

3GPP TS 32.676 V11.0.0 (2012-09)

Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Configuration Management (CM);
State Management Integration Reference Point (IRP);
Solution Set (SS) definitions
(Release 11)**



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Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

32.671: Configuration Management (CM); State Management Integration Reference Point (IRP); Requirements

32.672: Configuration Management (CM); State Management Integration Reference Point (IRP); Information Service (IS)

32.676 Configuration Management (CM); State Management Integration Reference Point (IRP); Solution Set (SS) definitions

Configuration Management (CM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. CM actions have the objective to control and monitor the actual configuration on the Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (OSs) or NEs.

CM actions may be requested as part of a deployment program (e.g. additions and deletions), as part of an optimisation program (e.g. modifications), and to maintain the overall Quality of Service (QoS). The CM actions are initiated either as single actions on single NEs of the 3G network, or as part of a complex procedure involving actions on many resources/objects in one or several NEs.

1 Scope

The present document specifies the Solution Set (SS) definitions for the IRP whose semantics is specified in State Management IRP: Information Service (IS) (3GPP TS 32.672 [1]).

This Solution Set definitions specification is related to 3GPP TS 32.672 V11.0.X.

2 References

The following documents contain provisions, which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 32.311: "Telecommunication management; Generic Integration Reference Point (IRP) management; Requirements".
- [2] 3GPP TS 32.672: "Telecommunication management; Configuration Management (CM); State Management Integration Reference Point (IRP): Information Service (IS)".
- [3] ITU-T Recommendation X.721: "Information technology - Open Systems Interconnection - Structure of management information: Definition of management information".
- [4] ITU-T Recommendation M.3100: "Generic network information model".
- [5] 3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Information Service (IS)".
- [6] 3GPP TS 32.616: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Solution Set (SS) definitions".
- [7] W3C REC-xml-20001006: "Extensible Markup Language (XML) 1.0 (Second Edition)".
- [8] W3C REC-xmlschema-0-20010502: "XML Schema Part 0: Primer".
- [9] W3C REC-xmlschema-1-20010502: "XML Schema Part 1: Structures".
- [10] W3C REC-xmlschema-2-20010502: "XML Schema Part 2: Datatypes".
- [11] W3C REC-xml-names-19990114: "Namespaces in XML".
- [12] ITU-T Recommendation X.721: "Information technology - Open Systems Interconnection - Structure of management information: Definition of management information".
- [13] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions defined in 3GPP TS 32.672 [2] apply, and the following XML terms and definitions apply:

XML file: file containing an XML document

XML document: composed of the succession of an optional XML declaration followed by a root XML element

NOTE: See [7]; in the scope of the present document.

XML declaration: it specifies the version of XML being used

NOTE: See [7].

XML element: has a type, is identified by a name, may have a set of XML attribute specifications and is either composed of the succession of an XML start-tag followed by the XML content of the XML element followed by an XML end-tag, or composed simply of an XML empty-element tag; each XML element may contain other XML elements

NOTE: See [7].

empty XML element: having an empty XML content; an empty XML element still possibly has a set of XML attribute specifications; an empty XML element is either composed of the succession of an XML start-tag directly followed by an XML end-tag, or composed simply of an XML empty-element tag

NOTE: See [7].

XML content (of an XML element): empty if the XML element is simply composed of an XML empty-element tag; otherwise the part, possibly empty, of the XML element between its XML start-tag and its XML end-tag

XML start-tag: the beginning of a non-empty XML element is marked by an XML start-tag containing the name and the set of XML attribute specifications of the XML element

NOTE: See [7].

XML end-tag: the end of a non-empty XML element is marked by an XML end-tag containing the name of the XML element

NOTE: See [7].

XML empty-element tag: composed simply of an empty-element tag containing the name and the set of XML attribute specifications of the XML element

NOTE: See [7].

XML attribute specification: has a name and a value

NOTE: See [7].

