC_SINHKGChannel,
03011         lSINHKGYieldTimePeriod);
03012     FacBomManager::linkWithParent (lRAC_SINHKGChannel, lSINHKGYieldTimePeriod)
03013
03014     // Generate the YieldRule
03015     // Use the same key as previously.
03016
03017     // Create the YieldFeaturesKey and link it to the TimePeriod object.
03018     YieldFeatures& lSINHKGYieldFeatures =
03019         FacBom<YieldFeatures>::instance().create (lYieldFeaturesKey);
03020     FacBomManager::addToListAndMap (lSINHKGYieldTimePeriod,
03021             lSINHKGYieldFeatures);
03022     FacBomManager::linkWithParent (lSINHKGYieldTimePeriod,
03023             lSINHKGYieldFeatures);
03024
03025     // Generate Segment Features and link them to their YieldRule.
03026     // Use the same key as previously
03027
03028     // Create the AirlineClassListKey and link it to the YieldFeatures object.
03029     AirlineClassList& lRAC_SQ_CXAirlineYClassList =
03030         FacBom<AirlineClassList>::instance().
03031         create (lSQ_CXAirlineYClassListKey);
03032         lRAC_SQ_CXAirlineYClassList.setYield(1200);
03033         FacBomManager::addToListAndMap (lSINHKGYieldFeatures,
03034             lRAC_SQ_CXAirlineYClassList);
03035
03036     AirlineClassList& lRAC_SQ_CXAirlineMClassList =
03037         FacBom<AirlineClassList>::instance().
03038         create (lSQ_CXAirlineMClassListKey);
03039         lRAC_SQ_CXAirlineMClassList.setYield(850);
03040         FacBomManager::addToListAndMap (lSINHKGYieldFeatures,
03041             lRAC_SQ_CXAirlineMClassList);
03042         FacBomManager::linkWithParent (lSINHKGYieldFeatures,
03043             lRAC_SQ_CXAirlineMClassList);
03044     }
03045
03046 }
03047

```

### 33.539 stdair/command/CmdBomManager.hpp File Reference

```

#include <iostream>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/SampleType.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/command/CmdAbstract.hpp>

```

## Classes

- class stdair::CmdBomManager

## Namespaces

- stdair

*Handle on the StdAir library context.*

## 33.540 CmdBomManager.hpp

```
00001 #ifndef __STDAIR_CMD_CMDBOMMANAGER_HPP
00002 #define __STDAIR_CMD_CMDBOMMANAGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
00011 #include <stdair/basic/SampleType.hpp>
00012 #include <stdair/bom/TravelSolutionTypes.hpp>
00013 #include <stdair/command/CmdAbstract.hpp>
00014
00015 namespace stdair {
00016
00017     class BomRoot;
00018     struct BookingRequestStruct;
00019
00020     class CmdBomManager : public CmdAbstract {
00021         //
00022         friend class STDAIR_Service;
00023     private:
00024
00025         // //////////////////// BOM initialisation support methods ///////////////////
00026         static void buildSampleBom (BomRoot&);
00027
00028         static void buildSampleInventorySchedule (BomRoot&);
00029
00030         static void buildSampleInventoryScheduleForFareFamilies (BomRoot&);
00031
00032         static void buildCompleteDummyInventory (BomRoot&);
00033
00034         static void buildCompleteDummyInventoryForFareFamilies (BomRoot&);
00035
00036         static void buildDummyInventory (BomRoot&, const CabinCapacity_T&);
00037
00038         static void buildDummyLegSegmentAccesses (BomRoot&);
00039
00040         static void buildSamplePricing (BomRoot&);
00041
00042         static void buildSamplePricingForFareFamilies (BomRoot&);
00043
00044         static void buildSampleTravelSolutionForPricing (TravelSolutionList_T&);
00045
00046         static void buildSampleTravelSolutions (TravelSolutionList_T&);
00047
00048         static BookingRequestStruct buildSampleBookingRequest();
00049
00050         static BookingRequestStruct buildSampleBookingRequestForCRS();
00051
00052         static void buildPartnershipsSampleInventoryAndRM (BomRoot&);
00053
00054         static void buildPartnershipsSamplePricing (BomRoot&);
00055
00056     };
00057 }
00058 #endif // __STDAIR_CMD_CMDBOMMANAGER_HPP
```

### 33.541 stdair/command/CmdBomSerialiser.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <boost/archive/text_iarchive.hpp>
#include <boost/archive/text_oarchive.hpp>
#include <boost/serialization/list.hpp>
#include <boost/serialization/map.hpp>
#include <boost/serialization/access.hpp>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/Bucket.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/factory/FacBom.hpp>
#include <stdair/command/CmdBomSerialiser.hpp>
#include <stdair/service/Logger.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Functions

- template<class Archive , class BOM\_OBJECT1 , class BOM\_OBJECT2 >  
void [stdair::serialiseHelper](#) (BOM\_OBJECT1 &ioObject1 , Archive &ioArchive, const unsigned int iFileVersion)
- template void [stdair::BomRoot::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::BomRoot::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)
- template void [stdair::Inventory::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::Inventory::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)
- template void [stdair::FlightDate::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::FlightDate::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)
- template void [stdair::SegmentDate::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::SegmentDate::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)
- template void [stdair::SegmentCabin::serialize< ba::text\\_oarchive >](#) (ba::text\_oarchive &, unsigned int)
- template void [stdair::SegmentCabin::serialize< ba::text\\_iarchive >](#) (ba::text\_iarchive &, unsigned int)

### 33.542 CmdBomSerialiser.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost.Serialization
00008 #include <boost/archive/text_iarchive.hpp>
00009 #include <boost/archive/text_oarchive.hpp>
00010 #include <boost/serialization/list.hpp>
00011 #include <boost/serialization/map.hpp>
```

```

00012 #include <boost/serialization/access.hpp>
00013 // StdAir
00014 #include <stdair/basic/BasConst_General.hpp>
00015 #include <stdair/basic/BasConst_Inventory.hpp>
00016 #include <stdair/bom/BomRoot.hpp>
00017 #include <stdair/bom/Inventory.hpp>
00018 #include <stdair/bom/FlightDate.hpp>
00019 #include <stdair/bom/SegmentDate.hpp>
00020 #include <stdair/bom/SegmentCabin.hpp>
00021 #include <stdair/bom/FareFamily.hpp>
00022 #include <stdair/bom/LegDate.hpp>
00023 #include <stdair/bom/LegCabin.hpp>
00024 #include <stdair/bom/Bucket.hpp>
00025 #include <stdair/factory/FacBomManager.hpp>
00026 #include <stdair/factory/FacBom.hpp>
00027 #include <stdair/command/CmdBomSerialiser.hpp>
00028 #include <stdair/service/Logger.hpp>
00029
00030 namespace stdair {
00031
00032 ///////////////////////////////////////////////////////////////////
00033 template <class Archive, class BOM_OBJECT1, class BOM_OBJECT2>
00034 void serialiseHelper (BOM_OBJECT1& ioObject1, Archive& ioArchive,
00035                         const unsigned int iFileVersion) {
00036
00037     BomHolder<BOM_OBJECT2>* lBomHolder_ptr =
00038         FacBomManager::getBomHolderPtr<BOM_OBJECT2> (ioObject1);
00039
00040     if (lBomHolder_ptr == NULL) {
00041         lBomHolder_ptr = &FacBomManager::addBomHolder<BOM_OBJECT2> (ioObject1);
00042     }
00043     assert (lBomHolder_ptr != NULL);
00044
00045     //ioArchive.register_type (static_cast<Inventory*> (NULL));
00046     ioArchive & lBomHolder_ptr->_bomList;
00047     ioArchive & lBomHolder_ptr->_bomMap;
00048
00049     typedef typename BomHolder<BOM_OBJECT2>::BomList_T BomList_T;
00050     const BomList_T& lBomList = lBomHolder_ptr->_bomList;
00051     for (typename BomList_T::const_iterator itObject = lBomList.begin();
00052          itObject != lBomList.end(); ++itObject) {
00053         BOM_OBJECT2* lObject2_ptr = *itObject;
00054         assert (lObject2_ptr != NULL);
00055
00056         if (lObject2_ptr->getParent() == NULL) {
00057             FacBomManager::linkWithParent (ioObject1, *lObject2_ptr);
00058         }
00059     }
00060
00061     typedef typename BomHolder<BOM_OBJECT2>::BomMap_T BomMap_T;
00062     const BomMap_T& lBomMap = lBomHolder_ptr->_bomMap;
00063     if (lBomList.empty() == true && lBomMap.empty() == false) {
00064
00065         for (typename BomMap_T::const_iterator itObject = lBomMap.begin();
00066              itObject != lBomMap.end(); ++itObject) {
00067             BOM_OBJECT2* lObject2_ptr = itObject->second;
00068             assert (lObject2_ptr != NULL);
00069
00070             if (lObject2_ptr->getParent() == NULL) {
00071                 FacBomManager::linkWithParent (ioObject1, *lObject2_ptr);
00072             }
00073         }
00074     }
00075 }
00076
00077 ///////////////////////////////////////////////////////////////////
00078 void BomRoot::serialisationImplementationExport() const {
00079     std::ostringstream oStr;
00080     boost::archive::text_oarchive oa (oStr);
00081     oa << *this;
00082 }
00083
00084 ///////////////////////////////////////////////////////////////////
00085 void BomRoot::serialisationImplementationImport() {
00086     std::istringstream iStr;
00087     boost::archive::text_iarchive ia (iStr);
00088     ia >> *this;
00089 }
00090
00091 ///////////////////////////////////////////////////////////////////
00092 template<class Archive>
00093 void BomRoot::serialize (Archive& ioArchive,
00094                         const unsigned int iFileVersion) {
00095     // Serialise the key (by default, equal to " -- ROOT -- ")
00096     ioArchive & _key;
00097
00098     // Serialise the children of the BomRoot object, i.e., the

```

```

00139 // Inventory children
00140 stdair::serialiseHelper<Archive, BomRoot, Inventory> (*this, ioArchive,
00141                                     iFileVersion);
00142 }
00143
00144 // ///////////////////////////////////////////////////////////////////
00145 void Inventory::serialisationImplementationExport() const {
00146     std::ostringstream oStr;
00147     boost::archive::text_oarchive oa (oStr);
00148     oa << *this;
00149 }
00150
00151 // ///////////////////////////////////////////////////////////////////
00152 void Inventory::serialisationImplementationImport() {
00153     std::istringstream iStr;
00154     boost::archive::text_iarchive ia (iStr);
00155     ia >> *this;
00156 }
00157
00158 // ///////////////////////////////////////////////////////////////////
00159 template<class Archive>
00160 void Inventory::serialize (Archive& ioArchive,
00161                           const unsigned int iFileVersion) {
00162     // Serialise the key (airline code)
00163     ioArchive & _key;
00164
00165     // Serialise the children of the Inventory object, i.e., the
00166     // FlightDate children
00167     stdair::serialiseHelper<Archive, Inventory, FlightDate> (*this, ioArchive,
00168                                     iFileVersion);
00169 }
00170
00171 // ///////////////////////////////////////////////////////////////////
00172 void FlightDate::serialisationImplementationExport() const {
00173     std::ostringstream oStr;
00174     boost::archive::text_oarchive oa (oStr);
00175     oa << *this;
00176 }
00177
00178 // ///////////////////////////////////////////////////////////////////
00179 void FlightDate::serialisationImplementationImport() {
00180     std::istringstream iStr;
00181     boost::archive::text_iarchive ia (iStr);
00182     ia >> *this;
00183 }
00184
00185 // ///////////////////////////////////////////////////////////////////
00186 template<class Archive>
00187 void FlightDate::serialize (Archive& ioArchive,
00188                           const unsigned int iFileVersion) {
00189     ioArchive & _key;
00190 }
00191
00192 // ///////////////////////////////////////////////////////////////////
00193 void SegmentDate::serialisationImplementationExport() const {
00194     std::ostringstream oStr;
00195     boost::archive::text_oarchive oa (oStr);
00196     oa << *this;
00197 }
00198
00199 // ///////////////////////////////////////////////////////////////////
00200 void SegmentDate::serialisationImplementationImport() {
00201     std::istringstream iStr;
00202     boost::archive::text_iarchive ia (iStr);
00203     ia >> *this;
00204 }
00205
00206 // ///////////////////////////////////////////////////////////////////
00207 template<class Archive>
00208 void SegmentDate::serialize (Archive& ioArchive,
00209                           const unsigned int iFileVersion) {
00210     ioArchive & _key;
00211 }
00212
00213 // ///////////////////////////////////////////////////////////////////
00214 void SegmentCabin::serialisationImplementationExport() const {
00215     std::ostringstream oStr;
00216     boost::archive::text_oarchive oa (oStr);
00217     oa << *this;
00218 }
00219
00220 // ///////////////////////////////////////////////////////////////////
00221 void SegmentCabin::serialisationImplementationImport() {
00222     std::istringstream iStr;
00223     boost::archive::text_iarchive ia (iStr);
00224     ia >> *this;
00225 }

```

```

00226 // ///////////////////////////////////////////////////////////////////
00227 template<class Archive>
00228     void SegmentCabin::serialize (Archive& ioArchive,
00229                                     const unsigned int iFileVersion) {
00230     ioArchive & _key;
00231 }
00232 // ///////////////////////////////////////////////////////////////////
00233 // Explicit template instantiations
00234 namespace ba = boost::archive;
00235 template void BomRoot::serialize<ba::text_oarchive> (ba::text_oarchive&,
00236                                         unsigned int);
00237 template void BomRoot::serialize<ba::text_iarchive> (ba::text_iarchive&,
00238                                         unsigned int);
00239 template void Inventory::serialize<ba::text_oarchive> (ba::text_oarchive&,
00240                                         unsigned int);
00241 template void Inventory::serialize<ba::text_iarchive> (ba::text_iarchive&,
00242                                         unsigned int);
00243 template void FlightDate::serialize<ba::text_oarchive> (ba::text_oarchive&,
00244                                         unsigned int);
00245 template void FlightDate::serialize<ba::text_iarchive> (ba::text_iarchive&,
00246                                         unsigned int);
00247 template void SegmentDate::serialize<ba::text_oarchive> (ba::text_oarchive&,
00248                                         unsigned int);
00249 template void SegmentDate::serialize<ba::text_iarchive> (ba::text_iarchive&,
00250                                         unsigned int);
00251 template void SegmentCabin::serialize<ba::text_oarchive> (ba::text_oarchive&,
00252                                         unsigned int);
00253 template void SegmentCabin::serialize<ba::text_iarchive> (ba::text_iarchive&,
00254                                         unsigned int);
00255 // ///////////////////////////////////////////////////////////////////
00256
00257 // ///////////////////////////////////////////////////////////////////
00258
00259 }
```

### 33.543 stdair/command/CmdBomSerialiser.hpp File Reference

```
#include <iostream>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/command/CmdAbstract.hpp>
```

#### Classes

- class [stdair::CmdBomSerialiser](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.544 CmdBomSerialiser.hpp

```

00001 #ifndef __STDAIR_CMD_CMDBOMSERIALISER_HPP
00002 #define __STDAIR_CMD_CMDBOMSERIALISER_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/stdair_inventory_types.hpp>
00011 #include <stdair/bom/TravelSolutionTypes.hpp>
00012 #include <stdair/command/CmdAbstract.hpp>
00013
00014 namespace stdair {
00015
00016     class BomRoot;
00017     struct BookingRequestStruct;
00018
00019 }
```

```

00020
00025     class CmdBomSerialiser : public CmdAbstract {
00026     public:
00027         // //////////////////// BOM serialisation support methods ///////////////////
00028         //
00029     };
00030 }
00031 }
00032 #endif // __STDAIR_CMD_CMDBOMSERIALISER_HPP

```

### 33.545 stdair/command/CmdCloneBomManager.cpp File Reference

#### 33.546 CmdCloneBomManager.cpp

```

00001 // /////////////////////////////////
00005 // Import section
00006 // StdAir
00007 // /////////////////////////////////
00008 // STL
00009 #include <cassert>
00010 #include <iostream>
00011 // StdAir
00012 #include <stdair/factory/FacBomManager.hpp>
00013 #include <stdair/factory/FacCloneBom.hpp>
00014 #include <stdair/command/CmdCloneBomManager.hpp>
00015 #include <stdair/service/Logger.hpp>
00016 #include <stdair/bom/BomRetriever.hpp>
00017
00018 namespace stdair {
00019
00020 // /////////////////////////////////
00021 void CmdCloneBomManager::cloneBomRoot (const BomRoot& iBomRoot,
00022                                         BomRoot& ioCloneBomRoot) {
00023
00024     // Check whether there are Inventory objects
00025     const bool hasInventoryList = BomManager::hasList<Inventory> (iBomRoot);
00026     if (hasInventoryList == true) {
00027
00028         // Browse the inventories
00029         const InventoryList_T& lInventoryList =
00030             BomManager::getList<Inventory> (iBomRoot);
00031         for (InventoryList_T::const_iterator itInv = lInventoryList.begin();
00032              itInv != lInventoryList.end(); ++itInv) {
00033             const Inventory* lInv_ptr = *itInv;
00034             assert (lInv_ptr != NULL);
00035
00036             // Clone the current inventory
00037             Inventory& lCloneInventory = cloneInventory (*lInv_ptr, ioCloneBomRoot);
00038             FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneInventory);
00039             FacBomManager::linkWithParent (ioCloneBomRoot, lCloneInventory);
00040         }
00041     }
00042
00043     // Check whether there are Airport Pair objects
00044     const bool hastAirportPairList =
00045         BomManager::hasList<AirportPair> (iBomRoot);
00046     if (hastAirportPairList == true) {
00047
00048         // Browse the airport pairs
00049         const AirportPairList_T& lAirportPairList =
00050             BomManager::getList<AirportPair> (iBomRoot);
00051         for (AirportPairList_T::const_iterator itAirportPair =
00052              lAirportPairList.begin();
00053              itAirportPair != lAirportPairList.end(); ++itAirportPair) {
00054                 const AirportPair* lAirportPair_ptr = *itAirportPair;
00055                 assert (lAirportPair_ptr != NULL);
00056
00057                 // Clone the current airport pair
00058                 AirportPair& lCloneAirportPair = cloneAirportPair (*lAirportPair_ptr);
00059                 FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneAirportPair);
00060                 FacBomManager::linkWithParent (ioCloneBomRoot, lCloneAirportPair);
00061             }
00062         }
00063     }
00064
00065     // /////////////////////////////////
00066     Inventory& CmdCloneBomManager::cloneInventory (const Inventory& iInventory,
00067                                                 BomRoot& ioCloneBomRoot) {
00068
00069         Inventory& lCloneInventory =
00070             FacCloneBom<Inventory>::instance().clone (iInventory);
00071
00072         // Check whether there are FlightDate objects

```

```

00081     const bool hasFlightDateList = BomManager::hasList<FlightDate> (iInventory);
00082     if (hasFlightDateList == true) {
00083         // Browse the flight-dates
00084         const FlightDateList_T& lFlightDateList =
00085             BomManager::getList<FlightDate> (iInventory);
00086         for (FlightDateList_T::const_iterator itFD = lFlightDateList.begin();
00087              itFD != lFlightDateList.end(); ++itFD) {
00088             const FlightDate* lFD_ptr = *itFD;
00089             assert (lFD_ptr != NULL);
00090
00091             // Clone the current flight-date
00092             FlightDate& lCloneFD = cloneFlightDate (*lFD_ptr);
00093             FacBomManager::addToListAndMap (lCloneInventory, lCloneFD);
00094             FacBomManager::linkWithParent (lCloneInventory, lCloneFD);
00095         }
00096     }
00097
00098     // Check if the inventory contains a list of partners
00099     const bool hasPartnerList = BomManager::hasList<Inventory> (iInventory);
00100    if (hasPartnerList == true) {
00101        // Browse the partner's inventories
00102        const InventoryList_T& lPartnerInventoryList =
00103            BomManager::getList<Inventory> (iInventory);
00104
00105        for (InventoryList_T::const_iterator itInv =
00106            lPartnerInventoryList.begin();
00107            itInv != lPartnerInventoryList.end(); ++itInv) {
00108            const Inventory* lInv_ptr = *itInv;
00109            assert (lInv_ptr != NULL);
00110
00111            // Clone the current partnership inventory
00112            Inventory& lClonePartnerInventory = cloneInventory (*lInv_ptr,
00113                                                       ioCloneBomRoot);
00114            FacBomManager::addToListAndMap (lCloneInventory,
00115                                           lClonePartnerInventory);
00116            FacBomManager::linkWithParent (lCloneInventory,
00117                                         lClonePartnerInventory);
00118        }
00119    }
00120
00121
00122     // Check whether there are O&D date objects
00123     const bool hasOnDList = BomManager::hasList<OnDDate> (iInventory);
00124     if (hasOnDList == true) {
00125
00126         //Browse the O&Ds
00127         const OnDDateList_T& lOnDDateList =
00128             BomManager::getList<OnDDate> (iInventory);
00129
00130         for (OnDDateList_T::const_iterator itOnD = lOnDDateList.begin();
00131             itOnD != lOnDDateList.end(); ++itOnD) {
00132             const OnDDate* lOnDDate_ptr = *itOnD;
00133             assert (lOnDDate_ptr != NULL);
00134
00135             // Clone the current O&D date
00136             OnDDate& lCloneOnDDate = cloneOnDDate (*lOnDDate_ptr);
00137             FacBomManager::addToListAndMap (lCloneInventory, lCloneOnDDate);
00138             FacBomManager::linkWithParent (lCloneInventory, lCloneOnDDate);
00139         }
00140
00141
00142     // Check whether there are Flight Period objects
00143     const bool hasFlightPeriodList =
00144         BomManager::hasList<FlightPeriod> (iInventory);
00145     if (hasFlightPeriodList == true) {
00146
00147         // Browse the flight-periods
00148         const FlightPeriodList_T& lFlightPeriodList =
00149             BomManager::getList<FlightPeriod> (iInventory);
00150         for (FlightPeriodList_T::const_iterator itFlightPeriod =
00151             lFlightPeriodList.begin();
00152             itFlightPeriod != lFlightPeriodList.end(); ++itFlightPeriod) {
00153             const FlightPeriod* lFlightPeriod_ptr = *itFlightPeriod;
00154             assert (lFlightPeriod_ptr != NULL);
00155
00156             // Clone the current flight period
00157             FlightPeriod& lCloneFlightPeriod = cloneFlightPeriod (*lFlightPeriod_ptr);
00158             FacBomManager::addToListAndMap (lCloneInventory, lCloneFlightPeriod);
00159             FacBomManager::linkWithParent (lCloneInventory, lCloneFlightPeriod);
00160         }
00161
00162
00163     // Check whether there is an airline feature object
00164     const AirlineFeature* lAirlineFeature_ptr =
00165         BomManager::getObjectPtr<AirlineFeature, Inventory> (iInventory,
00166                                                               iInventory.getAirlineCode());
00167     if (lAirlineFeature_ptr != NULL) {

```

```

00168     // Clone the current airline feature object
00169     AirlineFeature& lCloneAirlineFeature =
00170         cloneAirlineFeature (*lAirlineFeature_ptr);
00171         FacBomManager::setAirlineFeature (lCloneInventory,
00172             lCloneAirlineFeature);
00173         FacBomManager::linkWithParent (lCloneInventory, lCloneAirlineFeature);
00174         // Link the airline feature object with the top of the BOM tree
00175         FacBomManager::addToListAndMap (ioCloneBomRoot, lCloneAirlineFeature);
00176     }
00177
00178     return lCloneInventory;
00179 }
00180 // /////////////////////////////////
00181 AirlineFeature& CmdCloneBomManager::
00182     cloneAirlineFeature (const AirlineFeature& iAirlineFeature) {
00183
00184     AirlineFeature& lCloneAirlineFeature =
00185         FacCloneBom<AirlineFeature>::instance().
00186         clone (iAirlineFeature);
00187
00188     return lCloneAirlineFeature;
00189 }
00190
00191
00192
00193
00194 // ///////////////////////////////
00195 OnDDate& CmdCloneBomManager::cloneOnDDate (const OnDDate& iOnDDate) {
00196
00197     OnDDate& lCloneOnDDate =
00198         FacCloneBom<OnDDate>::instance().clone (iOnDDate);
00199
00200     return lCloneOnDDate;
00201 }
00202
00203 // ///////////////////////////////
00204 FlightDate& CmdCloneBomManager::
00205     cloneFlightDate (const FlightDate& iFlightDate) {
00206
00207     FlightDate& lCloneFlightDate =
00208         FacCloneBom<FlightDate>::instance().clone (iFlightDate);
00209
00210     // Check whether there are LegDate objects
00211     const bool hasLegDateList = BomManager::hasList<LegDate> (iFlightDate);
00212     if (hasLegDateList == true) {
00213
00214         // Browse the leg-dates
00215         const LegDateList_T& lLegDateList =
00216             BomManager::getList<LegDate> (iFlightDate);
00217         for (LegDateList_T::const_iterator itLD = lLegDateList.begin();
00218               itLD != lLegDateList.end(); ++itLD) {
00219             const LegDate* lLD_ptr = *itLD;
00220             assert (lLD_ptr != NULL);
00221
00222             // Clone the current leg-date
00223             LegDate& lCloneLegDate = cloneLegDate (*lLD_ptr);
00224             FacBomManager::addToListAndMap (lCloneFlightDate, lCloneLegDate);
00225             FacBomManager::linkWithParent (lCloneFlightDate, lCloneLegDate);
00226         }
00227     }
00228
00229     // Check whether there are SegmentDate objects
00230     const bool hasSegmentDateList =
00231         BomManager::hasList<SegmentDate> (iFlightDate);
00232     if (hasSegmentDateList == true) {
00233
00234         // Browse the segment-dates
00235         const SegmentDateList_T& lSegmentDateList =
00236             BomManager::getList<SegmentDate> (iFlightDate);
00237         for (SegmentDateList_T::const_iterator itSD = lSegmentDateList.begin();
00238               itSD != lSegmentDateList.end(); ++itSD) {
00239             const SegmentDate* lSD_ptr = *itSD;
00240             assert (lSD_ptr != NULL);
00241
00242             // Clone the current segment-date
00243             SegmentDate& lCloneSegmentDate = cloneSegmentDate (*lSD_ptr);
00244             FacBomManager::addToListAndMap (lCloneFlightDate, lCloneSegmentDate);
00245             FacBomManager::linkWithParent (lCloneFlightDate, lCloneSegmentDate);
00246
00247         }
00248     }
00249
00250     return lCloneFlightDate;
00251 }
00252
00253
00254
00255
00256
00257
00258
00259 // ///////////////////////////////
00260 LegDate& CmdCloneBomManager::cloneLegDate (const LegDate& iLegDate) {
00261

```

```

00265     LegDate& lCloneLegDate =
00266         FacCloneBom<LegDate>::instance().clone (iLegDate);
00267
00268     // Check whether there are LegCabin objects
00269     const bool hasLegCabinList = BomManager::hasList<LegCabin> (iLegDate);
00270     if (hasLegCabinList == true) {
00271         // Browse the leg-cabins
00272         const LegCabinList_T & lLegCabinList =
00273             BomManager::getList<LegCabin> (iLegDate);
00274         for (LegCabinList_T::const_iterator itLC = lLegCabinList.begin();
00275             itLC != lLegCabinList.end(); ++itLC) {
00276             const LegCabin* lLC_ptr = *itLC;
00277             assert (lLC_ptr != NULL);
00278
00279             // Clone the current leg-cabin
00280             LegCabin& lCloneLegCabin = cloneLegCabin (*lLC_ptr);
00281             FacBomManager::addToListAndMap (lCloneLegDate, lCloneLegCabin);
00282             FacBomManager::linkWithParent (lCloneLegDate, lCloneLegCabin);
00283         }
00284     }
00285
00286     return lCloneLegDate;
00287 }
00288
00289 // /////////////////////////////////
00290 LegCabin& CmdCloneBomManager::cloneLegCabin (const LegCabin& iLegCabin) {
00291
00292     LegCabin& lCloneLegCabin =
00293         FacCloneBom<LegCabin>::instance().clone (iLegCabin);
00294
00295     // Check whether there are Bucket objects
00296     const bool hasBucketList = BomManager::hasList<Bucket> (iLegCabin);
00297     if (hasBucketList == true) {
00298         // Browse the buckets
00299         const BucketList_T & lBucketList =
00300             BomManager::getList<Bucket> (iLegCabin);
00301         for (BucketList_T::const_iterator itBucket = lBucketList.begin();
00302             itBucket != lBucketList.end(); ++itBucket) {
00303             const Bucket* lBucket_ptr = *itBucket;
00304             assert (lBucket_ptr != NULL);
00305
00306             // Clone the current bucket
00307             Bucket& lCloneBucket = cloneBucket (*lBucket_ptr);
00308             FacBomManager::addToListAndMap (lCloneLegCabin, lCloneBucket);
00309             FacBomManager::linkWithParent (lCloneLegCabin, lCloneBucket);
00310         }
00311     }
00312
00313     return lCloneLegCabin;
00314 }
00315
00316 // /////////////////////////////////
00317 Bucket& CmdCloneBomManager::cloneBucket (const Bucket& iBucket) {
00318
00319     Bucket& lCloneBucket =
00320         FacCloneBom<Bucket>::instance().clone (iBucket);
00321
00322     return lCloneBucket;
00323 }
00324
00325 // /////////////////////////////////
00326 SegmentDate& CmdCloneBomManager::cloneSegmentDate (const SegmentDate& iSegmentDate) {
00327
00328     SegmentDate& lCloneSegmentDate =
00329         FacCloneBom<SegmentDate>::instance().
00330         clone (iSegmentDate);
00331
00332     // Check whether there are SegmentCabin objects
00333     const bool hasSegmentCabinList =
00334         BomManager::hasList<SegmentCabin> (iSegmentDate);
00335     if (hasSegmentCabinList == true) {
00336         // Browse the segment-cabins
00337         const SegmentCabinList_T & lSegmentCabinList =
00338             BomManager::getList<SegmentCabin> (iSegmentDate);
00339         for (SegmentCabinList_T::const_iterator itSC = lSegmentCabinList.begin();
00340             itSC != lSegmentCabinList.end(); ++itSC) {
00341             const SegmentCabin* lSC_ptr = *itSC;
00342             assert (lSC_ptr != NULL);
00343
00344             // Clone the current segment-cabin
00345             SegmentCabin& lCloneSegmentCabin = cloneSegmentCabin (*lSC_ptr);
00346             FacBomManager::addToListAndMap (lCloneSegmentDate, lCloneSegmentCabin
00347 );
00348             FacBomManager::linkWithParent (lCloneSegmentDate, lCloneSegmentCabin);
00349
00350             linkBookingClassesWithSegment (lCloneSegmentDate,

```

```

00359                               lCloneSegmentCabin);
00360
00361     }
00362   }
00363   return lCloneSegmentDate;
00364 }
00365
00366 // /////////////////////////////////
00367 void CmdCloneBomManager::
00368 linkBookingClassesWithSegment (SegmentDate& iCloneSegmentDate,
00369                               SegmentCabin& iCloneSegmentCabin) {
00370
00371   // Browse the fare families to link the booking-classes to the
00372   // segment-cabin and to the segment-date
00373   const bool hasFareFamilyList =
00374     BomManager::hasList<FareFamily> (iCloneSegmentCabin);
00375   if (hasFareFamilyList == true) {
00376     const FareFamilyList_T& lCloneFFList =
00377       BomManager::getList<FareFamily> (iCloneSegmentCabin);
00378     for (FareFamilyList_T::const_iterator itCloneFF = lCloneFFList.begin();
00379          itCloneFF != lCloneFFList.end(); ++itCloneFF) {
00380       const FareFamily* lCloneFF_ptr = *itCloneFF;
00381       assert (lCloneFF_ptr != NULL);
00382
00383       // Browse the list of booking classes
00384       const bool hasBookingClasslist =
00385         BomManager::hasList<BookingClass> (*lCloneFF_ptr);
00386       if (hasBookingClasslist == true) {
00387         const BookingClassList_T& lCloneBCList =
00388           BomManager::getList<BookingClass> (*lCloneFF_ptr);
00389         for (BookingClassList_T::const_iterator itCloneBC =
00390              lCloneBCList.begin();
00391              itCloneBC != lCloneBCList.end(); ++itCloneBC) {
00392           const BookingClass* lCloneBC_ptr = *itCloneBC;
00393           assert (lCloneBC_ptr != NULL);
00394
00395           // Link the booking-class to the segment-cabin
00396           stdair::FacBomManager::addToListAndMap (
00397             iCloneSegmentCabin,
00398                                         *lCloneBC_ptr);
00399
00400           // Link the booking-class to the segment-date
00401           stdair::FacBomManager::addToListAndMap (iCloneSegmentDate
00402
00403             *lCloneBC_ptr);
00404         }
00405     }
00406   }
00407
00408 // /////////////////////////////////
00409 SegmentCabin& CmdCloneBomManager::
00410 cloneSegmentCabin (const SegmentCabin& iSegmentCabin) {
00411
00412   SegmentCabin& lCloneSegmentCabin =
00413     FacCloneBom<SegmentCabin>::instance().
00414   clone (iSegmentCabin);
00415
00416   // Check whether there are fare family objects
00417   const bool hasFareFamilyList =
00418     BomManager::hasList<FareFamily> (iSegmentCabin);
00419   if (hasFareFamilyList == true) {
00420     // Browse the fare families
00421     const FareFamilyList_T& lFareFamilyList =
00422       BomManager::getList<FareFamily> (iSegmentCabin);
00423     for (FareFamilyList_T::const_iterator itFF = lFareFamilyList.begin();
00424          itFF != lFareFamilyList.end(); ++itFF) {
00425       const FareFamily* lFF_ptr = *itFF;
00426       assert (lFF_ptr != NULL);
00427
00428       // Clone the current fare-family
00429       FareFamily& lCloneFareFamily = cloneFareFamily (*lFF_ptr);
00430       FacBomManager::addToListAndMap (lCloneSegmentCabin, lCloneFareFamily)
00431     ;
00432     FacBomManager::linkWithParent (lCloneSegmentCabin, lCloneFareFamily);
00433   }
00434 }
00435
00436
00437   return lCloneSegmentCabin;
00438 }
00439
00440 // /////////////////////////////////
00441 FareFamily& CmdCloneBomManager::
00442 cloneFareFamily (const FareFamily& iFareFamily) {
00443   FareFamily& lCloneFareFamily =
00444     FacCloneBom<FareFamily>::instance().clone (iFareFamily);
00445

