ETSI TS 132 635 V6.7.0 (2008-01)

Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
Telecommunication management;
Configuration Management (CM);
Core network resources Integration Reference Point (IRP): Bulk
CM eXtensible Markup Language (XML)
file format definition
(3GPP TS 32.635 version 6.7.0 Release 6)**

**GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS**

Reference
RTS/TSGS-0532635v670

Keywords
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Contents

Foreword

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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:

32.631: "Configuration Management (CM); Core network resources Integration Reference Point (IRP): Requirements".

32.632: "Configuration Management (CM); Core network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

32.633: "Configuration Management (CM); Core network resources Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

32.634: "Configuration Management (CM); Core network resources Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".

32.635: "Configuration Management (CM); Core network resources Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition".

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 an implementation programme (e.g. additions and deletions), as part of an optimisation programme (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 provides the NRM-specific part related to the Core Network Resources IRP NRM [1] of the XML file format definition for the Bulk Configuration Management IRP IS [2].

The main part of this XML file format definition is provided by 3GPP TS 32.615 [3].

Bulk CM XML file formats are based on XML [4], XML Schema [5] [6] [7] and XML Namespace [8] standards.

This File Format Definition specification is related to 3GPP TS 32.632 V6.6.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 32.632: "Telecommunication management; Configuration Management (CM); Core network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

[2]   3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Information Service (IS)".

[3]   3GPP TS 32.615: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); eXtensible Markup Language (XML) file format definition".

[4]   W3C REC-xml-20001006: "Extensible Markup Language (XML) 1.0 (Second Edition)".

[5]   W3C REC-xmlschema-0-20010502: "XML Schema Part 0: Primer".

[6]   W3C REC-xmlschema-1-20010502: "XML Schema Part 1: Structures".

[7]   W3C REC-xmlschema-2-20010502: "XML Schema Part 2: Datatypes".

[8]   W3C REC-xml-names-19990114: "Namespaces in XML".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following 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 [4]; in the scope of the present document.

XML declaration: it specifies the version of XML being used

NOTE: See [4].

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 [4].

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 [4].

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 [4].

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 [4].

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

> NOTE: See [4].

XML attribute specification: has a name and a value

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

> NOTE: See [4].

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 [5], [6] and [7].

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

> NOTE: See [8], 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 [5], [6] and [7].

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 [5], [6] and [7].

3.2 Abbreviations

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

CM	Configuration Management
DTD	Document Type Definition
EDGE	Enhanced Data for GSM Evolution
GERAN	GSM/EDGE Radio Access Network
GSM	Global System for Mobile communication
IRP	Integration Reference Point
IS	Information Service
MGW	Media GateWay
NRM	Network Resource Model
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network
XML	eXtensible Markup Language

4 Structure and content of configuration data XML files

The overall description of the file format of configuration data XML files is provided by 3GPP TS 32.615 [3].

Annex A of the present document defines the NRM-specific XML schema `coreNrm.xsd` for the Core Network Resources IRP NRM defined in 3GPP TS 32.632 [1].

XML schema `coreNrm.xsd` explicitly declares NRM-specific XML element types for the related NRM.

The definition of those NRM-specific XML element types complies with the generic mapping rules defined in 3GPP TS 32.615 [3].

Annex A (normative):
Configuration data file NRM-specific XML schema
(file name "`coreNrm.xsd`")

The following XML schema `coreNrm.xsd` is the NRM-specific schema for the Core Network Resources IRP NRM defined in 3GPP TS 32.632 [1]:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  3GPP TS 32.635 Core Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  coreNrm.xsd
-->

<schema
  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.635#coreNrm"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn="http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:cn="http://www.3gpp.org/ftp/specs/archive/32_series/32.635#coreNrm"
>

  <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"/>

  <!-- Core Network Resources IRP NRM class associated XML elements -->

  <element
    name="MscServerFunction"
    substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
  >
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      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
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              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="mccList" minOccurs="0"/>
                  <element name="mncList" minOccurs="0"/>
                  <element name="lacList" minOccurs="0"/>
                  <element name="sacList" minOccurs="0"/>
                  <element name="gcaList" minOccurs="0"/>
                  <element name="mscId" minOccurs="0"/>
                  <element name="mscServerFunctionGsmCell" type="xn:dnList" minOccurs="0"/>
                  <element name="mscServerFunctionExternalGsmCell" type="xn:dnList" minOccurs="0"/>
                  <element name="mscServerFunctionCsMgwFunction" type="xn:dnList" minOccurs="0"/>
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            </element>
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              <element ref="cn:ALink"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
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    </complexType>
  </element>

