# Change Log for OSS Trouble Ticket API version 1.1

## OSS through Java™ Initiative

Axel Terfloth, IP VALUE GmbH.

TT-API-SPEC_change_log.1.1.doc

# Executive Summary

This document summarizes the changes to the OSS Trouble Ticket API (JSR 91) specification Version 1.1. The main purpose of this version is

- follow the new Draft of the OSS/J Design Guideline v1.2
- remove the ITU-T X.790 based Trouble Ticket Value Type definitions from the specification
- use of the trouble ticketing related Core Business Entities (CBE) interface definitions as defined in the OSS Common API (JSR 144) v1.2

There are two lists of changes:

- "proposed" changes are those modifications that are included in OSS Trouble Ticket API version 1.1.
- "deferred" changes are those modifications that are not included in OSS Common API version 1.1, whether for time reasons or because it was considered that the changes were too significant.

The detailed description of changes in this document is principally of interest to people implementing the OSS Trouble Ticket API specification.

# Table of Contents

# 1  Preface

## 1.1  Objectives

This document lists all the changes that have been requested for the maintenance release v1.1 version of the OSS Trouble Ticket API, JSR91.

The changes have been collected through:

- Bug parade: Bug and Request For Evolution (RFE) submitted by Java developers

- OSS/J specification leaders: evolution necessary to incorporate new common objects and to improve the common interfaces and Reference Implementation that will be "inherited" by all maintenance releases of the existing OSS APIs

- OSS/J Architectural Board: The common API needs to reflect the necessary new architectural recommendation (new CBE, etc)

## 1.2  Audience

This document is used to start a Maintenance Release of the OSS Trouble Ticket API JSR 91.

According to the JCP$^{SM}$:

The Maintenance Lead (ML) will arrange to have all change items placed into the PROPOSED section of the Change Log (this document) and then send a request to the PMO to initiate a Maintenance Review. The PMO will make a public announcement and begin the review.

## 1.3  Approval and Distribution

The ML may choose to modify one or more of the proposed changes based on comments received during review.

## 1.4  Related Information

oss_trouble_ticket-1_0-fr-spec.zip: contains the Version 1.0 of the OSS Trouble Ticket API, JSR 91, http://java.sun.com/products/oss/start_download.html

## 1.5  **Revision History**

| Date | Version | Author | State | Comments |
|---|---|---|---|---|
| November 2005 | 1.1 | Axel Terfloth, Sun Microsystems | Initial Draft | • Remove X.790 based trouble ticket definitions<br>• Use of trouble ticket definitions from CBE<br>• Changes to JVTTroubleTicketSession |

# 2  Summary of changes

- o  [Replace X.790 trouble ticket data model by CBE trouble ticket data model](#)
- o  [Adopt OSS Common API / CBE v1.2](#)
- o  [Introduce new named query pattern](#)
- o  [Introduce update procedures technically](#)
- o  [Using newly defined exceptions](#)
- o  [Changes to javax.oss.trouble.JVTTroubleTicketSession](#)
- o  [Remove X.790-specifics from event interfaces](#)

# 3  Proposed changes

## 3.1  Replace X.790 trouble ticket data model by CBE trouble ticket data model

The trouble ticket data model as provided by the OSS Trouble Ticket API v1.0 is based on the ITU-T X.790 standard. This standard defines a specific trouble ticket data model which is very detailed.

For the adoption of the OSS Trouble Ticket API the X.790 based data model is too specific. In order to improve the adoptability of the OSS Trouble Ticket API the X.790 based data model is removed from the specification and is replaced by a simpler and more generic data model from the Common Business Entities (CBE) defined in OSS Common API v1.2.

The X.790 based data model is provided as open source as an extension to the OSS Trouble Ticket API v1.1.

### 3.1.1  Remove X.790 based interfaces and related data types

The following java interfaces of are removed from the java package `javax.oss.trouble`.

- `AccessHours`
- `ActivityCode`
- `ActivityDuration`
- `ActivityDurationList`
- `ActivityType`
- `Address`
- `AlarmValueList`
- `Authorization`
- `CloseOutVerification`
- `CustomerRoleAssignment`
- `DayOfWeek`
- `Escalation`
- `EscalationException`
- `EscalationList`
- `InitiatingMode`
- `NorthAmericaAddress`
- `OrgLevel`
- `PerceivedTroubleSeverity`
- `PersonReach`
- `PreferredPriority`
- `QueryByEscalationResponse`
- `QueryByEscalationValue`
- `RepairActivity`
- `RepairActivityList`

- `RepeatReport`
- `RequestState`
- `Role`
- `SPRoleAssignment`
- `SuspectObject`
- `Time`
- `TimeInterval`
- `TimeLength`
- `TroubleFound`
- `TroubleLocationInfo`
- `TroubleStatus`
- `TroubleTicketStatus`
- `TroubleTicketValue`
- `TroubleType`

## 3.2  Adopt OSS Common API / CBE v1.2

OSS Trouble Ticket API v1.1 is based on OSS Common API v1.2 and follows the new Draft of the OSS/J Design Guideline v1.2. This leads to some changes in the OSS Trouble Ticket API v1.1.