```

```

00448
00449 // Check whether there are booking classes objects
00450 const bool hasBookingClassList =
00451     BomManager::hasList<BookingClass> (iFareFamily);
00452 if (hasBookingClassList == true) {
00453     // Browse the list of booking classes
00454     const BookingClasslist_T& lBookingClassList =
00455         BomManager::getList<BookingClass> (iFareFamily);
00456     for (BookingClassList_T::const_iterator itBookingClass =
00457         lBookingClassList.begin();
00458         itBookingClass != lBookingClassList.end(); ++itBookingClass) {
00459         const BookingClass* lBC_ptr = *itBookingClass;
00460         assert (lBC_ptr != NULL);
00461
00462         // Clone the current booking class
00463         BookingClass& lCloneBookingClass = cloneBookingClass (*lBC_ptr);
00464         FacBomManager::addToListAndMap (lCloneFareFamily, lCloneBookingClass)
00465 ;
00466         FacBomManager::linkWithParent (lCloneFareFamily, lCloneBookingClass);
00467     }
00468 }
00469 return lCloneFareFamily;
00470 }
00471
00472 // /////////////////////////////////
00473 BookingClass& CmdCloneBomManager::
00474 cloneBookingClass (const BookingClass& iBookingClass) {
00475
00476     BookingClass& lCloneBookingClass =
00477         FacCloneBom<BookingClass>::instance().
00478     clone (iBookingClass);
00479
00480     return lCloneBookingClass;
00481 }
00482
00483 // ///////////////////////////////
00484 AirportPair& CmdCloneBomManager::
00485 cloneAirportPair (const AirportPair& iAirportPair) {
00486
00487     AirportPair& lCloneAirportPair =
00488         FacCloneBom<AirportPair>::instance().
00489     clone (iAirportPair);
00490
00491     // Check whether there are date-period objects
00492     const bool hasDatePeriodList =
00493         BomManager::hasList<DatePeriod> (iAirportPair);
00494 if (hasDatePeriodList == true) {
00495     // Browse the date-periods
00496     const DatePeriodList_T& lDatePeriodList =
00497         BomManager::getList<DatePeriod> (iAirportPair);
00498     for (DatePeriodList_T::const_iterator itDatePeriod =
00499         lDatePeriodList.begin();
00500         itDatePeriod != lDatePeriodList.end(); ++itDatePeriod) {
00501         const DatePeriod* lDatePeriod_ptr = *itDatePeriod;
00502         assert (lDatePeriod_ptr != NULL);
00503
00504         // Clone the current date-period
00505         DatePeriod& lCloneDatePeriod = cloneDatePeriod (*lDatePeriod_ptr);
00506         FacBomManager::addToListAndMap (lCloneAirportPair, lCloneDatePeriod);
00507         FacBomManager::linkWithParent (lCloneAirportPair, lCloneDatePeriod);
00508     }
00509 }
00510
00511 return lCloneAirportPair;
00512 }
00513
00514
00515 // ///////////////////////////////
00516 DatePeriod& CmdCloneBomManager::
00517 cloneDatePeriod (const DatePeriod& iDatePeriod) {
00518
00519     DatePeriod& lCloneDatePeriod =
00520         FacCloneBom<DatePeriod>::instance().clone (iDatePeriod);
00521
00522     // Check whether there are pos-channel objects
00523     const bool hasPosChannelList =
00524         BomManager::hasList<PosChannel> (iDatePeriod);
00525 if (hasPosChannelList == true) {
00526     // Browse the pos-channels
00527     const PosChannelList_T& lPosChannelList =
00528         BomManager::getList<PosChannel> (iDatePeriod);
00529     for (PosChannelList_T::const_iterator itPosChannel =
00530         lPosChannelList.begin();
00531         itPosChannel != lPosChannelList.end(); ++itPosChannel) {
00532         const PosChannel* lPosChannel_ptr = *itPosChannel;
00533         assert (lPosChannel_ptr != NULL);
00534
00535
00536
00537
00538
00539
00540

```

```

00541     // Clone the current pos-channel
00542     PosChannel& lClonePosChannel = clonePosChannel (*lPosChannel_ptr);
00543     FacBomManager::addToListAndMap (lCloneDatePeriod, lClonePosChannel);
00544     FacBomManager::linkWithParent (lCloneDatePeriod, lClonePosChannel);
00545 }
00546 }
00547
00548     return lCloneDatePeriod;
00549 }
00550
00551
00552 // /////////////////////////////////
00553 PosChannel& CmdCloneBomManager:::
00554 clonePosChannel (const PosChannel& iPosChannel) {
00555
00556     PosChannel& lClonePosChannel =
00557     FacCloneBom<PosChannel>::instance().clone (iPosChannel);
00558
00559     // Check whether there are time-period objects
00560     const bool hasTimePeriodList =
00561     BomManager::hasList<TimePeriod> (iPosChannel);
00562     if (hasTimePeriodList == true) {
00563         // Browse the time-periods
00564         const TimePeriodList_T& lTimePeriodList =
00565             BomManager::getList<TimePeriod> (iPosChannel);
00566         for (TimePeriodList_T::const_iterator itTimePeriod =
00567             lTimePeriodList.begin();
00568             itTimePeriod != lTimePeriodList.end(); ++itTimePeriod) {
00569             const TimePeriod* lTimePeriod_ptr = *itTimePeriod;
00570             assert (lTimePeriod_ptr != NULL);
00571
00572             // Clone the current time-period
00573             TimePeriod& lCloneTimePeriod = cloneTimePeriod (*lTimePeriod_ptr);
00574             FacBomManager::addToListAndMap (lClonePosChannel, lCloneTimePeriod);
00575             FacBomManager::linkWithParent (lClonePosChannel, lCloneTimePeriod);
00576         }
00577     }
00578
00579     return lClonePosChannel;
00580 }
00581
00582
00583
00584 // /////////////////////////////////
00585 TimePeriod& CmdCloneBomManager:::
00586 cloneTimePeriod (const TimePeriod& iTIMEPeriod) {
00587
00588     TimePeriod& lCloneTimePeriod =
00589     FacCloneBom<TimePeriod>::instance().clone (iTIMEPeriod);
00590
00591     // Check whether there are fare-feature objects
00592     const bool hasFareFeaturesList =
00593     BomManager::hasList<FareFeatures> (iTIMEPeriod);
00594     if (hasFareFeaturesList == true) {
00595         // Browse the fare-features
00596         const FareFeaturesList_T& lFareFeaturesList =
00597             BomManager::getList<FareFeatures> (iTIMEPeriod);
00598         for (FareFeaturesList_T::const_iterator itFF = lFareFeaturesList.begin();
00599             itFF != lFareFeaturesList.end(); ++itFF) {
00600             const FareFeatures* lFF_ptr = *itFF;
00601             assert (lFF_ptr != NULL);
00602
00603             // Clone the current fare-feature
00604             FareFeatures& lCloneFareFeatures =
00605                 cloneFeatures<FareFeatures> (*lFF_ptr);
00606             FacBomManager::addToListAndMap (lCloneTimePeriod, lCloneFareFeatures);
00607
00608             FacBomManager::linkWithParent (lCloneTimePeriod, lCloneFareFeatures);
00609         }
00610     }
00611
00612
00613
00614 // Check whether there are yield-feature objects
00615     const bool hasYieldFeaturesList =
00616     BomManager::hasList<YieldFeatures> (iTIMEPeriod);
00617     if (hasYieldFeaturesList == true) {
00618         // Browse the yield-features
00619         const YieldFeaturesList_T& lYieldFeaturesList =
00620             BomManager::getList<YieldFeatures> (iTIMEPeriod);
00621         for (YieldFeaturesList_T::const_iterator itYF =
00622             lYieldFeaturesList.begin();
00623             itYF != lYieldFeaturesList.end(); ++itYF) {
00624             const YieldFeatures* lYF_ptr = *itYF;
00625             assert (lYF_ptr != NULL);
00626
00627             // Clone the current yield-feature
00628             YieldFeatures& lCloneYieldFeatures =
00629                 cloneFeatures<YieldFeatures> (*lYF_ptr);
00630             FacBomManager::addToListAndMap (lCloneTimePeriod, lCloneYieldFeatures);
00631     };

```

```

00632     FacBomManager::linkWithParent (lCloneTimePeriod, lCloneYieldFeatures);
00633 }
00634 }
00635
00636     return lCloneTimePeriod;
00637 }
00638
00639 // ///////////////////////////////////////////////////////////////////
00640 template <typename FEATURE_TYPE>
00641 FEATURE_TYPE& CmdCloneBomManager::
00642 cloneFeatures (const FEATURE_TYPE& iFeatures) {
00643
00644     FEATURE_TYPE& lCloneFeatures =
00645         FacCloneBom<FEATURE_TYPE>::instance().
00646     clone (iFeatures);
00647
00648     // Check whether there are airline-class list objects
00649     const bool hasAirlineClassListList =
00650         BomManager::hasList<AirlineClassList> (iFeatures);
00651     if (hasAirlineClassListList == true) {
00652         // Browse the airline-class lists
00653         const AirlineClassListList_T& lAirlineClassList =
00654             BomManager::getList<AirlineClassList> (iFeatures);
00655         for (AirlineClassListList_T::const_iterator itACList =
00656             lAirlineClassList.begin();
00657             itACList != lAirlineClassList.end(); ++itACList) {
00658             const AirlineClassList* lACList_ptr = *itACList;
00659             assert (lACList_ptr != NULL);
00660
00661             // Clone the current airline-class list
00662             AirlineClassList& lCloneAirlineClassList =
00663                 cloneAirlineClassList (*lACList_ptr);
00664             FacBomManager::addToListAndMap (lCloneFeatures,
00665                 lCloneAirlineClassList);
00666             FacBomManager::linkWithParent (lCloneFeatures,
00667                 lCloneAirlineClassList);
00668         }
00669     }
00670 }
00671
00672     return lCloneFeatures;
00673 }
00674
00675
00676 // ///////////////////////////////////////////////////////////////////
00677 AirlineClassList& CmdCloneBomManager::
00678 cloneAirlineClassList (const AirlineClassList& iAirlineClassList) {
00679
00680     AirlineClassList& lCloneAirlineClassList =
00681         FacCloneBom<AirlineClassList>::instance().
00682     clone (iAirlineClassList);
00683
00684     return lCloneAirlineClassList;
00685 }
00686
00687
00688 // ///////////////////////////////////////////////////////////////////
00689 FlightPeriod& CmdCloneBomManager::
00690 cloneFlightPeriod (const FlightPeriod& iFlightPeriod) {
00691
00692     FlightPeriod& lCloneFlightPeriod =
00693         FacCloneBom<FlightPeriod>::instance().
00694     clone (iFlightPeriod);
00695
00696     // Check whether there are airline-class list objects
00697     const bool hasSegmentPeriodList =
00698         BomManager::hasList<SegmentPeriod> (iFlightPeriod);
00699     if (hasSegmentPeriodList == true) {
00700         // Browse the airline-class lists
00701         const SegmentPeriodList_T& lSegmentPeriodList =
00702             BomManager::getList<SegmentPeriod> (iFlightPeriod);
00703         for (SegmentPeriodList_T::const_iterator itSegmentPeriod =
00704             lSegmentPeriodList.begin();
00705             itSegmentPeriod != lSegmentPeriodList.end(); ++itSegmentPeriod) {
00706             const SegmentPeriod* lSegmentPeriod_ptr = *itSegmentPeriod;
00707             assert (lSegmentPeriod_ptr != NULL);
00708
00709             // Clone the current airline-class list
00710             SegmentPeriod& lCloneSegmentPeriod =
00711                 cloneSegmentPeriod (*lSegmentPeriod_ptr);
00712             FacBomManager::addToListAndMap (lCloneFlightPeriod,
00713                 lCloneSegmentPeriod);
00714             FacBomManager::linkWithParent (lCloneFlightPeriod,
00715                 lCloneSegmentPeriod);
00716
00717         }
00718     }
00719 }
00720
00721     return lCloneFlightPeriod;
00722 }
00723
00724

```

```

00725 // /////////////////////////////////
00726 SegmentPeriod& CmdCloneBomManager::
00727 cloneSegmentPeriod (const SegmentPeriod& iSegmentPeriod) {
00728
00729     SegmentPeriod& lCloneSegmentPeriod =
00730         FacCloneBom<SegmentPeriod>::instance().
00731         clone (iSegmentPeriod);
00732
00733     return lCloneSegmentPeriod;
00734 }
00735
00736 }
00737
00738 }
00739

```

### 33.547 stdair/command/CmdCloneBomManager.hpp File Reference

```

#include <iostream>
#include <stdair/command/CmdAbstract.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/AirlineFeature.hpp>
#include <stdair/bom/OnDDate.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/LegDate.hpp>
#include <stdair/bom/LegCabin.hpp>
#include <stdair/bom/Bucket.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/FareFeatures.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/bom/SegmentPeriod.hpp>
#include <stdair/bom/FlightPeriod.hpp>

```

#### Classes

- class [stdair::CmdCloneBomManager](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.548 CmdCloneBomManager.hpp

```

00001 #ifndef __STDAIR_CMD_CMDCLONEBOMMANAGER_HPP
00002 #define __STDAIR_CMD_CMDCLONEBOMMANAGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 // StdAir
00010 #include <stdair/command/CmdAbstract.hpp>

```

```

00011 // StdAir Bom
00012 #include <stdair/bom/BomRoot.hpp>
00013 #include <stdair/bom/Inventory.hpp>
00014 #include <stdair/bom/AirlineFeature.hpp>
00015 #include <stdair/bom/OnDDate.hpp>
00016 #include <stdair/bom/FlightDate.hpp>
00017 #include <stdair/bom/LegDate.hpp>
00018 #include <stdair/bom/LegCabin.hpp>
00019 #include <stdair/bom/Bucket.hpp>
00020 #include <stdair/bom/SegmentDate.hpp>
00021 #include <stdair/bom/SegmentCabin.hpp>
00022 #include <stdair/bom/FareFamily.hpp>
00023 #include <stdair/bom/BookingClass.hpp>
00024 #include <stdair/bom/AirportPair.hpp>
00025 #include <stdair/bom/PosChannel.hpp>
00026 #include <stdair/bom/DatePeriod.hpp>
00027 #include <stdair/bom/TimePeriod.hpp>
00028 #include <stdair/bom/FareFeatures.hpp>
00029 #include <stdair/bom/YieldFeatures.hpp>
00030 #include <stdair/bom/AirlineClassList.hpp>
00031 #include <stdair/bom/SegmentPeriod.hpp>
00032 #include <stdair/bom/FlightPeriod.hpp>
00033
00034 namespace stdair {
00035
00040 class CmdCloneBomManager : public CmdAbstract {
00041     //
00042     friend class STDAIR_Service;
00043 private:
00044
00051     static void cloneBomRoot (const BomRoot&, BomRoot&);
00052
00061     static Inventory& cloneInventory (const Inventory&,
00062                                         BomRoot&);
00062
00070     static AirlineFeature& cloneAirlineFeature (const
00071                                         AirlineFeature&);
00071
00079     static OnDDate& cloneOnDDate (const OnDDate&);
00080
00088     static FlightDate& cloneFlightDate (const FlightDate&);
00089
00097     static LegDate& cloneLegDate (const LegDate&);
00098
00106     static LegCabin& cloneLegCabin (const LegCabin&);
00107
00115     static Bucket& cloneBucket (const Bucket&);
00116
00124     static SegmentDate& cloneSegmentDate (const SegmentDate&);
00125
00133     static void linkBookingClassesWithSegment (SegmentDate&,
00134                                         SegmentCabin&);
00135
00143     static SegmentCabin& cloneSegmentCabin (const SegmentCabin&);
00144
00152     static FareFamily& cloneFareFamily (const FareFamily&);
00153
00161     static BookingClass& cloneBookingClass (const BookingClass&);
00162
00170     static AirportPair& cloneAirportPair (const AirportPair&);
00171
00179     static PosChannel& clonePosChannel (const PosChannel&);
00180
00188     static DatePeriod& cloneDatePeriod (const DatePeriod&);
00189
00197     static TimePeriod& cloneTimePeriod (const TimePeriod&);
00198
00206     template <typename FEATURE_TYPE>
00207     static FEATURE_TYPE& cloneFeatures (const FEATURE_TYPE&);
00208
00216     static AirlineClassList& cloneAirlineClassList (const
00217                                         AirlineClassList&);
00217
00225     static FlightPeriod& cloneFlightPeriod (const FlightPeriod&);
00226
00234     static SegmentPeriod& cloneSegmentPeriod (const SegmentPeriod&);
00235
00236 };
00237 }
00238 #endif // __STDAIR_CMD_CMDCLONEBOMMANAGER_HPP

```

### 33.549 stdair/command/DBManagerForAirlines.cpp File Reference

```
#include <cassert>
```

```
#include <soci.h>
#include <mysql/soci-mysql.h>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/bom/AirlineStruct.hpp>
#include <stdair/dbadaptor/DbaAirline.hpp>
#include <stdair/command/DBManagerForAirlines.hpp>
#include <stdair/service/Logger.hpp>
```

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.550 DBManagerForAirlines.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // SOCI
00007 #if defined(SOCI_HEADERS_BURIED)
00008 #include <soci/core/soci.h>
00009 #include <soci/backends/mysql/soci-mysql.h>
00010 #else // SOCI_HEADERS_BURIED
00011 #include <soci.h>
00012 #include <mysql/soci-mysql.h>
00013 #endif // SOCI_HEADERS_BURIED
00014 // StdAir
00015 #include <stdair/stdair_basic_types.hpp>
00016 #include <stdair/stdair_exceptions.hpp>
00017 #include <stdair/bom/AirlineStruct.hpp>
00018 #include <stdair/dbadaptor/DbaAirline.hpp>
00019 #include <stdair/command/DBManagerForAirlines.hpp>
00020 #include <stdair/service/Logger.hpp>
00021
00022 namespace stdair {
00023
00024 // /////////////////////////////////
00025 void DBManagerForAirlines:::
00026 prepareSelectStatement (DBSession_T& ioSociSession,
00027                         DBRequestStatement_T& ioSelectStatement,
00028                         AirlineStruct& ioAirline) {
00029
00030     try {
00031
00032         // Instanciate a SQL statement (no request is performed at that stage)
00033         ioSelectStatement = (ioSociSession.prepare
00034                         << "select iata_code, name "
00035                         << "from airlines ", soci::into (ioAirline));
00036
00037         // Execute the SQL query
00038         ioSelectStatement.execute();
00039
00040     } catch (std::exception const& lException) {
00041         throw SQLDatabaseException (lException.what());
00042     }
00043 }
00044
00045 // /////////////////////////////////
00046 void DBManagerForAirlines:::
00047 prepareSelectOnAirlineCodeStatement (DBSession_T& ioSociSession,
00048                                     DBRequestStatement_T& ioSelectStatement,
00049                                     const AirlineCode_T& iAirlineCode,
00050                                     AirlineStruct& ioAirline) {
00051
00052     try {
00053
00054         // Instanciate a SQL statement (no request is performed at that stage)
00055         ioSelectStatement = (ioSociSession.prepare
00056                         << "select iata_code, name "
00057                         << "from airlines "
00058                         << "where iata_code = :airline_code ",
00059                         soci::into (ioAirline), soci::use (iAirlineCode));
```

```

00071
00072     // Execute the SQL query
00073     ioSelectStatement.execute();
00074
00075 } catch (std::exception const& lException) {
00076     throw SQLDatabaseException (lException.what());
00077 }
00078 }
00079
00080 // /////////////////////////////////////////////////
00081 bool DBManagerForAirlines::
00082 iterateOnStatement (DBRequestStatement_T& ioStatement,
00083                      AirlineStruct& ioAirline) {
00084     bool hasStillData = false;
00085
00086     try {
00087
00088         // Retrieve the next row of Airline object
00089         hasStillData = ioStatement.fetch();
00090
00091     } catch (std::exception const& lException) {
00092         throw SQLDatabaseException (lException.what());
00093     }
00094
00095     return hasStillData;
00096 }
00097
00098 // ///////////////////////////////////////////////
00099 void DBManagerForAirlines::updateAirlineInDB (
00100     DBSession_T& ioSociSession,
00101                                         const AirlineStruct& iAirline) {
00102     try {
00103         // Begin a transaction on the database
00104         ioSociSession.begin();
00105
00106         // Retrieve the airline code
00107         const std::string& lAirlineCode = iAirline.getAirlineCode();
00108
00109         // Retrieve the airline name
00110         const std::string& lAirlineName = iAirline.getAirlineName();
00111
00112         // Instanciate a SQL statement (no request is performed at that stage)
00113         DBRequestStatement_T lUpdateStatement =
00114             (ioSociSession.prepare
00115             << "update airlines "
00116             << "set name = :name "
00117             << "where iata_code = :iata_code",
00118             soci::use (lAirlineName), soci::use (lAirlineCode));
00119
00120         // Execute the SQL query
00121         lUpdateStatement.execute (true);
00122
00123         // Commit the transaction on the database
00124         ioSociSession.commit();
00125
00126         // Debug
00127         // STDAIR_LOG_DEBUG ("[" << lAirlineCode << "] " << iAirline);
00128
00129     } catch (std::exception const& lException) {
00130         throw SQLDatabaseException (lException.what());
00131     }
00132
00133 // ///////////////////////////////////////////////
00134 bool DBManagerForAirlines::retrieveAirline (
00135     DBSession_T& ioSociSession,
00136                                         const AirlineCode_T& iAirlineCode,
00137                                         AirlineStruct& ioAirline) {
00138     bool oHasRetrievedAirline = false;
00139
00140     try {
00141         // Prepare the SQL request corresponding to the select statement
00142         DBRequestStatement_T lSelectStatement (ioSociSession);
00143         prepareSelectOnAirlineCodeStatement (ioSociSession, lSelectStatement,
00144                                              iAirlineCode, ioAirline);
00145
00146         // const bool shouldDoReset = true;
00147         bool hasStillData = iterateOnStatement (lSelectStatement, ioAirline);
00148         if (hasStillData == true) {
00149             oHasRetrievedAirline = true;
00150         }
00151
00152         // Sanity check
00153         // const bool shouldNotDoReset = false;
00154         hasStillData = iterateOnStatement (lSelectStatement, ioAirline);
00155
00156         // Debug

```

```

00156     // STDAIR_LOG_DEBUG ("[" << iDocID << "] " << ioAirline);
00157
00158 } catch (std::exception const& lException) {
00159     throw SQLDatabaseException (lException.what ());
00160 }
00161
00162     return oHasRetrievedAirline;
00163 }
00164
00165 }
```

### 33.551 stdair/command/DBManagerForAirlines.hpp File Reference

```
#include <stdair/stdair_db.hpp>
#include <stdair/command/CmdAbstract.hpp>
```

#### Classes

- class [stdair::DBManagerForAirlines](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.552 DBManagerForAirlines.hpp

```

00001 #ifndef __TVLSIM_CMD_DBMANAGERFORAIRLINES_HPP
00002 #define __TVLSIM_CMD_DBMANAGERFORAIRLINES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_db.hpp>
00009 #include <stdair/command/CmdAbstract.hpp>
00010
00011 namespace stdair {
00012
00013 // Forward declarations
00014 struct AirlineStruct;
00015
00016 class DBManagerForAirlines : public CmdAbstract {
00017 public:
00018     static void updateAirlineInDB (DBSession_T&, const
00019                                     AirlineStruct&);
00020
00021     static bool retrieveAirline (DBSession_T&, const
00022                                 AirlineCode_T&,
00023                                 AirlineStruct&);
00024
00025
00026     public:
00027         static void prepareSelectStatement (DBSession_T&,
00028                                           DBRequestStatement_T&,
00029                                           AirlineStruct&);
00030
00031         static bool iterateOnStatement (DBRequestStatement_T&,
00032                                         AirlineStruct&);
00033
00034
00035     private:
00036         static void prepareSelectOnAirlineCodeStatement (DBSession_T&,
00037                                                       DBRequestStatement_T&,
00038                                                       const AirlineCode_T&,
00039                                                       AirlineStruct&);
00040
00041
00042
00043
00044
00045     private:
00046         // //////////////////// Constructors and Destructors ///////////////////
00047         DBManagerForAirlines () {}
00048         DBManagerForAirlines (const DBManagerForAirlines&) {}
```

```

00070     ~DBManagerForAirlines () {}
00071 };
00072
00073 }
00074 #endif // __TVLSIM_CMD_DBMANAGERFORAIRLINES_HPP

```

### 33.553 stdair/dbadaptor/DbaAbstract.cpp File Reference

```
#include <stdair/dbadaptor/DbaAbstract.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.554 DbaAbstract.cpp

```

00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // StdAir
00005 #include <stdair/dbadaptor/DbaAbstract.hpp>
00006
00007 namespace stdair {
00008
00009 }

```

### 33.555 stdair/dbadaptor/DbaAbstract.hpp File Reference

```
#include <iostream>
```

#### Classes

- class **stdair::DbaAbstract**

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Functions

- template<class charT , class traits >  
`std::basic_ostream< charT, traits > & operator<< (std::basic_ostream< charT, traits > &ioOut, const stdair::DbaAbstract &iDba)`
- template<class charT , class traits >  
`std::basic_istream< charT, traits > & operator>> (std::basic_istream< charT, traits > &iIn, stdair::DbaAbstract &ioDba)`

#### 33.555.1 Function Documentation

33.555.1.1 template<class charT , class traits > std::basic\_ostream<charT, traits>& operator<< ( std::basic\_ostream<charT, traits > & ioOut, const stdair::DbaAbstract & iDba ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (p653) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 41 of file [DbaAbstract.hpp](#).

33.555.1.2 template<class charT , class traits > std::basic\_istream<charT, traits>& operator>> ( std::basic\_istream<charT, traits > & ioIn, stdair::DbaAbstract & ioDba ) [inline]

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (pp655-657) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 69 of file [DbaAbstract.hpp](#).

References [stdair::DbaAbstract::fromStream\(\)](#).

## 33.556 DbaAbstract.hpp

```
00001 #ifndef __STDAIR_DBABSTRACT_HPP
00002 #define __STDAIR_DBABSTRACT_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009
00010 namespace stdair {
00011
00013 class DbaAbstract {
00014 public:
00015
00017     virtual ~DbaAbstract() {}
00018
00021     virtual void toStream (std::ostream& ioOut) const {}
00022
00025     virtual void fromStream (std::istream& ioIn) {}
00026
00027 protected:
00029     DbaAbstract() {}
00030 };
00031 }
00032
00033 template <class charT, class traits>
00034 inline
00035 std::basic_ostream<charT, traits>&
00036 operator<< (std::basic_ostream<charT, traits>& ioOut,
00037                 const stdair::DbaAbstract& iDba) {
00038     std::basic_ostringstream<charT, traits> ostr;
00039     ostr.copyfmt (ioOut);
00040     ostr.width (0);
00041
00042     // Fill string stream
00043     iDba.toStream (ostr);
00044
00045     // Print string stream
00046     ioOut << ostr.str();
00047
00048     return ioOut;
00049 }
00050
00051
00052 template <class charT, class traits>
00053 inline
00054 std::basic_istream<charT, traits>&
00055 operator>> (std::basic_istream<charT, traits>& ioIn,
00056                 stdair::DbaAbstract& ioDba) {
00057     // Fill Dba object with input stream
00058     ioDba.fromStream (ioIn);
00059     return ioIn;
00060 }
00061
00062 #endif // __STDAIR_DBABSTRACT_HPP
```

### 33.557 stdair/dbadaptor/DbaAirline.cpp File Reference

```
#include <exception>
#include <string>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/bom/AirlineStruct.hpp>
#include <stdair/dbadaptor/DbaAirline.hpp>
#include <stdair/service/Logger.hpp>
```

#### Namespaces

- [soci](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.558 DbaAirline.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <exception>
00006 #include <string>
00007 // Stdair
00008 #include <stdair/stdair_inventory_types.hpp>
00009 #include <stdair/bom/AirlineStruct.hpp>
00010 #include <stdair/dbadaptor/DbaAirline.hpp>
00011 #include <stdair/service/Logger.hpp>
00012
00013 namespace soci {
00014
00015 // /////////////////////////////////
00016 void type_conversion<stdair::AirlineStruct>::
00017     from_base (values const& iAirlineValues, indicator /* ind */,
00018                 stdair::AirlineStruct& ioAirline) {
00019
00020     /*
00021         iata_code, name
00022     */
00023     ioAirline.setAirlineCode (iAirlineValues.get<std::string> ("iata_code"));
00024     // The city code will be set to the default value (empty string)
00025     // when the column is null
00026     ioAirline.setAirlineName (iAirlineValues.get<std::string> ("name", ""));
00027 }
00028
00029 // /////////////////////////////////
00030 void type_conversion<stdair::AirlineStruct>::
00031     to_base (const stdair::AirlineStruct& iAirline, values& ioAirlineValues,
00032               indicator& ioIndicator) {
00033     const indicator lNameIndicator =
00034         iAirline.getAirlineName().empty() ? i_null : i_ok;
00035     ioAirlineValues.set ("iata_code", iAirline.getAirlineCode());
00036     ioAirlineValues.set ("name", iAirline.getAirlineName(), lNameIndicator);
00037     ioIndicator = i_ok;
00038 }
00039 }
00040
00041 namespace stdair {
00042
00043 }
```

### 33.559 stdair/dbadaptor/DbaAirline.hpp File Reference

```
#include <soci/soci.h>
```

#### Classes

- struct [soci::type\\_conversion< stdair::AirlineStruct >](#)

## Namespaces

- **stdair**  
*Handle on the StdAir library context.*
- **soci**

### 33.560 DbaAirline.hpp

```

00001 #ifndef __STDAIR_DBAAIRLINE_HPP
00002 #define __STDAIR_DBAAIRLINE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // SOCI
00008 #if defined(SOCI_HEADERS_BURIED)
00009 #include <soci/core/soci.h>
00010 #else // SOCI_HEADERS_BURIED
00011 #include <soci/soci.h>
00012 #endif // SOCI_HEADERS_BURIED
00013
00014 // Forward declarations
00015 namespace stdair {
00016     struct AirlineStruct;
00017 }
00018
00019 namespace soci {
00020
00024     template <>
00025     struct type_conversion<stdair::AirlineStruct> {
00026
00027         typedef values base_type;
00028
00030         static void from_base (values const& iAirlineValues,
00031                             indicator /* ind */,
00032                             stdair::AirlineStruct& ioAirline);
00033
00034
00036         static void to_base (const stdair::AirlineStruct& iAirline,
00037                             values& ioAirlineValues,
00038                             indicator& ioIndicator);
00039     };
00040 }
00041 #endif // __STDAIR_DBAAIRLINE_HPP

```

### 33.561 stdair/factory/FacAbstract.cpp File Reference

```

#include <cassert>
#include <stdair/bom/BomAbstract.hpp>
#include <stdair/factory/FacAbstract.hpp>

```

## Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.562 FacAbstract.cpp

