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Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Signalling Transport Network (STN) interface
Network Resource Model (NRM)
Integration Reference Point (IRP);
Requirements
(Release 11)**

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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.

Ready for Converged Management

This specification is part of a set that has been developed for converged management solutions.

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:

28.734: **Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Requirements**

28.735: Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)

28.736: Signalling Transport Network (STN) interface Network Resource Model (NRM) 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 Signalling Transport Network (STN) interface NRM 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 29.202: "Signalling System No. 7 (SS7) signalling transport in core network; Stage 3".

[5]   ITU-T Recommendation Q.751.1 (10/95): "Network Element Management Information Model for The Message Transfer Part (MTP)".

[6]   ITU-T Recommendation M.3100 (07/95): "Generic Network Information Model".

[7]   ITU-T Recommendation Q.704 (07/96): "Signalling network functions and messages".

[8]   ITU-T Recommendation Q.702 (11/88): "Signalling Data Link".

[9]   3GPP TS.28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[10]   3GPP TS 32.405: "Telecommunication management; Performance Management (PM); Performance measurements Universal Terrestrial Radio Access Network (UTRAN)".

[11]   IETF RFC 3332: "Signalling System 7 (SS7) Message Transfer Part 3 (MTP3) - User Adaptation Layer (M3UA).

[12]   3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".

[13]   3GPP TS 32.107: "Telecommunication management; Fixed Mobile Convergence (FMC) Federated Network Information Model (FNIM)".

3 Definitions and abbreviations

3.1 Definitions

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

Integration Reference Point (IRP): see 3GPP TS 32.150 [12].

Network Resource Model (NRM): See definition in TS 28.622 [9].

Termination Point: see ITU-T M.3100 [6].

3.2 Abbreviations

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

CM	Configuration Management
GSM	Global System for Mobile communication
IP	Internet Protocol
IRP	Integration Reference Point
ITU-T	International Telecommunication Union, Telecommunication Standardisation Sector
MTP	Message Transfer Part
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
OS	Operations System
QoS	Quality of Service
RNC	Radio Network Controller
STN	Signalling Transport Network
UMTS	Universal Mobile Telecommunications System

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].

The NRM defined by this IRP:

D. Shall support communications for telecommunication network management purposes, including management of converged networks.

E. Is a member of the Federated Network Information Model (FNIM) [13] and its information is derived from FNIM Umbrella Information Model (UIM) [9].

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

4.1 MTP3 Configuration Management

a) It shall be possible for IRPManager to retrieve configuration information related to MTP3 signalling managed entity.

b) When the configuration information of MTP3 signalling managed entities changes, corresponding notifications shall be generated to IRPManager.

c) When the status of MTP3 signalling managed entities changes, corresponding notifications shall be generated to IRPManager.

d) It shall be possible for IRPManager to identify which technology that the STN is based on (e. g. MTP3, MTP3B [4]);

e) The interface shall allow for the viewing of parameters of the MTP3 signalling point, MTP3 signalling link set termination point, MTP3 signalling link termination point, MTP3 signalling route and MTP3 signalling route set [4], [5], [7], [8].

4.2 M3UA Configuration Management

a) It shall possible for IRPManager to retrieve configuration information related to M3UA signalling managed entities.

b) When the configuration information of M3UA signalling managed entities changes, corresponding notifications shall be generated to IRPManager.

c) When the status of M3UA signalling managed entities changes, corresponding notifications shall be generated to IRPManager.

d) The interface shall allow for the viewing of parameters of the M3UA signalling point, M3UA signalling link set termination point, M3UA signalling link termination point, M3UA signalling route and M3UA signalling route set ([4], [11]).

4.3 Fault Management

Any fault detected by the signalling managed entity (including signalling point, signalling link set termination point, signalling link termination point, signalling route and signalling route set [4], [5], [7], [8]) shall be passed up to the IRPManager.

4.4 Performance Management

It shall be possible for IRPManager to collect and monitor performance data. The detailed mesurement data to be defined in 3GPP TS 32.405 [10].

5 Issues

The NRM shall allow to be extended to support other technologies based Signalling Transport Network in the future (e.g. IP-based; see 3GPP TS 29.202 [4]).

Annex A (informative):
Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
2012-11					.			**0.1.0**
2012-12	SA#58				Draft sent for Information and Approval		0.1.0	**1.0.0**
2012-12					New version after approval		1.0.0	**11.0.0**