### 3.2.1  Introduce new named query pattern

The patterns for performing and defining queries have been updated in OSS Common API v1.2. The OSS Trouble Ticket API changes accordingly.

- The query value interface
  `javax.oss.trouble.QueryAllOpenTroubleTicketsValue`
  now extends the new interface `javax.oss.NamedQueryValue`.

- The queryTroubleTickets() method of the JVTTroubleTicketSession
  is deprecated. The new query() method as defined in
  javax.oss.JVTSession will be used instead.

### 3.2.2  Introduce update procedures technically

By extending the javax.oss.JVTSession interface the javax.oss.trouble.JVTTroubleTicketSession interface inherits the definition of the update procedure related methods.

Even there are no concrete update procedures defined in the OSS Trouble Ticket API the specification mandates implementers to support these methods.

### 3.2.3 Using newly defined exceptions

The API adopts the new exception classes defined in OSS Common API v1.2.

- `javax.oss.OssUnsupportedOperationException` replaces `javax.oss.UnsupportedOperationException`

- `javax.oss.OssIllegalArgumentException` replaces `javax.oss.IllegalArgumentException`

- `javax.oss.OssSetException` replaces `javax.oss.SetException`

- `javax.oss.OssResyncRequiredException` replaces `javax.oss.ResyncRequiredException`

See list of changes to JVTTroubleTicketSession for more details.

## 3.3  Changes to javax.oss.trouble.JVTTroubleTicketSession

The changes to the interface javax.oss.trouble.JVTTroubleTicketSession are driven by the adoption of the OSS Common API v1.2 on the one hand and the replacement of the X.790 based trouble ticket model on the other hand.

The changes include:

- Removed X.790 specific method definitions

- Replace the interface javax.oss.trouble.TroubleTicketValue by javax.oss.cbe.trouble.TroubleTicketValue in parameter and return types

- Replace the interface javax.oss.trouble.TroubleTicketKey by javax.oss.cbe.trouble.TroubleTicketKey in parameter and return types

- Removed or replaced X.790 specific parameters in operations.

- Replacement of exception types as described above.

### 3.3.1 Removed Methods

All X.790 specific methods are removed from the JVTTroubleTicketSession. The following methods are removed:

- escalateTroubleTicketByKey
- escalateTroubleTicketsByKeys
- escalateTroubleTicketsByTemplate
- escalateTroubleTicketsByTemplates
- tryEscalateTroubleTicketsByKeys
- tryEateTroubleTicketsByTemplate
- tryEateTroubleTicketsByTemplates

### 3.3.2 Changes to makeTroubleTicketValue

The following changes apply:

- replace return type javax.oss.trouble.TroubleTicketValue
  with javax.oss.cbe.trouble.TroubleTicketValue

- replace Exception javax.oss.IllegalArgumentException
  with javax.oss.OssIllegalArgumentException

The new definition of the method is:

```
/**
 * Create a Value Type object for a specific Trouble Ticket type.
 * Not to be confused with the creation of a Trouble Ticket.
 * The Session Bean is used as a factory for the creation of Value Types.
 *
 * @param valueType The fully qualified type of the TroubleTicketValue to be created.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException System Level Exception
 */
javax.oss.cbe.trouble.TroubleTicketValue makeTroubleTicketValue( String valueType)
                     throws javax.oss.OssIllegalArgumentException,
                     java.rmi.RemoteException;
```

### 3.3.3 Changes to queryTroubleTickets

The following changes apply:

- the method is deprecated now since it uses the deprecated
  javax.oss.QueryValue interface. The query() method defined the
  javax.oss.JVTSession interface, which uses the new
  NamedQueryValue concept, should be used instead.