```

00001 // ///////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // STDAIR
00007 #include <stdair/bom/BomAbstract.hpp>
00008 #include <stdair/factory/FacAbstract.hpp>
00009
00010 namespace stdair {
00011

```

```

00012 // /////////////////////////////////
00013 FacAbstract::~FacAbstract() {
00014 }
00015
00016 }
```

### 33.563 stdair/factory/FacAbstract.hpp File Reference

#### Classes

- class [stdair::FacAbstract](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.564 FacAbstract.hpp

```

00001 #ifndef __STDAIR_FAC_FACABSTRACT_HPP
00002 #define __STDAIR_FAC_FACABSTRACT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007
00008 namespace stdair {
00009     class FacAbstract {
00010         public:
00011             virtual ~FacAbstract();
00012
00013         protected:
00014             FacAbstract() {}
00015     };
00016 }
00017 #endif // __STDAIR_FAC_FACABSTRACT_HPP
```

### 33.565 stdair/factory/FacBom.hpp File Reference

```

#include <cassert>
#include <string>
#include <list>
#include <stdair/factory/FacAbstract.hpp>
#include <stdair/service/FacSupervisor.hpp>
#include <stdair/service/Logger.hpp>
```

#### Classes

- class [stdair::FacBom< BOM >](#)

*Base class for Factory layer.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.566 FacBom.hpp

```

00001 #ifndef __STDAIR_FAC_FACBOM_HPP
00002 #define __STDAIR_FAC_FACBOM_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <cassert>
00009 #include <string>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/factory/FacAbstract.hpp>
00013 #include <stdair/service/FacSupervisor.hpp>
00014 #include <stdair/service/Logger.hpp>
00015
00016 namespace stdair {
00017
00018     template <typename BOM>
00019     class FacBom : public FacAbstract {
00020
00021         typedef std::list<BOM*> BomPool_T;
00022         typedef typename BOM::Key_T Key_T;
00023
00024
00025     public:
00026         // //////////////////// Business methods ///////////////////
00027         static FacBom& instance();
00028
00029         BOM& create ();
00030         BOM& create (const Key_T&);
00031         BOM& create (const BOM&);
00032
00033     protected:
00034         FacBom() {}
00035
00036     public:
00037         ~FacBom() {
00038             clean();
00039         }
00040
00041         void clean();
00042
00043
00044     private:
00045         // //////////////////// Attributes ///////////////////
00046         static FacBom* _instance;
00047
00048         BomPool_T _pool;
00049     };
00050
00051
00052     template <typename BOM> FacBom<BOM>* FacBom<BOM>::_instance = NULL;
00053
00054     template <typename BOM> FacBom<BOM>& FacBom<BOM>::instance () {
00055         if (_instance == NULL) {
00056             _instance = new FacBom ();
00057             assert (_instance != NULL);
00058
00059             FacSupervisor::instance().
00060             registerPersistentBomFactory (_instance);
00061         }
00062         return *_instance;
00063     }
00064
00065
00066     template <typename BOM> void FacBom<BOM>::clean () {
00067         // Destroy all the objects
00068         for (typename BomPool_T::iterator itBom = _pool.begin();
00069              itBom != _pool.end(); ++itBom) {
00070             BOM* currentBom_ptr = *itBom;
00071             assert (currentBom_ptr != NULL);
00072             delete currentBom_ptr; currentBom_ptr = NULL;
00073         }
00074
00075         // Empty the pool.
00076         _pool.clear();
00077
00078         // Reset the static instance.
00079         _instance = NULL;
00080     }
00081
00082     template <typename BOM> BOM& FacBom<BOM>::create () {
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00113     Key_T lKey;
00114     return instance().create (lKey);
00115 }
00116
00117 // /////////////////////////////////
00118 template <typename BOM> BOM& FacBom<BOM>::create (const Key_T& iKey) {
00119     BOM* oBom_ptr = new BOM (iKey);
00120     assert (oBom_ptr != NULL);
00121     _pool.push_back (oBom_ptr);
00122     return *oBom_ptr;
00123 }
00124
00125 // /////////////////////////////////
00126 template <typename BOM> BOM& FacBom<BOM>::create (const BOM& iBom) {
00127     BOM* oBom_ptr = new BOM (iBom);
00128     assert (oBom_ptr != NULL);
00129     _pool.push_back (oBom_ptr);
00130     return *oBom_ptr;
00131 }
00132
00133 }
00134 #endif // __STDAIR_FAC_FACBOM_HPP

```

### 33.567 stdair/factory/FacBomManager.cpp File Reference

```

#include <cassert>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/basic/BasConst_Inventory.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/SimpleNestingStructure.hpp>
#include <stdair/bom/NestingNode.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.568 FacBomManager.cpp

```

00001 // ///////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/basic/BasConst_General.hpp>
00008 #include <stdair/basic/BasConst_Inventory.hpp>
00009 #include <stdair/bom/BomManager.hpp>
00010 #include <stdair/bom/SegmentCabin.hpp>
00011 #include <stdair/bom/SimpleNestingStructure.hpp>
00012 #include <stdair/bom/NestingNode.hpp>
00013 #include <stdair/bom/BookingClass.hpp>
00014 #include <stdair/factory/FacBomManager.hpp>
00015 #include <stdair/service/Logger.hpp>
00016
00017 namespace stdair {
00018 // ///////////////////////////////
00019 void FacBomManager:::
00020     resetYieldBasedNestingStructure (const
00021         SegmentCabin& iSegmentCabin) {
00022     const SimpleNestingStructure& lYieldBasedNS =
00023         BomManager::getObject<SimpleNestingStructure> (iSegmentCabin,
00024             YIELD_BASED_NESTING_STRUCTURE_CODE);
00025
00026     // Browse the list of node and reset each one.
00027     const NestingNodeList_T& lNestingNodeList =
00028         BomManager::getList<NestingNode> (lYieldBasedNS);

```

```

00027     for (NestingNodeList_T::const_iterator itNode = lNestingNodeList.begin();
00028         itNode != lNestingNodeList.end(); ++itNode) {
00029         stdair::NestingNode* lNode_ptr = *itNode;
00030         assert (lNode_ptr != NULL);
00031
00032         lNode_ptr->setYield (-1.0);
00033
00034         // Clear the list of booking classes of the node
00035         const HolderMap_T& lHolderMap = lNode_ptr->getHolderMap();
00036         HolderMap_T::const_iterator itHolder = lHolderMap.find (&typeid (
00037             BookingClass));
00038
00039         if (itHolder == lHolderMap.end()) {
00040             const std::string lName (typeid (BookingClass).name());
00041             throw NonInitialisedContainerException("Cannot find the holder of
00042 type "
00043                     + lName + " within: "
00044                     + lNode_ptr->describeKey ());
00045
00046         BomHolder<BookingClass>* lBomHolder_ptr =
00047             static_cast<BomHolder<BookingClass>> (itHolder->second);
00048         assert (lBomHolder_ptr != NULL);
00049
00050         BookingClassList_T& lBCList = lBomHolder_ptr->_bomList;
00051         lBCList.clear ();
00052     }
00053 }
00054 }
```

### 33.569 stdair/factory/FacBomManager.hpp File Reference

```
#include <iostream>
#include <list>
#include <map>
#include <boost/static_assert.hpp>
#include <boost/type_traits/is_same.hpp>
#include <stdair/bom/BomHolder.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/factory/FacAbstract.hpp>
#include <stdair/factory/FacBom.hpp>
#include <stdair/bom/SegmentDate.hpp>
```

#### Classes

- class [stdair::FacBomManager](#)

*Utility class for linking StdAir-based objects.*

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.570 FacBomManager.hpp

```

00001 #ifndef __STDAIR_FAC_FACBOMMANAGER_HPP
00002 #define __STDAIR_FAC_FACBOMMANAGER_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <list>
00010 #include <map>
00011 // Boost
```

```

00012 #include <boost/static_assert.hpp>
00013 #include <boost/type_traits/is_same.hpp>
00014 // StdAir
00015 #include <stdair/bom/BomHolder.hpp>
00016 #include <stdair/bom/BomManager.hpp>
00017 #include <stdair/factory/FacAbstract.hpp>
00018 #include <stdair/factory/FacBom.hpp>
00019 // Stdair BOM Objects
00020 #include <stdair/bom/SegmentDate.hpp>
00021
00022
00023 namespace stdair {
00024     // Forward declarations.
00025     class SegmentCabin;
00026
00027     class FacBomManager : public FacAbstract {
00028     public:
00029         // ////////////////// Business methods. //////////////////
00030         template <typename OBJECT2, typename OBJECT1>
00031             static BomHolder<OBJECT2*>* getBomHolderPtr (OBJECT1&);
00032
00033         template <typename OBJECT2, typename OBJECT1>
00034             static BomHolder<OBJECT2*>& addBomHolder (OBJECT1&);
00035
00036         template <typename OBJECT1, typename OBJECT2>
00037             static void addToList (OBJECT1&, OBJECT2&);
00038
00039         template <typename OBJECT1, typename OBJECT2>
00040             static void addToMap (OBJECT1&, OBJECT2&, const MapKey_T&);
00041
00042         template <typename OBJECT1, typename OBJECT2>
00043             static void addToListAndMap (OBJECT1&, OBJECT2&);
00044
00045         template <typename OBJECT1, typename OBJECT2>
00046             static void addToListAndMap (OBJECT1&, OBJECT2&, const
00047                                         MapKey_T&);
00048
00049         template <typename PARENT, typename CHILD>
00050             static void linkWithParent (PARENT&, CHILD&);
00051
00052         template <typename OBJECT2, typename OBJECT1>
00053             static void cloneHolder (OBJECT1&, const OBJECT1&);
00054
00055
00056     private:
00057         template <typename OBJECT1, typename OBJECT2>
00058             static void addToList (BomHolder<OBJECT2*>&, OBJECT1&, OBJECT2&);
00059
00060         template <typename OBJECT1, typename OBJECT2>
00061             static void addToMap (BomHolder<OBJECT2*>&, OBJECT1&, OBJECT2&,
00062                                   const MapKey_T&);
00063
00064         template <typename OBJECT2, typename OBJECT1>
00065             static BomHolder<OBJECT2*>& getBomHolder (OBJECT1&);
00066
00067     public:
00068         static void resetYieldBasedNestingStructure (const
00069                                         SegmentCabin&);
00070
00071         static void setAirlineFeature (Inventory& iInventory,
00072                                       AirlineFeature& iAirlineFeature) {
00073             iInventory.setAirlineFeature (iAirlineFeature);
00074         }
00075
00076         static void linkWithOperating (SegmentDate& iSegmentDate,
00077                                       SegmentDate& iOperatingSegmentDate) {
00078             iSegmentDate.linkWithOperating (iOperatingSegmentDate);
00079         }
00080
00081
00082     protected:
00083         FacBomManager() { }
00084
00085     public:
00086         ~FacBomManager() { }
00087     };
00088
00089 // //////////////////////////////// Public business method.
00090 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00091 template <typename OBJECT2, typename OBJECT1>
00092     BomHolder<OBJECT2*>& FacBomManager::addBomHolder (OBJECT1&
00093                                         ioObject1) {
00094
00095
00096
00097
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00236
00237
00238
00239

```

```

00240 //
00241 // Compile time assertion: this function must never be called with the
00242 // following list of couple types:
00243 // <SegmentDate, SegmentDate>
00244 // <AirlineFeature, Inventory>
00245 //
00246 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00247           || boost::is_same<OBJECT2, SegmentDate>::value == false));
00248 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00249           || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00250
00251
00252 BomHolder<OBJECT2>* lBomHolder_ptr =
00253   &FacBom<BomHolder<OBJECT2> >::instance().create();
00254
00255 const bool hasInsert BeenSuccessful =
00256   ioObject1._holderMap.insert (typename HolderMap_T::
00257     value_type (&typeid (OBJECT2),
00258               lBomHolder_ptr)).second;
00259 assert (hasInsert BeenSuccessful == true);
00260
00261 return *lBomHolder_ptr;
00262 }
00263
00264 ///////////////////////////////////////////////////////////////////
00265 // Public business method.
00266 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00267 template <typename OBJECT2, typename OBJECT1>
00268 BomHolder<OBJECT2>* FacBomManager::getBomHolderPtr (
00269   OBJECT1& ioObject1) {
00270
00271 //
00272 // Compile time assertion: this function must never be called with the
00273 // following list of couple types:
00274 // <SegmentDate, SegmentDate>
00275 // <AirlineFeature, Inventory>
00276 //
00277 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00278           || boost::is_same<OBJECT2, SegmentDate>::value == false));
00279 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00280           || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00281
00282 BomHolder<OBJECT2>* lBomHolder_ptr = NULL;
00283
00284 // Find the corresponding BomHolder within the object1, if existing.
00285 HolderMap_T::const_iterator itHolder =
00286   ioObject1._holderMap.find (&typeid (OBJECT2));
00287
00288 if (itHolder != ioObject1._holderMap.end()) {
00289   lBomHolder_ptr = static_cast<BomHolder<OBJECT2>*> (itHolder->second);
00290 }
00291
00292 return lBomHolder_ptr;
00293 }
00294
00295 ///////////////////////////////////////////////////////////////////
00296 // Private method.
00297 template <typename OBJECT2, typename OBJECT1>
00298 BomHolder<OBJECT2>& FacBomManager::getBomHolder (OBJECT1& ioObject1) {
00299
00300 //
00301 // Compile time assertion: this function must never be called with the
00302 // following list of couple types:
00303 // <SegmentDate, SegmentDate>
00304 // <AirlineFeature, Inventory>
00305 //
00306 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00307           || boost::is_same<OBJECT2, SegmentDate>::value == false));
00308 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00309           || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00310
00311 BomHolder<OBJECT2>* lBomHolder_ptr = NULL;
00312
00313 // Find the corresponding BomHolder within the object1. If it does
00314 // not exist, then create one.
00315 HolderMap_T::const_iterator itHolder =
00316   ioObject1._holderMap.find (&typeid (OBJECT2));
00317
00318 if (itHolder == ioObject1._holderMap.end()) {
00319   lBomHolder_ptr = &addBomHolder<OBJECT2, OBJECT1> (ioObject1);
00320 }
00321 else {
00322   lBomHolder_ptr = static_cast<BomHolder<OBJECT2>*> (itHolder->second);
00323 }
00324
00325 assert (lBomHolder_ptr != NULL);
00326

```

```

00326     return *lBomHolder_ptr;
00327 }
00328
00329 // /////////////////////////////////
00330 // Private method.
00331 template <typename OBJECT1, typename OBJECT2>
00332 void FacBomManager::addToList (BomHolder<OBJECT2>& ioBomHolder,
00333                                     OBJECT1& ioObject1, OBJECT2& ioObject2) {
00334
00335 //
00336 // Compile time assertion: this function must never be called with the
00337 // following list of couple types:
00338 // <SegmentDate, SegmentDate>
00339 // <AirlineFeature, Inventory>
00340 //
00341 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00342                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00343 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00344                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00345
00346     ioBomHolder._bomList.push_back (&ioObject2);
00347 }
00348
00349 // /////////////////////////////////
00350 // Public business method.
00351 // This method is specialized for the following couple types:
00352 // <SegmentDate, SegmentDate>
00353 template <typename OBJECT1, typename OBJECT2>
00354 void FacBomManager::addToList (OBJECT1& ioObject1, OBJECT2& ioObject2) {
00355
00356 //
00357 // Compile time assertion: this function must never be called with the
00358 // following list of couple types:
00359 // <SegmentDate, SegmentDate>
00360 // <AirlineFeature, Inventory>
00361 //
00362 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00363                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00364 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00365                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00366
00367     BomHolder<OBJECT2>& lBomHolder = getBomHolder<OBJECT2> (ioObject1);
00368
00369     addToList<OBJECT1, OBJECT2> (lBomHolder, ioObject1, ioObject2);
00370 }
00371
00372 // /////////////////////////////////
00373 // Private method.
00374 template <typename OBJECT1, typename OBJECT2>
00375 void FacBomManager::addToMap (BomHolder<OBJECT2>& ioBomHolder,
00376                                     OBJECT1& ioObject1, OBJECT2& ioObject2,
00377                                     const MapKey_T& iKey) {
00378
00379 //
00380 // Compile time assertion: this function must never be called with the
00381 // following list of couple types:
00382 // <SegmentDate, SegmentDate>
00383 // <AirlineFeature, Inventory>
00384 //
00385 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00386                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00387 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00388                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00389
00390     const bool insertionSucceeded =
00391         ioBomHolder._bomMap.insert (typename std::map<const MapKey_T, OBJECT2*>::
00392                                     value_type (iKey, &ioObject2)).second;
00393
00394     if (insertionSucceeded == false) {
00395         // Build a nice message, so that the error be fully explicit
00396         std::ostringstream oStr;
00397         oStr << "The given object ('" << iKey
00398             << "') can not be added to the map of '" << ioObject1.describeKey()
00399             << "' object. That map already contains: ''";
00400
00401         unsigned int idx = 0;
00402         for (typename std::map<const MapKey_T, OBJECT2*>::const_iterator iter =
00403                 ioBomHolder._bomMap.begin();
00404             iter != ioBomHolder._bomMap.end(); ++iter, ++idx) {
00405             const OBJECT2* lCurrentObject_ptr = iter->second;
00406             assert (lCurrentObject_ptr != NULL);
00407
00408             if (idx != 0) {
00409                 oStr << "; ";
00410             }
00411             oStr << lCurrentObject_ptr->describeKey();
00412         }

```

```

00413     oStr << "'";
00414
00415     STDAIR_LOG_ERROR (oStr.str());
00416     throw ObjectLinkingException (oStr.str());
00417 }
00418 }
00419
00420 // /////////////////////////////////
00421 // Public business method.
00422 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00423 template <typename OBJECT1, typename OBJECT2> void FacBomManager::
00424 addToMap (OBJECT1& ioObject1, OBJECT2& ioObject2, const MapKey_T& iKey) {
00425
00426 //
00427 // Compile time assertion: this function must never be called with the
00428 // following list of couple types:
00429 // <SegmentDate, SegmentDate>
00430 // <AirlineFeature, Inventory>
00431 //
00432 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00433                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00434 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00435                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00436
00437 BomHolder<OBJECT2>& lBomHolder = getBomHolder<OBJECT2> (ioObject1);
00438
00439 addToMap<OBJECT1, OBJECT2> (lBomHolder, ioObject1, ioObject2, iKey);
00440 }
00441
00442 // Public business method.
00443 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00444 // /////////////////////////////////
00445 template <typename OBJECT1, typename OBJECT2>
00446 void FacBomManager::addToMap (OBJECT1& ioObject1, OBJECT2& ioObject2) {
00447
00448 //
00449 // Compile time assertion: this function must never be called with the
00450 // following list of couple types:
00451 // <SegmentDate, SegmentDate>
00452 // <AirlineFeature, Inventory>
00453 //
00454 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00455                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00456 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00457                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00458
00459 const MapKey_T& lKey = ioObject2.describeKey();
00460 addToMap (ioObject1, ioObject2, lKey);
00461 }
00462
00463 // /////////////////////////////////
00464 // Public business method.
00465 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00466 template <typename OBJECT1, typename OBJECT2>
00467 void FacBomManager::addToListAndMap (OBJECT1& ioObject1, OBJECT2& ioObject2
00468
00469                                     const MapKey_T& iKey) {
00470
00471 // Compile time assertion: this function must never be called with the
00472 // following list of couple types:
00473 // <SegmentDate, SegmentDate>
00474 // <AirlineFeature, Inventory>
00475 //
00476 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false
00477                         || boost::is_same<OBJECT2, SegmentDate>::value == false));
00478 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00479                         || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00480
00481 BomHolder<OBJECT2>& lBomHolder = getBomHolder<OBJECT2> (ioObject1);
00482
00483 addToList<OBJECT1, OBJECT2> (lBomHolder, ioObject1, ioObject2);
00484 addToMap<OBJECT1, OBJECT2> (lBomHolder, ioObject1, ioObject2, iKey);
00485 }
00486
00487 // /////////////////////////////////
00488 // Public business method.
00489 // Compile time assertion to check OBJECT1 and OBJECT2 types.
00490 template <typename OBJECT1, typename OBJECT2> void FacBomManager::
00491 addToListAndMap (OBJECT1& ioObject1, OBJECT2& ioObject2) {
00492
00493 // Compile time assertion: this function must never be called with the
00494 // following list of couple types:
00495 // <SegmentDate, SegmentDate>
00496 // <AirlineFeature, Inventory>
00497 //
00498 BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, SegmentDate>::value == false

```

```

00499           || boost::is_same<OBJECT2, SegmentDate>::value == false);
00500     BOOST_STATIC_ASSERT ((boost::is_same<OBJECT1, Inventory>::value == false
00501           || boost::is_same<OBJECT2, AirlineFeature>::value == false));
00502
00503     const MapKey_T& lKey = ioObject2.describeKey();
00504     addToListAndMap<OBJECT1, OBJECT2> (ioObject1, ioObject2, lKey);
00505   }
00506
00507   // Public business method valid for all PARENT and CHILD types.
00508   // (No compile time assertion to check PARENT and CHILD types.)
00509   ///////////////////////////////////////////////////////////////////
00510   template <typename PARENT, typename CHILD> void FacBomManager::
00511     linkWithParent (PARENT& ioParent, CHILD& ioChild) {
00512       ioChild._parent = &ioParent;
00513     }
00514
00515   ///////////////////////////////////////////////////////////////////
00516   // Public business method valid for all PARENT and CHILD types.
00517   // (No compile time assertion to check PARENT and CHILD types.)
00518   template <typename OBJECT2, typename OBJECT1> void FacBomManager::
00519     cloneHolder (OBJECT1& ioDest, const OBJECT1& iOri) {
00520
00521     const BomHolder<OBJECT2>& lOriginHolder =
00522       BomManager::getBomHolder<OBJECT2> (iOri);
00523
00524     BomHolder<OBJECT2>& lDestHolder = getBomHolder<OBJECT2> (ioDest);
00525     lDestHolder._bomList = lOriginHolder._bomList;
00526     lDestHolder._bomMap = lOriginHolder._bomMap;
00527   }
00528
00529   ///////////////////////////////////////////////////////////////////
00530   //
00531   // Specialization of the template method addToList above for the types
00532   // <SegmentDate, SegmentDate>.
00533   // Add an element to the marketing segment date list of a segment date.
00534   //
00535   ///////////////////////////////////////////////////////////////////
00536
00537   template<>
00538   inline void FacBomManager::addToList <SegmentDate, SegmentDate>
00539   (SegmentDate& ioSegmentDate,
00540    SegmentDate& ioMarketingSegmentDate) {
00541
00542     ioSegmentDate._marketingSegmentDateList.push_back (&ioMarketingSegmentDate);
00543   }
00544
00545   ///////////////////////////////////////////////////////////////////
00546   //
00547   // TODO:
00548   // This specialization is needed for all the objects in the current
00549   // BOM tree.
00550   // (An inventory is the parent of flight dates, a flight date is the
00551   // parent of segment dates and leg dates, ...)
00552   //
00553   ///////////////////////////////////////////////////////////////////
00554
00555
00556   }
00557
00558   ///////////////////////////////////////////////////////////////////
00559
00560 #endif // __STDAIR_FAC_FACBOMMANAGER_HPP

```

### 33.571 stdair/factory/FacCloneBom.hpp File Reference

```

#include <cassert>
#include <string>
#include <list>
#include <stdair/factory/FacAbstract.hpp>
#include <stdair/service/FacSupervisor.hpp>
#include <stdair/service/Logger.hpp>

```

#### Classes

- class **stdair::FacCloneBom< BOM >**

*Base class for Factory layer.*

## Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.572 FacCloneBom.hpp

```

00001 #ifndef __STDAIR_FAC_FACCLONEBOM_HPP
00002 #define __STDAIR_FAC_FACCLONEBOM_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <cassert>
00009 #include <string>
00010 #include <list>
00011 // StdAir
00012 #include <stdair/factory/FacAbstract.hpp>
00013 #include <stdair/service/FacSupervisor.hpp>
00014 #include <stdair/service/Logger.hpp>
00015
00016 namespace stdair {
00017
00018     template <typename BOM>
00019     class FacCloneBom : public FacAbstract {
00020
00021         typedef std::list<BOM*> BomPool_T;
00022         typedef typename BOM::Key_T Key_T;
00023
00024
00025     public:
00026         // ////////////////// Business methods //////////////////
00027         static FacCloneBom& instance();
00028
00029         BOM& clone (const BOM&);
00030
00031     protected:
00032         FacCloneBom() {}
00033
00034     public:
00035         ~FacCloneBom() {
00036             clean();
00037         }
00038
00039         void clean();
00040
00041
00042     private:
00043         // ////////////////// Attributes //////////////////
00044         static FacCloneBom* _instance;
00045
00046         BomPool_T _pool;
00047     };
00048
00049
00050     template <typename BOM> FacCloneBom<BOM>* FacCloneBom<BOM>::_instance = NULL;
00051
00052     template <typename BOM> FacCloneBom<BOM>&
00053         FacCloneBom<BOM>::instance () {
00054         if (_instance == NULL) {
00055             _instance = new FacCloneBom ();
00056             assert (_instance != NULL);
00057
00058             FacSupervisor::instance().registerCloneBomFactory (
00059                 _instance);
00060         }
00061         return *_instance;
00062     }
00063
00064
00065     template <typename BOM> void FacCloneBom<BOM>::clean () {
00066         // Destroy all the objects
00067         for (typename BomPool_T::iterator itBom = _pool.begin();
00068              itBom != _pool.end(); ++itBom) {
00069             BOM* currentBom_ptr = *itBom;
00070             assert (currentBom_ptr != NULL);
00071             delete currentBom_ptr; currentBom_ptr = NULL;
00072         }
00073
00074         // Empty the pool.
00075     }
00076
00077
00078
00079
00080
00081
00082
00083
00084
00085
00086
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00088
00089
00090
00091
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00099
00100
00101
00102

```

```

00103     _pool.clear();
00104
00105     // Reset the static instance.
00106     _instance = NULL;
00107 }
00108
00109 ///////////////////////////////////////////////////////////////////
00110 template <typename BOM> BOM& FacCloneBom<BOM>::clone (const BOM& iBom) {
00111     BOM* oBom_ptr = new BOM (iBom);
00112     assert (oBom_ptr != NULL);
00113     _pool.push_back (oBom_ptr);
00114     return *oBom_ptr;
00115 }
00116
00117 }
00118 #endif // __STDAIR_FAC_FACCLONEBOM_HPP

```

### 33.573 stdair/service/DBSessionManager.cpp File Reference

```

#include <cassert>
#include <string>
#include <sstream>
#include <soci.h>
#include <mysql/soci-mysql.h>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/service/DBSessionManager.hpp>
#include <stdair/service/Logger.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.574 DBSessionManager.cpp

```

00001 ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <string>
00007 #include <sstream>
00008 // SOCI
00009 #if defined(SOCI_HEADERS_BURIED)
00010 #include <soci/core/soci.h>
00011 #include <soci/backends/mysql/soci-mysql.h>
00012 #else // SOCI_HEADERS_BURIED
00013 #include <soci.h>
00014 #include <mysql/soci-mysql.h>
00015 #endif // SOCI_HEADERS_BURIED
00016 // StdAir
00017 #include <stdair/stdair_exceptions.hpp>
00018 #include <stdair/basic/BasDBParams.hpp>
00019 #include <stdair/service/DBSessionManager.hpp>
00020 #include <stdair/service/Logger.hpp>
00021
00022 namespace stdair {
00023
00024 ///////////////////////////////////////////////////////////////////
00025 DBSessionManager::DBSessionManager () : _dbSession (NULL) {
00026 }
00027
00028 ///////////////////////////////////////////////////////////////////
00029 DBSessionManager::DBSessionManager (const DBSessionManager&)
00030     : _dbSession (NULL) {
00031     assert (false);
00032 }
00033
00034 ///////////////////////////////////////////////////////////////////
00035 DBSessionManager::~DBSessionManager () {

```

```

00036     // std::cout << "In DBSessionManager destructor" << std::endl;
00037     dbFinalise();
00038 }
00039
00040 ///////////////////////////////////////////////////////////////////
00041 void DBSessionManager::dbInit (const BasDBParams& iDBParams) {
00042
00043     // Database parameters
00044     std::ostringstream oStr;
00045     oStr << "db=" << iDBParams.getDBName() << " user=" << iDBParams.getUser()
00046         << " password=" << iDBParams.getPassword()
00047         << " port=" << iDBParams.getPort() << " host=" << iDBParams.getHost();
00048     const std::string lDBSessionConnectionString (oStr.str());
00049
00050     // Instanciate the database session: nothing else is performed at that stage
00051     _dbSession = new DBSession_T;
00052
00053     try {
00054         // Open the connection to the database
00055         _dbSession->open (soci::mysql, lDBSessionConnectionString);
00056
00057     } catch (std::exception const& lException) {
00058         std::ostringstream oMessage;
00059         oMessage <<"Error while opening a connection to database: "
00060             << lException.what() << std::endl
00061             << "Database parameters used:"
00062             << " db=" << iDBParams.getDBName()
00063             << " user=" << iDBParams.getUser()
00064             << " port=" << iDBParams.getPort()
00065             << " host=" << iDBParams.getHost();
00066         throw SQLDatabaseConnectionImpossibleException (oMessage.str());
00067     }
00068 }
00069
00070 ///////////////////////////////////////////////////////////////////
00071 void DBSessionManager::dbFinalise () {
00072     delete _dbSession; _dbSession = NULL;
00073 }
00074
00075 ///////////////////////////////////////////////////////////////////
00076 void DBSessionManager::init (const BasDBParams& iDBParams) {
00077     DBSessionManager& lInstance = instance();
00078     lInstance.dbInit (iDBParams);
00079 }
00080
00081 ///////////////////////////////////////////////////////////////////
00082 DBSessionManager& DBSessionManager::instance () {
00083     static DBSessionManager _instance;
00084     return _instance;
00085 }
00086
00087 ///////////////////////////////////////////////////////////////////
00088 void DBSessionManager::clean () {
00089 }
00090
00091 ///////////////////////////////////////////////////////////////////
00092 DBSession_T& DBSessionManager::getDBSession() const {
00093     if (_dbSession == NULL) {
00094         throw NonInitialisedDBSessionManagerException ("");
00095     }
00096     assert (_dbSession != NULL);
00097     return *_dbSession;
00098 }
00099
00100 }

```

### 33.575 stdair/service/DBSessionManager.hpp File Reference

```
#include <stdair/stdair_db.hpp>
```

#### Classes

- class [stdair::DBSessionManager](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.576 DBSessionManager.hpp

```

00001 #ifndef __STDAIR_SVC_DBSESSIONMANAGER_HPP
00002 #define __STDAIR_SVC_DBSESSIONMANAGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_db.hpp>
00009
00010 namespace stdair {
00011
00012 // Forward declarations
00013 struct BasDBParams;
00014
00015 class DBSessionManager {
00016     // Friend classes
00017     friend class FacSupervisor;
00018     friend class STDAIR_Service;
00019
00020 public:
00021     static DBSessionManager& instance();
00022
00023     DBSession_T& getDBSession() const;
00024
00025
00026 private:
00027     DBSessionManager ();
00028     DBSessionManager (const DBSessionManager&);
00029     ~DBSessionManager ();
00030
00031     void dbInit (const BasDBParams&);
00032
00033     void dbFinalise ();
00034
00035
00036     static void init (const BasDBParams&);
00037
00038     static void clean();
00039
00040 private:
00041     DBSession_T* _dbSession;
00042 };
00043
00044 }
00045
00046 #endif // __STDAIR_SVC_DBSESSIONMANAGER_HPP

```

### 33.577 stdair/service/FacServiceAbstract.cpp File Reference

```

#include <cassert>
#include <stdair/service/ServiceAbstract.hpp>
#include <stdair/service/FacServiceAbstract.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

### 33.578 FacServiceAbstract.cpp

```

00001 // ///////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir

```

```

00007 #include <stdair/service/ServiceAbstract.hpp>
00008 #include <stdair/service/FacServiceAbstract.hpp>
00009
00010 namespace stdair {
00011
00012 // /////////////////////////////////
00013 FacServiceAbstract::~FacServiceAbstract() {
00014     clean();
00015 }
00016
00017 // /////////////////////////////////
00018 void FacServiceAbstract::clean() {
00019     for (ServicePool_T::iterator itService = _pool.begin();
00020          itService != _pool.end(); itService++) {
00021         ServiceAbstract* currentService_ptr = *itService;
00022         assert (currentService_ptr != NULL);
00023
00024         delete (currentService_ptr); currentService_ptr = NULL;
00025     }
00026
00027 // Empty the pool of Service Factories
00028 _pool.clear();
00029 }
00030
00031 }

