ETSI TS 132 671 V8.0.0 (2009-01)

Technical Specification

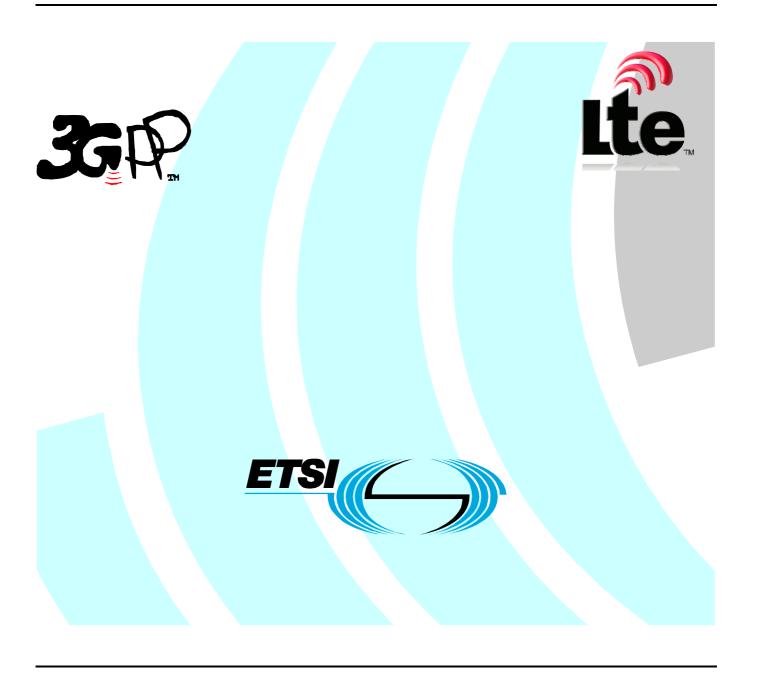## Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Configuration Management (CM); State Management Integration Reference Point (IRP): Requirements (3GPP TS 32.671 version 8.0.0 Release 8)

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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 (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)

32.673:   Configuration Management (CM); State Management Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)

32.675:   Configuration Management (CM); State Management 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 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: State Management.

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".
[4]	3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
[5]	3GPP TS 32.632: "Telecommunication management; Configuration Management (CM); Core Network Resources Integration Reference Point (IRP): Network Resource Model (NRM)".
[6]	3GPP TS 32.642: "Telecommunication management; Configuration Management (CM): UTRAN network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
[7]	3GPP TS 32.652: "Telecommunication management; Configuration Management (CM); GERAN network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
[8]	ITU-T Recommendation X.731: "Information technology, Open Systems Interconnection, Systems Management: State management function".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2] and 3GPP TS 32.600 [3] apply.

3.3 Abbreviations

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

CM	Configuration Management
GSM	Global System for Mobile communication
IRP	Integration Reference Point
IS	Information Service (see 3GPP TS 32.101 [1])

ITU-T   International Telecommunication Union, Telecommunication Standardisation Sector
NE   Network Element
NR   Network Resource
NRM   Network Resource Model
OS   Operations System
QoS   Quality of Service

4 Requirements for the State Management IRP

4.1 Introduction to requirements

The management state of a managed object represents the instantaneous condition of availability and operability of the associated resource from the point of view of management. Different classes of managed object have a variety of state attributes that express and control aspects of the operation of their associated resource that are peculiar to each class. However, the management state is expected to be common to a large number of resources and for this reason is to be standardized; it expresses key aspects of their usability at any given time. Its purpose is to control the general availability of a resource and to make visible information about that general availability.

State Management IRP is defined to specify and to standardise the generic attributes for modelling and managing the resources of 3G networks at the Itf-N. There are a variety of managed objects and the related network resources. It is the task of designers of specific managed object classes to model the state conditions of the associated network resources using the generic attributes provided in the State Management IRP. Different managed objects and the network resources they model may require different subsets of the attributes defined in the State Management IRP. Examples of network resource models can be found in 3GPP TS 32.622 [4], 3GPP TS 32.632 [5], 3GPP TS 32.642 [6] and 3GPP TS 32.652 [7].

4.2 Requirements

The following requirements apply for the State Management IRP:

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

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

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

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

    1. The State Management IRP IS shall specify state attributes, modelling operability, usage and administration related to 3G network resources.

       - operability: whether or not the resource is physically installed and working, if applicable.

       - usage: whether or not the resource is actively in use at a specific instant, and if so, whether or not it has spare capacity for additional users at that instant. A resource is said to be "in use" when it has received one or more requests for service that it has not yet completed or otherwise discharged, or when some part of its capacity has been allocated, and not yet reclaimed, as a result of a previous service request.

       - administration: permission to use or prohibition against using the resource, imposed through the management services.

    The semantics and the value ranges of these state attributes shall be based on ITU-T Recommendation X.731 [8] while extensions and omissions may be made.

    2. The State Management IRP IS shall specify status attributes, modelling more detailed information about other aspects of the state of the corresponding 3G network resources that may affect their operability and usage. The status attributes also contain more detailed information about the administrative constraints on its operation that are controlled by a manager. The semantics and the value ranges of these status attributes shall be based on ITU-T Recommendation X.731 [8] while extensions and omissions may be made.

Annex A (informative):
Change history

<table>
<tr><td colspan="8" align="center">Change history</td></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>Jun 2002</td><td>S_16</td><td>SP-020329</td><td>--</td><td>--</td><td>Submitted to TSG SA #16 for Information</td><td>1.0.0</td><td></td></tr>
<tr><td>Sep 2002</td><td>S_17</td><td>SP-020468</td><td>--</td><td>--</td><td>Submitted to TSG SA #17 for Approval</td><td>2.0.0</td><td>5.0.0</td></tr>
<tr><td>Mar 2004</td><td>S_23</td><td>SP-040105</td><td>--</td><td>--</td><td>Automatic upgrade to Rel-6 (no CR)</td><td>5.0.0</td><td>6.0.0</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>6.0.0</td><td>7.0.0</td></tr>
<tr><td>Dec 2008</td><td>SA_42</td><td>--</td><td>--</td><td>--</td><td>Upgrade to Release 8</td><td>7.0.0</td><td>8.0.0</td></tr>
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History

Document history		
V8.0.0	January 2009	Publication