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  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
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```

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```

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  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
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          <choice minOccurs="0" maxOccurs="unbounded">
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            <element ref="xn:VsDataContainer"/>
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```

```
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</schema>
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Annex B (informative):
XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

  http://www.3gpp.org/ftp/specs/archive/32_series/32.635/schema/32635-670-XMLSchema.zip

Annex C (informative):
Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
Jun 2002	SA_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	--	1.0.0	
Sep 2002	SA_17	SP-020461	--	--	Submitted to TSG SA #17 for Approval	--	2.0.0	5.0.0
Jun 2003	SA_20	SP-030287	0001	--	Correction of Core NRM XML schema namespace URIs	F	5.0.0	5.1.0
Jun 2003	SA_20	SP-030288	0002	--	Generic NRM XML schema dependencies removal	F	5.0.0	5.1.0
Oct 2003	--		--	--	Attached to this TS the normative XML schema electronic files corresponding to June 2003 TS 32.635	--	5.1.0	5.1.1
Mar 2004	SA_23	SP-040131	0003	--	Add the capability to contain instances of VsDataContainer to some MOs - Align with the IS 32.632	F	5.1.1	5.2.0
Jun 2004	SA_24	SP-040259	0004	--	Removal of XML schema URI dependencies	F	5.2.0	5.3.0
Jun 2004	SA_24	SP-040258	0005	--	Correction of the annex related to XML schema electronic files publication	F	5.2.0	5.3.0
Sep 2004	SA_25	SP-040583	0006	--	Add missing elements in the Core Network XML file format definition	F	5.3.0	5.4.0
Sep 2004	SA_25	SP-040582	0007	--	Correction of modelling of Media GateWay (MGW)	F	5.3.0	5.4.0
Sep 2004	SA_25	SP-040541	--	--	Automatic upgrade to Rel- 6 (no CR) as per request in SP-040541 SA5_presentation_SA_25.ppt (slide 17)	--	5.4.0	6.0.0
Dec 2004	SA_26	SP-040809	0008	--	Add new IMS Entities	B	6.0.0	6.1.0
Mar 2005	SA_27	SP-050047	0010	--	Align with 32.632, regarding the IS template and UML repertoire	A	6.1.0	6.2.0
Mar 2005	SA_27	SP-050047	0013	--	Correction to SgsnFunction XML, correct IS reference and Editorial corrections	A	6.1.0	6.2.0
Jun 2005	SA_28	SP-050296	0014	--	Correction of XML definitions for IOCs MscServerFunction and SgsnFunction	F	6.2.0	6.3.0
Jun 2006	SA_32	SP-060257	0015	--	Add missing Link entities- Align with 32.632 Information Service(IS).	F	6.3.0	6.4.0
Sep 2006	SA_33	SP-060611	0016	--	Add missing CscfFunction to CN NRM - Align with 32.632	F	6.4.0	6.5.0
Sep 2006	SA_33	SP-060611	0017	--	Add missing link (Link_Scscf_Scscf) - Align with 32.632	F	6.4.0	6.5.0
Sep 2006	SA_33	SP-060655	0018	1	Correct the usage of dnList instead of string type for indicating multiple DN	F	6.4.0	6.5.0
Dec 2006	SA_34	SP-060712	0019	--	Correct the Link subclasses to model Mg and Mj reference points - Align with 32.632	F	6.5.0	6.6.0
Dec 2007	SA_38	SP-070730	0023	--	R6 CR 32.635-660 Add Missing Containment	F	6.6.0	6.7.0

History

Document history		
V6.1.0	December 2004	Publication
V6.2.0	March 2005	Publication
V6.3.0	June 2005	Publication
V6.4.0	June 2006	Publication
V6.5.0	September 2006	Publication
V6.6.0	December 2006	Publication
V6.7.0	January 2008	Publication