```

### 33.579 stdair/service/FacServiceAbstract.hpp File Reference

```
#include <vector>
```

#### Classes

- class [stdair::FacServiceAbstract](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.580 FacServiceAbstract.hpp

```

00001 #ifndef __STDAIR_SVC_FACSERVICEABSTRACT_HPP
00002 #define __STDAIR_SVC_FACSERVICEABSTRACT_HPP
00003
00004 // ///////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <vector>
00009
00010 namespace stdair {
00011
00012 // Forward declarations
00013 class ServiceAbstract;
00014
00015 class FacServiceAbstract {
00016 public:
00017     typedef std::vector<ServiceAbstract*> ServicePool_T;
00018
00019     virtual ~FacServiceAbstract();
00020
00021     void clean();
00022
00023     protected:
00024         FacServiceAbstract() {}
00025
00026         ServicePool_T _pool;
00027     };
00028
00029 }
00030
00031 #endif // __STDAIR_SVC_FACSERVICEABSTRACT_HPP

```

### 33.581 stdair/service/FacSTDAIRServiceContext.cpp File Reference

```
#include <cassert>
#include <stdair/service/FacSupervisor.hpp>
#include <stdair/service/FacSTDAIRServiceContext.hpp>
#include <stdair/service/STDAIR_ServiceContext.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.582 FacSTDAIRServiceContext.cpp

```
00001 // ///////////////////////////////////////////////////////////////////
00002 // Import section
00003 // ///////////////////////////////////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/service/FacSupervisor.hpp>
00008 #include <stdair/service/FacSTDAIRServiceContext.hpp>
00009 #include <stdair/service/STDAIR_ServiceContext.hpp>
00010
00011 namespace stdair {
00012
00013     FacSTDAIRServiceContext* FacSTDAIRServiceContext::_instance = NULL;
00014
00015 // ///////////////////////////////////////////////////////////////////
00016     FacSTDAIRServiceContext::~FacSTDAIRServiceContext() {
00017         _instance = NULL;
00018     }
00019
00020 // ///////////////////////////////////////////////////////////////////
00021     FacSTDAIRServiceContext&
00022         FacSTDAIRServiceContext::instance() {
00023
00024         if (_instance == NULL) {
00025             _instance = new FacSTDAIRServiceContext();
00026             assert (_instance != NULL);
00027
00028             FacSupervisor::instance().registerServiceFactory (
00029                 _instance);
00030         }
00031
00032 // ///////////////////////////////////////////////////////////////////
00033     STDAIR_ServiceContext& FacSTDAIRServiceContext::create
00034     () {
00035         STDAIR_ServiceContext* aServiceContext_ptr = NULL;
00036
00037         aServiceContext_ptr = new STDAIR_ServiceContext ();
00038         assert (aServiceContext_ptr != NULL);
00039
00040         // The new object is added to the Bom pool
00041         _pool.push_back (aServiceContext_ptr);
00042
00043         return *aServiceContext_ptr;
00044     }
00045 }
```

### 33.583 stdair/service/FacSTDAIRServiceContext.hpp File Reference

```
#include <stdair/service/FacServiceAbstract.hpp>
```

**Classes**

- class `stdair::FacSTDAIRServiceContext`  
*Factory for Bucket.*

**Namespaces**

- `stdair`  
*Handle on the StdAir library context.*

**33.584 FacSTDAIRServiceContext.hpp**

```

00001 #ifndef __STDAIR_SVC_FACSTDAIRSERVICECONTEXT_HPP
00002 #define __STDAIR_SVC_FACSTDAIRSERVICECONTEXT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // StdAir
00008 #include <stdair/service/FacServiceAbstract.hpp>
00009
00010 namespace stdair {
00011
00013 class STDAIR_ServiceContext;
00014
00018 class FacSTDAIRServiceContext : public
00019   FacServiceAbstract {
00020   public:
00021
00028   static FacSTDAIRServiceContext& instance();
00029
00036   ~FacSTDAIRServiceContext();
00037
00045   STDAIR_ServiceContext& create();
00046
00047   protected:
00054     FacSTDAIRServiceContext() {}
00055
00056   private:
00060     static FacSTDAIRServiceContext* _instance;
00061   };
00062
00063 }
00064 #endif // __STDAIR_SVC_FACSTDAIRSERVICECONTEXT_HPP

```

**33.585 stdair/service/FacSupervisor.cpp File Reference**

```

#include <cassert>
#include <stdair/factory/FacAbstract.hpp>
#include <stdair/service/FacServiceAbstract.hpp>
#include <stdair/service/FacSupervisor.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/service/DBSessionManager.hpp>

```

**Namespaces**

- `stdair`  
*Handle on the StdAir library context.*

**33.586 FacSupervisor.cpp**

```

00001 // ///////////////////////////////
00002 // Import section

```

```

00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/factory/FacAbstract.hpp>
00008 #include <stdair/service/FacServiceAbstract.hpp>
00009 #include <stdair/service/FacSupervisor.hpp>
00010 #include <stdair/service/Logger.hpp>
00011 #include <stdair/service/DBSessionManager.hpp>
00012
00013 namespace stdair {
00014
00015     FacSupervisor* FacSupervisor::_instance = NULL;
00016
00017 // /////////////////////////////////
00018     FacSupervisor& FacSupervisor::instance() {
00019         if (_instance == NULL) {
00020             _instance = new FacSupervisor();
00021         }
00022
00023         return *_instance;
00024     }
00025
00026 // /////////////////////////////////
00027     FacSupervisor::~FacSupervisor() {
00028         cleanPersistentBomLayer();
00029         cleanCloneBomLayer();
00030         cleanServiceLayer();
00031     }
00032
00033 // /////////////////////////////////
00034     void FacSupervisor::registerPersistentBomFactory (
00035         FacAbstract* ioFac_ptr) {
00036         _persistentBomPool.push_back (ioFac_ptr);
00037     }
00038
00039 // /////////////////////////////////
00040     void FacSupervisor::registerCloneBomFactory (
00041         FacAbstract* ioFac_ptr) {
00042         _cloneBomPool.push_back (ioFac_ptr);
00043     }
00044
00045 // /////////////////////////////////
00046     void FacSupervisor::registerServiceFactory (
00047         FacServiceAbstract* ioFac_ptr) {
00048         _svcPool.push_back (ioFac_ptr);
00049     }
00050
00051 // /////////////////////////////////
00052     void FacSupervisor::cleanPersistentBomLayer() {
00053         for (PersistentBomFactoryPool_T::const_iterator itFactory = _persistentBomPool.begin();
00054             itFactory != _persistentBomPool.end(); itFactory++) {
00055             const FacAbstract* currentFactory_ptr = *itFactory;
00056             assert (currentFactory_ptr != NULL);
00057
00058             delete (currentFactory_ptr); currentFactory_ptr = NULL;
00059         }
00060
00061         // Empty the pool of BOM factories
00062         _persistentBomPool.clear();
00063     }
00064
00065 // /////////////////////////////////
00066     void FacSupervisor::cleanCloneBomLayer() {
00067         for (CloneBomFactoryPool_T::const_iterator itFactory = _cloneBomPool.begin();
00068             itFactory != _cloneBomPool.end(); itFactory++) {
00069             const FacAbstract* currentFactory_ptr = *itFactory;
00070             assert (currentFactory_ptr != NULL);
00071
00072             delete (currentFactory_ptr); currentFactory_ptr = NULL;
00073         }
00074
00075         // Empty the pool of BOM factories
00076         _cloneBomPool.clear();
00077     }
00078
00079 // /////////////////////////////////
00080     void FacSupervisor::cleanServiceLayer() {
00081         for (ServiceFactoryPool_T::const_iterator itFactory = _svcPool.begin();
00082             itFactory != _svcPool.end(); itFactory++) {
00083             const FacServiceAbstract* currentFactory_ptr = *itFactory;
00084             assert (currentFactory_ptr != NULL);
00085
00086             delete (currentFactory_ptr); currentFactory_ptr = NULL;
00087         }
00088
00089         // Empty the pool of Service Factories
00090         _svcPool.clear();

```

```

00087    }
00088
00089 // ///////////////////////////////////////////////////////////////////
00090 void FacSupervisor::cleanLoggerService() {
00091     // Clean the static instance of the log service
00092     Logger::clean();
00093 }
00094
00095 // ///////////////////////////////////////////////////////////////////
00096 void FacSupervisor::cleanDBSessionManager() {
00097     // Clean the static instance of the database service
00098     DBSessionManager::clean();
00099 }
00100
00101 // ///////////////////////////////////////////////////////////////////
00102 void FacSupervisor::cleanAll() {
00103     // Clean the static instance of the database session manager
00104     cleanDBSessionManager();
00105
00106     // Clean the static instance of the log service
00107     cleanLoggerService();
00108
00109     // Clean the static instance of the FacSupervisor.
00110     // This in turn will invoke the destructor (~FacSupervisor() method)
00111     // of the static instance, thus cleaning both the BOM and service layers.
00112     delete _instance; _instance = NULL;
00113 }
00114 }
00115
00116 }
```

### 33.587 stdair/service/FacSupervisor.hpp File Reference

```
#include <iostream>
#include <list>
```

#### Classes

- class [stdair::FacSupervisor](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

### 33.588 FacSupervisor.hpp

```

00001 #ifndef __STDAIR_SVC_FACSUPERVISOR_HPP
00002 #define __STDAIR_SVC_FACSUPERVISOR_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <iostream>
00009 #include <list>
0010
0011 namespace stdair {
0012
0014     class FacAbstract;
0015     class FacServiceAbstract;
0016
0020     class FacSupervisor {
0021     public:
0025         typedef std::list<FacAbstract*> PersistentBomFactoryPool_T;
0026         typedef std::list<FacAbstract*> CloneBomFactoryPool_T;
0027         typedef std::list<FacServiceAbstract*> ServiceFactoryPool_T;
0028
0035         static FacSupervisor& instance();
0036
0044         void registerPersistentBomFactory (FacAbstract* );
0045 }
```

```

00053     void registerCloneBomFactory (FacAbstract* );
00054
00062     void registerServiceFactory (FacServiceAbstract* );
00063
00070     void cleanPersistentBomLayer();
00071
00078     void cleanCloneBomLayer();
00079
00086     void cleanServiceLayer();
00087
00091     static void cleanLoggerService();
00092
00096     static void cleanDBSessionManager();
00097
00103     static void cleanAll();
00104
00111     ~FacSupervisor();
00112
00113
00114 protected:
00120     FacSupervisor() {}
00121     FacSupervisor (const FacSupervisor& ) {}
00122
00123 private:
00127     static FacSupervisor* _instance;
00128
00132     PersistentBomFactoryPool_T _persistentBomPool;
00133
00137     CloneBomFactoryPool_T _cloneBomPool;
00138
00142     ServiceFactoryPool_T _svcPool;
00143
00144 };
00145
00146 #endif // __STDAIR_SVC_FACSUPERVISOR_HPP

```

### 33.589 stdair/service/Logger.cpp File Reference

```

#include <iostream>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/service/Logger.hpp>

```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### 33.590 Logger.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 // StdAir Logger
00007 #include <stdair/stdair_exceptions.hpp>
00008 #include <stdair/service/Logger.hpp>
00009
00010 namespace stdair {
00011
00012     // /////////////////////////////////
00013     Logger::Logger()
00014         : _level (LOG::DEBUG), _logStream (&std::cout),
00015           _hasBeenInitialised (false) {
00016     }
00017
00018     // /////////////////////////////////
00019     Logger::Logger (const Logger& )
00020         : _level (LOG::DEBUG), _logStream (&std::cout),
00021           _hasBeenInitialised (false) {
00022             assert (false);
00023     }
00024
00025     // /////////////////////////////////

```

```

00026     Logger::~Logger() {
00027         // std::cout << "In Logger destructor" << std::endl;
00028     }
00029
00030     // ///////////////////////////////////////////////////////////////////
00031     void Logger::init (const BasLogParams& iLogParams) {
00032
00033     //
00034     Logger& lInstance = instance();
00035     const bool hasBeenInitialised = lInstance.getStatus();
00036     if (hasBeenInitialised == true
00037         && iLogParams.getForcedInitialisationFlag() == false) {
00038         STDAIR_LOG_ERROR ("Error: the log stream has already been initialised");
00039         assert (false);
00040     }
00041
00042     lInstance.setLevel (iLogParams._logLevel);
00043     lInstance.setStream (iLogParams._logStream);
00044     lInstance.setStatus (true);
00045 }
00046
00047     // ///////////////////////////////////////////////////////////////////
00048     Logger& Logger::instance() {
00049         static Logger _instance;
00050         return _instance;
00051     }
00052
00053     // ///////////////////////////////////////////////////////////////////
00054     BasLogParams Logger::getLogParams() {
00055         std::ostream* oStream_ptr = instance()._logStream;
00056         assert (oStream_ptr != NULL);
00057         return BasLogParams (instance()._level, *oStream_ptr);
00058     }
00059
00060     // ///////////////////////////////////////////////////////////////////
00061     void Logger::clean() {
00062         Logger& lInstance = instance();
00063         lInstance.setStatus (false);
00064     }
00065
00066 }
```

### 33.591 stdair/service/Logger.hpp File Reference

```
#include <cassert>
#include <sstream>
#include <string>
#include <stdair/stdair_log.hpp>
#include <stdair/basic/BasLogParams.hpp>
```

#### Classes

- class [stdair::Logger](#)

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Macros

- #define [STDAIR\\_LOG\\_CORE](#)(iLevel, iToBeLogged)
- #define [STDAIR\\_LOG\\_CRITICAL](#)(iToBeLogged) [STDAIR\\_LOG\\_CORE](#) (stdair::LOG::CRITICAL, iToBeLogged)
- #define [STDAIR\\_LOG\\_ERROR](#)(iToBeLogged) [STDAIR\\_LOG\\_CORE](#) (stdair::LOG::ERROR, iToBeLogged)
- #define [STDAIR\\_LOG\\_NOTIFICATION](#)(iToBeLogged) [STDAIR\\_LOG\\_CORE](#) (stdair::LOG::NOTIFICATION, iToBeLogged)

- #define STDAIR\_LOG\_WARNING(iToBeLogged) STDAIR\_LOG\_CORE (stdair::LOG::WARNING, iToBeLogged)
- #define STDAIR\_LOG\_DEBUG(iToBeLogged) STDAIR\_LOG\_CORE (stdair::LOG::DEBUG, iToBeLogged)
- #define STDAIR\_LOG\_VERBOSE(iToBeLogged) STDAIR\_LOG\_CORE (stdair::LOG::VERBOSE, iToBeLogged)

### 33.591.1 Macro Definition Documentation

33.591.1.1 #define STDAIR\_LOG\_CORE( *iLevel*, *iToBeLogged* )

**Value:**

```
{ std::ostringstream ostr; ostr << iToBeLogged; \
    stdair::Logger::instance().log (iLevel, __LINE__, __FILE__, ostr.str()); }
```

Definition at line 16 of file [Logger.hpp](#).

33.591.1.2 #define STDAIR\_LOG\_CRITICAL( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::CRITICAL, *iToBeLogged*)

Definition at line 20 of file [Logger.hpp](#).

33.591.1.3 #define STDAIR\_LOG\_ERROR( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::ERROR, *iToBeLogged*)

Definition at line 23 of file [Logger.hpp](#).

Referenced by stdair::ParsedKey::getBoardingTime(), stdair::ParsedKey::getFlightDateKey(), stdair::ParsedKey::getInventoryKey(), stdair::ParsedKey::getLegKey(), stdair::BomManager::getObject(), stdair::ParsedKey::getSegmentKey(), and stdair::ConfigHolderStruct::updateAirlineFeatures().

33.591.1.4 #define STDAIR\_LOG\_NOTIFICATION( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::NOTIFICATION, *iToBeLogged*)

Definition at line 26 of file [Logger.hpp](#).

33.591.1.5 #define STDAIR\_LOG\_WARNING( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::WARNING, *iToBeLogged*)

Definition at line 29 of file [Logger.hpp](#).

33.591.1.6 #define STDAIR\_LOG\_DEBUG( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::DEBUG, *iToBeLogged*)

Definition at line 32 of file [Logger.hpp](#).

Referenced by stdair::FFDisutilityCurveHolderStruct::addCurve(), stdair::FRAT5CurveHolderStruct::addCurve(), stdair::ParsedKey::getBoardingTime(), stdair::FFDisutilityCurveHolderStruct::getFFDisutilityCurve(), stdair::ParsedKey::getFlightDateKey(), stdair::FRAT5CurveHolderStruct::getFRAT5Curve(), stdair::ParsedKey::getInventoryKey(), stdair::ParsedKey::getLegKey(), stdair::ParsedKey::getSegmentKey(), stdair::BomINIImport::importINIConfig(), stdair::TimePeriod::isDepartureTimeValid(), and stdair::BomRetriever::retrieveSegmentDateFromLongKey().

33.591.1.7 #define STDAIR\_LOG\_VERBOSE( *iToBeLogged* ) STDAIR\_LOG\_CORE (stdair::LOG::VERBOSE, *iToBeLogged*)

Definition at line 35 of file [Logger.hpp](#).

## 33.592 Logger.hpp

```
00001 #ifndef __STDAIR_SVC_LOGGER_HPP
```

```

00002 #define __STDAIR_SVC_LOGGER_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <cassert>
00009 #include <sstream>
00010 #include <string>
00011 // StdAir
00012 #include <stdair/stdair_log.hpp>
00013 #include <stdair/basic/BasLogParams.hpp>
00014
00015 // ///////////////////// LOG MACROS /////////////////////
00016 #define STDAIR_LOG_CORE(iLevel, iToBeLogged) \
00017   { std::ostringstream ostr; ostr << iToBeLogged; \
00018     stdair::Logger::instance().log (iLevel, __LINE__, __FILE__, ostr.str()); }
00019
00020 #define STDAIR_LOG_CRITICAL(iToBeLogged) \
00021   STDAIR_LOG_CORE (stdair::LOG::CRITICAL, iToBeLogged)
00022
00023 #define STDAIR_LOG_ERROR(iToBeLogged) \
00024   STDAIR_LOG_CORE (stdair::LOG::ERROR, iToBeLogged)
00025
00026 #define STDAIR_LOG_NOTIFICATION(iToBeLogged) \
00027   STDAIR_LOG_CORE (stdair::LOG::NOTIFICATION, iToBeLogged)
00028
00029 #define STDAIR_LOG_WARNING(iToBeLogged) \
00030   STDAIR_LOG_CORE (stdair::LOG::WARNING, iToBeLogged)
00031
00032 #define STDAIR_LOG_DEBUG(iToBeLogged) \
00033   STDAIR_LOG_CORE (stdair::LOG::DEBUG, iToBeLogged)
00034
00035 #define STDAIR_LOG_VERBOSE(iToBeLogged) \
00036   STDAIR_LOG_CORE (stdair::LOG::VERBOSE, iToBeLogged)
00037 // ////////////////// (END OF) LOG MACROS ///////////////////
00038
00039
00040 namespace stdair {
00041
00042   class Logger {
00043     friend class FacSupervisor;
00044     friend class STDAIR_Service;
00045
00046   public:
00047
00048     template <typename T>
00049     void log (const LOG::EN_LogLevel iLevel, const int iLineNumber,
00050               const std::string& iFileName, const T& iToBeLogged) {
00051       assert (_logStream != NULL);
00052       if (iLevel <= _level) {
00053         *_logStream << "[" << LOG::_logLevels[iLevel] << "] " << iFileName << ":" 
00054             << iLineNumber << ":" << iToBeLogged << std::endl;
00055       }
00056     }
00057
00058     static Logger& instance();
00059
00060   private:
00061     //////////////////// Initialisation and finalisation ///////////////////
00062     bool getStatus() const {
00063       return _hasBeenInitialised;
00064     }
00065
00066     void setLevel (const LOG::EN_LogLevel& iLevel) {
00067       _level = iLevel;
00068     }
00069
00070     void setStream (std::ostream& ioStream) {
00071       _logStream = &ioStream;
00072     }
00073
00074     void setStatus (const bool iStatus) {
00075       _hasBeenInitialised = iStatus;
00076     }
00077
00078   };
00079
00080   Logger();
00081   Logger (const Logger&);
00082   ~Logger();
00083
00084   static void init (const BasLogParams&);
00085
00086   static BasLogParams getLogParams();
00087
00088   static void clean();
00089
00090 }
```

```

00135     private:
00136     // ///////////////////// Attributes /////////////////////
00137     LOG::EN_LogLevel _level;
00141
00142     std::ostream* _logStream;
00147
00151     bool _hasBeenInitialised;
00152 };
00153
00154 }
00155 #endif // __STDAIR_SVC_LOGGER_HPP
00156

```

### 33.593 stdair/service/ServiceAbstract.cpp File Reference

```
#include <stdair/service/ServiceAbstract.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.594 ServiceAbstract.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // StdAir
00005 #include <stdair/service/ServiceAbstract.hpp>
00006
00007 namespace stdair {
00008
00009 }

```

### 33.595 stdair/service/ServiceAbstract.hpp File Reference

```
#include <iostream>
```

#### Classes

- class **stdair::ServiceAbstract**

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### Functions

- template<class charT , class traits >  
`std::basic_ostream< charT, traits > & operator<< (std::basic_ostream< charT, traits > &ioOut, const stdair::ServiceAbstract &iService)`
- template<class charT , class traits >  
`std::basic_istream< charT, traits > & operator>> (std::basic_istream< charT, traits > &iIn, stdair::ServiceAbstract &ioService)`

### 33.595.1 Function Documentation

33.595.1.1 `template<class charT , class traits > std::basic_ostream<charT, traits>& operator<< ( std::basic_ostream<charT, traits > & ioOut, const stdair::ServiceAbstract & iService ) [inline]`

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (p653) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 58 of file [ServiceAbstract.hpp](#).

33.595.1.2 `template<class charT , class traits > std::basic_istream<charT, traits>& operator>> ( std::basic_istream<charT, traits > & ioIn, stdair::ServiceAbstract & ioService ) [inline]`

Piece of code given by Nicolai M. Josuttis, Section 13.12.1 "Implementing Output Operators" (pp655-657) of his book "The C++ Standard Library: A Tutorial and Reference", published by Addison-Wesley.

Definition at line 86 of file [ServiceAbstract.hpp](#).

References [stdair::ServiceAbstract::fromStream\(\)](#).

## 33.596 ServiceAbstract.hpp

```
00001 #ifndef __STDAIR_SVC_SERVICEABSTRACT_HPP
00002 #define __STDAIR_SVC_SERVICEABSTRACT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <iostream>
00009
00010 namespace stdair {
00011
00015 class ServiceAbstract {
00016 public:
00021     virtual ~ServiceAbstract() {}
00022
00028     virtual void toStream (std::ostream& ioOut) const {}
00029
00035     virtual void fromStream (std::istream& ioIn) {}
00036
00040     // virtual const std::string describe() const = 0;
00041
00042 protected:
00046     ServiceAbstract() {}
00047 };
00048 }
00049
00055 template <class charT, class traits>
00056 inline
00057 std::basic_ostream<charT, traits>&
00058 operator<< (std::basic_ostream<charT, traits>& ioOut,
00059                 const stdair::ServiceAbstract& iService) {
00065     std::basic_ostringstream<charT,traits> ostr;
00066     ostr.copyfmt (ioOut);
00067     ostr.width (0);
00068
00069     // Fill string stream
00070     iService.toStream (ostr);
00071
00072     // Print string stream
00073     ioOut << ostr.str();
00074
00075     return ioOut;
00076 }
00077
00083 template <class charT, class traits>
00084 inline
00085 std::basic_istream<charT, traits>&
00086 operator>> (std::basic_istream<charT, traits>& ioIn,
00087                 stdair::ServiceAbstract& ioService) {
00088     // Fill Service object with input stream
00089     ioService.fromStream (ioIn);
00090     return ioIn;
00091 }
00092
00093 #endif // __STDAIR_SVC_SERVICEABSTRACT_HPP
```

### 33.597 stdair/service/STDAIR\_Service.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/stdair_types.hpp>
#include <stdair/stdair_json.hpp>
#include <stdair/basic/BasChronometer.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRetriever.hpp>
#include <stdair/bom/BomJSONExport.hpp>
#include <stdair/bom/BomJSONImport.hpp>
#include <stdair/bom/BomINIImport.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/EventStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/command/CmdBomManager.hpp>
#include <stdair/command/CmdCloneBomManager.hpp>
#include <stdair/service/FacSupervisor.hpp>
#include <stdair/service/FacSTDAIRServiceContext.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/service/DBSessionManager.hpp>
#include <stdair/STDAIR_Service.hpp>
```

#### Namespaces

- [bpt](#)
- [stdair](#)

*Handle on the StdAir library context.*

### 33.598 STDAIR\_Service.cpp

```
00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 #if BOOST_VERSION >= 104100
00008 // Boost Property Tree
00009 #include <boost/property_tree/ptree.hpp>
00010 #include <boost/property_tree/json_parser.hpp>
00011 #endif // BOOST_VERSION >= 104100
00012 // StdAir
00013 #include <stdair/stdair_types.hpp>
00014 #include <stdair/stdair_json.hpp>
00015 #include <stdair/basic/BasChronometer.hpp>
00016 #include <stdair/bom/BomManager.hpp>
00017 #include <stdair/bom/BomRetriever.hpp>
00018 #include <stdair/bom/BomJSONExport.hpp>
00019 #include <stdair/bom/BomJSONImport.hpp>
00020 #include <stdair/bom/BomINIImport.hpp>
00021 #include <stdair/bom/BomDisplay.hpp>
00022 #include <stdair/bom/BomRoot.hpp>
00023 #include <stdair/bom/EventStruct.hpp>
00024 #include <stdair/bom/BookingRequestStruct.hpp>
00025 #include <stdair/bom/DatePeriod.hpp>
00026 #include <stdair/command/CmdBomManager.hpp>
00027 #include <stdair/command/CmdCloneBomManager.hpp>
00028 #include <stdair/service/FacSupervisor.hpp>
00029 #include <stdair/service/FacSTDAIRServiceContext.hpp>
00030 #include <stdair/service/Logger.hpp>
00031 #include <stdair/service/DBSessionManager.hpp>
00032 #include <stdair/STDAIR_Service.hpp>
00033
00034 #if BOOST_VERSION >= 104100
```

```

00035 namespace bpt = boost::property_tree;
00036 #else // BOOST_VERSION >= 104100
00037 namespace bpt {
00038     typedef char ptree;
00039 }
00040 #endif // BOOST_VERSION >= 104100
00041
00042 namespace stdair {
00043
00044 // /////////////////////////////////
00045 STDAIR_Service::STDAIR_Service() : _stdairServiceContext (NULL) {
00046
00047     // Initialise the service context
00048     initServiceContext();
00049
00050     // Initialise the (remaining of the) context
00051     init();
00052 }
00053
00054 // /////////////////////////////////
00055 STDAIR_Service::STDAIR_Service (const
00056     STDAIR_Service& iService)
00057 : _stdairServiceContext (NULL) {
00058     assert (false);
00059 }
00060
00061 STDAIR_Service::STDAIR_Service (const
00062     BasLogParams& iLogParams)
00063 : _stdairServiceContext (NULL) {
00064
00065     // Initialise the service context
00066     initServiceContext();
00067
00068     // Set the log file
00069     logInit (iLogParams);
00070
00071     // Initialise the (remaining of the) context
00072     init();
00073 }
00074
00075 STDAIR_Service::STDAIR_Service (const
00076     BasLogParams& iLogParams,
00077             const BasDBParams& iDBParams)
00078 : _stdairServiceContext (NULL) {
00079
00080     // Initialise the service context
00081     initServiceContext();
00082
00083     // Set the log file
00084     logInit (iLogParams);
00085
00086     // Create a database session
00087     dbInit (iDBParams);
00088
00089     // Initialise the (remaining of the) context
00090     init();
00091 }
00092
00093 STDAIR_Service::~STDAIR_Service() {
00094     // Delete/Clean all the objects from memory
00095     finalise();
00096 }
00097
00098 // /////////////////////////////////
00099 void STDAIR_Service::initServiceContext() {
00100
00101     // Initialise the service context
00102     STDAIR_ServiceContext & lSTDAIR_ServiceContext =
00103         FacSTDAIRServiceContext::instance().
00104         create();
00105
00106     // Store the stdair service context
00107     _stdairServiceContext = &lSTDAIR_ServiceContext;
00108 }
00109
00110 void STDAIR_Service::logInit (const BasLogParams& iLogParams) {
00111     Logger::init (iLogParams);
00112 }
00113
00114 void STDAIR_Service::dbInit (const BasDBParams& iDBParams) {
00115     DBSessionManager::init (iDBParams);
00116
00117     // Store the database parameters into the StdAir service context

```

```
00118     assert (_stdairServiceContext != NULL);
00119     STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00120     lSTDAIR_ServiceContext.setDBParams (iDBParams);
00121 }
00122 //////////////////////////////////////////////////////////////////
00123 void STDAIR_Service::init() {
00124 }
00125 //////////////////////////////////////////////////////////////////
00126 //////////////////////////////////////////////////////////////////
00127 BomRoot& STDAIR_Service::getBomRoot () const {
00128     // Retrieve the StdAir service context
00129     assert (_stdairServiceContext != NULL);
00130     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00131         *_stdairServiceContext;
00132     // Return the clone built-in Bom root
00133     return lSTDAIR_ServiceContext.getCloneBomRoot();
00134 }
00135 //////////////////////////////////////////////////////////////////
00136 //////////////////////////////////////////////////////////////////
00137 BomRoot& STDAIR_Service::getPersistentBomRoot () const {
00138     // Retrieve the StdAir service context
00139     assert (_stdairServiceContext != NULL);
00140     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00141         *_stdairServiceContext;
00142     // Return the persistent built-in Bom root
00143     return lSTDAIR_ServiceContext.getPersistentBomRoot();
00144 }
00145 //////////////////////////////////////////////////////////////////
00146 //////////////////////////////////////////////////////////////////
00147 BasLogParams STDAIR_Service::getLogParams() const {
00148     return Logger::getLogParams();
00149 }
00150 //////////////////////////////////////////////////////////////////
00151 //////////////////////////////////////////////////////////////////
00152 const BasDBParams& STDAIR_Service::getDBParams() const {
00153     // Retrieve the StdAir service context
00154     assert (_stdairServiceContext != NULL);
00155     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00156         *_stdairServiceContext;
00157     return lSTDAIR_ServiceContext.getDBParams();
00158 }
00159 //////////////////////////////////////////////////////////////////
00160 //////////////////////////////////////////////////////////////////
00161 const ServiceInitialisationType& STDAIR_Service::
00162 getServiceInitialisationType() const {
00163     // Retrieve the StdAir service context
00164     assert (_stdairServiceContext != NULL);
00165     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00166         *_stdairServiceContext;
00167     return lSTDAIR_ServiceContext.getServiceInitialisationType();
00168 }
00169 //////////////////////////////////////////////////////////////////
00170 //////////////////////////////////////////////////////////////////
00171 void STDAIR_Service::buildSampleBom() {
00172     // Retrieve the StdAir service context
00173     assert (_stdairServiceContext != NULL);
00174     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00175         *_stdairServiceContext;
00176     // Retrieve the BOM tree root
00177     BomRoot& lPersistentBomRoot = lSTDAIR_ServiceContext.getPersistentBomRoot();
00178     // Delegate the building process to the dedicated command
00179     CmdBomManager::buildSampleBom (lPersistentBomRoot);
00180 }
00181 //////////////////////////////////////////////////////////////////
00182 void STDAIR_Service::
00183 buildDummyInventory (const CabinCapacity_T& iCabinCapacity) {
00184     // Retrieve the StdAir service context
00185     assert (_stdairServiceContext != NULL);
00186     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00187         *_stdairServiceContext;
00188     // Retrieve the BOM tree root
00189     BomRoot& lPersistentBomRoot = lSTDAIR_ServiceContext.getPersistentBomRoot();
00190     // Delegate the building process to the dedicated command
00191     CmdBomManager::buildDummyInventory (lPersistentBomRoot, iCabinCapacity);
00192     CmdBomManager::buildCompleteDummyInventoryForFareFamilies (lPersistentBomRoot);
00193 }
00194 //////////////////////////////////////////////////////////////////
00195 void STDAIR_Service::
00196 buildDummyLegSegmentAccesses (BomRoot& iBomRoot) {
```

```

00205 // Retrieve the StdAir service context
00206 assert (_stdairServiceContext != NULL);
00207
00208 // Delegate the building process to the dedicated command
00209 CmdBomManager::buildDummyLegSegmentAccesses (iBomRoot);
00210
00211 }
00212
00213 //////////////////////////////////////////////////////////////////
00214 void STDAIR_Service::
00215 buildSampleTravelSolutionForPricing (
00216     TravelSolutionList_T& ioTravelSolutionList) {
00217     // Build a sample list of travel solution structures
00218     CmdBomManager::buildSampleTravelSolutionForPricing (ioTravelSolutionList);
00219 }
00220
00221 //////////////////////////////////////////////////////////////////
00222 void STDAIR_Service::
00223 buildSampleTravelSolutions (TravelSolutionList_T&
00224     ioTravelSolutionList) {
00225     // Build a sample list of travel solution structures
00226     CmdBomManager::buildSampleTravelSolutions (ioTravelSolutionList);
00227 }
00228
00229 //////////////////////////////////////////////////////////////////
00230 BookingRequestStruct STDAIR_Service::
00231 buildSampleBookingRequest (const bool isForCRS) {
00232
00233     // Build a sample booking request structure
00234     if (isForCRS == true) {
00235         return CmdBomManager::buildSampleBookingRequestForCRS ();
00236     }
00237
00238
00239
00240 //////////////////////////////////////////////////////////////////
00241 std::string STDAIR_Service::
00242 jsonExportFlightDateList (const AirlineCode_T& iAirlineCode,
00243                             const FlightNumber_T& iFlightNumber) const {
00244     std::ostringstream oStr;
00245
00246     // Retrieve the StdAir service context
00247     assert (_stdairServiceContext != NULL);
00248     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00249         *_stdairServiceContext;
00250
00251     // Retrieve the BOM tree root
00252     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot ();
00253
00254     BomJSONExport::jsonExportFlightDateList (oStr, lCloneBomRoot,
00255                                             iAirlineCode, iFlightNumber);
00256
00257     return oStr.str ();
00258 }
00259
00260 //////////////////////////////////////////////////////////////////
00261 std::string STDAIR_Service::
00262 jsonExportFlightDateObjects (const
00263     stdair::AirlineCode_T& iAirlineCode,
00264                             const stdair::FlightNumber_T& iFlightNumber,
00265                             const stdair::Date_T& iDepartureDate) const {
00266     std::ostringstream oStr;
00267
00268     // Retrieve the StdAir service context
00269     assert (_stdairServiceContext != NULL);
00270     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00271         *_stdairServiceContext;
00272
00273     // Retrieve the BOM tree root
00274     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot ();
00275
00276     // Retrieve the flight-date object corresponding to the key
00277     FlightDate* lFlightDate_ptr =
00278         BomRetriever::retrieveFlightDateFromKeySet (lCloneBomRoot,
00279
00280             iAirlineCode,
00281                         iFlightNumber,
00282                         iDepartureDate);
00283
00284     // Dump the content of the whole BOM tree into the string
00285     if (lFlightDate_ptr != NULL) {
00286         BomJSONExport::jsonExportFlightDateObjects (oStr, *
00287             lFlightDate_ptr);
00288
00289     } else {
00290
00291 #if BOOST_VERSION >= 104100

```

```

00287     //  

00288     bpt::ptree lPropertyTree;  

00289  

00290     // Build the appropriate message, so that the client may know that  

00291     // no flight-date can be found for that given key.  