- replace Exception javax.oss.IllegalArgumentException
  with javax.oss.OssIllegalArgumentException

The new definition of the method is:

```
 /**
  * Query Trouble Tickets using a Query Value.
  *
  * @param queryValue A QueryValue created via <CODE>makeTroubleTicketValue</CODE>
  * @param attrNames Names of the attributes to be populated in returned
TroubleTicketValue(s)
  * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
  * @exception java.rmi.RemoteException          System Level Exception
  *
  * @deprecated Use {@link javax.oss.JVTSession#query) instead for {@link NamedQueryValue}
query types.
  */
 TroubleTicketValueIterator
        queryTroubleTickets( QueryValue queryValue , String[] attrNames)
                                throws javax.oss.OssIllegalArgumentException,
                                       java.rmi.RemoteException;
```

## 3.3.4  Changes to getTroubleTicketByKey

The following changes apply:

- replace return type `javax.oss.trouble.TroubleTicketValue` with `javax.oss.cbe.trouble.TroubleTicketValue`

- replace first parameter type `javax.oss.trouble.TroubleTicketKey` with `javax.oss.cbe.trouble.TroubleTicketKey`

- replace Exception `javax.oss.IllegalArgumentException` with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Get a Single Trouble Ticket given its Key.
 *
 * @param key        Trouble Ticket Key
 * @param attrNames Names of the attributes to be populated in returned TroubleTicketValue
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.ejb.ObjectNotFoundException  No Trouble Ticket found with provided Key
 * @exception java.rmi.RemoteException          System Level Exception
 */
javax.oss.cbe.trouble.TroubleTicketValue
       getTroubleTicketByKey(javax.oss.cbe.trouble.TroubleTicketKey key,
                             String[] attrNames)
                    throws javax.oss.OssIllegalArgumentException,
                           javax.ejb.ObjectNotFoundException,
                           java.rmi.RemoteException;
```

## 3.3.5  Changes to getTroubleTicketsByKeys

The following changes apply:

- replace return type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Get Multiple Trouble Tickets given their Keys
 *
 *
 * @param keys Trouble Ticket Keys
 * @param attrNames Names of the attributes to be populated in returned
TroubleTicketValue(s)
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.ejb.FinderException         No Trouble Ticket matching any of the
keys could be found
 * @exception java.rmi.RemoteException          System Level Exception
 */
javax.oss.cbe.trouble.TroubleTicketValue[]
                getTroubleTicketsByKeys(javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                                        String[] attrNames)
                            throws javax.oss.OssIllegalArgumentException,
                                   javax.ejb.FinderException,
                                   java.rmi.RemoteException;
```

## 3.3.6  Changes to getTroubleTicketsByTemplate

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Get Multiple Trouble Tickets matching a single
 * TroubleTicketValue template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param attrNames Names of the attributes to be populated in returned
TroubleTicketValue(s)
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.ejb.FinderException  No Trouble Ticket matching the template could be
```

```
found.
 * @exception java.rmi.RemoteException          System Level Exception
 */
TroubleTicketValueIterator
       getTroubleTicketsByTemplate(javax.oss.cbe.trouble.TroubleTicketValue template,
                                 String[] attrNames)
                     throws javax.oss.OssIllegalArgumentException,
                            javax.ejb.FinderException,
                            java.rmi.RemoteException;
```

### 3.3.7  Changes to getTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Get Trouble Tickets matching at least one
 * of multiple Trouble Ticket Value templates.
 *
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param attrNames Names of the attributes to be populated in returned
TroubleTicketValue(s)
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.ejb.FinderException No Trouble Ticket matching any of the templates
could be found.
 * @exception java.rmi.RemoteException          System Level Exception
 */
TroubleTicketValueIterator
       getTroubleTicketsByTemplates(javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                                 String[] attrNames)
                     throws javax.oss.OssIllegalArgumentException,
                            javax.ejb.FinderException,
                            java.rmi.RemoteException;
```

### 3.3.8  Changes to createTroubleTicketByValue

The following changes apply:

- replace return type `javax.oss.trouble.TroubleTicketKey`
  with `javax.oss.cbe.trouble.TroubleTicketKey`

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Create a Single Trouble Ticket.
 *
 * @param value  Trouble Ticket to be created
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.ejb.CreateException          Application level exception while trying
to create the Trouble Ticket.
 * @exception java.rmi.RemoteException           System Level Exception
 */
javax.oss.cbe.trouble.TroubleTicketKey
        createTroubleTicketByValue(javax.oss.cbe.trouble.TroubleTicketValue value)
                        throws  javax.oss.OssIllegalArgumentException,
                                javax.ejb.CreateException,
                                javax.ejb.DuplicateKeyException,
                                java.rmi.RemoteException;
```

### 3.3.9  Changes to createTroubleTicketsByValues

The following changes apply:

- replace return type `javax.oss.trouble.TroubleTicketKey[]`
  with `javax.oss.cbe.trouble.TroubleTicketKey[]`

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Creation of Multiple Trouble Tickets each with a different values
 *
 * @param values Trouble Tickets to be created
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException      Invalid Arguments
 * @exception javax.ejb.CreateException              Application level exception while
trying to create the Trouble Tickets.
 * @exception java.rmi.RemoteException               System Level Exception
 */
javax.oss.cbe.trouble.TroubleTicketKey[]
        createTroubleTicketsByValues(javax.oss.cbe.trouble.TroubleTicketValue[] values)
```

```
            throws  javax.oss.OssUnsupportedOperationException,
                    javax.oss.OssIllegalArgumentException,
                    javax.ejb.CreateException,
                    javax.ejb.DuplicateKeyException,
                    java.rmi.RemoteException;
```