DTD: defines structure and content constraints to be respected by an XML document to be valid with regard to this DTD

NOTE: See [7].

XML schema: more powerful than a DTD, an XML schema defines structure and content constraints to be respected by an XML document to conform with this XML schema; through the use of XML namespaces several XML schemas can be used together by a single XML document; an XML schema is itself also an XML document that shall conform with the XML schema for XML schemas

NOTE: See [8], [9] and [10].

XML namespace: enables qualifying element and attribute names used in XML documents by associating them with namespaces identified by different XML schemas

NOTE: See [11], in the scope of the present document.

XML complex type: defined in an XML schema; cannot be directly used in an XML document; can be the concrete type or the derivation base type for an XML element type or for another XML complex type; ultimately defines constraints for an XML element on its XML attribute specifications and/or its XML content

NOTE: See [8], [9] and [10].

XML element type: declared by an XML schema; can be directly used in an XML document; as the concrete type of an XML element, directly or indirectly defines constraints on its XML attribute specifications and/or its XML content; can also be the concrete type or the derivation base type for another XML element type

NOTE: See [8], [9] and [10].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CM	Configuration Management
CORBA	Common Object Request Broker Architecture
DTD	Document Type Definition
EDGE	Enhanced Data for GSM Evolution
GERAN	GSM/EDGE Radio Access Network
GSM	Global System for Mobile communication
IDL	Interface Definition Language
IOC	Information Object Class
IRP	Integration Reference Point
IS	Information Service
NE	Network Element
NRM	Network Resource Model
OMG	Object Management Group
SS	Solution Set
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network
XML	eXtensible Markup Language

3.3 IRP document version number string

The IRP document version number (sometimes called "IRP version" or "version number") string is used to identify this specification. The definition of "IRP document version number string" in 3GPP TS 32.311 [1] provides the rule to derive such a string.

As the State Management IRP IS as defined in 3GPP TS 32.672 [2] does not specify operations & notification (only State Management related data definitions), this string definition is stated here for potential future use only.

4 Solution Set definitions

This specification defines the following 3GPP State Management IRP Solution Set definitions:

- 3GPP State Management IRP CORBA SS (Annex A)
- 3GPP State Management IRP XML definitions (Annex B)

Annex A (normative): CORBA Solution Set

A.1 Architectural Features

The overall architectural feature of State Management IRP is specified in 3GPP TS 32.672 [2].

This clause specifies features that are specific to the CORBA SS.

A.1.1 Syntax for Distinguished Names

The syntax of a Distinguished Name is defined in 3GPP TS 32.300 [13].

A.2 Mapping

A.2.1 IOC Mapping

Table 1 provides the mapping of the information object classes defined in the IS of the State Management IRP [2] to the equivalent of this CORBA Solution Set.

Table 1: Mapping of IOCs

IOCs defined in State Management IRP IS [2]	CORBA SS Method
StateManagementEntity	No mapping applicable for this <<Archetyp>> class.

A.2.2 Mapping of Attributes

Table 2 provides the mapping of the IOC attributes defined in the IS of the State Management IRP [2] to their equivalents in this CORBA Solution Set. As [2] specified the Support Qualifier for these attributes as not applicable, mappings towards Mandatory and Optional are provided.