00292     std::ostringstream oNoFlightDateStream;  

00293     oNoFlightDateStream << "No flight-date found for the given key: '"  

00294         << iAirlineCode << iFlightNumber  

00295         << " - " << iDepartureDate << "'";  

00296     const std::string oNoFlightDateString (oNoFlightDateStream.str());  

00297  

00298     // Put in the property tree the fact that no flight-date has been found.  

00299     // \note That is not (necessary) an error.  

00300     lPropertyTree.put ("error", oNoFlightDateString.c_str());  

00301  

00302     // Write the property tree into the JSON stream.  

00303     write_json (oStr, lPropertyTree);  

00304 #endif // BOOST_VERSION >= 104100  

00305 }  

00306  

00307     return oStr.str();  

00308 }  

00309  

00310 // ///////////////////////////////////////////////////////////////////  

00311 std::string STDAIR_Service::  

00312 jsonExportEventObject (const EventStruct& iEventStruct) const {  

00313  

00314     std::ostringstream oStr;  

00315  

00316     const EventType::EN_EventType& lEventType =  

00317         iEventStruct.getEventType();  

00318  

00319     switch (lEventType) {  

00320     case EventType::BKG_REQ:{  

00321         BomJSONExport::jsonExportBookingRequestObject (oStr,  

00322             iEventStruct);
00323         break;
00324     }
00325     case EventType::CX:
00326     case EventType::OPT_NOT_4_FD:
00327     case EventType::OPT_NOT_4_NET:
00328     case EventType::SKD_CHG:
00329     case EventType::SNAPSHOT:
00330     case EventType::RM:
00331         break;
00332     case EventType::BRK_PT:
00333         BomJSONExport::jsonExportBreakPointObject (oStr,
00334             iEventStruct);
00335         break;
00336     default:
00337         break;
00338     }
00339  

00340 // ///////////////////////////////////////////////////////////////////  

00341 bool STDAIR_Service::  

00342 jsonImportConfiguration (const JSONString& iJSONObject) const {  

00343  

00344     // Retrieve the StdAir service context
00345     assert (_stdairServiceContext != NULL);
00346     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00347         *_stdairServiceContext;
00348  

00349     // Retrieve the config holder
00350     ConfigHolderStruct& lConfigHolder =
00351         lSTDAIR_ServiceContext.getConfigHolder();
00352  

00353     // Import the JSON string in the configuration holder
00354     return BomJSONImport::jsonImportConfig (iJSONObject, lConfigHolder);
00355 }
00356  

00357 // ///////////////////////////////////////////////////////////////////  

00358 std::string STDAIR_Service::  

00359 jsonExportConfiguration () const {  

00360  

00361     // Retrieve the StdAir service context
00362     assert (_stdairServiceContext != NULL);
00363     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00364         *_stdairServiceContext;
00365  

00366     // Retrieve the config holder
00367     ConfigHolderStruct& lConfigHolder =
00368         lSTDAIR_ServiceContext.getConfigHolder();
00369  

00370     // Export the configuration tree in a JSON format
00371     return lConfigHolder.jsonExport();

```

```

00372     }
00373
00374 // /////////////////////////////////
00375 void STDAIR_Service::importINIConfig (const
00376 ConfigINIFile& iConfigINIFile) {
00377     // Retrieve the StdAir service context
00378     assert (_stdairServiceContext != NULL);
00379     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00380         *_stdairServiceContext;
00381
00382     // Retrieve the config holder
00383     ConfigHolderStruct& lConfigHolder =
00384         lSTDAIR_ServiceContext.getConfigHolder();
00385
00386     // Try to import the configuration
00387     stdair::BomINIImport::importINIConfig (lConfigHolder,
00388     iConfigINIFile);
00389
00390 // /////////////////////////////////
00391 void STDAIR_Service::importConfigValue (const std::string& iValue,
00392                                         const std::string& iPath) {
00393
00394     // Retrieve the StdAir service context
00395     assert (_stdairServiceContext != NULL);
00396     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00397         *_stdairServiceContext;
00398
00399     // Retrieve the config holder
00400     ConfigHolderStruct& lConfigHolder =
00401         lSTDAIR_ServiceContext.getConfigHolder();
00402
00403     // Add the given value to the configuration
00404     lConfigHolder.addValue (iValue, iPath);
00405 }
00406
00407 // /////////////////////////////////
00408 void STDAIR_Service::updateAirlineFeatures () {
00409
00410     // Retrieve the StdAir service context
00411     assert (_stdairServiceContext != NULL);
00412     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00413         *_stdairServiceContext;
00414
00415     // Retrieve the config holder
00416     ConfigHolderStruct& lConfigHolder =
00417         lSTDAIR_ServiceContext.getConfigHolder();
00418
00419     // Retrieve the persistent BOM tree root
00420     BomRoot& lPersistentBomRoot =
00421         lSTDAIR_ServiceContext.getPersistentBomRoot();
00422
00423     // Add the given value to the configuration
00424     lConfigHolder.updateAirlineFeatures (lPersistentBomRoot);
00425 }
00426
00427 // /////////////////////////////////
00428 std::string STDAIR_Service::list (const AirlineCode_T& iAirlineCode,
00429                                     const FlightNumber_T& iFlightNumber) const {
00430     std::ostringstream oStr;
00431
00432     // Retrieve the StdAir service context
00433     assert (_stdairServiceContext != NULL);
00434     const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00435
00436     // Retrieve the BOM tree root
00437     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00438
00439     // Dump the content of the whole BOM tree into the string
00440     BomDisplay::list (oStr, lCloneBomRoot, iAirlineCode, iFlightNumber);
00441
00442     return oStr.str();
00443 }
00444
00445 // /////////////////////////////////
00446 std::string STDAIR_Service::listAirportPairDateRange () const {
00447     std::ostringstream oStr;
00448
00449     // Retrieve the StdAir service context
00450     assert (_stdairServiceContext != NULL);
00451     const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00452
00453     // Retrieve the BOM tree root
00454     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00455
00456     // Dump the content of the whole BOM tree into the string

```

```
00457     BomDisplay::listAirportPairDateRange (oStr, lCloneBomRoot);
00458
00459     return oStr.str();
00460 }
00461
00462 // ///////////////////////////////////////////////////////////////////
00463 bool STDAIR_Service::check (const AirlineCode_T& iAirlineCode,
00464                             const FlightNumber_T& iFlightNumber,
00465                             const stdair::Date_T& iDepartureDate) const {
00466     std::ostringstream oStr;
00467
00468     // Retrieve the StdAir service context
00469     assert (_stdairServiceContext != NULL);
00470     const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00471
00472     // Retrieve the BOM tree root
00473     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00474
00475     // Dump the content of the whole BOM tree into the string
00476     const FlightDate* lFlightDate_ptr =
00477         BomRetriever::retrieveFlightDateFromKeySet (lCloneBomRoot,
00478
00479             iAirlineCode,
00480
00481             iFlightNumber,
00482             iDepartureDate);
00483
00484 // ///////////////////////////////////////////////////////////////////
00485 bool STDAIR_Service::check (const stdair::AirportCode_T&
00486     ioOrigin,
00487
00488     const stdair::AirportCode_T& ioDestination,
00489     const stdair::Date_T& ioDepartureDate) const {
00490     std::ostringstream oStr;
00491
00492     // Retrieve the StdAir service context
00493     assert (_stdairServiceContext != NULL);
00494     const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00495
00496     // Retrieve the BOM tree root
00497     const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00498
00499     // Dump the content of the whole BOM tree into the string
00500     stdair::DatePeriodList_T lDatePeriodList;
00501     BomRetriever::retrieveDatePeriodListFromKeySet (
00502
00503         lCloneBomRoot, ioOrigin,
00504
00505             ioDestination,
00506             ioDepartureDate,
00507             lDatePeriodList);
00508
00509     return (lDatePeriodList.size() != 0);
00510 }
00511
00512 // ///////////////////////////////////////////////////////////////////
00513 std::string STDAIR_Service::configDisplay () const {
00514
00515     // Retrieve the StdAir service context
00516     assert (_stdairServiceContext != NULL);
00517     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00518         *_stdairServiceContext;
00519
00520     // Retrieve the config holder
00521     ConfigHolderStruct& lConfigHolder =
00522         lSTDAIR_ServiceContext.getConfigHolder();
00523
00524     // Display (dump in the returned string) the configuration.
00525     return lConfigHolder.describe();
00526
00527 }
00528
00529 // ///////////////////////////////////////////////////////////////////
00530 std::string STDAIR_Service::csvDisplay () const {
00531
00532     // Retrieve the StdAir service context
00533     assert (_stdairServiceContext != NULL);
00534     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00535         *_stdairServiceContext;
00536
00537     // Retrieve the persistent BOM tree root
00538     const BomRoot& lPersistentBomRoot =
00539         lSTDAIR_ServiceContext.getPersistentBomRoot();
00540
00541     // Call the dedicated service
00542     return csvDisplay (lPersistentBomRoot);
00543
00544 }
```

```

00541     std::string STDAIR_Service::csvDisplay (const
00542         BomRoot& iBomRoot) const {
00543         std::ostringstream oStr;
00544         // Retrieve the StdAir service context
00545         assert (_stdairServiceContext != NULL);
00546
00547         // Dump the content of the whole BOM tree into the string
00548         BomDisplay::csvDisplay (oStr, iBomRoot);
00549
00550         return oStr.str();
00551     }
00552
00553     // /////////////////////////////////
00554     std::string STDAIR_Service::
00555     csvDisplay (const stdair::AirlineCode_T& iAirlineCode,
00556                 const stdair::FlightNumber_T& iFlightNumber,
00557                 const stdair::Date_T& iDepartureDate) const {
00558         std::ostringstream oStr;
00559
00560         // Retrieve the StdAir service context
00561         assert (_stdairServiceContext != NULL);
00562         const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00563
00564         // Retrieve the BOM tree root
00565         const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00566
00567         // Retrieve the flight-date object corresponding to the key
00568         FlightDate* lFlightDate_ptr =
00569             BomRetriever::retrieveFlightDateFromKeySet (lCloneBomRoot,
00570             iAirlineCode,
00571                                     iFlightNumber,
00572                                     iDepartureDate);
00573
00574         // Dump the content of the whole BOM tree into the string
00575         if (lFlightDate_ptr != NULL) {
00576             BomDisplay::csvDisplay (oStr, *lFlightDate_ptr);
00577         } else {
00578             oStr << "    No flight-date found for the given key: '"
00579                 << iAirlineCode << iFlightNumber << " - " << iDepartureDate << "'";
00580         }
00581
00582         return oStr.str();
00583     }
00584
00585     // /////////////////////////////////
00586     std::string STDAIR_Service::
00587     csvDisplay (const TravelSolutionList_T& iTravelSolutionList) const {
00588
00589         // Dump the content of the whole list of travel solutions into the string
00590         std::ostringstream oStr;
00591         BomDisplay::csvDisplay (oStr, iTravelSolutionList);
00592
00593         return oStr.str();
00594     }
00595
00596     // /////////////////////////////////
00597     std::string STDAIR_Service::
00598     csvDisplay (const stdair::AirportCode_T& iOrigin,
00599                 const stdair::AirportCode_T& iDestination,
00600                 const stdair::Date_T& iDepartureDate) const {
00601         std::ostringstream oStr;
00602
00603         // Retrieve the StdAir service context
00604         assert (_stdairServiceContext != NULL);
00605         const STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00606
00607         // Retrieve the BOM tree root
00608         const BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00609
00610         // Retrieve the flight-date object corresponding to the key
00611         DatePeriodList_T lDatePeriodList;
00612         BomRetriever::retrieveDatePeriodListFromKeySet (
00613             lCloneBomRoot, iOrigin,
00614                                     iDestination,
00615                                     iDepartureDate,
00616                                     lDatePeriodList);
00617
00618         // Dump the content of the whole BOM tree into the string
00619         if (!lDatePeriodList.empty()) {
00620             oStr << "    No fare-rule found for the given key: '"
00621                 << iOrigin << "-" << iDestination << " - " << iDepartureDate << "'";
00622         } else {
00623             BomDisplay::csvDisplay (oStr, lDatePeriodList);
00624         }

```

```

00625     return oStr.str();
00626 }
00627
00628 // /////////////////////////////////
00629 void STDAIR_Service::finalise() {
00630     // Clean all the objects
00631     FacSupervisor::cleanAll();
00632 }
00633
00634 // /////////////////////////////////
00635 void STDAIR_Service::clonePersistentBom () {
00636
00637     // Retrieve the StdAir service context
00638     assert (_stdairServiceContext != NULL);
00639     STDAIR_ServiceContext& lSTDAIR_ServiceContext = *_stdairServiceContext;
00640
00641     // Clean all the cloned objects
00642     FacSupervisor::instance().cleanCloneBomLayer();
00643
00644     // Init the root of the clone BOM tree
00645     lSTDAIR_ServiceContext.initCloneBomRoot();
00646
00647     // Retrieve the persistent BOM tree root and the clone BOM tree root
00648     const BomRoot& lPersistentBomRoot =
00649         lSTDAIR_ServiceContext.getPersistentBomRoot();
00650     BomRoot& lCloneBomRoot = lSTDAIR_ServiceContext.getCloneBomRoot();
00651
00652     // Call the dedicated service to clone the whole BOM
00653     CmdCloneBomManager::cloneBomRoot (lPersistentBomRoot, lCloneBomRoot);
00654
00655 }
00656
00657 }

```

### 33.599 stdair/service/STDAIR\_ServiceContext.cpp File Reference

#### 33.600 STDAIR\_ServiceContext.cpp

```

00001 // ///////////////////////////////
00002 // Import section
00003 // ///////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Boost
00008 #if BOOST_VERSION >= 103900
00009 #include <boost/make_shared.hpp>
00010 #else // BOOST_VERSION >= 103900
00011 #include <boost/shared_ptr.hpp>
00012 #endif // BOOST_VERSION >= 103900
00013 // StdAir
00014 #include <stdair/basic/BasConst_General.hpp>
00015 #include <stdair/bom/BomRoot.hpp>
00016 #include <stdair/factory/FacBom.hpp>
00017 #include <stdair/factory/FacCloneBom.hpp>
00018 #include <stdair/service/STDAIR_ServiceContext.hpp>
00019
00020 namespace stdair {
00021
00022 // ///////////////////////////////
00023
00024     STDAIR_ServiceContext::STDAIR_ServiceContext()
00025         : _cloneBomRoot (NULL),
00026         _persistentBomRoot (NULL),
00027         _initType (ServiceInitialisationType::NOT_YET_INITIALISED) {
00028     // Build the BomRoot object
00029     init();
00030 }
00031
00032 // ///////////////////////////////
00033
00034     STDAIR_ServiceContext::STDAIR_ServiceContext (const STDAIR_ServiceContext& iServiceContext)
00035         : _cloneBomRoot (iServiceContext._cloneBomRoot),
00036         _persistentBomRoot (iServiceContext._persistentBomRoot),
00037         _initType (ServiceInitialisationType::NOT_YET_INITIALISED) {
00038     assert (false);
00039 }
00040
00041 // ///////////////////////////////
00042     STDAIR_ServiceContext::~STDAIR_ServiceContext() {
00043 }
00044
00045 // ///////////////////////////////
00046
00047 // ///////////////////////////////
00048

```

```

00049 void STDAIR_ServiceContext::init() {
00050     //
00051     initBomRoot();
00052     initConfigHolder();
00053 }
00054
00055 // /////////////////////////////////
00056 void STDAIR_ServiceContext::initBomRoot() {
00057     _persistentBomRoot = &FacBom<BomRoot>::instance().
00058     create();
00059     initCloneBomRoot();
00060 }
00061
00062 // /////////////////////////////////
00063 void STDAIR_ServiceContext::initCloneBomRoot() {
00064     _cloneBomRoot =
00065         &FacCloneBom<BomRoot>::instance().clone(*_persistentBomRoot);
00066 }
00067
00068 // /////////////////////////////////
00069 void STDAIR_ServiceContext::initConfigHolder() {
00070     _configHolderPtr = boost::make_shared<ConfigHolderStruct> ();
00071 }
00072
00073 const std::string STDAIR_ServiceContext::shortDisplay() const {
00074     std::ostringstream oStr;
00075     oStr << "STDAIR_ServiceContext -- " << _initType
00076         << " -- DB: " << _dbParams;
00077     return oStr.str();
00078 }
00079
00080 // /////////////////////////////////
00081 const std::string STDAIR_ServiceContext::display() const {
00082     std::ostringstream oStr;
00083     oStr << shortDisplay();
00084     return oStr.str();
00085 }
00086
00087 // /////////////////////////////////
00088 const std::string STDAIR_ServiceContext::describe() const {
00089     return shortDisplay();
00090 }
00091
00092 // /////////////////////////////////
00093 BomRoot& STDAIR_ServiceContext::getPersistentBomRoot() const {
00094     assert (_persistentBomRoot != NULL);
00095     return *_persistentBomRoot;
00096 }
00097
00098 // /////////////////////////////////
00099 BomRoot& STDAIR_ServiceContext::getCloneBomRoot() const {
00100     assert (_cloneBomRoot != NULL);
00101     return *_cloneBomRoot;
00102 }
00103
00104 // /////////////////////////////////
00105 ConfigHolderStruct& STDAIR_ServiceContext::getConfigHolder() const {
00106     assert (_configHolderPtr != NULL);
00107     return *_configHolderPtr;
00108 }
00109 }
00110

```

### 33.601 stdair/service/STDAIR\_ServiceContext.hpp File Reference

```

#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/bom/ConfigHolderStruct.hpp>
#include <stdair/basic/ServiceInitialisationType.hpp>
#include <stdair/service/ServiceAbstract.hpp>

```

## Classes

- class [stdair::STDAIR\\_ServiceContext](#)  
*Class holding the context of the Stdair services.*

## Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

## 33.602 STDAIR\_ServiceContext.hpp

```

00001 #ifndef __STDAIR_SVC_STDAIRSERVICECONTEXT_HPP
00002 #define __STDAIR_SVC_STDAIRSERVICECONTEXT_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/basic/BasLogParams.hpp>
00012 #include <stdair/basic/BasDBParams.hpp>
00013 #include <stdair/bom/ConfigHolderStruct.hpp>
00014 #include <stdair/basic/ServiceInitialisationType.hpp>
00015 #include <stdair/service/ServiceAbstract.hpp>
00016
00017 namespace stdair {
00018
00020 class BomRoot;
00021
00025 class STDAIR_ServiceContext : public ServiceAbstract {
00029     friend class STDAIR_Service;
00030     friend class FacSTDAIRServiceContext;
00031
00032 private:
00033     // ////////// Getters //////////
00037     BomRoot& getPersistentBomRoot() const;
00038
00042     BomRoot& getCloneBomRoot() const;
00043
00047     ConfigHolderStruct& getConfigHolder() const;
00048
00052     const BasDBParams& getDBParams() const {
00053         return _dbParams;
00054     }
00055
00059     const ServiceInitialisationType& getServiceInitialisationType() const {
00060         return _initType;
00061     }
00062
00063
00064 private:
00065     // ////////// Setters //////////
00069     void setDBParams (const BasDBParams& iDBParams) {
00070         _dbParams = iDBParams;
00071     }
00072
00076     void setServiceInitialisationType (const ServiceInitialisationType& iSIT) {
00077         _initType = iSIT;
00078     }
00079
00080
00081 private:
00082     // ////////// Display Methods //////////
00086     const std::string shortDisplay() const;
00087
00091     const std::string display() const;
00092
00096     const std::string describe() const;
00097
00098
00099 private:
00100     // ////////// Construction / initialisation //////////
00104     STDAIR_ServiceContext();
00105
00112     STDAIR_ServiceContext (const STDAIR_ServiceContext&);
00113

```

```

00117     ~STDAIR_ServiceContext();
00118
00126     void init();
00127
00134     void initBomRoot();
00135
00142     void initCloneBomRoot();
00143
00149     void initConfigHolder();
00150
00151 private:
00152     // ////////////////// Children //////////////////
00156     BomRoot* _cloneBomRoot;
00157
00161     BomRoot* _persistentBomRoot;
00162
00166     ConfigHolderPtr_T _configHolderPtr;
00167
00171     BasDBParams _dbParams;
00172
00186     ServiceInitialisationType _initType;
00187 };
00188
00189 }
00190 #endif // __STDAIR_SVC_STDAIRSERVICECONTEXT_HPP

```

### 33.603 stdair/stdair\_basic\_types.hpp File Reference

```
#include <string>
#include <list>
```

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

#### Typedefs

- [typedef std::string stdair::LocationCode\\_T](#)
- [typedef unsigned long int stdair::Distance\\_T](#)
- [typedef LocationCode\\_T stdair::AirportCode\\_T](#)
- [typedef LocationCode\\_T stdair::CityCode\\_T](#)
- [typedef std::string stdair::KeyDescription\\_T](#)
- [typedef std::string stdair::AirlineCode\\_T](#)
- [typedef unsigned short stdair::FlightNumber\\_T](#)
- [typedef unsigned short stdair::TableID\\_T](#)
- [typedef std::string stdair::CabinCode\\_T](#)
- [typedef std::string stdair::FamilyCode\\_T](#)
- [typedef std::string stdair::PolicyCode\\_T](#)
- [typedef std::string stdair::NestingStructureCode\\_T](#)
- [typedef std::string stdair::NestingNodeCode\\_T](#)
- [typedef std::string stdair::ClassCode\\_T](#)
- [typedef unsigned long stdair::Identity\\_T](#)
- [typedef std::string stdair::TripType\\_T](#)
- [typedef double stdair::MonetaryValue\\_T](#)
- [typedef double stdair::RealNumber\\_T](#)
- [typedef double stdair::Percentage\\_T](#)
- [typedef double stdair::PriceValue\\_T](#)
- [typedef double stdair::YieldValue\\_T](#)
- [typedef std::string stdair::PriceCurrency\\_T](#)
- [typedef double stdair::Revenue\\_T](#)

- `typedef double stdair::Multiplier_T`
- `typedef double stdair::NbOfSeats_T`
- `typedef unsigned int stdair::Count_T`
- `typedef short stdair::PartySize_T`
- `typedef double stdair::NbOfRequests_T`
- `typedef NbOfRequests_T stdair::NbOfBookings_T`
- `typedef NbOfRequests_T stdair::NbOfCancellations_T`
- `typedef unsigned short stdair::NbOfTravelSolutions_T`
- `typedef std::string stdair::ClassList_String_T`
- `typedef unsigned short stdair::NbOfSegments_T`
- `typedef unsigned short stdair::NbOfAirlines_T`
- `typedef double stdair::Availability_T`
- `typedef double stdair::Fare_T`
- `typedef bool stdair::Flag_T`
- `typedef unsigned int stdair::UnsignedIndex_T`
- `typedef unsigned int stdair::NbOfClasses_T`
- `typedef unsigned int stdair::NbOfFareFamilies_T`
- `typedef std::string stdair::Filename_T`
- `typedef std::string stdair::FileAddress_T`
- `typedef float stdair::ProgressPercentage_T`

### 33.604 stdair\_basic\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_BASIC_TYPES_HPP
00002 #define __STDAIR_STDAIR_BASIC_TYPES_HPP
00003
00004 // ///////////////////////////////////////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////////////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <list>
00010
00011 namespace stdair {
00012
00013 // ///////////////////////////////////////////////////////////////////
00014 // Basic types
00016 typedef std::string LocationCode_T;
00017
00019 typedef unsigned long int Distance_T;
00020
00022 typedef LocationCode_T AirportCode_T;
00023
00025 typedef LocationCode_T CityCode_T;
00026
00028 typedef std::string KeyDescription_T;
00029
00031 typedef std::string AirlineCode_T;
00032
00034 typedef unsigned short FlightNumber_T;
00035
00037 typedef unsigned short TableID_T;
00038
00041 typedef std::string CabinCode_T;
00042
00044 typedef std::string FamilyCode_T;
00045
00047 typedef std::string PolicyCode_T;
00048
00050 typedef std::string NestingStructureCode_T;
00051
00053 typedef std::string NestingNodeCode_T;
00054
00057 typedef std::string ClassCode_T;
00058
00060 typedef unsigned long Identity_T;
00061
00064 typedef std::string TripType_T;
00065
00067 typedef double MonetaryValue_T;
00068
00070 typedef double RealNumber_T;
00071

```

```

00073     typedef double Percentage_T;
00074
00075     typedef double PriceValue_T;
00076
00077     typedef double YieldValue_T;
00078
00079     typedef std::string PriceCurrency_T;
00080
00081     typedef double Revenue_T;
00082
00083     typedef double Multiplier_T;
00084
00085     typedef double NbOfSeats_T;
00086
00087     typedef unsigned int Count_T;
00088
00089     typedef short PartySize_T;
00090
00091     typedef double NbOfRequests_T;
00092
00093     typedef NbOfRequests_T NbOfBookings_T;
00094
00095     typedef NbOfRequests_T NbOfCancellations_T;
00096
00097     typedef unsigned short NbOfTravelSolutions_T;
00098
00099     typedef std::string ClassList_String_T;
00100
00101     typedef unsigned short NbOfSegments_T;
00102
00103     typedef unsigned short NbOfAirlines_T;
00104
00105     typedef double Availability_T;
00106
00107     typedef double Fare_T;
00108
00109     typedef bool Flag_T;
00110
00111     typedef unsigned int UnsignedIndex_T;
00112
00113     typedef unsigned int NbOfClasses_T;
00114
00115     typedef unsigned int NbOfFareFamilies_T;
00116
00117 // //////////////////// Technical /////////////////////
00118     typedef std::string Filename_T;
00119
00120     typedef std::string FileAddress_T;
00121
00122     typedef float ProgressPercentage_T;
00123
00124 }
00125 #endif // __STDAIR_STDAIR_BASIC_TYPES_HPP

```

### 33.605 stdair/stdair\_date\_time\_types.hpp File Reference

```
#include <string>
#include <boost/date_time/gregorian/gregorian.hpp>
#include <boost/date_time posix_time posix_time.hpp>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### Typedefs

- **typedef boost::posix\_time::time\_duration stdair::Duration\_T**
- **typedef boost::gregorian::date stdair::Date\_T**
- **typedef boost::posix\_time::time\_duration stdair::Time\_T**
- **typedef boost::posix\_time::ptime stdair::DateTime\_T**
- **typedef boost::gregorian::date\_period stdair::DatePeriod\_T**

- `typedef std::string stdair::DOW_String_T`
- `typedef boost::gregorian::date_duration stdair::DateOffset_T`
- `typedef int stdair::DayDuration_T`
- `typedef bool stdair::SaturdayStay_T`
- `typedef long int stdair::IntDuration_T`
- `typedef long long int stdair::LongDuration_T`
- `typedef float stdair::FloatDuration_T`

### 33.606 stdair\_date\_time\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_DATE_TIME_TYPES_HPP
00002 #define __STDAIR_STDAIR_DATE_TIME_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost (Extended STL)
00010 #include <boost/date_time/gregorian/gregorian.hpp>
00011 #include <boost/date_time posix_time posix_time.hpp>
00012
00013 namespace stdair {
00014
00015 // ////////// Type definitions //////////
00017 typedef boost::posix_time::time_duration Duration_T;
00018
00020 typedef boost::gregorian::date Date_T;
00021
00023 typedef boost::posix_time::time_duration Time_T;
00024
00026 typedef boost::posix_time::ptime DateTime_T;
00027
00029 typedef boost::gregorian::date_period DatePeriod_T;
00030
00032 typedef std::string DOW_String_T;
00033
00035 typedef boost::gregorian::date_duration DateOffset_T;
00036
00038 typedef int DayDuration_T;
00039
00041 typedef bool SaturdayStay_T;
00042
00044 typedef long int IntDuration_T;
00045
00047 typedef long long int LongDuration_T;
00048
00050 typedef float FloatDuration_T;
00051
00052 }
00053 #endif // __STDAIR_STDAIR_DATE_TIME_TYPES_HPP

```

### 33.607 stdair/stdair\_db.hpp File Reference

```
#include <string>
```

#### Namespaces

- `soci`
- `stdair`

*Handle on the StdAir library context.*

#### Typedefs

- `typedef soci::session stdair::DBSession_T`
- `typedef soci::statement stdair::DBRequestStatement_T`
- `typedef std::string stdair::DBConnectionName_T`

### 33.608 stdair\_db.hpp

```

00001 #ifndef __STDAIR_STDAIR_DB_HPP
00002 #define __STDAIR_STDAIR_DB_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009
00010 // Forward declarations
00011 namespace soci {
00012     class session;
00013     class statement;
00014 }
00015
00016 namespace stdair {
00017
00018 // ////////// Type definitions //////////
00019 typedef soci::session DBSession_T;
00020
00021 typedef soci::statement DBRequestStatement_T;
00022
00023 typedef std::string DBConnectionName_T;
00024
00025
00026
00027
00028 }
00029 #endif // __STDAIR_STDAIR_DB_HPP

```

### 33.609 stdair/stdair\_demand\_types.hpp File Reference

```

#include <string>
#include <vector>
#include <map>
#include <boost/random/linear_congruential.hpp>
#include <boost/random/uniform_real.hpp>
#include <boost/random/variate_generator.hpp>
#include <boost/date_time/gregorian/gregorian.hpp>
#include <boost/date_time posix_time/posix_time.hpp>
#include <boost/tuple/tuple.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_inventory_types.hpp>