### 3.3.10 Changes to tryCreateTroubleTicketsByValues

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Creation of Multiple Trouble Tickets
 *
 * @param values  Trouble Tickets to be created
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 */
TroubleTicketKeyResult[]
        tryCreateTroubleTicketsByValues(javax.oss.cbe.trouble.TroubleTicketValue[] values)
                        throws  javax.oss.OssIllegalArgumentException,
                                java.rmi.RemoteException;
```

### 3.3.11 Changes to setTroubleTicketByValue

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception `javax.oss.SetException` with
  `javax.oss.OssSetException`

- replace Exception `javax.oss.ResyncRequiredException`
  with `javax.oss.OssResyncRequiredException`

The new definition of the method is:

```
/**
 * Update a Single Trouble Ticket given a Trouble Ticket Value
 *
 * @param value Trouble Ticket Value with populated attributes to be set.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.OssSetException           Application level exception while
trying to set the attributes.
 * @exception javax.ejb.ObjectNotFoundException  No Trouble Ticket matching provided key
could be found.
 * @exception java.rmi.RemoteException           System Level Exception
 * @exception javax.oss.OssResyncRequiredException  If resyncRequired is set and targeted
ticket has a different lastUpdateVersionNumber.
 */
void setTroubleTicketByValue( javax.oss.cbe.trouble.TroubleTicketValue value,
                             boolean resyncRequired )
                    throws  javax.oss.OssIllegalArgumentException,
                            javax.oss.OssSetException,
                            javax.ejb.ObjectNotFoundException,
                            java.rmi.RemoteException,
                            javax.oss.OssResyncRequiredException;
```

## 3.3.12    Changes to setTroubleTicketsByValues

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception `javax.oss.SetException` with
  `javax.oss.OssSetException`

- replace Exception `javax.oss.ResyncRequiredException`
  with `javax.oss.OssResyncRequiredException`

The new definition of the method is:

```
/**
 * Atomic Update Multiple Trouble Tickets each with a different values
 *
 * @param values Trouble Ticket Values with populated attributes to be set.
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.OssSetException Application level exception while trying to update
the Trouble Tickets.
 * @exception javax.ejb.DuplicateKeyException The same Key is present in more than one of
the provided Trouble Tickets.
 * @exception javax.ejb.FinderException At least one of the Trouble Tickets could not be
```

```
found
 * @exception java.rmi.RemoteException  System Level Exception
 * @exception javax.oss.OssResyncRequiredException  resyncRequired is set to true and at
least one of the Trouble Ticket Value is
 *                                             not synchronized with the back-end
Trouble Ticket.
 */
void setTroubleTicketsByValues( javax.oss.cbe.trouble.TroubleTicketValue[] values,
                        boolean resyncRequired)
                   throws  javax.oss.OssUnsupportedOperationException,
                           javax.oss.OssIllegalArgumentException,
                           javax.oss.OssSetException,
                           javax.ejb.DuplicateKeyException ,
                           javax.ejb.FinderException ,
                           java.rmi.RemoteException,
                           javax.oss.OssResyncRequiredException;
```

### 3.3.13 Changes to trySetTroubleTicketsByValues

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Update of Multiple Trouble Tickets given their values.
 *
 * @param values  Trouble Ticket Values with populated attributes to be set.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 */

TroubleTicketKeyResult[]
      trySetTroubleTicketsByValues( javax.oss.cbe.trouble.TroubleTicketValue[] values,
                              boolean resychRequired)
                  throws  javax.oss.OssIllegalArgumentException,
                          java.rmi.RemoteException;
```

### 3.3.14 Changes to setTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- replace second parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception `javax.oss.SetException` with
  `javax.oss.OssSetException`