Table 2: Mapping of Attributes

Attributes defined in State Management IRP IS [2]	CORBA SS Method attributes	Qualifier
operationalState	OperationalState (ITU-T Recommendation X.721 [3])	M
operationalState	OperationalStateTypeOpt (ITU-T Recommendation X.721 [3])	O
usageState	UsageState (ITU-T Recommendation X.721 [3])	M
usageState	UsageStateTypeOpt (ITU-T Recommendation X.721 [3])	O
administrativeState	AdministrativeState (ITU-T Recommendation X.721 [3])	M
administrativeState	AdministrativeStateTypeOpt (ITU-T Recommendation X.721 [3])	O
alarmStatus	AlarmStatus (ITU-T Recommendation M.3100 [4])	M
alarmStatus	AlarmStatusTypeOpt (ITU-T Recommendation M.3100 [4])	O
proceduralStatus	ProceduralStatus (ITU-T Recommendation X.721 [3])	M
proceduralStatus	ProceduralStatusTypeOpt (ITU-T Recommendation X.721 [3])	O
availabilityStatus	AvailabilityStatus (ITU-T Recommendation X.721 [3])	M
availabilityStatus	AvailabilityStatusTypeOpt (ITU-T Recommendation X.721 [3])	O
controlStatus	ControlStatus (ITU-T Recommendation X.721 [3])	M
controlStatus	ControlStatusTypeOpt (ITU-T Recommendation X.721 [3])	O
standbyStatus	StandbyStatus (ITU-T Recommendation X.721 [3])	M
standbyStatus	StandbyStatusTypeOpt (ITU-T Recommendation X.721 [3])	O
unknownStatus	UnknownStatus (ITU-T Recommendation X.721 [3])	M
unknownStatus	UnknownStatusTypeOpt (ITU-T Recommendation X.721 [3])	O

A.3 Solution Set definitions

A.3.1 IDL definition structure

Clause A.3.2 contains const definitions for State Management IRP.

Clause A.3.3 contains commonly used optional definitions for State Management IRP.

Clause A.3.4 contains commonly used definitions for State Management IRP.

A.3.2 IDL specification "StateManagementIRPConstDefs.idl"

```
//File:- StateManagementIRPConstDefs.idl
#ifndef STATE_MANAGEMENT_IRP_CONST_DEFS_IDL
#define STATE_MANAGEMENT_IRP_CONST_DEFS_IDL

#include "CosNotification.idl"
#include "ManagedGenericIRPConstDefs.idl"
#include <StateManagementIRPCommonConstDefs.idl>
#include <StateManagementIRPOptConstDefs.idl>

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: StateManagementIRPConstDefs
This module contains commonly used definitions for State Management IRP
=====
*/
module StateManagementIRPConstDefs
{
/*
Constant definitions for state management notifications uses when populating the
Cos::Structured event.
The "name" party of the structured event carries the following constant definitions
appropriate to the state being notified.
Refer to TS 32.666 regarding how to populate the structured event
*/
interface AttributeNameValue {
const string OPERATIONAL_STATE = "operationalState";
const string USAGE_STATE = "usageState";
const string ADMINISTRATIVE_STATE = "administrativeState";
const string ALARM_STATUS = "alarmStatus";
const string PROCEDURAL_STATUS = "proceduralStatus";
const string AVAILABILITY_STATUS = "availabilityStatus";
const string CONTROL_STATUS = "controlStatus";
const string STANDBY_STATUS = "standbyStatus";
const string UNKNOWN_STATUS = "unknownStatus";
};

/*
The following structures provide the new state value,
and the optional old state value
The structures are passed in the value part of the cos structured event
*/
struct OperationalStateOldNewValue{
StateManagementIRPCommonConstDefs::OperationalState new;
StateManagementIRPOptConstDefs::OperationalStateTypeOpt old;
};

struct UsageStateOldNewValue{
StateManagementIRPCommonConstDefs::UsageState new;
StateManagementIRPOptConstDefs::UsageStateTypeOpt old;
};

struct AdministrativeStateOldNewValue{
StateManagementIRPCommonConstDefs::AdministrativeState new;
StateManagementIRPOptConstDefs::AdministrativeStateTypeOpt old;
};

struct AlarmStatusOldNewValue{
StateManagementIRPCommonConstDefs::AlarmStatus new;
StateManagementIRPOptConstDefs::AlarmStatusTypeOpt old;
};

struct ProceduralStatusOldNewValue{
StateManagementIRPCommonConstDefs::ProceduralStatusValues new;
StateManagementIRPOptConstDefs::ProceduralStatusTypeOpt old;
};

struct AvailabilityStatusOldNewValue{
```

```
    StateManagementIRPCommonConstDefs::AvailabilityStatusValues new;  
    StateManagementIRPOptConstDefs:: AvailabilityStatusTypeOpt old;  
};  
  
struct ControlStatusOldNewValue{  
    StateManagementIRPCommonConstDefs::ControlStatusValues new;  
    StateManagementIRPOptConstDefs::ControlStatusTypeOpt old;  
};  
  
struct StandbyStatusOldNewValue{  
    StateManagementIRPCommonConstDefs::StandbyStatus new;  
    StateManagementIRPOptConstDefs::StandbyStatusTypeOpt old;  
};  
  
struct UnknownStatusOldNewValue{  
    StateManagementIRPCommonConstDefs::UnknownStatus new;  
    StateManagementIRPOptConstDefs::UnknownStatusTypeOpt old;  
};  
  
};  
#endif // _STATE_MANAGEMENT_IRP_CONST_DEFS_IDL_
```