```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### Typedefs

- [typedef bool stdair::ChangeFees\\_T](#)
- [typedef bool stdair::NonRefundable\\_T](#)
- [typedef double stdair::SaturdayStayRatio\\_T](#)
- [typedef double stdair::ChangeFeesRatio\\_T](#)
- [typedef double stdair::NonRefundableRatio\\_T](#)
- [typedef double stdair::Disutility\\_T](#)
- [typedef std::string stdair::PassengerType\\_T](#)
- [typedef std::string stdair::DistributionPatternId\\_T](#)
- [typedef std::string stdair::CancellationRateCurveld\\_T](#)
- [typedef std::string stdair::AirlinePreferenceId\\_T](#)
- [typedef std::pair< Percentage\\_T, Percentage\\_T > stdair::CancellationNoShowRatePair\\_T](#)
- [typedef std::string stdair::CharacteristicsPatternId\\_T](#)

- `typedef std::string stdair::CharacteristicsIndex_T`
- `typedef double stdair::WTP_T`
- `typedef boost::tuple< double, WTP_T > stdair::CharacteristicsWTP_tuple_T`
- `typedef std::pair< WTP_T, MeanStdDevPair_T > stdair::WTPDemandPair_T`
- `typedef NbOfRequests_T stdair::NbOfNoShows_T`
- `typedef double stdair::MatchingIndicator_T`
- `typedef std::string stdair::DemandStreamKeyStr_T`
- `typedef std::string stdair::ChannelLabel_T`
- `typedef std::string stdair::FrequentFlyer_T`
- `typedef std::string stdair::RequestStatus_T`
- `typedef std::map< Identity_T, Identity_T > stdair::BookingTSIDMap_T`
- `typedef std::pair< CabinCode_T, ClassCode_T > stdair::CabinClassPair_T`
- `typedef std::list< CabinClassPair_T > stdair::CabinClassPairList_T`
- `typedef double stdair::ProportionFactor_T`
- `typedef std::list< ProportionFactor_T > stdair::ProportionFactorList_T`
- `typedef std::string stdair::OnDString_T`
- `typedef std::list< OnDString_T > stdair::OnDStringList_T`

### 33.610 stdair\_demand\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_DEMAND_TYPES_HPP
00002 #define __STDAIR_STDAIR_DEMAND_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 #include <map>
00011 // Boost Random
00012 #include <boost/random/linear_congruential.hpp>
00013 #include <boost/random/uniform_real.hpp>
00014 #include <boost/random/variate_generator.hpp>
00015 // Boost (Extended STL)
00016 #include <boost/date_time/gregorian/gregorian.hpp>
00017 #include <boost/date_time posix_time posix_time.hpp>
00018 #include <boost/tuple/tuple.hpp>
00019 // StdAir
00020 #include <stdair/stdair_basic_types.hpp>
00021 #include <stdair/stdair_maths_types.hpp>
00022 #include <stdair/stdair_inventory_types.hpp>
00023
00024
00025 namespace stdair {
00026
00027 // ////////// Type definitions //////////
00029   typedef bool ChangeFees_T;
00030
00032   typedef bool NonRefundable_T;
00033
00035   typedef bool SaturdayStay_T;
00036
00039   typedef double SaturdayStayRatio_T;
00040
00043   typedef double ChangeFeesRatio_T;
00044
00047   typedef double NonRefundableRatio_T;
00048
00050   typedef double Disutility_T;
00051
00054   typedef std::string PassengerType_T;
00055
00057   typedef std::string DistributionPatternId_T;
00058
00060   typedef std::string CancellationRateCurveId_T;
00061
00063   typedef std::string AirlinePreferenceId_T;
00064
00066   typedef std::pair<Percentage_T, Percentage_T> CancellationNoShowRatePair_T;
00067
00070   typedef std::string CharacteristicsPatternId_T;
00071
00073   typedef std::string CharacteristicsIndex_T;

```

```

00074
00076     typedef double WTP_T;
00077
00079     typedef boost::tuples::tuple<double, WTP_T> CharacteristicsWTP_tuple_T;
00080
00082     typedef std::pair<WTP_T, MeanStdDevPair_T> WTPDemandPair_T;
00083
00085     typedef NbOfRequests_T NbOfCancellations_T;
00086
00088     typedef NbOfRequests_T NbOfNoShows_T;
00089
00091     typedef double MatchingIndicator_T;
00092
00094     typedef std::string DemandStreamKeyStr_T;
00095
00097     typedef std::string ChannelLabel_T;
00098
00100     typedef std::string FrequentFlyer_T;
00101
00104     typedef std::string RequestStatus_T;
00105
00107     typedef std::map<Identity_T, Identity_T> BookingTSIDMap_T;
00108
00110     typedef std::pair<CabinCode_T, ClassCode_T> CabinClassPair_T;
00111
00113     typedef std::list<CabinClassPair_T> CabinClassPairList_T;
00114
00116     typedef double ProportionFactor_T;
00117
00119     typedef std::list<ProportionFactor_T> ProportionFactorList_T;
00120
00122     typedef std::string OnDString_T;
00123
00125     typedef std::list<OnDString_T> OnDStringList_T;
00126
00127 }
00128 #endif // __STDAIR_STDAIR_DEMAND_TYPES_HPP

```

### 33.611 stdair/stdair\_event\_types.hpp File Reference

```
#include <string>
```

#### Namespaces

- **stdair**

*Handle on the StdAir library context.*

#### TypeDefs

- **typedef std::string stdair::EventName\_T**
- **typedef double stdair::NbOfEvents\_T**
- **typedef std::string stdair::EventGeneratorKey\_T**

### 33.612 stdair\_event\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_EVENT_TYPES_HPP
00002 #define __STDAIR_STDAIR_EVENT_TYPES_HPP
00003
00004 // ////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////
00007 // STL
00008 #include <string>
00009
00010 namespace stdair {
00011
00012 // ////////// Type definitions //////////
00014     typedef std::string EventName_T;
00015
00017     typedef double NbOfEvents_T;
00018

```

```
00020     typedef std::string EventGeneratorKey_T;
00021
00022 }
00023 #endif // __STDAIR_STDAIR_EVENT_TYPES_HPP
```

### 33.613 stdair/stdair\_exceptions.hpp File Reference

```
#include <string>
```

#### Classes

- class [stdair::RootException](#)  
*Root of the stdair exceptions.*
- class [stdair::FileNotFoundException](#)
- class [stdair::NonInitialisedLogServiceException](#)
- class [stdair::NonInitialisedServiceException](#)
- class [stdair::NonInitialisedContainerException](#)
- class [stdair::NonInitialisedRelationshipException](#)
- class [stdair::MemoryAllocationException](#)
- class [stdair::ObjectLinkingException](#)
- class [stdair::DocumentNotFoundException](#)
- class [stdair::ParserException](#)
- class [stdair::SerialisationException](#)
- class [stdair::KeyNotFoundException](#)
- class [stdair::CodeConversionException](#)
- class [stdair::CodeDuplicationException](#)
- class [stdair::KeyDuplicationException](#)
- class [stdair::ObjectCreationgDuplicationException](#)
- class [stdair::ObjectNotFoundException](#)
- class [stdair::ParsingFileFailedException](#)
- class [stdair::SQLDatabaseException](#)
- class [stdair::NonInitialisedDBSessionManagerException](#)
- class [stdair::SQLDatabaseConnectionImpossibleException](#)
- class [stdair::EventException](#)
- class [stdair::SimpleNestingStructException](#)
- class [stdair::BookingClassListEmptyInNestingStructException](#)

#### Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

### 33.614 stdair\_exceptions.hpp

```
00001 #ifndef __STDAIR_STDAIR_EXCEPTIONS_HPP
00002 #define __STDAIR_STDAIR_EXCEPTIONS_HPP
00003
00004 // //////////
00005 // Import section
00006 // //////////
00007 // STL
00008 #include <string>
00009
00010 namespace stdair {
00011
00019   class RootException : public std::exception {
00020     public:
00024       RootException (const std::string& iWhat) : _what (iWhat) {}
```

```
00028     RootException() : _what ("No further details") {}
00029
00033     virtual ~RootException() throw() {}
00034
00038     const char* what() const throw() {
00039         return _what.c_str();
00040     }
00041
00042     protected:
00043         std::string _what;
00044     };
00048
00050     class FileNotFoundException : public RootException {
00051     public:
00053         FileNotFoundException (const std::string& iWhat) :
00054             RootException (iWhat) {}
00055
00057     class NonInitialisedLogServiceException : public
00058     RootException {
00059     public:
00060         NonInitialisedLogServiceException (const std::string& iWhat)
00061             : RootException (iWhat) {}
00062     };
00063
00065     class NonInitialisedServiceException : public
00066     RootException {
00067     public:
00068         NonInitialisedServiceException (const std::string& iWhat)
00069             : RootException (iWhat) {}
00070     };
00071
00073     class NonInitialisedContainerException : public
00074     RootException {
00075     public:
00076         NonInitialisedContainerException (const std::string& iWhat)
00077             : RootException (iWhat) {}
00078     };
00079
00081     class NonInitialisedRelationshipException : public
00082     RootException {
00083     public:
00084         NonInitialisedRelationshipException (const std::string& iWhat)
00085             : RootException (iWhat) {}
00086     };
00087
00089     class MemoryAllocationException : public
00090     RootException {
00091     public:
00092         MemoryAllocationException (const std::string& iWhat)
00093             : RootException (iWhat) {}
00094     };
00095
00097     class ObjectLinkingException : public RootException {
00098     public:
00100         ObjectLinkingException (const std::string& iWhat) :
00101             RootException (iWhat) {}
00102
00104     class DocumentNotFoundException : public
00105     RootException {
00106     public:
00107         DocumentNotFoundException (const std::string& iWhat)
00108             : RootException (iWhat) {}
00109     };
00110
00112     class ParserException : public RootException {
00113     public:
00115         ParserException (const std::string& iWhat) : RootException (iWhat) {}
00116     };
00117
00119     class SerialisationException : public RootException {
00120     public:
00122         SerialisationException (const std::string& iWhat) :
00123             RootException (iWhat) {}
00124
00126     class KeyNotFoundException : public RootException {
00127     public:
00129         KeyNotFoundException (const std::string& iWhat) :
00130             RootException (iWhat) {}
00131
00133     class CodeConversionException : public ParserException {
00134     public:
00136         CodeConversionException (const std::string& iWhat)
00137             : ParserException (iWhat) {}
```

```

00138  };
00139
00140  class CodeDuplicationException : public
00141    ParserException {
00142  public:
00143    CodeDuplicationException (const std::string& iWhat)
00144      : ParserException(iWhat) {}
00145  };
00146
00147
00148  class KeyDuplicationException : public ParserException {
00149  public:
00150    KeyDuplicationException (const std::string& iWhat)
00151      : ParserException(iWhat) {}
00152  };
00153
00154
00155  class ObjectCreationgDuplicationException : public
00156    ParserException {
00157  public:
00158    ObjectCreationgDuplicationException (const std::string& iWhat)
00159      : ParserException (iWhat) {}
00160  };
00161
00162
00163  class ObjectNotFoundException : public RootException {
00164  public:
00165    ObjectNotFoundException (const std::string& iWhat)
00166      : RootException (iWhat) {}
00167  };
00168
00169
00170  class ParsingFileFailedException : public
00171    ParserException {
00172  public:
00173    ParsingFileFailedException (const std::string& iWhat)
00174      : ParserException (iWhat) {}
00175  };
00176
00177
00178  class SQLDatabaseException : public RootException {
00179  public:
00180    SQLDatabaseException (const std::string& iWhat) :
00181      RootException (iWhat) {}
00182  };
00183
00184  class NonInitialisedDBSessionManagerException : public
00185    RootException {
00186  public:
00187    NonInitialisedDBSessionManagerException (const std::string&
00188      iWhat)
00189      : RootException (iWhat) {}
00190  };
00191
00192  class SQLDatabaseConnectionImpossibleException : public
00193    SQLDatabaseException {
00194  public:
00195    SQLDatabaseConnectionImpossibleException (const std::string&
00196      iWhat)
00197      : SQLDatabaseException (iWhat) {}
00198  };
00199
00200  class EventException : public RootException {
00201  public:
00202    EventException (const std::string& iWhat) : RootException (iWhat) {}
00203  };
00204
00205  class SimpleNestingStructException : public
00206    RootException {
00207  public:
00208    SimpleNestingStructException (const std::string& iWhat)
00209      : RootException (iWhat) {}
00210  };
00211
00212  class BookingClassListEmptyInNestingStructException :
00213    public SimpleNestingStructException {
00214  public:
00215    BookingClassListEmptyInNestingStructException (const
00216      std::string& iWhat)
00217      : SimpleNestingStructException (iWhat) {}
00218  };
00219
00220
00221  class BookingClassListEmptyInNestingStructException :
00222    public SimpleNestingStructException {
00223  public:
00224    BookingClassListEmptyInNestingStructException (const
00225      std::string& iWhat)
00226      : SimpleNestingStructException (iWhat) {}
00227  };
00228 #endif // __STDAIR_STDAIR_EXCEPTIONS_HPP

```

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

## TypeDefs

- `typedef double stdair::NbOfFareRules_T`

### 33.616 stdair\_fare\_types.hpp

```
00001 #ifndef __STDAIR_STDAIR_FARE_TYPES_HPP
00002 #define __STDAIR_STDAIR_FARE_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007
00008 namespace stdair {
00009
0010  // ////////// Type definitions //////////
0012  typedef double NbOfFareRules_T;
0013
0014 }
0015 #endif // __STDAIR_STDAIR_FARE_TYPES_HPP
```

### 33.617 stdair/stdair\_file.hpp File Reference

```
#include <string>
#include <boost/utility.hpp>
#include <stdair/stdair_basic_types.hpp>
```

## Classes

- class `stdair::RootFilePath`  
*Root of the input and output files.*
- class `stdair::InputFilePath`
- class `stdair::ScheduleFilePath`
- class `stdair::ODFilePath`
- class `stdair::FRAT5FilePath`
- class `stdair::FFDisutilityFilePath`
- class `stdair::ConfigINIFile`

## Namespaces

- `stdair`

*Handle on the StdAir library context.*

### 33.618 stdair\_file.hpp

```
00001 #ifndef __STDAIR_STDAIR_FILE_HPP
00002 #define __STDAIR_STDAIR_FILE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost
```

```

00010 #include <boost/utility.hpp>
00011 // StdAir
00012 #include <stdair/stdair_basic_types.hpp>
00013
00014 namespace stdair {
00015
00022   class RootFilePath {
00023   public:
00027     RootFilePath (const Filename_T& iFilename) :
00028       _filename (iFilename) {}
00032     RootFilePath () : _filename ("MyFilename") {}
00033
00037     virtual ~RootFilePath() {}
00038
00042     const char * name() const {
00043       return _filename.c_str();
00044     }
00045
00046   protected:
00050     const Filename_T _filename;
00051   };
00052
00054   class InputFilePath : public RootFilePath {
00055   public:
00057     InputFilePath (const Filename_T& iFilename) :
00058       RootFilePath (iFilename) {}
00059   };
00060
00064   class ScheduleFilePath : public InputFilePath {
00065   public:
00069     explicit ScheduleFilePath (const Filename_T& iFilename)
00070       : InputFilePath (iFilename) {}
00071   };
00072
00076   class ODFFilePath : public InputFilePath {
00077   public:
00081     explicit ODFFilePath (const Filename_T& iFilename)
00082       : InputFilePath (iFilename) {}
00083   };
00084
00088   class FRAT5FilePath : public InputFilePath {
00089   public:
00093     explicit FRAT5FilePath (const Filename_T& iFilename)
00094       : InputFilePath (iFilename) {}
00095   };
00096
00100   class FFDutilityFilePath : public InputFilePath {
00101   public:
00105     explicit FFDutilityFilePath (const Filename_T& iFilename)
00106       : InputFilePath (iFilename) {}
00107   };
00108
00112   class ConfigINIFile : public InputFilePath {
00113   public:
00117     explicit ConfigINIFile (const Filename_T& iFilename)
00118       : InputFilePath (iFilename) {}
00119
00120   };
00121
00122 }
00123 #endif // __STDAIR_STDAIR_FILE_HPP

```

### 33.619 stdair/stdair\_inventory\_types.hpp File Reference

```

#include <string>
#include <vector>
#include <map>
#include <list>
#include <boost/multi_array.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_date_time_types.hpp>

```

#### Namespaces

- stdair

*Handle on the StdAir library context.*

## Typedefs

- `typedef std::string stdair::NetworkID_T`
- `typedef std::vector< AirlineCode_T > stdair::AirlineCodeList_T`
- `typedef std::vector< ClassList_String_T > stdair::ClassList_StringList_T`
- `typedef std::vector< ClassCode_T > stdair::ClassCodeList_T`
- `typedef unsigned short stdair::SubclassCode_T`
- `typedef std::string stdair::FlightPathCode_T`
- `typedef std::map< CabinCode_T, ClassList_String_T > stdair::CabinBookingClassMap_T`
- `typedef std::string stdair::CurveKey_T`
- `typedef double stdair::CabinCapacity_T`
- `typedef double stdair::NbOfFlightDates_T`
- `typedef double stdair::CommittedSpace_T`
- `typedef double stdair::UPR_T`
- `typedef double stdair::BookingLimit_T`
- `typedef double stdair::AuthorizationLevel_T`
- `typedef double stdair::CapacityAdjustment_T`
- `typedef double stdair::BlockSpace_T`
- `typedef bool stdair::AvailabilityStatus_T`
- `typedef std::vector< Availability_T > stdair::BucketAvailabilities_T`
- `typedef double stdair::NbOfYields_T`
- `typedef double stdair::NbOfInventoryControlRules_T`
- `typedef bool stdair::CensorshipFlag_T`
- `typedef short stdair::DTD_T`
- `typedef short stdair::DCP_T`
- `typedef std::list< DCP_T > stdair::DCPList_T`
- `typedef std::map< DTD_T, RealNumber_T > stdair::DTDFratMap_T`
- `typedef std::map< FloatDuration_T, float > stdair::DTDProbMap_T`
- `typedef std::vector< CensorshipFlag_T > stdair::CensorshipFlagList_T`
- `typedef double stdair::BookingRatio_T`
- `typedef double stdair::Yield_T`
- `typedef unsigned int stdair::YieldLevel_T`
- `typedef std::map< YieldLevel_T, MeanStdDevPair_T > stdair::YieldLevelDemandMap_T`
- `typedef std::pair< Yield_T, MeanStdDevPair_T > stdair::YieldDemandPair_T`
- `typedef double stdair::BidPrice_T`
- `typedef std::vector< BidPrice_T > stdair::BidPriceVector_T`
- `typedef unsigned int stdair::SeatIndex_T`
- `typedef std::string stdair::ControlMode_T`
- `typedef double stdair::OverbookingRate_T`
- `typedef double stdair::ProtectionLevel_T`
- `typedef std::vector< double > stdair::EmsrValueList_T`
- `typedef std::vector< double > stdair::BookingLimitVector_T`
- `typedef std::vector< double > stdair::ProtectionLevelVector_T`
- `typedef boost::multi_array< double, 2 > stdair::SnapshotBlock_T`
- `typedef SnapshotBlock_T::index_range stdair::SnapshotBlockRange_T`
- `typedef SnapshotBlock_T::array_view< 1 >::type stdair::SegmentCabinDTDSnapshotView_T`
- `typedef SnapshotBlock_T::array_view< 2 >::type stdair::SegmentCabinDTRangeSnapshotView_T`
- `typedef SnapshotBlock_T::const_array_view< 1 >::type stdair::ConstSegmentCabinDTDSnapshotView_T`
- `typedef SnapshotBlock_T::const_array_view< 2 >::type stdair::ConstSegmentCabinDTRangeSnapshotView_T`
- `typedef unsigned short stdair::SegmentDataID_T`
- `typedef unsigned short stdair::LegDataID_T`
- `typedef unsigned short stdair::ClassIndex_T`

### 33.620 stdair\_inventory\_types.hpp

```
00001 #ifndef __STDAIR_STDAIR_INVENTORY_TYPES_HPP
00002 #define __STDAIR_STDAIR_INVENTORY_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 #include <map>
00011 #include <list>
00012 // BOOST
00013 #include <boost/multi_array.hpp>
00014 // StdAir
00015 #include <stdair/stdair_basic_types.hpp>
00016 #include <stdair/stdair_maths_types.hpp>
00017 #include <stdair/stdair_date_time_types.hpp>
00018
00019 namespace stdair {
00020
00021 // ////////// Type definitions //////////
00022     typedef std::string NetworkID_T;
00023
00024     typedef std::vector<AirlineCode_T> AirlineCodeList_T;
00025
00026     typedef std::vector<ClassList_String_T> ClassList_StringList_T;
00027
00028     typedef std::vector<ClassCode_T> ClassCodeList_T;
00029
00030     typedef unsigned short SubclassCode_T;
00031
00032     typedef std::string FlightPathCode_T;
00033
00034     typedef std::map<CabinCode_T, ClassList_String_T> CabinBookingClassMap_T;
00035
00036     typedef std::string CurveKey_T;
00037
00038     typedef double CabinCapacity_T;
00039
00040     typedef double NbOfFlightDates_T;
00041
00042     typedef double CommittedSpace_T;
00043
00044     typedef double UPR_T;
00045
00046     typedef double BookingLimit_T;
00047
00048     typedef double AuthorizationLevel_T;
00049
00050     typedef double CapacityAdjustment_T;
00051
00052     typedef double BlockSpace_T;
00053
00054     typedef bool AvailabilityStatus_T;
00055
00056     typedef std::vector<Availability_T> BucketAvailabilities_T;
00057
00058     typedef double NbOfYields_T;
00059
00060     typedef double NbOfInventoryControlRules_T;
00061
00062     typedef bool CensorshipFlag_T;
00063
00064     typedef short DTD_T;
00065
00066     typedef short DCP_T;
00067
00068     typedef std::list<DCP_T> DCPList_T;
00069
00070     typedef std::map<DTD_T, RealNumber_T> DTDFratMap_T;
00071
00072     typedef std::map<FloatDuration_T, float> DTDPProbMap_T;
00073
00074     typedef std::vector<CensorshipFlag_T> CensorshipFlagList_T;
00075
00076     typedef double BookingRatio_T;
00077
00078     typedef double Yield_T;
00079
00080     typedef unsigned int YieldLevel_T;
00081
00082     typedef std::map<YieldLevel_T, MeanStdDevPair_T> YieldLevelDemandMap_T;
00083
00084     typedef std::pair<Yield_T, MeanStdDevPair_T> YieldDemandPair_T;
00085
```

```

00125     typedef double BidPrice_T;
00126
00128     typedef std::vector<BidPrice_T> BidPriceVector_T;
00129
00131     typedef unsigned int SeatIndex_T;
00132
00134     typedef std::string ControlMode_T;
00135
00137     typedef double OverbookingRate_T;
00138
00141     typedef double BookingLimit_T;
00142
00145     typedef double ProtectionLevel_T;
00146
00148     typedef std::vector<double> EmsrValueList_T;
00149
00152     typedef std::vector<double> BookingLimitVector_T;
00153
00156     typedef std::vector<double> ProtectionLevelVector_T;
00157
00159     typedef boost::multi_array<double, 2> SnapshotBlock_T;
00160
00162     typedef SnapshotBlock_T::index_range SnapshotBlockRange_T;
00163
00165     typedef SnapshotBlock_T::array_view<1>::type SegmentCabinDTDSnapshotView_T;
00166
00168     typedef SnapshotBlock_T::array_view<2>::type
SegmentCabinDTDRangeSnapshotView_T;
00169
00171     typedef SnapshotBlock_T::const_array_view<1>::type
ConstSegmentCabinDTDSnapshotView_T;
00172
00174     typedef SnapshotBlock_T::const_array_view<2>::type
ConstSegmentCabinDTDRangeSnapshotView_T;
00175
00177     typedef unsigned short SegmentDataID_T;
00178
00180     typedef unsigned short LegDataID_T;
00181
00184     typedef unsigned short ClassIndex_T;
00185
00186 }
00187 #endif // __STDAIR_STDAIR_INVENTORY_TYPES_HPP

```

### 33.621 stdair/stdair\_json.hpp File Reference

```
#include <string>
```

#### Classes

- class **stdair::JSONString**  
*JSON-formatted string.*

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

### 33.622 stdair\_json.hpp

```

00001 #ifndef __STDAIR_STDAIR_JSON_HPP
00002 #define __STDAIR_STDAIR_JSON_HPP
00003
00004 // ////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////
00007 // STL
00008 #include <string>
00009
00010 namespace stdair {
00011
00016     class JSONString {

```

```

00017 public:
00018     explicit JSONString (const std::string& iJsonString) :
00019         _jsonString (iJsonString) {}
00020     explicit JSONString () : _jsonString ("") {}
00021
00022     virtual ~JSONString() {}
00023
00024     const std::string& getString() const {
00025         return _jsonString;
00026     }
00027
00028 protected:
00029     std::string _jsonString;
00030 };
00031
00032 #endif // __STDAIR_STDAIR_JSON_HPP

```

### 33.623 stdair/stdair\_log.hpp File Reference

```
#include <string>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*
- **stdair::LOG**

#### Enumerations

- enum **stdair::LOG::EN\_LogLevel** {  
**stdair::LOG::CRITICAL** = 0, **stdair::LOG::ERROR**, **stdair::LOG::NOTIFICATION**, **stdair::LOG::WARNING**,  
**stdair::LOG::DEBUG**, **stdair::LOG::VERBOSE**, **stdair::LOG::LAST\_VALUE** }

#### Variables

- static const std::string **stdair::LOG::\_logLevels** [**LAST\_VALUE**]

### 33.624 stdair\_log.hpp

```

00001 #ifndef __STDAIR_STDAIR_LOG_HPP
00002 #define __STDAIR_STDAIR_LOG_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009
00010 namespace stdair {
00011
00012     // Forward declarations
00013     class STDAIR_Service;
00014
00015     // ///////////////////// Log /////////////////////
00016     namespace LOG {
00017         typedef enum {
00018             CRITICAL = 0,
00019             ERROR,
00020             NOTIFICATION,
00021             WARNING,
00022             DEBUG,
00023             VERBOSE,
00024             LAST_VALUE
00025         } EN_LogLevel;
00026
00027     static const std::string _logLevels[LAST_VALUE] =
00028         {"C", "E", "N", "W", "D", "V"};

```

```
00030 }
00031
00032 }
00033 #endif // __STDAIR_STDAIR_LOG_HPP
```

### 33.625 stdair/stdair\_maths\_types.hpp File Reference

```
#include <string>
#include <vector>
#include <map>
#include <boost/random/linear_congruential.hpp>
#include <boost/random/uniform_real.hpp>
#include <boost/random/normal_distribution.hpp>
#include <boost/random/exponential_distribution.hpp>
#include <boost/random/variante_generator.hpp>
```

#### Namespaces

- [stdair](#)

*Handle on the StdAir library context.*

#### TypeDefs

- [typedef unsigned int stdair::ReplicationNumber\\_T](#)
- [typedef unsigned long int stdair::ExponentialSeed\\_T](#)
- [typedef unsigned long int stdair::UniformSeed\\_T](#)
- [typedef unsigned long int stdair::RandomSeed\\_T](#)
- [typedef boost::minstd\\_rand stdair::BaseGenerator\\_T](#)
- [typedef boost::uniform\\_real stdair::UniformDistribution\\_T](#)
- [typedef boost::variante\\_generator< BaseGenerator\\_T &, UniformDistribution\\_T > stdair::UniformGenerator\\_T](#)
- [typedef boost::normal\\_distribution stdair::NormalDistribution\\_T](#)
- [typedef boost::variante\\_generator< BaseGenerator\\_T &, NormalDistribution\\_T > stdair::NormalGenerator\\_T](#)
- [typedef boost::exponential\\_distribution stdair::ExponentialDistribution\\_T](#)
- [typedef boost::variante\\_generator< BaseGenerator\\_T &, ExponentialDistribution\\_T > stdair::ExponentialGenerator\\_T](#)
- [typedef double stdair::MeanValue\\_T](#)
- [typedef double stdair::StdDevValue\\_T](#)
- [typedef std::pair< MeanValue\\_T, StdDevValue\\_T > stdair::MeanStdDevPair\\_T](#)
- [typedef std::vector< MeanStdDevPair\\_T > stdair::MeanStdDevPairVector\\_T](#)
- [typedef float stdair::Probability\\_T](#)

### 33.626 stdair\_maths\_types.hpp

```
00001 #ifndef __STDAIR_STDAIR_MATHS_TYPES_HPP
00002 #define __STDAIR_STDAIR_MATHS_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 #include <map>
00011 // Boost Random
00012 #include <boost/random/linear_congruential.hpp>
00013 #include <boost/random/uniform_real.hpp>
00014 #include <boost/random/normal_distribution.hpp>
00015 #include <boost/random/exponential_distribution.hpp>
```

```

00016 #include <boost/random/variate_generator.hpp>
00017
00018 namespace stdair {
00019
00020 // ////////// Type definitions //////////
00024 typedef unsigned int ReplicationNumber_T;
00025
00029 typedef unsigned long int ExponentialSeed_T;
00030
00034 typedef unsigned long int UniformSeed_T;
00035
00039 typedef unsigned long int RandomSeed_T;
00040
00044 typedef boost::minstd_rand BaseGenerator_T;
00045
00049 typedef boost::uniform_real<> UniformDistribution_T;
00050
00054 typedef boost::variate_generator<BaseGenerator_T&,
00055                                     UniformDistribution_T> UniformGenerator_T;
00056
00060 typedef boost::normal_distribution<> NormalDistribution_T;
00061
00065 typedef boost::variate_generator<BaseGenerator_T&,
00066                                     NormalDistribution_T> NormalGenerator_T;
00067
00069 typedef boost::exponential_distribution<> ExponentialDistribution_T;
00070
00071
00073 typedef boost::variate_generator<BaseGenerator_T&,
00074                                     ExponentialDistribution_T>
00075     ExponentialGenerator_T;
00079
00080     typedef double MeanValue_T;
00081
00084     typedef double StdDevValue_T;
00085
00089     typedef std::pair<MeanValue_T, StdDevValue_T> MeanStdDevPair_T;
00090
00094     typedef std::vector<MeanStdDevPair_T> MeanStdDevPairVector_T;
00095
00099     typedef float Probability_T;
00100
00101 }
00102 #endif // __STDAIR_STDAIR_MATHS_TYPES_HPP

```

## 33.627 stdair/stdair\_rm\_types.hpp File Reference

```

#include <string>
#include <vector>
#include <map>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_inventory_types.hpp>

```

### Namespaces

- **stdair**

*Handle on the StdAir library context.*

### Typedefs

- **typedef std::string stdair::ForecasterMode\_T**
- **typedef short stdair::HistoricalDataLimit\_T**
- **typedef std::string stdair::OptimizerMode\_T**
- **typedef NbOfBookings\_T stdair::PolicyDemand\_T**
- **typedef std::vector< double > stdair::GeneratedDemandVector\_T**
- **typedef std::vector< GeneratedDemandVector\_T > stdair::GeneratedDemandVectorHolder\_T**
- **typedef double stdair::SellupProbability\_T**
- **typedef std::vector< NbOfRequests\_T > stdair::UncDemVector\_T**
- **typedef std::vector< NbOfBookings\_T > stdair::BookingVector\_T**

- `typedef double stdair::FRAT5_T`
- `typedef std::map< const DTD_T, FRAT5_T > stdair::FRAT5Curve_T`
- `typedef std::map< const DTD_T, double > stdair::FFDisutilityCurve_T`
- `typedef std::map< const DTD_T, double > stdair::SellUpCurve_T`
- `typedef std::map< const DTD_T, double > stdair::DispatchingCurve_T`
- `typedef std::map< BookingClass *, SellUpCurve_T > stdair::BookingClassSellUpCurveMap_T`
- `typedef std::map< BookingClass *, DispatchingCurve_T > stdair::BookingClassDispatchingCurveMap_T`
- `typedef std::map< const Yield_T, double > stdair::YieldDemandMap_T`
- `typedef unsigned int stdair::NbOfSamples_T`

### 33.628 stdair\_rm\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_RM_TYPES_HPP
00002 #define __STDAIR_STDAIR_RM_TYPES_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 #include <map>
00011 // StdAir
00012 #include <stdair/stdair_basic_types.hpp>
00013 #include <stdair/stdair_inventory_types.hpp>
00014
00015 namespace stdair {
00016     // Forward declarations.
00017     class BookingClass;
00018
00019 // ////////// Type definitions //////////
00020     typedef std::string ForecasterMode_T;
00021
00022     typedef short HistoricalDataLimit_T;
00023
00024     typedef std::string OptimizerMode_T;
00025
00026     typedef NbOfBookings_T PolicyDemand_T;
00027
00028     typedef std::vector<double> GeneratedDemandVector_T;
00029
00030     typedef std::vector<GeneratedDemandVector_T> GeneratedDemandVectorHolder_T;
00031
00032     typedef double SellupProbability_T;
00033
00034     typedef std::vector<NbOfRequests_T> UncDemVector_T;
00035
00036     typedef std::vector<NbOfBookings_T> BookingVector_T;
00037
00038     typedef double FRAT5_T;
00039
00040     typedef std::map<const DTD_T, FRAT5_T> FRAT5Curve_T;
00041
00042     typedef std::map<const DTD_T, double> FFDisutilityCurve_T;
00043
00044     typedef std::map<const DTD_T, double> SellUpCurve_T;
00045
00046     typedef std::map<BookingClass*, SellUpCurve_T> BookingClassSellUpCurveMap_T;
00047
00048     typedef std::map<BookingClass*, DispatchingCurve_T>
00049     BookingClassDispatchingCurveMap_T;
00050
00051     typedef std::map<const Yield_T, double> YieldDemandMap_T;
00052
00053     typedef double Revenue_T;
00054
00055     typedef unsigned int NbOfSamples_T;
00056
00057 }
00058 #endif // __STDAIR_STDAIR_RM_TYPES_HPP