The new definition of the method is:

```
/**
 * Atomic Update Multiple Trouble Tickets to the same value.
 *
 * @param value  keys Targeted Trouble Ticket Keys
 * @param value  Trouble Ticket Value with populated attributes to be set.
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not upported
by the implementation.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.OssSetException  Application level exception while trying to
update the Trouble Tickets.
 * @exception javax.ejb.FinderException  At least one of the Trouble Tickets could not be
found
 * @exception java.rmi.RemoteException  System Level Exception
 */
void setTroubleTicketsByKeys( javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                              javax.oss.cbe.trouble.TroubleTicketValue value)
                    throws  javax.oss.OssUnsupportedOperationException,
                            javax.oss.OssIllegalArgumentException,
                            javax.oss.OssSetException,
                            javax.ejb.FinderException,
                            java.rmi.RemoteException;
```

### 3.3.15     Changes to trySetTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- replace second parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

The new definition of the method is:

```
/**
 * Best Effort Update Multiple Trouble Tickets given their Keys
 * to the same value.
 *
 * @param value  keys Targeted Trouble Ticket Keys
 * @param value  Trouble Ticket Value with populated attributes to be set.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 */
TroubleTicketKeyResult[]
        trySetTroubleTicketsByKeys(javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                                   javax.oss.cbe.trouble.TroubleTicketValue value)
                     throws  javax.oss.OssIllegalArgumentException,
                             java.rmi.RemoteException;
```

### 3.3.16     Changes to setTroubleTicketsByTemplate

The following changes apply:

- replace first and second parameter type
  javax.oss.trouble.TroubleTicketValue with
  javax.oss.cbe.trouble.TroubleTicketValue

- replace Exception
  javax.oss.UnsupportedOperationException with
  javax.oss.OssUnsupportedOperationException

- replace Exception javax.oss.IllegalArgumentException
  with javax.oss.OssIllegalArgumentException

- replace Exception javax.oss.SetException with
  javax.oss.OssSetException

The new definition of the method is:

```
/**
 * Atomic Update Multiple Trouble Tickets matching a template to the same value.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param value Trouble Ticket Value with populated attributes to be set.
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.OssSetException Application level exception while trying to update
the Trouble Tickets.
 * @exception javax.ejb.FinderException At least one of the Trouble Tickets could not be
found
 * @exception java.rmi.RemoteException System Level Exception
 */
void setTroubleTicketsByTemplate(javax.oss.cbe.trouble.TroubleTicketValue template,
                                 javax.oss.cbe.trouble.TroubleTicketValue value)
                     throws  javax.oss.OssUnsupportedOperationException,
                             javax.oss.OssIllegalArgumentException,
                             javax.oss.OssSetException,
                             javax.ejb.FinderException,
                             java.rmi.RemoteException;
```

### 3.3.17 Changes to trySetTroubleTicketsByTemplate

The following changes apply:

- replace first and second parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Update of Multiple Trouble Tickets matching a single
 * Trouble Ticket value template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param value Trouble Ticket Value with populated attributes to be set.
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 */
TroubleTicketKeyResultIterator
        trySetTroubleTicketsByTemplate(javax.oss.cbe.trouble.TroubleTicketValue template,
                                       javax.oss.cbe.trouble.TroubleTicketValue value,
                                       boolean failuresOnly)
                throws javax.oss.OssIllegalArgumentException,
                       java.rmi.RemoteException;
```

### 3.3.18 Changes to setTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace second parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception `javax.oss.SetException` with
  `javax.oss.OssSetException`

The new definition of the method is:

```
/**
 * Atomic Update of Multiple Trouble Tickets matching at least one of the templates
 * to the same value
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param value Trouble Ticket Value with populated attributes to be set.
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.OssSetException Application level exception while trying to update
the Trouble Tickets.
 * @exception javax.ejb.DuplicateKeyException The same Key is present in more than one
template.
 * @exception javax.ejb.FinderException At least one of the Trouble Tickets could not be
found
 * @exception java.rmi.RemoteExceptio  System Level Exception
 */
void setTroubleTicketsByTemplates( javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                                   javax.oss.cbe.trouble.TroubleTicketValue value)
                    throws  javax.oss.OssUnsupportedOperationException,
                            javax.oss.OssIllegalArgumentException,
                            javax.oss.OssSetException,
                            javax.ejb.FinderException,
                            javax.ejb.DuplicateKeyException,
                            java.rmi.RemoteException;
```

### 3.3.19    Changes to trySetTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- replace second parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Update of Multiple Trouble Tickets matching at least one of the templates
 * to the same value
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param value Trouble Ticket Value with populated attributes to be set.
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
```

```
 * @exception java.rmi.RemoteException          System Level Exception
 */

TroubleTicketKeyResultIterator
       trySetTroubleTicketsByTemplates(
                            javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                            javax.oss.cbe.trouble.TroubleTicketValue value,
                            boolean failuresOnly)
                      throws javax.oss.OssIllegalArgumentException,
                            java.rmi.RemoteException;
```