A.3.3 IDL specification “StateManagementIRPOptConstDefs.idl”

```
//File:-StateManagementIRPOptConstDefs.idl
#ifndef _STATE_MANAGEMENT_IRP_OPT_CONST_DEFS_IDL_
#define _STATE_MANAGEMENT_IRP_OPT_CONST_DEFS_IDL_

#include "CosNotification.idl"
#include "ManagedGenericIRPConstDefs.idl"
#include "StateManagementIRPCommonConstDefs.idl"
// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: StateManagementIRPOptConstDefs
This module contains commonly used optional definitions for State Management IRP
=====
*/
module StateManagementIRPOptConstDefs
{
    /*
    Definition of Operational State based on X.721 [3], if optional.
    */
    union OperationalStateTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::OperationalState operational_state;
    };

    /*
    Definition of Usage State based on X.721 [3], if optional.
    */
    union UsageStateTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::UsageState usage_state;
    };

    /*
    Definition of Administrative State based on X.721 [3], if optional.
    */
    union AdministrativeStateTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::AdministrativeState administrative_state;
    };

    /*
    Definition of Alarm Status based on M.3100 [4], if optional.
    */
    union AlarmStatusTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::AlarmStatus alarm_status;
    };

    /*
    Definition of Procedural Status based on X.721 [3], if optional.
    */
    union ProceduralStatusTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::ProceduralStatus procedural_status;
    };

    /*
    Definition of Availability Status based on X.721 [3], if optional.
    */
    union AvailabilityStatusTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::AvailabilityStatus availability_status;
    };

    /*
    Definition of Control Status based on X.721 [3], if optional.
    */
    union ControlStatusTypeOpt switch(boolean)
    {
        case TRUE: StateManagementIRPCommonConstDefs::ControlStatus control_status;
    };
};
/*
```

```
Definition of Standby Status based on X.721 [3], if optional.
*/
union StandbyStatusTypeOpt switch(boolean)
{
    case TRUE: StateManagementIRPCommonConstDefs::StandbyStatus standby_status;
};

/*
Definition of Unknown Status based on X.721 [3], if optional.
*/
union UnknownStatusTypeOpt switch(boolean)
{
    case TRUE: StateManagementIRPCommonConstDefs::UnknownStatus unknown_status;
};

};
#endif // _STATE_MANAGEMENT_IRP_OPT_CONST_DEFS_IDL_
```