```

### 33.629 stdair/STDAIR\_Service.hpp File Reference

```
#include <string>
```

```
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/stdair_file.hpp>
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/ServiceInitialisationType.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <stdair/bom/ConfigHolderStruct.hpp>
#include <stdair/service/STDAIR_ServiceContext.hpp>
```

## Classes

- class [stdair::STDAIR\\_Service](#)  
*Interface for the STDAIR Services.*

## Namespaces

- [stdair](#)  
*Handle on the StdAir library context.*

## 33.630 STDAIR\_Service.hpp

```
00001
00012 #ifndef __STDAIR_STDAIR_HPP
00013 #define __STDAIR_STDAIR_HPP
00014
00015 // /////////////////////////////////
00016 // Import section
00017 // ///////////////////////////////
00018 // STL
00019 #include <string>
00020 // StdAir
00021 #include <stdair/stdair_inventory_types.hpp>
00022 #include <stdair/stdair_service_types.hpp>
00023 #include <stdair/stdair_file.hpp>
00024 #include <stdair/basic/BasLogParams.hpp>
00025 #include <stdair/basic/BasDBParams.hpp>
00026 #include <stdair/basic/ServiceInitialisationType.hpp>
00027 #include <stdair/bom/TravelSolutionTypes.hpp>
00028 #include <stdair/bom/ConfigHolderStruct.hpp>
00029 #include <stdair/service/STDAIR_ServiceContext.hpp>
00030
00031 namespace stdair {
00032
00034     class BomRoot;
00035     struct EventStruct;
00036     struct ProgressStatusSet;
00037     struct BookingRequestStruct;
00038     class JSONString;
00039
00040
00044     class STDAIR_Service {
00045     public:
00046         // ////////// Constructors and destructors //////////
00050         STDAIR_Service();
00051
00063         STDAIR_Service (const BasLogParams&);
00064
00080         STDAIR_Service (const BasLogParams&, const
00081                         BasDBParams&);
00082
00085         ~STDAIR_Service();
00086
00087
00088     public:
00089         // ////////////////// Business support methods //////////
00109         void buildSampleBom();
00110
00132         void buildDummyInventory (const CabinCapacity_T& iCabinCapacity);
00133
00146         void buildDummyLegSegmentAccesses (BomRoot&);
```

```

00147
00162     void buildSampleTravelSolutionForPricing (
00163         TravelSolutionList_T& );
00164
00181     void buildSampleTravelSolutions (
00182         TravelSolutionList_T& );
00183
00211     BookingRequestStruct buildSampleBookingRequest (const bool
00212         isForCRS = false);
00213
00216     void clonePersistentBom ();
00217
00218 public:
00219
00220     // ///////////////////// Export support methods /////////////////////
00221     std::string jsonExportFlightDateList (const
00222         AirlineCode_T& iAirlineCode = "all",
00223                     const FlightNumber_T& iFlightNumber = 0) const;
00224
00246     std::string jsonExportFlightDateObjects (const
00247         AirlineCode_T&,                                const FlightNumber_T&,
00248                     const Date_T& iDepartureDate) const;
00249
00256     std::string jsonExportEventObject (const EventStruct&) const;
00257
00264     std::string jsonExportConfiguration () const;
00265
00266 public:
00267
00268     // ///////////////////// Import support methods ///////////////////
00276     bool jsonImportConfiguration (const JSONString&) const;
00277
00278 public:
00279     // ///////////////////// Display support methods ///////////////////
00293     std::string list (const AirlineCode_T& iAirlineCode = "all",
00294                     const FlightNumber_T& iFlightNumber = 0) const;
00295
00302     std::string listAirportPairDateRange () const;
00303
00313     bool check (const AirlineCode_T&, const FlightNumber_T&,
00314                     const Date_T& iDepartureDate) const;
00315
00328     bool check (const AirportCode_T&, const AirportCode_T&,
00329                     const Date_T& iDepartureDate) const;
00330
00337     std::string configDisplay () const;
00338
00346     std::string csvDisplay () const;
00347
00356     std::string csvDisplay (const BomRoot&) const;
00357
00367     std::string csvDisplay (const AirlineCode_T&, const
00368         FlightNumber_T&,                                const Date_T& iDepartureDate) const;
00369
00377     std::string csvDisplay (const TravelSolutionList_T&) const;
00378
00389     std::string csvDisplay (const AirportCode_T&, const
00390         AirportCode_T&,                                const Date_T& iDepartureDate) const;
00391
00392
00393 public:
00394     // ///////////////////// Getters ///////////////////
00403     BomRoot& getBomRoot () const;
00404
00413     BomRoot& getPersistentBomRoot () const;
00414
00420     BasLogParams getLogParams () const;
00421
00428     const BasDBParams& getDBParams () const;
00429
00438     const ServiceInitialisationType&
00439     getServiceInitialisationType() const;
00440
00441 private:
00442     // ///// Construction and Destruction helper methods //////
00449     STDAIR_Service (const STDAIR_Service&);
00450
00455     void initServiceContext();
00456
00474     void logInit (const BasLogParams&);
00475
00481     void dbInit (const BasDBParams&);
00482

```

```

00498     void init();
00499
00503     void finalise();
00504
00505 public:
00506
00512     void importINIConfig (const ConfigINIFile&);
00513
00522     void importConfigValue (const std::string& iValue,
00523                             const std::string& iPath);
00524
00533     template <typename ValueType>
00534     bool exportConfigValue (ValueType& ioValue, const std::string& iPath);
00535
00540     void updateAirlineFeatures ();
00541
00542 private:
00543     // ////////// Service Context //////////
00547     STDAIR_ServiceContext* _stdairServiceContext;
00548 };
00549
00550 // /////////////////////////////////
00551 template <typename ValueType>
00552 bool STDAIR_Service::exportConfigValue (ValueType& ioValue,
00553                                     const std::string& iPath) {
00554
00555     // Retrieve the StdAir service context
00556     assert (_stdairServiceContext != NULL);
00557     const STDAIR_ServiceContext& lSTDAIR_ServiceContext =
00558         *_stdairServiceContext;
00559
00560     // Retrieve the BOM tree root
00561     const ConfigHolderStruct& lConfigHolder =
00562         lSTDAIR_ServiceContext.getConfigHolder();
00563
00564     // Call the dedicated configuration holder method.
00565     return lConfigHolder.exportValue <ValueType> (ioValue, iPath);
00566 }
00567 // /////////////////////////////////
00568
00569 }
00570 #endif // __STDAIR_STDAIR_HPP

```

### 33.631 stdair/stdair\_service\_types.hpp File Reference

```
#include <boost/shared_ptr.hpp>
```

#### Namespaces

- **stdair**  
*Handle on the StdAir library context.*

#### Typedefs

- **typedef boost::shared\_ptr< STDAIR\_Service > stdair::STDAIR\_ServicePtr\_T**

### 33.632 stdair\_service\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_SERVICE_HPP
00002 #define __STDAIR_STDAIR_SERVICE_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // Boost (Extended STL)
00008 #include <boost/shared_ptr.hpp>
00009
00010 namespace stdair {
00011
00012 // Forward declarations
00013 class STDAIR_Service;
00014

```

```

00016   typedef boost::shared_ptr<STDAIR_Service> STDAIR_ServicePtr_T;
00017
00018 }
00019 #endif // __STDAIR_STDAIR_SERVICE_HPP

```

### 33.633 stdair/stdair\_types.hpp File Reference

```

#include <stdair/stdair_exceptions.hpp>
#include <stdair/stdair_log.hpp>
#include <stdair/stdair_db.hpp>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_maths_types.hpp>
#include <stdair/stdair_fare_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/stdair_rm_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_service_types.hpp>

```

### 33.634 stdair\_types.hpp

```

00001 #ifndef __STDAIR_STDAIR_TYPES_HPP
00002 #define __STDAIR_STDAIR_TYPES_HPP
00003
00004 // ////////////////////////////////
00005 // Import section
00006 // ////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_exceptions.hpp>
00009 #include <stdair/stdair_log.hpp>
00010 #include <stdair/stdair_db.hpp>
00011 #include <stdair/stdair_basic_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/stdair_maths_types.hpp>
00014 #include <stdair/stdair_fare_types.hpp>
00015 #include <stdair/stdair_inventory_types.hpp>
00016 #include <stdair/stdair_rm_types.hpp>
00017 #include <stdair/stdair_date_time_types.hpp>
00018 #include <stdair/stdair_service_types.hpp>
00019
00020 #endif // __STDAIR_STDAIR_TYPES_HPP

```

### 33.635 stdair/ui/cmdline/readline\_autocomp.hpp File Reference

```

#include <string>
#include <iostream>
#include <cstdio>
#include <sys/types.h>
#include <sys/file.h>
#include <sys/stat.h>
#include <sys/errno.h>
#include <readline/readline.h>
#include <readline/history.h>

```

## Classes

- struct COMMAND

## Typedefs

- `typedef int(* pt2Func) (char *)`

## Functions

- `char * getwd ()`
- `char * xmalloc (size_t)`
- `int com_list (char *)`
- `int com_view (char *)`
- `int com_rename (char *)`
- `int com_stat (char *)`
- `int com_pwd (char *)`
- `int com_delete (char *)`
- `int com_help (char *)`
- `int com_cd (char *)`
- `int com_quit (char *)`
- `char * stripwhite (char *iString)`
- `COMMAND * find_command (char *iString)`
- `char * dupstr (char *iString)`
- `int execute_line (char *line)`
- `char * command_generator (char *text, int state)`
- `char ** fileman_completion (char *text, int start, int end)`
- `void initialize_readline ()`
- `void too_dangerous (char *caller)`
- `int valid_argument (char *caller, char *arg)`

## Variables

- `COMMAND commands []`
- `int done`
- `static char syscom [1024]`

### 33.635.1 Typedef Documentation

#### 33.635.1.1 `typedef int(* pt2Func) (char *)`

Definition at line 35 of file [readline\\_autocomp.hpp](#).

### 33.635.2 Function Documentation

#### 33.635.2.1 `char* getwd ( )`

`readline_autocomp.hpp` – A tiny application which demonstrates how to use the GNU Readline library. This application interactively allows users to manipulate files and their modes.

Referenced by [com\\_pwd\(\)](#).

#### 33.635.2.2 `char* xmalloc ( size_t )`

Referenced by [dupstr\(\)](#).

#### 33.635.2.3 `void com_list ( char * arg )`

List the file(s) named in arg.

Definition at line 264 of file [readline\\_autocomp.hpp](#).

**33.635.2.4 int com\_view ( char \* arg )**

Definition at line 274 of file [readline\\_autocomp.hpp](#).

References [valid\\_argument\(\)](#).

**33.635.2.5 int com\_rename ( char \* arg )**

Definition at line 284 of file [readline\\_autocomp.hpp](#).

References [too\\_dangerous\(\)](#).

**33.635.2.6 int com\_stat ( char \* arg )**

Definition at line 289 of file [readline\\_autocomp.hpp](#).

References [valid\\_argument\(\)](#).

**33.635.2.7 int com\_pwd ( char \* ignore )**

Definition at line 367 of file [readline\\_autocomp.hpp](#).

References [getwd\(\)](#).

Referenced by [com\\_cd\(\)](#).

**33.635.2.8 int com\_delete ( char \* arg )**

Definition at line 315 of file [readline\\_autocomp.hpp](#).

References [too\\_dangerous\(\)](#).

**33.635.2.9 int com\_help ( char \* arg )**

Print out help for ARG, or for all of the commands if ARG is not present.

Definition at line 324 of file [readline\\_autocomp.hpp](#).

References [COMMAND::name](#).

**33.635.2.10 int com\_cd ( char \* arg )**

Definition at line 356 of file [readline\\_autocomp.hpp](#).

References [com\\_pwd\(\)](#).

**33.635.2.11 int com\_quit ( char \* arg )**

Definition at line 381 of file [readline\\_autocomp.hpp](#).

**33.635.2.12 char \* stripwhite ( char \* string )**

Strip whitespace from the start and end of STRING. Return a pointer into STRING.

Definition at line 152 of file [readline\\_autocomp.hpp](#).

**33.635.2.13 COMMAND \* find\_command ( char \* name )**

Look up NAME as the name of a command, and return a pointer to that command. Return a NULL pointer if NAME isn't a command name.

Definition at line 136 of file [readline\\_autocomp.hpp](#).

References [COMMAND::name](#).

Referenced by [execute\\_line\(\)](#).

33.635.2.14 `char* dupstr ( char * iString )`

Duplicate a string

Definition at line 85 of file [readline\\_autocomp.hpp](#).

References [xmalloc\(\)](#).

Referenced by [command\\_generator\(\)](#).

33.635.2.15 `int execute_line ( char * line )`

Execute a command line.

Definition at line 94 of file [readline\\_autocomp.hpp](#).

References [find\\_command\(\)](#), and [COMMAND::func](#).

33.635.2.16 `char * command_generator ( char * text, int state )`

Generator function for command completion. STATE lets us know whether to start from scratch; without any state (i.e. STATE == 0), then we start at the top of the list.

Definition at line 222 of file [readline\\_autocomp.hpp](#).

References [dupstr\(\)](#).

Referenced by [fileman\\_completion\(\)](#).

33.635.2.17 `char ** fileman_completion ( char * text, int start, int end )`

Attempt to complete on the contents of TEXT. START and END bound the region of rl\_line\_buffer that contains the word to complete. TEXT is the word to complete. We can use the entire contents of rl\_line\_buffer in case we want to do some simple parsing. Return the array of matches, or NULL if there aren't any.

Definition at line 200 of file [readline\\_autocomp.hpp](#).

References [command\\_generator\(\)](#).

Referenced by [initialize\\_readline\(\)](#).

33.635.2.18 `void initialize_readline ( )`

Tell the GNU Readline library how to complete. We want to try to complete on command names if this is the first word in the line, or on filenames if not.

Definition at line 185 of file [readline\\_autocomp.hpp](#).

References [fileman\\_completion\(\)](#).

33.635.2.19 `void too_dangerous ( char * caller )`

Definition at line 387 of file [readline\\_autocomp.hpp](#).

Referenced by [com\\_delete\(\)](#), and [com\\_rename\(\)](#).

33.635.2.20 `int valid_argument ( char * caller, char * arg )`

Definition at line 395 of file [readline\\_autocomp.hpp](#).

Referenced by [com\\_stat\(\)](#), and [com\\_view\(\)](#).

### 33.635.3 Variable Documentation

#### 33.635.3.1 COMMAND commands[]

**Initial value:**

```
= {
    { "cd", (*com_cd)(), "Change to directory DIR" },
    { "delete", com_delete, "Delete FILE" },
    { "help", com_help, "Display this text" },
    { "?", com_help, "Synonym for 'help'" },
    { "list", com_list, "List files in DIR" },
    { "ls", com_list, "Synonym for 'list'" },
    { "pwd", com_pwd, "Print the current working directory" },
    { "quit", com_quit, "Quit using airinv" },
    { "rename", com_rename, "Rename FILE to NEWNAME" },
    { "stat", com_stat, "Print out statistics on FILE" },
    { "view", com_view, "View the contents of FILE" },
    { (char*) NULL, (pt2Func) NULL, (char*) NULL }
}
```

Definition at line 58 of file [readline\\_autocomp.hpp](#).

### 33.635.3.2 int done

When non-zero, this global means the user is done using this program.

Definition at line 80 of file [readline\\_autocomp.hpp](#).

### 33.635.3.3 char syscom[1024] [static]

String to pass to system(). This is for the LIST, VIEW and RENAME commands.

Definition at line 259 of file [readline\\_autocomp.hpp](#).

## 33.636 readline\_autocomp.hpp

```
00001
00006 #ifndef __AIRINV_READLINE_AUTOCOMP_HPP
00007 #define __AIRINV_READLINE_AUTOCOMP_HPP
00008
00009 // STL
00010 #include <string>
00011 #include <iostream>
00012 #include <cstdio>
00013 #include <sys/types.h>
00014 #include <sys/file.h>
00015 #include <sys/stat.h>
00016 #include <sys/errno.h>
00017
00018 #include <readline/readline.h>
00019 #include <readline/history.h>
00020
00021 extern char* getwd();
00022 extern char* xmalloc (size_t);
00023
00024 /* The names of functions that actually do the manipulation. */
00025 int com_list (char*);
00026 int com_view (char*);
00027 int com_rename (char*);
00028 int com_stat (char*);
00029 int com_pwd (char*);
00030 int com_delete (char*);
00031 int com_help (char*);
00032 int com_cd (char*);
00033 int com_quit (char*);
00034
00035 typedef int (*pt2Func) (char*);
00036
00041 typedef struct {
00045     char const* name;
00046
00050     pt2Func *func;
00051
00055     char *doc;
00056 } COMMAND;
00057
00058 COMMAND commands[] = {
00059     { "cd", (*com_cd)(), "Change to directory DIR" },
00060     { "delete", com_delete, "Delete FILE" },
00061     { "help", com_help, "Display this text" },
00062     { "?", com_help, "Synonym for 'help'" },
00063     { "list", com_list, "List files in DIR" },
00064     { "ls", com_list, "Synonym for 'list'" },
00065     { "pwd", com_pwd, "Print the current working directory" },
```

```
00066 { "quit", com_quit, "Quit using airinv" },
00067 { "rename", com_rename, "Rename FILE to NEWNAME" },
00068 { "stat", com_stat, "Print out statistics on FILE" },
00069 { "view", com_view, "View the contents of FILE" },
00070 { (char*) NULL, (pt2Func) NULL, (char*) NULL }
00071 };
00072
00073 // Forward declarations
00074 char* stripwhite (char* iString);
00075 COMMAND* find_command (char* iString);
00076
00077 int done;
00078
00079 char* dupstr (char* iString) {
00080     char* r = xmalloc (std::strlen (iString) + 1);
00081     strcpy (r, iString);
00082     return r;
00083 }
00084
00085 int execute_line (char* line) {
00086     register int i;
00087     COMMAND* command;
00088     char* word;
00089
00090     /* Isolate the command word. */
00091     i = 0;
00092     while (line[i] && whitespace (line[i])) {
00093         i++;
00094     }
00095     word = line + i;
00096
00097     while (line[i] && !whitespace (line[i])) {
00098         i++;
00099     }
00100
00101     if (line[i]) {
00102         line[i++] = '\0';
00103     }
00104
00105     command = find_command (word);
00106
00107     if (!command) {
00108         std::cerr << word << ": No such command for airinv." << std::endl;
00109         return -1;
00110     }
00111
00112     /* Get argument to command, if any. */
00113     while (whitespace (line[i])) {
00114         i++;
00115     }
00116
00117     word = line + i;
00118
00119     /* Call the function. */
00120     return (*command->func)) (word);
00121 }
00122
00123 COMMAND* find_command (char* name) {
00124     register int i;
00125
00126     for (i = 0; commands[i].name; i++) {
00127         if (strcmp (name, commands[i].name) == 0) {
00128             return (&commands[i]);
00129         }
00130     }
00131
00132     return (COMMAND*) NULL;
00133 }
00134
00135 char* stripwhite (char* string) {
00136     register char *s, *t;
00137
00138     for (s = string; whitespace (*s); s++) {
00139     }
00140
00141     if (*s == 0) {
00142         return s;
00143     }
00144
00145     t = s + strlen (s) - 1;
00146     while (t > s && whitespace (*t)) {
00147         t--;
00148     }
00149     *++t = '\0';
00150
00151     return s;
00152 }
```

```

00170 /* ****
00171 /* ***** Interface to Readline Completion ****
00172 */
00173 /* ***** */
00174 /*
00175 /* ****
00176
00177 char* command_generator (char* text, int state);
00178 char** fileman_completion (char* text, int start, int end);
00179
00180 void initialize_readline() {
00181     /* Allow conditional parsing of the ~/.inputrc file. */
00182     rl_readline_name = "airinv";
00183
00184     /* Tell the completer that we want a crack first. */
00185     rl_attempted_completion_function = (rl_completion_func_t*) fileman_completion;
00186 }
00187
00188
00189
00190
00191 }
00192
00193
00194
00195
00196
00197
00198
00199
00200 char** fileman_completion (char* text, int start, int end) {
00201     char **matches;
00202
00203     matches = (char**) NULL;
00204
00205     if (start == 0) {
00206         matches = completion_matches (text, command_generator);
00207     }
00208
00209     return matches;
00210 }
00211
00212
00213
00214
00215 }
00216
00217
00218
00219
00220 char* command_generator (char* text, int state) {
00221     static int list_index, len;
00222     char* name;
00223
00224     if (!state) {
00225         list_index = 0;
00226         len = strlen (text);
00227     }
00228
00229     /* Return the next name which partially matches from the command list. */
00230     while (name = commands[list_index].name) {
00231         ++list_index;
00232
00233         if (strncmp (name, text, len) == 0) {
00234             return dupstr (name);
00235         }
00236
00237         /* If no names matched, then return NULL. */
00238         return (char*) NULL;
00239     }
00240
00241
00242
00243
00244
00245
00246
00247 }
00248
00249 /* ****
00250 */
00251 /* ***** airinv Commands ****
00252 */
00253 /* ****
00254
00255
00256
00257
00258
00259 static char syscom[1024];
00260
00261 void com_list (char* arg) {
00262     if (!arg) {
00263         arg = "";
00264     }
00265
00266     std::ostringstream oStr;
00267     oStr << "ls -FClg " << arg;
00268     return system (oStr.c_str());
00269 }
00270
00271
00272
00273
00274 int com_view (char* arg) {
00275     if (!valid_argument ("view", arg)) {
00276         return 1;
00277     }
00278
00279     std::ostringstream oStr;
00280     oStr << "more " << arg;
00281     return system (syscom);
00282 }
00283
00284 int com_rename (char* arg) {
00285     too_dangerous ("rename");
00286     return 1;
00287 }
00288
00289 int com_stat (char* arg) {
00290     struct stat finfo;

```

```

00291     if (!valid_argument ("stat", arg)) {
00292         return 1;
00293     }
00294
00295     if (stat (arg, &finfo) == -1) {
00296         perror (arg);
00297         return 1;
00298     }
00299
00300     std::cout << "Statistics for '" << arg << "' :" << std::endl;
00301
00302     const std::string lPluralEnd1 = (finfo.st_nlink == 1) ? "" : "s";
00303     const std::string lPluralEnd2 = (finfo.st_size == 1) ? "" : "s";
00304     std::cout << arg << " has "
00305             << finfo.st_nlink << " link" << lPluralEnd1 << ", and is "
00306             << finfo.st_size << " byte" << lPluralEnd2 << " in length."
00307             << std::endl;
00308
00309     std::cout << " Inode Last Change at: " << ctime (&finfo.st_ctime) << std::endl;
00310     std::cout << " Last access at: " << ctime (&finfo.st_atime) << std::endl;
00311     std::cout << " Last modified at: " << ctime (&finfo.st_mtime) << std::endl;
00312     return 0;
00313 }
00314
00315 int com_delete (char* arg) {
00316     too_dangerous ("delete");
00317     return 1;
00318 }
00319
00320 int com_help (char* arg) {
00321     register int i;
00322     int printed = 0;
00323
00324     for (i = 0; commands[i].name; i++) {
00325         if (!*arg || (strcmp (arg, commands[i].name) == 0)) {
00326             printf ("%s\t\t%s.\n", commands[i].name, commands[i].doc);
00327             printed++;
00328         }
00329     }
00330
00331     if (!printed) {
00332         printf ("No commands match '%s'. Possibilties are:\n", arg);
00333
00334         for (i = 0; commands[i].name; i++) {
00335             /* Print in six columns. */
00336             if (printed == 6) {
00337                 printed = 0;
00338                 printf ("\n");
00339             }
00340             printf ("%s\t", commands[i].name);
00341             printed++;
00342         }
00343
00344         if (printed)
00345             printf ("\n");
00346     }
00347 }
00348
00349     if (printed)
00350         printf ("\n");
00351 }
00352
00353 return 0;
00354
00355 /* Change to the directory ARG. */
00356 int com_cd (char* arg) {
00357     if (chdir (arg) == -1) {
00358         perror (arg);
00359         return 1;
00360     }
00361
00362     com_pwd ("");
00363     return 0;
00364 }
00365
00366 /* Print out the current working directory. */
00367 int com_pwd (char* ignore) {
00368     char dir[1024], *s;
00369
00370     s = getwd (dir);
00371     if (s == 0) {
00372         printf ("Error getting pwd: %s\n", dir);
00373         return 1;
00374     }
00375
00376     printf ("Current directory is %s\n", dir);
00377     return 0;
00378 }
00379
00380 /* The user wishes to quit using this program. Just set DONE non-zero. */
00381 int com_quit (char* arg) {

```

```

00382     done = 1;
00383     return 0;
00384 }
00385
00386 /* Function which tells you that you can't do this. */
00387 void too_dangerous (char* caller) {
00388     fprintf (stderr,
00389             "%s: Too dangerous for me to distribute. Write it yourself.\n",
00390             caller);
00391 }
00392
00393 /* Return non-zero if ARG is a valid argument for CALLER, else print
00394 * an error message and return zero. */
00395 int valid_argument (char* caller, char* arg) {
00396     if (!arg || !*arg) {
00397         fprintf (stderr, "%s: Argument required.\n", caller);
00398         return 0;
00399     }
00400
00401     return 1;
00402 }
00403
00404 #endif // _AIRINV_READLINE_AUTOCOMP_HPP

```

### 33.637 stdair/ui/cmdline/SReadline.hpp File Reference

C++ wrapper around libreadline.

```

#include <stdio.h>
#include <readline/readline.h>
#include <readline/history.h>
#include <readline/keymaps.h>
#include <string>
#include <fstream>
#include <vector>
#include <stdexcept>
#include <map>
#include <boost/algorithm/string/trim.hpp>
#include <boost/tokenizer.hpp>
#include <boost/function.hpp>

```

#### Classes

- class [swift::SKeymap](#)  
*The readline keymap wrapper.*
- class [swift::SReadline](#)  
*The readline library wrapper.*

#### Namespaces

- [swift](#)  
*The wrapper namespace.*

##### 33.637.1 Detailed Description

C++ wrapper around libreadline.

Supported: editing, history, custom completers, keymaps. Attention: implementation is not thread safe! It is mainly because the readline library provides pure C interface and has many calls for an "atomic" completion operation

Definition in file [SReadline.hpp](#).

### 33.638 SReadline.hpp

```
00001 //
00011 //
00012 // Date:      17 December 2005
00013 //          03 April    2006
00014 //          20 April    2006
00015 //          07 May     2006
00016 //
00017 // Copyright (c) Sergey Satskiy 2005 - 2006
00018 //           <sergesatskiy@yahoo.com>
00019 //
00020 // Permission to copy, use, modify, sell and distribute this software
00021 // is granted provided this copyright notice appears in all copies.
00022 // This software is provided "as is" without express or implied
00023 // warranty, and with no claim as to its suitability for any purpose.
00024 //
00025
00026 #ifndef SREADLINE_H
00027 #define SREADLINE_H
00028
00029 #include <stdio.h>
00030
00031 #include <readline/readline.h>
00032 #include <readline/history.h>
00033 #include <readline/keymaps.h>
00034
00035 #include <string>
00036 #include <fstream>
00037 #include <vector>
00038 #include <stdexcept>
00039 #include <map>
00040
00041 #include <boost/algorithm/string(trim.hpp>
00042 #include <boost/tokenizer.hpp>
00043 #include <boost/function.hpp>
00044
00045
00050 namespace {
00051     typedef std::vector<std::string> TokensStorage;
00052
00053     typedef std::vector<TokensStorage> CompletionsStorage;
00054
00055     typedef boost::function<int (int, int)> KeyCallback;
00056
00057     typedef std::map<int, KeyCallback> KeysBind;
00058
00059     const size_t DefaultHistoryLimit (64);
00060
00061     CompletionsStorage Completions;
00062
00063     TokensStorage Tokens;
00064
00065     std::map<Keymap, KeysBind> Keymaps;
00066
00067     bool KeymapWasSetup (false);
00068
00069     Keymap Earlykeymap (0);
00070
00071
00072     char* Generator (const char* text, int State);
00073
00074
00075     char** UserCompletion (const char* text, int start, int end);
00076
00077
00078     int KeyDispatcher (int Count, int Key);
00079
00080
00081     int StartupHook (void);
00082
00083
00084     template <typename Container>
00085     bool AreTokensEqual (const Container& Pattern, const Container& Input) {
00086         if (Input.size() > Pattern.size()) {
00087             return false;
00088         }
00089
00090         typename Container::const_iterator k (Pattern.begin());
00091         typename Container::const_iterator j (Input.begin());
00092         for ( ; j != Input.end(); ++k, ++j) {
00093             const std::string lPattern = *k;
00094             if (lPattern == "%file") {
00095                 continue;
00096             }
00097         }
00098
00099         const std::string lInput = *j;
```

```

00160     if (lPattern != lInput) {
00161         return false;
00162     }
00163 }
00164 return true;
00165 }
00166
00167 // See description near the prototype
00168 template <typename ContainerType>
00169 void SplitTokens (const std::string& Source, ContainerType& Container) {
00170     typedef boost::tokenizer<boost::char_separator<char> > TokenizerType;
00171
00172     // Set of token separators
00173     boost::char_separator<char> Separators (" \t\n");
00174     // Tokens provider
00175     TokenizerType Tokenizer (Source, Separators);
00176
00177     Container.clear();
00178     for (TokenizerType::const_iterator k (Tokenizer.begin());
00179          k != Tokenizer.end(); ++k) {
00180         // Temporary storage for the token, in order to trim that latter
00181         std::string SingleToken (*k);
00182
00183         boost::algorithm::trim (SingleToken);
00184         Container.push_back (SingleToken);
00185     }
00186 }
00187
00188 // See description near the prototype
00189 char** UserCompletion (const char* text, int start, int end) {
00190     // No default completion at all
00191     rl_attempted_completion_over = 1;
00192
00193     if (Completions.empty() == true) {
00194         return NULL;
00195     }
00196
00197     // Memorise all the previous tokens
00198     std::string PreInput (rl_line_buffer, start);
00199     SplitTokens (PreInput, Tokens);
00200
00201     // Detect whether we should call the standard file name completer
00202     // or a custom one
00203     bool FoundPretender (false);
00204
00205     for (CompletionsStorage::const_iterator k (Completions.begin());
00206          k != Completions.end(); ++k) {
00207         const TokensStorage& lTokenStorage = *k;
00208         if (AreTokensEqual (lTokenStorage, Tokens) == false) {
00209             continue;
00210         }
00211
00212         if (lTokenStorage.size() > Tokens.size()) {
00213             FoundPretender = true;
00214             if (lTokenStorage [Tokens.size()] == "%file") {
00215                 // Standard file name completer - called for the "%file" keyword
00216                 return rl_completion_matches (text, rl_filename_completion_function);
00217             }
00218         }
00219     }
00220
00221     if (FoundPretender) {
00222         return rl_completion_matches (text, Generator);
00223     }
00224     return NULL;
00225 }
00226
00227 // See description near the prototype
00228 char* Generator (const char* text, int State) {
00229     static int Length;
00230     static CompletionsStorage::const_iterator Iterator;
00231
00232     if (State == 0) {
00233         Iterator = Completions.begin();
00234         Length = strlen (text);
00235     }
00236
00237     for ( ; Iterator != Completions.end(); ++Iterator) {
00238         const TokensStorage& lCompletion = *Iterator;
00239         if (AreTokensEqual (lCompletion, Tokens) == false) {
00240             continue;
00241         }
00242
00243         if (lCompletion.size() > Tokens.size()) {
00244             if (lCompletion [Tokens.size()] == "%file") {
00245                 continue;
00246             }

```

