



**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Evolved Packet Core (EPC)
and non-3GPP access interworking system Network
Resource Model (NRM) Integration Reference Point (IRP);
Requirements
(3GPP TS 28.611 version 12.2.0 Release 12)**



Reference

RTS/TSGS-0528611vc20

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

The present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (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/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2015.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

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://ipr.etsi.org>).

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>.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
Introduction	4
1 Scope	5
2 References	5
3 Definitions and abbreviations.....	5
3.1 Definitions	5
3.2 Abbreviations	6
4 Concepts and background	6
5 Requirements.....	6
Annex A (informative): Change history	7
History	8

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:

TS 28.611: "Evolved Packet Core (EPC) and non-3GPP access interworking system Network Resource Model (NRM) Integration Reference Point (IRP); Requirements"

TS 28.612: "Evolved Packet Core (EPC) and non-3GPP access interworking system Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)"

TS 28.616: "Evolved Packet Core (EPC) and non-3GPP access interworking system Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions"

1 Scope

The present document describes the Network Resource Model (NRM) Integration Reference Point (IRP) requirements for the EPC and WLAN interworking system according to the structure defined in 3GPP TS 23.402 [8] (e.g. ePDG, 3GPP AAA, etc).

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 TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".
- [3] 3GPP TS 32.102: "Telecommunication management; Architecture".
- [4] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".
- [5] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".
- [6] Void
- [7] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".
- [8] 3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

Integration Reference Point (IRP): See 3GPP TS 32.150 [5].

Information Service (IS): See 3GPP TS 32.150 [5].

Solution Set (SS): See 3GPP TS 32.150 [5].

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

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

AAA	Access, Authentication and Authorisation
ePDG	evolved Packet Data Gateway
IRP	Integration Reference Point
IOC	Information Object Class
NRM	Network Resource Model

4 Concepts and background

The architectures of enhancement for non-3GPP access (i.e. WLAN) to 3GPP system are defined in 3GPP TS 23.402 [8].

In TS 23.402, three kinds of architectures are defined, using S2a, S2b and S2c interface separately. The architectures of S2a and S2c don't introduce new network elements in 3GPP system, while the architecture S2b introduces a new network element to support the interworking:

- evolved Packet Data Gateway (ePDG) (clause 4.3.4 of 3GPP TS 23.402 [8]).

The above interworking related network element should be managed by the 3GPP OAM, and the corresponding NRM IRP needs to be defined.

Based on the above characteristics, this specification defines the evolved 3GPP interworking WLAN NRM IRP requirements.

5 Requirements

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

- IRP-related requirements in 3GPP TS 32.101 [2].
- IRP-related requirements in 3GPP TS 32.102 [3].
- IRP-related requirements in 3GPP TS 32.600 [4].

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

REQ-EPC_WLAN-CON-001

The Network Resource Model defined by this IRP shall contain ePDG specific IOCs and related definitions. This requirement should be satisfied when the S2b architecture is implemented.

REQ-EPC_WLAN-CON-002

The Network Resource Model defined by this IRP shall contain 3GPP AAA specific IOCs and related definitions.

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Oct 2011	SA5-79		--	--	Initial version for TS skeleton	---	0.0.1
Feb 2012	SA5-81				Added NRM IRP requirements	0.0.1	0.1.0
Aug 2013					Revise the document title and release information	0.1.0	0.1.1
Sep 2013	SA-61	SP-130448			Presented for information	0.1.1	1.0.0
Sep 2013	-	-			MCC clean-up	1.0.0	1.0.1
Nov 2013					Remove editor notes	1.0.1	1.1.1
Dec 2013	SA-62	SP-130633			Presented for approval	1.1.1	2.0.0
Dec 2013					Version after approval	2.0.0	12.0.0
Sep 2014	SA-65	SP-140560	004	-	Remove unused reference	12.0.0	12.1.0
Dec 2014	SA-66	SP-140798	005	1	Remove feature support statement	12.1.0	12.2.0

History

Document history		
V12.1.0	October 2014	Publication
V12.2.0	January 2015	Publication