

ETSI TS 132 332 V13.0.0 (2016-02)



**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Notification Log (NL) Integration Reference Point (IRP);
Information Service (IS)
(3GPP TS 32.332 version 13.0.0 Release 13)**



Reference

RTS/TSGS-0532332vd00

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/standards-search>

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:

<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

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 2016.

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 (<https://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**", "**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.....	6
Introduction	6
1 Scope	7
2 References	7
3 Definitions and abbreviations.....	7
3.1 Definitions	7
3.2 Abbreviations	8
4 System overview	8
4.2 Compliance rules.....	8
5 Information Object Classes (IOCs)	9
5.1 Information entities imported and local labels	9
5.2 Class diagram	10
5.2.1 Attributes and relationships	10
Inheritance	11
5.3 Information Object Class (IOC) definitions	12
5.3.1 NLIRP.....	12
5.3.1.1 Definition	12
5.3.1.2 Attributes.....	12
5.3.2 Log.....	12
5.3.2.1 Definition	12
5.3.2.2 Attributes.....	12
5.3.2.3 State diagram.....	13
5.3.3 LogRecord	13
5.3.3.1 Definition	13
5.4 Information relationship definitions	14
5.4.1 Relation-nLIRP-log (M)	14
5.4.1.1 Definition	14
5.4.1.2 Role	14
5.4.1.3 Constraint	14
5.4.2 Relation-log-logRecord (M)	14
5.4.2.1 Definition	14
5.4.2.2 Role	14
5.4.2.3 Constraint	14
5.4.3 Relation-logRecord-notificationIRPNotification (M).....	15
5.4.3.1 Definition	15
5.4.3.2 Role	15
5.4.3.3 Constraint	15
5.5 Information attribute definition	16
5.5.1 Definition and legal values	16
5.5.2 Constraints	17
6 Interface definition	17
6.1 Class diagram	17
6.2 Generic rules	18
6.3 NLIRPOperations_1 Interface (M).....	18
6.3.1 Operation subscribeLog (M).....	18
6.3.1.1 Definition	18
6.3.1.2 Input parameters.....	18
6.3.1.3 Output parameters.....	19

6.3.1.4	Pre-condition	19
6.3.1.5	Post-condition	19
6.3.1.6	Exceptions	19
6.3.2	Operation unsubscribeLog (M)	20
6.3.2.1	Definition	20
6.3.2.2	Input parameters	20
6.3.2.3	Output parameters	20
6.3.2.4	Pre-condition	20
6.3.2.5	Post-condition	20
6.3.2.6	Exceptions	20
6.3.3	Operation exportLogRecords (O)	21
6.3.3.1	Definition	21
6.3.3.2	Input parameters	21
6.3.3.3	Output parameters	21
6.3.3.4	Pre-condition	21
6.3.3.5	Post-condition	21
6.3.3.6	Exceptions	21
6.3.4	Operation getLogRecords (O)	22
6.3.4.1	Definition	22
6.3.4.2	Input parameters	22
6.3.4.3	Output parameters	22
6.3.4.4	Pre-condition	22
6.3.4.5	Post-condition	22
6.3.4.6	Exceptions	22
6.4	NLIRPOperations_2 Interface (O)	23
6.4.1	Operation getLogSubscriptionIds (M)	23
6.4.1.1	Definition	23
6.4.1.2	Input parameters	23
6.4.1.3	Output parameters	23
6.4.1.4	Pre-condition	23
6.4.1.5	Post-condition	23
6.4.1.6	Exceptions	23
6.4.2	Operation getLogSubscriptionStatus (M)	24
6.4.2.1	Definition	24
6.4.2.2	Input parameters	24
6.4.2.3	Output parameters	24
6.4.2.4	Pre-condition	24
6.4.2.5	Post-condition	24
6.4.2.6	Exceptions	24
6.5	NLIRPNotifications_1 Interface (M)	25
6.5.1	Notification notifyLogSubscribed (M)	25
6.5.1.1	Definition	25
6.5.1.2	Input Parameters	25
6.5.1.3	Triggering Event	25
6.5.1.3.1	From-state	25
6.5.1.3.2	To-state	25
6.5.2	Notification notifyLogUnsubscribed (M)	26
6.5.2.1	Definition	26
6.5.2.2	Input Parameters	26
6.5.2.3	Triggering Event	26
6.5.2.3.1	From-state	26
6.5.2.3.2	To-state	26
6.6	NLIRPNotifications_2 Interface (O)	27
6.6.1	Notification notifyOccupancyLevelCrossed (M)	27
6.6.1.1	Definition	27
6.6.1.2	Input Parameters	27
6.6.1.3	Triggering Event	27
6.6.1.3.1	From-state	27
6.6.1.3.2	To-state	27
6.6.2	Notification notifyLoggingResumed (O)	28
6.6.2.1	Definition	28

6.6.2.2 Input Parameters28
6.6.2.3 Triggering Event28
6.6.2.3.1 From-state.....28
6.6.2.3.2 To-state.....28
Annex A (informative): Change history29
History30

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:

TS 32.331	"Notification Log (NL) Integration Reference Point (IRP): Requirements"
TS 32.332	"Notification Log (NL) Integration Reference Point (IRP): Information Service (IS)"
TS 32.336	"Notification Log (NL) Integration Reference Point (IRP); Solution Set (SS) definitions"

The present document describes the requirements and information model necessary for Telecommunication Management (TM). The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

A communications system is composed of a multitude of Network Elements (NE) of various types and, typically, different vendors, which inter-operate in a co-ordinated manner in order to satisfy the network users' communication requirements.

The occurrence of faults in an NE may cause deterioration or loss of this NE's function. Fault Management is the functional area, which allows the operator to detect the occurrence of faults in the network in real-time. Configuration Management and Performance Management are two more functional areas, which require the operator to be alerted to certain conditions in the network.

A standard general-purpose mechanism for the management of logs containing selected notifications from the network is required to provide an ability to perform historical analysis on faults and conditions, which occurred in the network. The TS 32.33x-series, constituting the Notification log IRP, sets forth such a mechanism - and the present document contains the IS definition.

1 Scope

The present document specifies the Information Service for the Notification Log Integration Reference Point (NLIRP) as it applies to Itf-N.

This IRP IS defines the semantics of operations (and their parameters) visible across the Itf-N in a protocol and technology neutral way. It does not define the syntax or encoding of the operations and their parameters.

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 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".
- [4] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
- [5] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".
- [6] 3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management; Information Service (IS)".
- [7] 3GPP TS 32.331: "Telecommunication management; Notification Log (NL) Integration Reference Point (IRP): Requirements".
- [8] 3GPP TS 32.342: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
- [9] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".

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], 3GPP TS 32.111-2 [5] and 3GPP TS 32.331 [7] apply.

notification category: it refers to the set of notifications of one 3GPP IRP Information Service specification. A Notification Category is identified by the name of the IRP specification and the IRP specification version number.