ETSI TS 132 691 V8.0.0 (2009-01)

Technical Specification

**Digital cellular telecommunications system (Phase 2+);
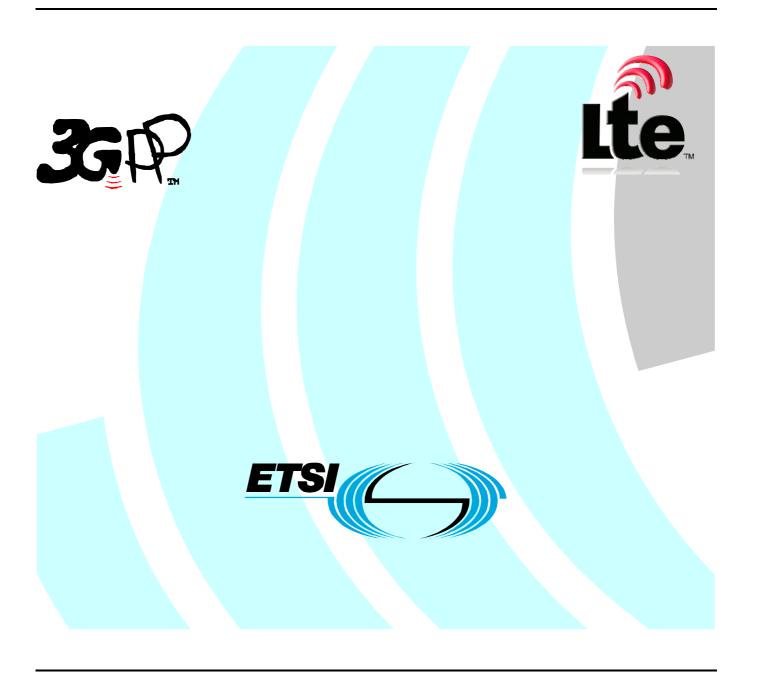Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Inventory Management (IM)
network resources Integration Reference Point (IRP):
Requirements
(3GPP TS 32.691 version 8.0.0 Release 8)**

Reference
RTS/TSGS-0532691v800

Keywords
GSM, LTE, UMTS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:
http://www.etsi.org

The present document may be made available in more than one electronic version or in print. In any case of existing or
perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF).
In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive
within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services:
http://portal.etsi.org/chaircor/ETSI_support.asp

Copyright Notification

ETSI

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Contents

Foreword

This Technical Specification 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:

32.690:   Inventory Management (IM): Requirements

32.691:   Inventory Management (IM) network resources Integration Reference Point (IRP): Requirements

32.692:   **Inventory Management (IM) network resources Integration Reference Point (IRP): Network Resource Model (NRM)**

32.695:   Inventory Management (IM) network resources Integration Reference Point (IRP): eXtensible Markup Language (XML) file format definition

Inventory Management (IM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. IM actions have the objective to 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. The final goal of IM is the establishment of an accurate and timely model of the actual inventory in the NEs or NRs.

IM actions may be requested to reflect changes initiated by Configuration Management (CM) actions or to make sure that the inventory model is in synch with the actual inventory. IM 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 defines , in addition to the requirements defined in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2] and 3GPP TS 32.600 [3], the requirements for the present IRP: Inventory Management network resources IRP.

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 32.101: "Telecommunication management; Principles and high level requirements".

[2]   3GPP TS 32.102: "Telecommunication management; Architecture".

[3]   3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

data: is any information or set of information required to give software or equipment or combinations thereof a specific state of functionality

Element Manager (EM): provides a package of end-user functions for management of a set of closely related types of Network Elements (NEs)
These functions can be divided into two main categories:

- *Element Management Functions:* for management of NEs on an individual basis. These are basically the same functions as supported by the corresponding local terminals.

- *Sub-Network Management Functions:* that are related to a network model for a set of NEs constituting a clearly defined sub-network, which may include relations between the NEs. This model enables additional functions on the sub-network level (typically in the areas of network topology presentation, alarm correlation, service impact analysis and circuit provisioning).

IRP: See 3GPP TS 32.101 [1].

IRP Information Model: See 3GPP TS 32.101 [1].

IRP Information Service: See 3GPP TS 32.101 [1].

IRP Solution Set: See 3GPP TS 32.101 [1].

Managed Object (MO): an abstract entity, which may be accessed through an open interface between two or more systems, and representing a Network Resource (NR) for the purpose of management

The Managed Object (MO) is an instance of a Managed Object Class (MOC) as defined in a Management Information Model (MIM). The MIM does not define how the MO or NR is implemented; only what can be seen in the interface.