## 3.3.20      Changes to closeTroubleTicketByKey

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey` with
  `javax.oss.cbe.trouble.TroubleTicketKey`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Close a Trouble Ticket given a Key
 *
 * @param key Targeted Trouble Ticket Key
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.trouble.CloseException   Application level exception while trying
to close the Trouble Ticket.
 * @exception javax.ejb.ObjectNotFoundException  No Trouble Ticket matching provided key
could be found.
 * @exception java.rmi.RemoteException          System Level Exception
 *
 * @see javax.oss.cbe.trouble.TroubleTicketState
 *
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
void closeTroubleTicketByKey( javax.oss.cbe.trouble.TroubleTicketKey key,
                            String troubleTicketState )
                      throws javax.oss.OssIllegalArgumentException,
                            javax.oss.trouble.CloseException,
                            javax.ejb.ObjectNotFoundException,
                            java.rmi.RemoteException;
```

### 3.3.21　Changes to closeTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- change type of  second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Close of  Multiple Trouble Tickets given their keys.
 *
 * @param keys  keys Targeted Trouble Ticket Keys
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException If the operation is not supported
by the implementation.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.trouble.CloseException Application level exception while trying to
close the Trouble Tickets.
 * @exception javax.ejb.FinderException  At least one of the Trouble Tickets could not be
found
 * @exception java.rmi.RemoteException System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
void closeTroubleTicketsByKeys(javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                               String troubleTicketState)
                    throws  javax.oss.OssUnsupportedOperationException,
                            javax.oss.OssIllegalArgumentException,
                            javax.oss.trouble.CloseException,
                            javax.ejb.FinderException,
                            java.rmi.RemoteException;
```

### 3.3.22　Changes to tryCloseTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Close of Multiple Trouble Tickets given their keys.
 *
 * @param keys Targeted Trouble Ticket Keys
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
*/
TroubleTicketKeyResult[]
       tryCloseTroubleTicketsByKeys( javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                            String troubleTicketState)
                  throws javax.oss.OssIllegalArgumentException,
                        java.rmi.RemoteException;
```

### 3.3.23    Changes to closeTroubleTicketsByTemplate

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Close of Multiple Trouble Tickets matching a template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException       Invalid Arguments
 * @exception javax.oss.trouble.CloseException         Application level exception while
trying to close the Trouble Tickets.
 * @exception javax.ejb.FinderException                 At least one of the Trouble Tickets
could not be found
 * @exception java.rmi.RemoteException                  System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
void closeTroubleTicketsByTemplate(  javax.oss.cbe.trouble.TroubleTicketValue template,
                                String troubleTicketState)
                    throws  javax.oss.OssUnsupportedOperationException,
                            javax.oss.OssIllegalArgumentException,
                            javax.oss.trouble.CloseException,
                            javax.ejb.FinderException,
                            java.rmi.RemoteException;
```

### 3.3.24     Changes to tryCloseTroubleTicketsByTemplate

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of  second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Close of Multiple Trouble Tickets matching a single
 * Trouble Ticket value template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
```

```
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException        System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
TroubleTicketKeyResultIterator
        tryCloseTroubleTicketsByTemplate(
                              javax.oss.cbe.trouble.TroubleTicketValue template,
                              String troubleTicketState,
                              boolean failuresOnly)
                throws  javax.oss.OssIllegalArgumentException,
                        java.rmi.RemoteException;
```

## 3.3.25 Changes to closeTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Close of Multiple Trouble Tickets matching at least one of the template.
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException      Invalid Arguments
 * @exception javax.oss.trouble.CloseException           Application level exception while
trying to close the Trouble Tickets.
 * @exception javax.ejb.DuplicateKeyException            The same Key is present in more
than one template.
 * @exception javax.ejb.FinderException                  At least one of the Trouble Tickets
could not be found
 * @exception java.rmi.RemoteException                   System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
```

```
 */

void closeTroubleTicketsByTemplates(javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                                    String troubleTicketState)
                     throws  javax.oss.OssUnsupportedOperationException,
                             javax.oss.OssIllegalArgumentException,
                             javax.oss.trouble.CloseException,
                             javax.ejb.FinderException,
                             javax.ejb.DuplicateKeyException,
                             java.rmi.RemoteException;
```

