

Business rules

Below are listed the business rules that one would expect to be true in the data. Nevertheless, neither the processes nor the DBMS enforced them. Thus, they may have been violated giving rise to quality problems.

AMOS database

Identifiers:

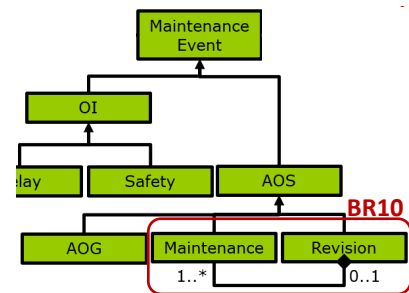
- BR1. *workPackageID* is an identifier of *WorkPackage*.
- BR2. *workOrderID* is an identifier of *WorkOrders/ForecastedOrders/TechnicalLogBookOrders*.
- BR3. *maintenanceID* is an identifier of *MaintenanceEvents/OperationInterruption*.
- BR4. *file* is an identifier of *Attachments*.

Datatypes/Domains:

- BR5. *ReportKind* values "PIREP" and "MAREP" refer to *pilot* and *maintenance* personnel as reporters, respectively.
- BR6. *MELCategory* values A,B,C,D refer to 3,10,30,120 days of allowed delay in the repairing of the problem in the aircraft, respectively.
- BR7. *airport* in *MaintenanceEvents* must have a value.

Other business rules:

- BR8. In *OperationInterruption*, *departure* must coincide with the date of the *flightID* (see below how it is composed).
- BR9. The flight registered in *OperationInterruption*, must exist in the *Flights* of AIMS database, and be marked as "delayed" (i.e., *delayCode* is not null) with the same IATA delay code.
- BR10. In *MaintenanceEvents*, the events of kind *Maintenance* that correspond to a *Revision*, are those of the **same aircraft** whose **interval is completely included in that of the Revision**. For all of them, the **airport must be the same**.



- BR11. In *MaintenanceEvents*, maintenance duration must have the expected length according to the kind of maintenance (*Delay* – minutes, *Safety* – undetermined/unlimited, *AircraftOnGround* - hours, *Maintenance* – hours to max 1 day, *Revision* – days to 1 month).

AIMS database

Identifiers:

BR12. *flightID* is an identifier of *Flights*.

Datatypes/Domains:

BR13. *flightID* is derived by concatenating the following values:

Date-Origin-Destination-FlightNumber-AircraftRegistration (lengths: 6+1+3+1+3+1+4+1+6=26).

Other business rules:

BR14. In a *Slot*, *scheduledArrival* must be posterior to the *scheduledDeparture*.

BR15. A *flight* is not longer than 24 hours.

BR16. All the hours of a *flight* are imputed to the date of its *scheduledDeparture*.

BR17. Two *Slots* of the same aircraft cannot overlap.

BR18. In *Flights*, departure and arrival airports must be those in the *flightID* (unless this flight has been diverted).

BR19. In a *Flight*, *actualArrival* is posterior to *actualDeparture*.