A.3.4 IDL specification

“StateManagementIRPCommonConstDefs.idl”

```
//File: StateManagementIRPCommonConstDefs.idl
#ifndef _STATE_MANAGEMENT_IRP_COMMON_CONST_DEFS_IDL_
#define _STATE_MANAGEMENT_IRP_COMMON_CONST_DEFS_IDL_

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* Module: StateManagementIRPCommonConstDefs
This module contains commonly used definitions for State Management IRP
=====
*/
module StateManagementIRPCommonConstDefs
{
    /*
    Definition of Operational State based on X.721 [3], if mandatory.
    */
    enum OperationalState
    {
        Disabled, Enabled
    };

    /*
    Definition of Usage State based on X.721 [3], if mandatory.
    */
    enum UsageState
    {
        Idle, Active, Busy
    };

    /*
    Definition of Administrative State based on X.721 [3], if mandatory.
    */
    enum AdministrativeState
    {
        Locked, Unlocked, ShuttingDown
    };

    /*
    Definition of Alarm Status based on M.3100 [4], if mandatory.
    */
    enum AlarmStatus
    {
        CLEARED, INDETERMINATE, WARNING, MINOR, MAJOR, CRITICAL
    };

    /*
    Definition of Procedural Status based on X.721 [3], if mandatory.
    */
    enum ProceduralStatusValues
    {
        InitializationRequired, NotInitialized, Initializing, Reporting,
        Terminating
    };
    typedef sequence <ProceduralStatusValues,5> ProceduralStatus;

    /*
    Definition of Availability Status based on X.721 [3], if mandatory.
    */
    enum AvailabilityStatusValues
    {
        InTest, Failed, PowerOff, OffLine, OffDuty, Dependency, Degraded,
        NotInstalled, LogFull
    };
    typedef sequence <AvailabilityStatusValues,9> AvailabilityStatus;

    /*
    Definition of Control Status based on X.721 [3], if mandatory.
    */
    enum ControlStatusValues
    {
        SubjectToTest, PartOfServicesLocked, ReservedForTest, Suspended
    };
};
```

```
typedef sequence <ControlStatusValues,4> ControlStatus;

/*
Definition of Standby Status based on X.721 [3], if mandatory.
*/
enum StandbyStatus
{
    HotStandby, ColdStandby, ProvidingService
};

/*
Definition of Unknown Status based on X.721 [3], if mandatory
(if switch is TRUE then value equal to TRUE implies "unknown status").
*/
union UnknownStatus switch(boolean)
{
    case TRUE: boolean value;
};

};
#endif // _STATE_MANAGEMENT_IRP_COMMON_CONST_DEFS_IDL_
```

Annex B (normative): XML definitions

This annex specifies the XML file format definition for the Bulk Configuration Management IRP IS [5] for the IRP whose semantics is specified in State Management IRP: Information Service (IS) (3GPP TS 32.672 [2]).

Bulk CM XML file formats are based on XML [7], XML Schema [8] [9] [10] and XML Namespace [11] standards.

B.1 Architectural features

The overall architectural feature of State Management IRP is specified in 3GPP TS 32.672 [2].

This clause specifies features that are specific to the XML Schema definitions.

B.1.1 Syntax for Distinguished Names

The syntax of a Distinguished Name is defined in 3GPP TS 32.300 [13].

B.2 Mapping

Not present in the current version of this specification.

B.3 Solution Set definitions

B.3.1 XML definition structure

The overall description of the file format of configuration data XML files is provided by 3GPP TS 32.616 [6].

Clause B.3.2 defines the XML schema `stateManagementIRP.xsd` for the State Management IRP: Information Service (IS) defined in 3GPP TS 32.672 [2].

The definition of the XML element types complies with the generic mapping rules defined in 3GPP TS 32.616 [6].

