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TECHNICAL SPECIFICATION

**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Configuration Management (CM);
Basic CM Integration Reference Point (IRP);
Requirements
(3GPP TS 32.601 version 17.0.0 Release 17)**

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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:

32.601: Configuration Management (CM); Basic CM Integration Reference Point (IRP); Requirements

32.602: Configuration Management (CM); Basic CM Integration Reference Point (IRP); Information Service (SS)

32.606: Configuration Management (CM); Basic CM 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 , 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: Basic Configuration Management 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".

[4]   Void.

[5]   Void.

[6]   Void.

[7]   Void.

[8]   Void.

[9]   Void.

[10]   Void.

[11]   3GPP TS 32.172: "Telecommunication management; Subscription Management (SuM) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)".

[12]   3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[13]   3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [12], and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [13].

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).

Integration Reference Point (IRP): See 3GPP TS 32.150 [10].

Information Service (IS): See 3GPP TS 32.150 [10].

Solution Set (SS): See 3GPP TS 32.150 [10].

Managed Object (MO): an abstract entity, which may be accessed through an open interface between two or more systems, and representing a network resource 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 network resource is implemented; only what can be seen in the interface.

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

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

Management Information Base (MIB): the 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 .

Network resource: See definition in TS 28.622 [12].

Network Resource Model (NRM): See definition in TS 28.622 [12].

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 abbreviations given in 3GPP TR 21.905 [13], and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [13].

CM	Configuration Management
MOC	Managed Object Class
MOI	Managed Object Instance
PM	Performance Management

4 Requirements

4.1 General Requirements

This requirements specification defines requirements for the IS for this IRP. As such, capabilities specified here as being required in the IS are not necessarily required in the product implementation. That which is required in the product implementation will be specified in the IS itself.

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

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

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

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

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

- The IS defined by this IRP shall enable an NM to operate on (access) any NRMs defined in any NRM IRPs, such as those defined in [4], [5], [6], [7], [8], [9] and [11].

- The IS defined by this IRP shall as far as possible be independent of any specific definitions of MOCs, attributes etc. in the NRMs referred to in item 1.

- The IS specified by this IRP shall assume that when this IRP is implemented that the Kernel CM IRP is also implemented.

4.2 Passive CM Requirements

The IS defined by this IRP shall include the following operations that may be invoked by the IRP Manager to retrieve management information from the MIB maintained by the IRPAgent:

- An operation to retrieve the value of attributes from one or more managed object instances.

- An operation to retrieve the containment relationships between the managed object instances of a containment tree of managed objects.

- An operation to retrieve the Basic CM IRP versions that are supported by the IRPAgent.

- An operation to cancel a previously initiated operation if it has not completed. This operation shall, as a minimum, be able to cancel the operation that retrieves attributes. It may be specified to cancel any operation.

4.3 Active CM Requirements

Active CM requirements are specified as additions to Passive CM requirements and not intended to be implemented without implementation of Passive CM.

The IS defined by this IRP shall include the following operations that may be invoked by the IRP Manager to communicate management information to the IRPAgent specifying changes to be made to the MIB maintained by that IRPAgent:

- An operation to create an instance of a managed object.

- An operation to delete one or more instances of managed objects.

- An operation to modify one or more attributes of one or more instances of managed objects.

TS 32.600 [3] specifies the information that must provided in the NRM specifications on a per managed object basis to support these Active CM operations.

Annex A (informative):
Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Cat**	**Old**	**New**
Dec 2006	SA_34	SP-060729	0003	--	Include IMS NRM IRP in the scope for Basic CM IRP	C	6.1.1	7.0.0
Mar 2007	SA_35	SP-070046	0004	--	Correct the wrong references	F	7.0.0	7.1.0
Jun 2007	SA_36	SP-070276	0005	--	Add missing NRM IRP reference	F	7.1.0	7.2.0
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	--	7.2.0	8.0.0
Sep 2009	SA_45	SP-090534	0006	--	Add missing NRMs into scope of Basic CM IRP	F	8.0.0	8.1.0
Dec 2009	-	-	-	-	Update to Rel-9 version (MCC)	--	8.1.0	9.0.0
2011-03	-	-	-	-	Update to Rel-10 version (MCC)		9.0.0	10.0.0
2012-09	-	-	-	-	Update to Rel-11 version (MCC)		10.0.0	**11.0.0**
2014-10	-	-	-	-	Update to Rel-12 version (MCC)		11.0.0	**12.0.0**
2016-01	-	-	-	-	Update to Rel-13 version (MCC)		12.0.0	**13.0.0**
2017-04	SA#75	-	-	-	Promotion to Release 14 without technical change		13.0.0	**14.0.0**

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2018-06						Update to Rel-15 version (MCC)	15.0.0
2019-12	SA#86	SP-191158	0007	-	F	Correction of NR definition to avoid misalignment with RAN2	15.1.0
2020-07	-	-	-	-	-	Update to Rel-16 version (MCC)	**16.0.0**
2022-04	-	-	-	-	-	Update to Rel-17 version (MCC)	**17.0.0**

History

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