### 3.3.26    Changes to tryCloseTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Close of  Multiple Trouble Tickets matching at least one of the template.
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
TroubleTicketKeyResultIterator
        tryCloseTroubleTicketsByTemplates(
                             javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                             String troubleTicketState,
                             boolean failuresOnly)
                throws  javax.oss.OssIllegalArgumentException,
                        java.rmi.RemoteException;
```

### 3.3.27    Changes to cancelTroubleTicketByKey

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey` with
  `javax.oss.cbe.trouble.TroubleTicketKey`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Cancel a Trouble Ticket given a Key
 *
 * @param key Targeted Trouble Ticket Key
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception javax.oss.trouble.CancelException  Application level exception while trying
to cancel the Trouble Ticket.
 * @exception javax.ejb.ObjectNotFoundException  No Trouble Ticket matching provided key
could be found.
 * @exception java.rmi.RemoteException          System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
void cancelTroubleTicketByKey(javax.oss.cbe.trouble.TroubleTicketKey key,
                        String troubleTicketState)
                   throws  javax.oss.OssIllegalArgumentException,
                        javax.ejb.ObjectNotFoundException,
                        javax.oss.trouble.CancelException,
                        java.rmi.RemoteException;
```

### 3.3.28 Changes to cancelTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Cancel of  Multiple Trouble Tickets given their keys.
 *
 * @param keys  keys Targeted Trouble Ticket Keys
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException       Invalid Arguments
 * @exception javax.oss.trouble.CancelException        Application level exception while
trying to cancel the Trouble Tickets.
 * @exception javax.ejb.FinderException                 At least one of the Trouble Tickets
could not be found
 * @exception java.rmi.RemoteException                  System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */

void cancelTroubleTicketsByKeys(javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                                String troubleTicketState)
                        throws  javax.oss.OssUnsupportedOperationException,
                                javax.oss.OssIllegalArgumentException,
                                javax.oss.trouble.CancelException,
                                javax.ejb.FinderException,
                                java.rmi.RemoteException;
```

### 3.3.29    Changes to tryCancelTroubleTicketsByKeys

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketKey[]` with
  `javax.oss.cbe.trouble.TroubleTicketKey[]`

- change type of  second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Cancel of Multiple Trouble Tickets given their keys.
 *
 * @param keys Targeted Trouble Ticket Keys
```

```
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException            System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
TroubleTicketKeyResult[]
        tryCancelTroubleTicketsByKeys(
                        javax.oss.cbe.trouble.TroubleTicketKey[] keys,
                        String troubleTicketState)
                throws  javax.oss.OssIllegalArgumentException,
                        java.rmi.RemoteException;
```

## 3.3.30    Changes to cancelTroubleTicketsByTemplate

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of  second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Cancel of Multiple Trouble Tickets matching a template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException       Invalid Arguments
 * @exception javax.oss.trouble.CancelException          Application level exception while
trying to cancel the Trouble Tickets.
 * @exception javax.ejb.FinderException                  At least one of the Trouble Tickets
could not be found
 * @exception java.rmi.RemoteException                   System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */

void cancelTroubleTicketsByTemplate ( javax.oss.cbe.trouble.TroubleTicketValue template,
```

```
                        String troubleTicketState)
          throws  javax.oss.OssUnsupportedOperationException,
                  javax.oss.OssIllegalArgumentException,
                  javax.oss.trouble.CancelException,
                  javax.ejb.FinderException,
                  java.rmi.RemoteException;
```

### 3.3.31    Changes to tryCancelTroubleTicketsByTemplate

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue` with
  `javax.oss.cbe.trouble.TroubleTicketValue`

- change type of  second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Cancel of Multiple Trouble Tickets matching a single
 * Trouble Ticket value template.
 *
 * @param template Trouble Ticket Value populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */

TroubleTicketKeyResultIterator
        tryCancelTroubleTicketsByTemplate(
                        TroubleTicketValue template,
                        String troubleTicketState,
                        boolean failuresOnly)
                    throws  javax.oss.OssIllegalArgumentException,
                            java.rmi.RemoteException;
```

### 3.3.32    Changes to cancelTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- change type of second parameter 'troubleTicketState' from `int` to
  `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790
  specific attribute

- replace Exception `javax.oss.IllegalArgumentException`
  with `javax.oss.OssIllegalArgumentException`

- replace Exception
  `javax.oss.UnsupportedOperationException` with
  `javax.oss.OssUnsupportedOperationException`