B.3.2 XML schema “stateManagementIRP.xsd”

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
  3GPP TS 32.676 State Management IRP
  Bulk CM Configuration data file XML schema
  stateManagementIRP.xsd
-->
<schema
  targetNamespace=
    "http://www.3gpp.org/ftp/specs/archive/32_series/32.676#stateManagementIRP"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:sm=
    "http://www.3gpp.org/ftp/specs/archive/32_series/32.676#stateManagementIRP"
>
  <!-- State Management IRP related XML types -->
  <simpleType name="operationalStateType">
    <restriction base="string">
      <enumeration value="enabled"/>
      <enumeration value="disabled"/>
    </restriction>
  </simpleType>
  <simpleType name="usageStateType">
    <restriction base="string">
      <enumeration value="idle"/>
      <enumeration value="active"/>
      <enumeration value="busy"/>
    </restriction>
  </simpleType>
  <simpleType name="administrativeStateType">
    <restriction base="string">
      <enumeration value="locked"/>
      <enumeration value="unlocked"/>
      <enumeration value="shuttingDown"/>
    </restriction>
  </simpleType>
  <simpleType name="alarmStatusType">
    <restriction base="string">
      <enumeration value="cleared"/>
      <enumeration value="indeterminate"/>
      <enumeration value="warning"/>
      <enumeration value="minor"/>
      <enumeration value="major"/>
      <enumeration value="critical"/>
    </restriction>
  </simpleType>
  <simpleType name="proceduralStatusElementType">
    <restriction base="string">
      <enumeration value="initializationRequired"/>
      <enumeration value="notInitialized"/>
      <enumeration value="initializing"/>
      <enumeration value="reporting"/>
      <enumeration value="terminating"/>
    </restriction>
  </simpleType>
  <complexType name="proceduralStatusType">
    <sequence minOccurs="0" maxOccurs="5">
      <element name="proceduralStatusElement" type="sm:proceduralStatusElementType"/>
    </sequence>
  </complexType>
  <simpleType name="availabilityStatusElementType">
    <restriction base="string">
      <enumeration value="inTest"/>
      <enumeration value="failed"/>
      <enumeration value="powerOff"/>
      <enumeration value="offLine"/>
      <enumeration value="offDuty"/>
      <enumeration value="dependency"/>
      <enumeration value="degraded"/>
      <enumeration value="notInstalled"/>
      <enumeration value="logFull"/>
    </restriction>
  </simpleType>
  <complexType name="availabilityStatusType">

```

```
<sequence minOccurs="0" maxOccurs="9">
  <element name="availabilityStatusElement" type="sm:availabilityStatusElementType"/>
</sequence>
</complexType>
<simpleType name="controlStatusElementType">
  <restriction base="string">
    <enumeration value="subjectToTest"/>
    <enumeration value="partOfServicesLocked"/>
    <enumeration value="reservedForTest"/>
    <enumeration value="suspended"/>
  </restriction>
</simpleType>
<complexType name="controlStatusType">
  <sequence minOccurs="0" maxOccurs="4">
    <element name="controlStatusElement" type="sm:controlStatusElementType"/>
  </sequence>
</complexType>
<simpleType name="standbyStatusType">
  <restriction base="string">
    <enumeration value="hotStandby"/>
    <enumeration value="coldStandby"/>
    <enumeration value="providingService"/>
  </restriction>
</simpleType>
<simpleType name="unknownStatusType">
  <restriction base="boolean">
    <pattern value="true"/>
    <pattern value="false"/>
  </restriction>
</simpleType>
<element name="operationalState" type="sm:operationalStateType"/>
<element name="usageState" type="sm:usageStateType"/>
<element name="administrativeState" type="sm:administrativeStateType"/>
<element name="alarmStatus" type="sm:alarmStatusType"/>
<element name="proceduralStatus" type="sm:proceduralStatusType"/>
<element name="availabilityStatus" type="sm:availabilityStatusType"/>
<element name="controlStatus" type="sm:controlStatusType"/>
<element name="standbyStatus" type="sm:standbyStatusType"/>
<element name="unknownStatus" type="sm:unknownStatusType"/>
</schema>
```

Annex C (Informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2010-09	SA#49	SP-100520	--	--	Presentation to SA for Information and Approval	---	1.0.0
2010-10	--	--	--	--	Publication	1.0.0	10.0.0
2012-09	SA#57	-	-	-	Automatic upgrade from previous Release version 10.0.0	10.0.0	11.0.0