Managed Object Class (MOC): description of all the common characteristics for a number of MOs, such as their attributes, operations, notifications and behaviour

Managed Object Instance (MOI): instance of a MOC, which is the same as a MO as described above

Management Information Base (MIB): set of existing managed objects in a management domain, together with their attributes, constitutes that management domain's MIB. The MIB may be distributed over several OS/NEs

Management Information Model (MIM): also referred to as NRM - see the definition below. There is a slight difference between the meaning of MIM and NRM - the term MIM is generic and can be used to denote any type of management model, while NRM denotes the model of the actual managed telecommunications Network Resources (NRs).

Network Element (NE): is a discrete telecommunications entity, which can be, managed over a specific interface e.g. the RNC

Network Manager (NM): provides a package of end-user functions with the responsibility for the management of a network, mainly as supported by the EM(s) but it may also involve direct access to the NEs
All communication with the network is based on open and well-standardised interfaces supporting management of multi-vendor and multi-technology NEs.

Network Resource (NR): is a component of a NE, which can be identified as a discrete separate entity and is in an object oriented environment for the purpose of management represented by an abstract entity called Managed Object (MO)

Network Resource Model (NRM): model representing the actual managed telecommunications Network Resources (NRs) that a System is providing through the subject IRP
An NRM describes Managed Object Classes (MOC), their associations, attributes and operations. The NRM is also referred to as "MIM" (see above) which originates from the ITU-T TMN.

Object Management Group (OMG): See http://www.omg.org.

Operations System (OS): indicates a generic management system, independent of its location level within the management hierarchy

3.2 Abbreviations

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

CM	Configuration Management
EM	Element Manager
FM	Fault Management
GSM	Global System for Mobile communication
IM	Inventory Management
IRP	Integration Reference Point
IS	Information Service (see 3GPP TS 32.101 [1])
ITU-T	International Telecommunication Union, Telecommunication Standardisation Sector
MIB	Management Information Base
MIM	Management Information Model
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NM	Network Manager
NR	Network Resource
NRM	Network Resource Model
OMG	Object Management Group
OS	Operations System
PM	Performance Management
TM	Telecom Management
UML	Unified Modelling Language (OMG)

UMTS   Universal Mobile Telecommunications System

4   Requirements

The following general and high-level requirements apply for the present IRP:

1) IRP-related requirements in 3GPP TS 32.101 [1].

2) IRP-related requirements in 3GPP TS 32.102 [2].

3) IRP-related requirements in 3GPP TS 32.600 [3].

In addition to the above, the following more specific requirements apply:

a) The NRM defined by this IRP shall provide inventory data over Itf-N of network entities in the 3G network.

b) The NRM defined by this IRP shall provide inventory data over Itf-N of network entities in the EPS network including those installed by SON functionality.

Annex A (informative):
Change history

<table>
<tr><th colspan="8">Change history</th></tr>
<tr><th>Date</th><th>TSG #</th><th>TSG Doc.</th><th>CR</th><th>Rev</th><th>Subject/Comment</th><th>Old</th><th>New</th></tr>
<tr><td>Sep 2002</td><td>SA_17</td><td>SP-020472</td><td>--</td><td>--</td><td>Submitted to TSG SA #17 for Approval</td><td>1.0.0</td><td>5.0.0</td></tr>
<tr><td>Jun 2004</td><td>SA_24</td><td>SP-040268</td><td>--</td><td>--</td><td>Automatic upgrade to Rel-6 (no Rel-6 CR)</td><td>5.0.0</td><td>6.0.0</td></tr>
<tr><td>Dec 2004</td><td>--</td><td>--</td><td>--</td><td>--</td><td>Editorial update of Introduction: align with 32.69x approved at SA#26</td><td>6.0.0</td><td>6.0.1</td></tr>
<tr><td>Jun 2007</td><td>SA_36</td><td>--</td><td>--</td><td>--</td><td>Automatic upgrade to Rel-7 (no CR) at freeze of Rel-7. Deleted reference to CMIP SS, discontinued from R7 onwards.</td><td>6.0.1</td><td>7.0.0</td></tr>
<tr><td>Dec 2008</td><td>SA_42</td><td>SP-080846</td><td>0001</td><td>--</td><td>Inventory update in the EPS Network</td><td>7.0.0</td><td>8.0.0</td></tr>
</table>

History

Document history		
V8.0.0	January 2009	Publication