```

00247     const char* lCompletionCharStr (lCompletion [Tokens.size()].c_str());
00248     if (strncmp (text, lCompletionCharStr, Length) == 0) {
00249         // Readline will free the allocated memory
00250         const size_t lCompletionSize = strlen (lCompletionCharStr) + 1;
00251         char* NewString (static_cast<char*> (malloc (lCompletionSize)));
00252         strcpy (NewString, lCompletionCharStr);
00253         strcpy (NewString, lCompletionCharStr);
00254         ++Iterator;
00255     }
00256     return NewString;
00257 }
00258 }
00259 }
00260 }
00261
00262     return NULL;
00263 }
00264
00265
00266 // See the description near the prototype
00267 int KeyDispatcher (int Count, int Key) {
00268     std::map< Keymap, KeysBind >::iterator Set (Keymaps.find (rl_get_keymap()));
00269     if (Set == Keymaps.end ()) {
00270         // Most probably it happens because the header was
00271         // included into many compilation units and the
00272         // keymap setting calls were made in different files.
00273         // This is the problem of "global" data.
00274         // The storage of all the registered keymaps is in anonymous
00275         // namespace.
00276         throw std::runtime_error ("Error selecting a keymap.");
00277     }
00278
00279     (Set->second) [Key] (Count, Key);
00280     return 0;
00281 }
00282
00283 // See the description near the prototype
00284 int StartupHook (void) {
00285     if (KeymapWasSetup) {
00286         rl_set_keymap (Earlykeymap);
00287     }
00288     return 0;
00289 }
00290
00291 } // Anonymous namespace
00292
00293
00294 namespace swift {
00295
00296 class SKeymap {
00297 private:
00298     // Readline keymap
00299     Keymap keymap;
00300
00301 public:
00302     explicit SKeymap (bool PrintableBound = false) : keymap (NULL) {
00303         if (PrintableBound == true) {
00304             // Printable characters are bound
00305             keymap = rl_make_keymap ();
00306
00307         } else {
00308             // Empty keymap
00309             keymap = rl_make_bare_keymap ();
00310         }
00311
00312         if (keymap == NULL) {
00313             throw std::runtime_error ("Cannot allocate keymap.");
00314         }
00315
00316         // Register a new keymap in the global list
00317         Keymaps [keymap] = KeysBind ();
00318     }
00319
00320     explicit SKeymap (Keymap Pattern) : keymap (rl_copy_keymap (Pattern)) {
00321         if (keymap == NULL) {
00322             throw std::runtime_error ("Cannot allocate keymap.");
00323         }
00324
00325         // Register a new keymap in the global list
00326         Keymaps [keymap] = KeysBind ();
00327     }
00328
00329     ~SKeymap () {
00330         // Deregister the keymap
00331         Keymaps.erase (keymap);
00332         rl_discard_keymap (keymap);
00333     }
00334 }
```

```

00359
00360     void Bind (int Key, KeyCallback Callback) {
00361         Keymaps [keymap][Key] = Callback;
00362
00363         if (rl_bind_key_in_map (Key, KeyDispatcher, keymap) != 0) {
00364             // Remove from the map just bound key
00365             Keymaps [keymap].erase (Key);
00366             throw std::runtime_error ("Invalid key.");
00367         }
00368     }
00369
00370     void Unbind (int Key) {
00371         rl_unbind_key_in_map (Key, keymap);
00372         Keymaps [keymap].erase (Key);
00373     }
00374
00375
00376     // void Bind (const std::string& Sequence, boost::function<int (int, int)>);
00377     // void Unbind (std::string& Sequence);
00378
00379 public:
00380     SKeymap (const SKeymap& rhs) {
00381         if (this == &rhs) {
00382             return;
00383         }
00384         keymap = rl_copy_keymap (rhs.keymap);
00385     }
00386
00387     SKeymap& operator= (const SKeymap& rhs) {
00388         if (this == &rhs) {
00389             return *this;
00390         }
00391         keymap = rl_copy_keymap (rhs.keymap);
00392         return *this;
00393     }
00394
00395     friend class SReadline;
00396 };
00397
00398 class SReadline {
00399 public:
00400     SReadline (const size_t Limit = DefaultHistoryLimit) :
00401         HistoryLimit (Limit), HistoryFileName (""),
00402         OriginalCompletion (rl_attempted_completion_function) {
00403             rl_startup_hook = StartupHook;
00404             rl_attempted_completion_function = UserCompletion;
00405             using_history();
00406         }
00407
00408     SReadline( const std::string & historyFileName,
00409                const size_t Limit = DefaultHistoryLimit ) :
00410         HistoryLimit( Limit ),
00411         HistoryFileName( historyFileName ),
00412         OriginalCompletion( rl_attempted_completion_function )
00413     {
00414         rl_startup_hook = StartupHook;
00415         rl_attempted_completion_function = UserCompletion;
00416         using_history();
00417         LoadHistory( HistoryFileName );
00418     }
00419
00420     ~SReadline() {
00421         rl_attempted_completion_function = OriginalCompletion;
00422         SaveHistory (HistoryFileName);
00423     }
00424
00425     std::string GetLine (const std::string& Prompt) {
00426         bool Unused;
00427         return GetLine (Prompt, Unused);
00428     }
00429
00430     template <typename Container>
00431     std::string GetLine (const std::string& Prompt, Container& ReadTokens) {
00432         bool Unused;
00433         return GetLine (Prompt, ReadTokens, Unused);
00434     }
00435
00436     template <typename Container>
00437     std::string GetLine (const std::string& Prompt, Container& ReadTokens,
00438                         bool& BreakOut) {
00439         std::string Input (GetLine (Prompt, BreakOut));
00440         SplitTokens (Input, ReadTokens);
00441         return Input;
00442     }
00443
00444     std::string GetLine (const std::string& Prompt, bool& BreakOut) {
00445         BreakOut = true;
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00519
00520     char* ReadLine (readline (Prompt.c_str ()));
00521     if (ReadLine == NULL) {
00522         return std::string ();
00523     }
00524
00525     // It's OK
00526     BreakOut = false;
00527     std::string Input (ReadLine);
00528     free (ReadLine); ReadLine = NULL;
00529
00530     boost::algorithm::trim (Input);
00531     if (Input.empty () == false) {
00532         if (history_length == 0
00533             || Input != history_list () [history_length - 1] ->line) {
00534             add_history (Input.c_str ());
00535
00536             if (history_length >= static_cast<int> (HistoryLimit)) {
00537                 stifle_history (HistoryLimit);
00538             }
00539         }
00540     }
00541
00542     return Input;
00543 }
00544
00545
00546 template <typename ContainerType>
00547 void GetHistory (ContainerType& Container) {
00548     for (int k (0); k < history_length; ++k) {
00549         Container.push_back (history_list () [k] ->line);
00550     }
00551 }
00552
00553 bool SaveHistory (std::ostream& OS) {
00554     if (!OS) {
00555         return false;
00556     }
00557
00558     for (int k (0); k < history_length; ++k) {
00559         OS << history_list () [k] ->line << std::endl;
00560     }
00561     return true;
00562 }
00563
00564 bool SaveHistory (const std::string& FileName) {
00565     if (FileName.empty () == true) {
00566         return false;
00567     }
00568
00569     std::ofstream OS (FileName.c_str ());
00570     return SaveHistory (OS);
00571 }
00572
00573 void ClearHistory () {
00574     clear_history ();
00575 }
00576
00577
00578 bool LoadHistory (std::istream& IS) {
00579     if (!IS) {
00580         return false;
00581     }
00582
00583     ClearHistory ();
00584     std::string OneLine;
00585
00586     while (!getline (IS, OneLine).eof ()) {
00587         boost::algorithm::trim (OneLine);
00588         if ((history_length == 0)
00589             || OneLine != history_list () [history_length - 1] ->line) {
00590             add_history (OneLine.c_str ());
00591         }
00592     }
00593     stifle_history (HistoryLimit);
00594     return true;
00595 }
00596
00597
00598 bool LoadHistory (const std::string& FileName) {
00599     if (FileName.empty () == true) {
00600         return false;
00601     }
00602
00603     std::ifstream IS (FileName.c_str ());
00604     return LoadHistory (IS);
00605 }
00606
00607 template <typename ContainerType>
```

```

00658     void RegisterCompletions (const ContainerType& Container) {
00659         Completions.clear();
00660         for (typename ContainerType::const_iterator k (Container.begin());
00661             k != Container.end(); ++k) {
00662             std::vector<std::string> OneLine;
00663             const std::string& kStr = static_cast<std::string> (*k);
00664
00665             SplitTokens (kStr, OneLine);
00666             Completions.push_back (OneLine);
00667         }
00668     }
00669
00675     void SetKeymap (SKeymap& NewKeymap) {
00676         rl_set_keymap (NewKeymap.keymap);
00677         KeymapWasSetup = true;
00678         Earlykeymap = NewKeymap.keymap;
00679     }
00680
00681
00682     private:
00683     // ////////////////////////////// Attributes //////////////////////////////
00684     const size_t HistoryLimit;
00685
00686     const std::string HistoryFileName;
00687
00688     rl_completion_func_t* OriginalCompletion;
00689 };
00690
00700 }; // namespace swift
00701
00702 #endif
00703

```

### 33.639 test/stdair/MPBomRoot.cpp File Reference

#### 33.640 MPBomRoot.cpp

```

00001 // //////////////////////////////
00005 // Import section
00006 // STL
00007 // //////////////////////////////
00008 // STL
00009 #include <cassert>
00010 // StdAir Test
00011 #include <test/stdair/MPBomRoot.hpp>
00012
00013 namespace myprovider {
00014
00015     // //////////////////////////////
00016     BomRoot::BomRoot (const Key_T& iKey) : stdair::BomRoot (iKey) {
00017     }
00018
00019     // //////////////////////////////
00020     BomRoot::~BomRoot () {
00021     }
00022 }
00023

```

### 33.641 test/stdair/MPBomRoot.hpp File Reference

#### 33.642 MPBomRoot.hpp

```

00001 #ifndef __MYPROVIDER_BOMROOT_HPP
00002 #define __MYPROVIDER_BOMROOT_HPP
00003
00008 // //////////////////////////////
00009 // Import section
00010 // //////////////////////////////
00011 // STL
00012 #include <string>
00013 // StdAir
00014 #include <stdair/bom/BomRoot.hpp>
00015
00016 namespace myprovider {
00017
00020     class BomRoot : public stdair::BomRoot {
00021     public:
00022         // //////////////////// Display support methods ///////////////////
00023         std::string toString() const { return describeKey(); }

```

```

00025
00028     const std::string describeKey() const { return std::string (""); }
00029
00030 public:
00031     BomRoot (const Key_T&);
00032     ~BomRoot ();
00033     BomRoot ();
00034     BomRoot (const BomRoot&);
00035
00036 };
00037
00038 }
00039
00040 #endif // __MYPROVIDER_BOMROOT_HPP

```

### 33.643 test/stdair/MPInventory.cpp File Reference

#### 33.644 MPInventory.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/stdair_inventory_types.hpp>
00008 // StdAir Test
00009 #include <test/stdair/MPInventory.hpp>
00010
00011 namespace myprovider {
00012
00013     // /////////////////////////////////
00014     Inventory::Inventory (const Key_T& iKey) : stdair::Inventory (iKey) {
00015         }
00016
00017     // /////////////////////////////////
00018     Inventory::~Inventory () {
00019         }
00020
00021     // /////////////////////////////////
00022     std::string Inventory::toString() const {
00023         std::ostringstream oStr;
00024         oStr << _key.toString();
00025         return oStr.str();
00026     }
00027
00028     // /////////////////////////////////
00029     const std::string Inventory::describeKey() const {
00030         return _key.toString();
00031     }
00032
00033     // /////////////////////////////////
00034     const std::string Inventory::describeKey() const {
00035         return _key.toString();
00036     }
00037 }

```

### 33.645 test/stdair/MPInventory.hpp File Reference

#### 33.646 MPInventory.hpp

```

00001 #ifndef __MYPROVIDER_INVENTORY_HPP
00002 #define __MYPROVIDER_INVENTORY_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // /////////////////////////////////
00007 // STL
00008 #include <list>
00009 // StdAir
00010 #include <stdair/bom/Inventory.hpp>
00011
00012 namespace myprovider {
00013
00014     class Inventory : public stdair::Inventory {
00015         public:
00016             // ///////////////////// Display support methods ///////////////////
00017             std::string toString() const;
00018
00019             const std::string describeKey() const;
00020
00021         public:
00022             Inventory (const Key_T&);
00023             ~Inventory ();
00024
00025     };
00026
00027 }
00028
00029 
```

```

00036     Inventory ();
00037     Inventory (const Inventory&);
00038 };
00039
00040 // /////////// Type definitions //////////
00041 typedef std::list<Inventory*> InventoryList_T;
00042
00043
00044 }
00045 #endif // __MYPROVIDER_INVENTORY_HPP

```

### 33.647 test/stdair/StandardAirlineITTestSuite.cpp File Reference

#### 33.648 StandardAirlineITTestSuite.cpp

```

00001 // /////////////////////////////////
00002 // Import section
00003 // /////////////////////////////////
00004 // STL
00005 #include <iostream>
00006 #include <fstream>
00007 #include <string>
00008 // Boost MPL
00009 #include <boost/mpl/push_back.hpp>
00010 #include <boost/mpl/vector.hpp>
00011 #include <boost/mpl/at.hpp>
00012 #include <boost/mpl/assert.hpp>
00013 #include <boost/type_traits/is_same.hpp>
00014 // Boost Unit Test Framework (UTF)
00015 #define BOOST_TEST_DYN_LINK
00016 #define BOOST_TEST_MAIN
00017 #define BOOST_TEST_MODULE StdAirTest
00018 #if BOOST_VERSION >= 103900
00019 #include <boost/test/unit_test.hpp>
00020 #else // BOOST_VERSION >= 103900
00021 #include <boost/test/test_tools.hpp>
00022 #include <boost/test/results_reporter.hpp>
00023 #include <boost/test/unit_test_suite.hpp>
00024 #include <boost/test/output_test_stream.hpp>
00025 #include <boost/test/unit_test_log.hpp>
00026 #include <boost/test/framework.hpp>
00027 #include <boost/test/detail/unit_test_parameters.hpp>
00028 #endif // BOOST_VERSION >= 103900
00029 // Boost Serialisation
00030 #include <boost/archive/text_oarchive.hpp>
00031 #include <boost/archive/text_iarchive.hpp>
00032 // StdAir
00033 #include <stdair/stdair_inventory_types.hpp>
00034 #include <stdair/service/logger.hpp>
00035 #include <stdair/STDAIR_Service.hpp>
00036 // StdAir Test Suite
00037 #include <stdair/stdair_inventory_types.hpp>
00038 #include <stdair/service/logger.hpp>
00039 #include <stdair/basic/float_utils.hpp>
00040 #include <stdair/bom/BomDisplay.hpp>
00041 #include <stdair/bom/BomRoot.hpp>
00042 #include <stdair/bom/BomManager.hpp>
00043 #include <stdair/factory/FacBom.hpp>
00044 #include <stdair/factory/FacBomManager.hpp>
00045 #include <stdair/factory/FacBomManager.hpp>
00046 // StdAir Test Suite
00047 #include <test/stdair/StdairTestLib.hpp>
00048 #include <test/stdair/MPIInventory.hpp>
00049
00050 namespace boost_utf = boost::unit_test;
00051
00052 #if BOOST_VERSION >= 103900
00053
00054 // (Boost) Unit Test XML Report
00055 std::ofstream utfReportStream ("StandardAirlineITTestSuite_utfresults.xml");
00056
00057 struct UnitTestConfig {
00058     UnitTestConfig() {
00059         boost_utf::unit_test_log.set_stream (utfReportStream);
00060         boost_utf::unit_test_log.set_format (boost_utf::XML);
00061         boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
00062         // boost_utf::unit_test_log.set_threshold_level (boost_utf::log_successful_tests);
00063     }
00064
00065     ~UnitTestConfig() {
00066     }
00067 };
00068
00069
00070 // ////////////////// Main: Unit Test Suite ///////////////////
00071
00072 };
00073
00074
00075 // ////////////////// Main: Unit Test Suite ///////////////////
00076
00077 // Set the UTF configuration (re-direct the output to a specific file)

```

```

00078 BOOST_GLOBAL_FIXTURE (UnitTestConfig);
00079
00080 // Start the test suite
00081 BOOST_AUTO_TEST_SUITE (master_test_suite)
00082
00083
00087 BOOST_AUTO_TEST_CASE (float_comparison_test) {
00088     float a = 0.2f;
00089     a = 5*a;
00090     const float b = 1.0f;
00091
00092     // Test the Boost way
00093     BOOST_CHECK_MESSAGE (a == b, "The two floats (" << a << " and " << b
00094             << ") should be equal, but are not");
00095     BOOST_CHECK_CLOSE (a, b, 0.0001);
00096
00097     // Test the Google way
00098     const FloatingPoint<float> lhs (a), rhs (b);
00099     BOOST_CHECK_MESSAGE (lhs.AlmostEquals (rhs),
00100             "The two floats (" << a << " and " << b
00101             << ") should be equal, but are not");
00102 }
00103
00108 BOOST_AUTO_TEST_CASE (mpl_structure_test) {
00109     const stdair::ClassCode_T lBookingClassCodeA ("A");
00110     const stdair_test::BookingClass lA (lBookingClassCodeA);
00111     const stdair_test::Cabin lCabin (lA);
00112
00113     BOOST_CHECK_EQUAL (lCabin.toString(), lBookingClassCodeA);
00114     BOOST_CHECK_MESSAGE (lCabin.toString() == lBookingClassCodeA,
00115             "The cabin key, '" << lCabin.toString()
00116             << "' is not equal to '" << lBookingClassCodeA << "'");
00117
00118     // MPL
00119     typedef boost::mpl::vector<stdair_test::BookingClass> MPL_BookingClass;
00120     typedef boost::mpl::push_back<MPL_BookingClass,
00121             stdair_test::Cabin>::type types;
00122
00123     if (boost::is_same<stdair_test::BookingClass,
00124                         stdair_test::Cabin::child>::value == false) {
00125         BOOST_ERROR ("The two types must be equal, but are not");
00126     }
00127
00128     if (boost::is_same<boost::mpl::at_c<types, 1>::type,
00129                         stdair_test::Cabin::value == false) {
00130         BOOST_ERROR ("The type must be stdair_test::Cabin, but is not");
00131     }
00132 }
00133
00137 BOOST_AUTO_TEST_CASE (stdair_service_initialisation_test) {
00138     // Output log File
00139     const std::string lLogFilename ("StandardAirlineITTestSuite_init.log");
00140
00141     // Set the log parameters
00142     std::ofstream logOutputFile;
00143
00144     // Open and clean the log outputfile
00145     logOutputFile.open (lLogFilename.c_str());
00146     logOutputFile.clear();
00147
00148     // Initialise the stdair BOM
00149     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00150         logOutputFile);
00151     stdair::STDAIR_Service stdairService (lLogParams);
00152
00153     // Retrieve (a reference on) the top of the persistent BOM tree
00154     stdair::BomRoot& lPersistentBomRoot = stdairService.getPersistentBomRoot ();
00155
00156     // Retrieve the BomRoot key, and compare it to the expected one
00157     const std::string& lBomRootKeyStr = lPersistentBomRoot.describeKey();
00158     const std::string lBomRootString (" -- ROOT -- ");
00159
00160     // DEBUG
00161     STDAIR_LOG_DEBUG ("The BOM root key is '" << lBomRootKeyStr
00162             << "'. It should be equal to '" << lBomRootString << "'");
00163
00164     BOOST_CHECK_EQUAL (lBomRootKeyStr, lBomRootString);
00165     BOOST_CHECK_MESSAGE (lBomRootKeyStr == lBomRootString,
00166             "The BOM root key, '" << lBomRootKeyStr
00167             << "'", should be equal to '" << lBomRootString
00168             << "'", but is not.");
00169
00170     // Build a sample BOM tree
00171     stdairService.buildSampleBom();
00172
00173     // DEBUG: Display the whole BOM tree
00174     const std::string& lCSVDump = stdairService.csvDisplay ();

```

```

00174     STDAIR_LOG_DEBUG (lCSVDump);
00175
00176     // Close the Log outputFile
00177     logOutputFile.close();
00178 }
00179
00183 BOOST_AUTO_TEST_CASE (bom_structure_instantiation_test) {
00184     // Step 0.0: initialisation
00185     // Create the root of a Bom tree (i.e., a BomRoot object)
00186     stdair::BomRoot& lBomRoot =
00187         stdair::FacBom<stdair::BomRoot>::instance().
00188         create();
00189
00190     // Step 0.1: Inventory level
00191     // Create an Inventory (BA)
00192     const stdair::AirlineCode_T lBAAirlineCode ("BA");
00193     const stdair::InventoryKey lBAKey (lBAAirlineCode);
00194     myprovider::Inventory& lBAInv =
00195         stdair::FacBom<myprovider::Inventory>::instance().
00196         create (lBAKey);
00197     stdair::FacBomManager::addToList (lBomRoot, lBAInv);
00198
00199     BOOST_CHECK_EQUAL (lBAInv.describeKey(), lBAAirlineCode);
00200     BOOST_CHECK_MESSAGE (lBAInv.describeKey() == lBAAirlineCode,
00201                         "The inventory key, '" << lBAInv.describeKey()
00202                         << "'", should be equal to '" << lBAAirlineCode
00203                         << "'", but is not");
00204
00205     // Create an Inventory for AF
00206     const stdair::AirlineCode_T lAFAirlineCode ("AF");
00207     const stdair::InventoryKey lAFKey (lAFAirlineCode);
00208     myprovider::Inventory& lAFInv =
00209         stdair::FacBom<myprovider::Inventory>::instance().
00210         create (lAFKey);
00211     stdair::FacBomManager::addToList (lBomRoot, lAFInv);
00212
00213     BOOST_CHECK_EQUAL (lAFInv.describeKey(), lAFAirlineCode);
00214     BOOST_CHECK_MESSAGE (lAFInv.describeKey() == lAFAirlineCode,
00215                         "The inventory key, '" << lAFInv.describeKey()
00216                         << "'", should be equal to '" << lAFAirlineCode
00217                         << "'", but is not");
00218
00219     // Browse the inventories
00220     const myprovider::InventoryList_T& lInventoryList =
00221         stdair::BomManager::getList<myprovider::Inventory> (lBomRoot);
00222     const std::string lInventoryKeyArray[2] = {lBAAirlineCode, lAFAirlineCode};
00223     short idx = 0;
00224     for (myprovider::InventoryList_T::const_iterator itInv =
00225          lInventoryList.begin(); itInv != lInventoryList.end();
00226          ++itInv, ++idx) {
00227         const myprovider::Inventory* lInv_ptr = *itInv;
00228         BOOST_REQUIRE (lInv_ptr != NULL);
00229
00230         BOOST_CHECK_EQUAL (lInventoryKeyArray[idx], lInv_ptr->describeKey());
00231         BOOST_CHECK_MESSAGE (lInventoryKeyArray[idx] == lInv_ptr->describeKey(),
00232                             "They inventory key, '" << lInventoryKeyArray[idx]
00233                             << "'", does not match that of the Inventory object: '" <<
00234                             lInv_ptr->describeKey() << "'");
00235     }
00236 }
00237
00238 BOOST_AUTO_TEST_CASE (bom_structure_serialisation_test) {
00239
00240     // Backup (thanks to Boost.Serialisation) file
00241     const std::string lBackupFilename = "StandardAirlineITTestSuite_serial.txt";
00242
00243     // Output log File
00244     const std::string lLogFilename ("StandardAirlineITTestSuite_serial.log");
00245
00246     // Set the log parameters
00247     std::ofstream logOutputFile;
00248
00249     // Open and clean the log outputFile
00250     logOutputFile.open (lLogFilename.c_str());
00251     logOutputFile.clear();
00252
00253     // Initialise the stdair BOM
00254     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00255                                         logOutputFile);
00256     stdair::STDAIR_Service stdairService (lLogParams);
00257
00258     // Build a sample BOM tree
00259     stdairService.buildSampleBom();
00260
00261     // Retrieve (a reference on) the top of the persistent BOM tree
00262     stdair::BomRoot& lPersistentBomRoot = stdairService.getPersistentBomRoot();
00263

```

```

00263 // DEBUG: Display the whole BOM tree
00264 const std::string& lCSVDump = stdairService.csvDisplay ();
00265 STDAIR_LOG_DEBUG (lCSVDump);
00266
00267 // Clone the persistent BOM
00268 stdairService.clonePersistentBom ();
00269
00270 // Retrieve the BomRoot key, and compare it to the expected one
00271 const std::string lBAInvKeyStr ("BA");
00272 stdair::Inventory* lBAInv_ptr =
00273     lPersistentBomRoot.getInventory (lBAInvKeyStr);
00274
00275 // DEBUG
00276 STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the ''"
00277     << lBAInvKeyStr << "' key.");
00278
00279 BOOST_REQUIRE_MESSAGE (lBAInv_ptr != NULL,
00280     "An Inventory object should exist with the key, ''"
00281     << lBAInvKeyStr << "'.");
00282
00283 // create and open a character archive for output
00284 std::ofstream ofs (lBackupFilename.c_str());
00285
00286 // save data to archive
00287 {
00288     boost::archive::text_oarchive oa (ofs);
00289     // write class instance to archive
00290     oa << lPersistentBomRoot;
00291     // archive and stream closed when destructors are called
00292 }
00293
00294 // ... some time later restore the class instance to its orginal state
00295 stdair::BomRoot& lRestoredBomRoot =
00296     stdair::FacBom<stdair::BomRoot>::instance().
00297     create();
00298 {
00299     // create and open an archive for input
00300     std::ifstream ifs (lBackupFilename.c_str());
00301     boost::archive::text_iarchive ia(ifs);
00302     // read class state from archive
00303     ia >> lRestoredBomRoot;
00304     // archive and stream closed when destructors are called
00305 }
00306
00307 // DEBUG: Display the whole restored BOM tree
00308 const std::string& lRestoredCSVDump =
00309     stdairService.csvDisplay(lRestoredBomRoot);
00310 STDAIR_LOG_DEBUG (lRestoredCSVDump);
00311
00312 // Retrieve the BomRoot key, and compare it to the expected one
00313 const std::string& lBomRootKeyStr = lRestoredBomRoot.describeKey ();
00314 const std::string lBomRootString (" -- ROOT -- ");
00315
00316 // DEBUG
00317 STDAIR_LOG_DEBUG ("The BOM root key is '" << lBomRootKeyStr
00318     << "'. It should be equal to '" << lBomRootString << "'");
00319
00320 BOOST_CHECK_EQUAL (lBomRootKeyStr, lBomRootString);
00321 BOOST_CHECK_MESSAGE (lBomRootKeyStr == lBomRootString,
00322     "The BOM root key, '" << lBomRootKeyStr
00323     << "'", should be equal to '" << lBomRootString
00324     << "'", but is not.");
00325
00326 // Retrieve the Inventory
00327 stdair::Inventory* lRestoredBAInv_ptr =
00328     lRestoredBomRoot.getInventory (lBAInvKeyStr);
00329
00330 // DEBUG
00331 STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the ''"
00332     << lBAInvKeyStr << "' key in the restored BOM root.");
00333
00334 BOOST_CHECK_MESSAGE (lRestoredBAInv_ptr != NULL,
00335     "An Inventory object should exist with the key, ''"
00336     << lBAInvKeyStr << "' in the restored BOM root.");
00337
00338 // Close the Log outputFile
00339 logOutputFile.close();
00340
00341 BOOST_AUTO_TEST_CASE (bom_structure_clone_test) {
00342
00343 // Output log File
00344 const std::string lLogFilename ("StandardAirlineITTestSuite_clone.log");
00345
00346 // Set the log parameters
00347 std::ofstream logOutputFile;
00348
00349
00350
00351

```

```

00352 // Open and clean the log outputFile
00353 logOutputFile.open (lLogFilename.c_str());
00354 logOutputFile.clear();
00355
00356 // Initialise the stdair BOM
00357 const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
logOutputFile);
00358 stdair::STDAIR_Service stdairService (lLogParams);
00359
00360 // Build a sample BOM tree
00361 stdairService.buildSampleBom();
00362
00363 // Retrieve (a constant reference on) the top of the persistent BOM tree
00364 const stdair::BomRoot& lPersistentBomRoot =
00365 stdairService.getPersistentBomRoot();
00366
00367 // DEBUG: Display the whole persistent BOM tree
00368 const std::string& lCSVDump = stdairService.csvDisplay ();
00369 STDAIR_LOG_DEBUG ("Display the persistent BOM tree.");
00370 STDAIR_LOG_DEBUG (lCSVDump);
00371
00372 // Clone the persistent BOM
00373 stdairService.clonePersistentBom ();
00374
00375 // Retrieve (a reference on) the top of the clone BOM tree
00376 stdair::BomRoot& lCloneBomRoot = stdairService.getBomRoot();
00377
00378 // DEBUG: Display the clone BOM tree after the clone process.
00379 const std::string& lAfterCloneCSVDump =
00380 stdairService.csvDisplay(lCloneBomRoot);
00381 STDAIR_LOG_DEBUG ("Display the clone BOM tree after the clone process.");
00382 STDAIR_LOG_DEBUG (lAfterCloneCSVDump);
00383
00384 // Retrieve the clone BomRoot key, and compare it to the persistent BomRoot
00385 // key.
00386 const std::string& lCloneBomRootKeyStr = lCloneBomRoot.describeKey();
00387 const std::string& lPersistentBomRootKeyStr =
00388 lPersistentBomRoot.describeKey();
00389
00390 // DEBUG
00391 STDAIR_LOG_DEBUG ("The clone BOM root key is '" << lCloneBomRootKeyStr
00392 << "'. It should be equal to '" <<
00393 << lPersistentBomRootKeyStr << "'");
00394
00395 BOOST_CHECK_EQUAL (lCloneBomRootKeyStr, lPersistentBomRootKeyStr);
00396 BOOST_CHECK_MESSAGE (lCloneBomRootKeyStr == lPersistentBomRootKeyStr,
00397 "The clone BOM root key, '" << lCloneBomRootKeyStr
00398 << "', should be equal to '" << lPersistentBomRootKeyStr
00399 << "', but is not.");
00400
00401 // Retrieve the BA inventory in the clone BOM root
00402 const std::string lBAInvKeyStr ("BA");
00403 stdair::Inventory* lCloneBAInv_ptr =
00404 lCloneBomRoot.getInventory (lBAInvKeyStr);
00405
00406 // DEBUG
00407 STDAIR_LOG_DEBUG ("There should be an Inventory object corresponding to the '" << lBAInvKeyStr << "' key in the clone BOM root.");
00408
00409 BOOST_CHECK_MESSAGE (lCloneBAInv_ptr != NULL,
00410 "An Inventory object should exist with the key, '" << lBAInvKeyStr << "' in the clone BOM root.");
00411
00412
00413
00414 // Close the Log outputFile
00415 logOutputFile.close();
00416 }
00417
00418 // End the test suite
00419 BOOST_AUTO_TEST_SUITE_END()
00420
00421 #else // BOOST_VERSION >= 103900
00422 boost_utp::test_suite* init_unit_test_suite (int, char* [])
00423 boost_utp::test_suite* test = BOOST_TEST_SUITE ("Unit test example 1");
00424 return test;
00425 }
00426 #endif // BOOST_VERSION >= 103900
00427

```

### 33.649 test/stdair/StdairTestLib.hpp File Reference

```
#include <string>
#include <sstream>
```

## Classes

- struct stdair\_test::BookingClass
- struct stdair\_test::Cabin

## Namespaces

- stdair\_test

## 33.650 StdairTestLib.hpp

```
00001 #ifndef __STDAIR_TST_STDAIR_TEST_LIB_HPP
00002 #define __STDAIR_TST_STDAIR_TEST_LIB_HPP
00003
00004 // /////////////////////////////////
00005 // Import section
00006 // ///////////////////////////////
00007 #include <string>
00008 #include <iostream>
00009
00010 namespace stdair_test {
00011
00012     struct BookingClass {
00013         std::string _classCode;
00014         BookingClass (const std::string& iClassCode)
00015             : _classCode (iClassCode) {
00016
00017             }
00018
00019             std::string toString() const {
00020                 std::ostringstream oStr;
00021                 oStr << _classCode;
00022                 return oStr.str();
00023             }
00024         };
00025
00026     struct Cabin {
00027         BookingClass _bookingClass;
00028         Cabin (const BookingClass& iBkgClass)
00029             : _bookingClass (iBkgClass) {
00030
00031             }
00032
00033             std::string toString() const {
00034                 std::ostringstream oStr;
00035                 oStr << _bookingClass._classCode;
00036                 return oStr.str();
00037             }
00038
00039         typedef BookingClass child;
00040     };
00041
00042 #endif // __STDAIR_TST_STDAIR_TEST_LIB_HPP
```