The new definition of the method is:

```
/**
 * Atomic Cancel of Multiple Trouble Tickets matching at least one of the template.
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @exception javax.oss.OssUnsupportedOperationException  If the operation is not
supported by the implementation.
 * @exception javax.oss.OssIllegalArgumentException        Invalid Arguments
 * @exception javax.oss.trouble.CancelException        Application level exception while
trying to cancel the Trouble Tickets.
 * @exception javax.ejb.DuplicateKeyException         The same Key is present in more
than one template.
 * @exception javax.ejb.FinderException               At least one of the Trouble Tickets
could not be found
 * @exception java.rmi.RemoteException                System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */

void cancelTroubleTicketsByTemplates(javax.oss.cbe.trouble.TroubleTicketValue[] templates,
                          String troubleTicketState)
                    throws  javax.oss.OssUnsupportedOperationException,
                            javax.oss.OssIllegalArgumentException,
                            javax.oss.trouble.CancelException,
                            javax.ejb.FinderException,
                            javax.ejb.DuplicateKeyException,
                            java.rmi.RemoteException;
```

### 3.3.33 Changes to tryCancelTroubleTicketsByTemplates

The following changes apply:

- replace first parameter type
  `javax.oss.trouble.TroubleTicketValue[]` with
  `javax.oss.cbe.trouble.TroubleTicketValue[]`

- change type of second parameter 'troubleTicketState' from `int` to `java.lang.String` since the trouble ticket state model changed

- remove third parameter 'closeOutNarr' since it mapped to a X.790 specific attribute

- replace Exception `javax.oss.IllegalArgumentException` with `javax.oss.OssIllegalArgumentException`

The new definition of the method is:

```
/**
 * Best Effort Cancel of  Multiple Trouble Tickets matching at least one of the template.
 *
 * @param templates Trouble Ticket Values populated with attributes to be matched.
 * @param troubleTicketState as given by one of the <CODE>TroubleStatus</CODE> interface
constant
 * @param failuresOnly Returns only the failed updates in the KeyResults.
 * @exception javax.oss.OssIllegalArgumentException Invalid Arguments
 * @exception java.rmi.RemoteException          System Level Exception
 * @ossj:enumerationfield name=troubleTicketState
class=javax.oss.cbe.trouble.TroubleTicketState
 */
TroubleTicketKeyResultIterator
        tryCancelTroubleTicketsByTemplates(
                            TroubleTicketValue[] templates,
                            String troubleTicketState,
                            boolean failuresOnly)
                    throws  javax.oss.OssIllegalArgumentException,
                            java.rmi.RemoteException;
```

## 3.4  Remove X.790-specifics from event interfaces

Due to the replacement of the trouble ticket data model there are changes to the event interfaces.

### 3.4.1 Replace TroubleTicketStatusChangeEvent with TroubleTicketStateChangeEvent

The interface javax.oss.trouble.TroubleTicketStatusChangeEvent is removed and replaced by the interface javax.oss.trouble.TroubleTicketStateChangeEvent. The new interface is defined in the following way:

```
public interface TroubleTicketStateChangeEvent extends javax.oss.Event
{
    /**
     * Returns the Trouble Ticket Key.
     *
     * @return TroubleTicketKey - Trouble Ticket Key
     * @exception java.lang.IllegalStateException -Is thrown if the attribute has not been
populated.
     */
```

```
    public TroubleTicketKey getTroubleTicketKey()
    throws java.lang.IllegalStateException;


    /**
      * Returns the Trouble State. For example <CODE>TroubleState.OPENACTIVE</CODE>
      *
      * @return int - Trouble State as given by one of the <CODE>TroubleState</CODE>
interface constant
      * @exception java.lang.IllegalStateException -Is thrown if the attribute has not been
populated.
      * @ossj:enumerationfield class=javax.oss.trouble.TroubleState
      */
    public String            getState()
    throws java.lang.IllegalStateException;

     /**
      * Sets the Trouble Ticket Key.
      *
      * @param key Trouble Ticket Key
      * @exception java.lang.IllegalArgumentException - Is thrown to report that a bad
argument was provided to the method.
      */
    public void  setTroubleTicketKey(TroubleTicketKey key)
    throws java.lang.IllegalArgumentException;

    /**
      * Sets the Trouble State. For example <CODE>TroubleState.OPENACTIVE</CODE>
      *
      * @param state as given by one of the <CODE>TroubleState</CODE> interface constant
      * @exception java.lang.IllegalArgumentException - Is thrown to report that a bad
argument was provided to the method.
      */
    public void  setState(String state)
    throws java.lang.IllegalArgumentException;
}
```

## 3.4.2  Changes to TroubleTicketCancellationEvent

The attribute 'closeOutNarr' is removed from the
javax.oss.trouble.TroubleTicketCancellationEvent since it is X.790 specific.

# 4 Deferred Changes from OSS Trouble Ticket API v1.0