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Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Configuration Management (CM);
UTRAN network resources Integration Reference Point (IRP);
Requirements
(Release 11)**

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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:

   32.641:   Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Requirements

   32.642:   Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Network Resource Model (NRM)

   32.646:   Configuration Management (CM); UTRAN network resources 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 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 [1], [2] and [3], the requirements for the present IRP: UTRAN 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".

[4]   3GPP TS 32.511: "Telecommunication management; Automatic Neighbour Relation (ANR) management; Concepts and requirements ".

3 Definitions and abbreviations

3.1 Definitions

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

IRP: 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): a description of all the common characteristics for a number of MOs, such as their attributes, operations, notifications and behaviour.

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 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): a 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.

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
E-UTRAN	Evolved Universal Terrestrial Radio Access Network
GERAN	GSM/EDGE Radio Access Network
EPS	Evolved Packed System
FDD	Frequency Division Duplex
GSM	Global System for Mobile communication
IRP	Integration Reference Point
IS	Information Service (see [1])
ITU-T	International Telecommunication Union, Telecommunication Standardisation Sector
MIM	Management Information Model
MO	Managed Object
MOC	Managed Object Class
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
OS	Operations System
QoS	Quality of Service
RNC	Radio Network Controller
TDD	Time Division Duplex
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network

4   Requirements

The following general and high-level requirements apply for the present 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].

D.   IRP-related requirements in 3GPP TS 32.511 [4].

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

1.   The NRM defined by this IRP shall contain UTRAN specific MOCs and related definitions, supporting UTRAN network entities, which shall include FDD and TDD mode aspects.

2.   The NRM defined by this IRP shall support management of UMTS-GSM inter-system handover.

3.   The NRM defined by this IRP shall support management of UMTS-EPS inter-system handover.

4.   The NRM defined by this IRP shall support management of Inter-Radio Access Technology Automatic Neighbour Relation (IRAT ANR) from UTRAN to E-UTRAN, from UTRAN to GERAN.

5.   The NRM defined by this IRP shall support management of Intra-UTRAN Automatic Neighbour Relation (ANR).

Annex A (informative):
Change history

Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	SA_12	SP-010283	--	--	Approved at TSG SA#12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	SA_17	SP-020491	001	--	Upgrade to Rel-5	4.0.0	5.0.0
Mar 2004	SA_23	SP-040129	002	--	Add enhancement for support of both FDD and TDD modes	5.0.0	6.0.0
Mar 2005	--	--	--	--	Added in Introduction 32.645 to the TS family overview	6.0.0	6.0.1
Jun 2007	SA_36	--	--	--	Automatic upgrade to Rel-7 (no CR) at freeze of Rel-7. Deleted reference to CMIP SS, discontinued from R7 onwards.	6.0.1	7.0.0
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	7.0.0	8.0.0
Dec 2009	-	-	-	-	Update to Rel-9 version	8.0.0	9.0.0
Mar 2011	-	-	-	-	Update to Rel-10 version (MCC)	9.0.0	10.0.0
Sep 2011	SP-53	SP-110540	003	1	Add requirement for UTRAN handover	10.0.0	11.0.0
Sep 2011	SP-53	SP-110540	004	--	Add requirements for UTRAN ANR	10.0.0	11.0.0