

ETSI TS 129 335 V12.0.0 (2014-10)



TECHNICAL SPECIFICATION

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
User Data Convergence (UDC);
User data repository access protocol over the Ud interface;
Stage 3
(3GPP TS 29.335 version 12.0.0 Release 12)**



Reference

RTS/TSGC-0429335vc00

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 2014.

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.....	5
1 Scope	6
2 References	6
3 Definitions, symbols and abbreviations	7
3.1 Definitions	7
3.2 Symbols.....	7
3.3 Abbreviations	7
4 Protocol Stack	8
4.1 General	8
4.2 Protocol Stack for Ud Data Access Messages	8
4.3 Protocol Stack for Ud Subscriptions/Notifications.....	8
5 General Messages.....	9
5.1 General	9
5.2 Open Link for a LDAP Session.....	9
5.3 Close Link for a LDAP Session	9
5.4 Transactions	9
6 User Data Convergence Messages	9
6.1 General	9
6.2 Query.....	9
6.3 Create	10
6.4 Delete	10
6.5 Update	10
6.6 Subscribe	10
6.7 Notify	11
6.8 Abandon operation	11
7 Information Elements.....	12
7.1 Information Element Types with LDAP	12
7.2 Information Elements for Subscriptions and Notifications	12
8 Security.....	12
Annex A (normative): SOAP Subscription and Notification	13
A.1 XML schema for Subscribe Request.....	13
A.2 XML schema for Subscribe Response	13
A.3 XML schema for Notify Request	14
A.4 XML schema for Notify Response.....	15
Annex B (informative): LDAP Message flows and Transaction flows for UDC.....	16
B.1 General LDAP Message flow for UDC.....	16
B.2 LDAP Transaction flows for UDC.....	16
Annex C (informative): Messages Based on SOAP.....	18
C.1 General	18
C.2 Protocol Stack for Messages Based on SOAP	18

C.3 SOAP Based Query19

C.4 SOAP Based Create.....19

C.5 SOAP Based Delete.....19

C.6 SOAP Based Update19

C.7 SOAP Based Abandon20

Annex D (informative): Change history21

History22

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.

1 Scope

The present document specifies the stage 3 of the Ud interface between the Front-Ends (FEs) and the User Data Repository (UDR) in the User Data Convergence (UDC architecture).

This 3GPP Technical Specification (TS) specifies the protocol and interactions between the FE and the UDR for Ud reference point, in particular:

- The details of the LDAP protocol that are to be considered
- The details of the SOAP envelope that provide support for subscriptions to notifications and notifications about data changes service (S/N operations).

The User Data Convergence Stage 2 description (architecture and information flows) is specified in 3GPP TS 23.335 [10].

The UDR data model used with LDAP (i.e. attributes, object classes and directory information tree) is implementation specific and is left outside the scope of 3GPP specifications. For multivendor interoperability between FEs and UDR specific integration projects are needed. Some examples of Ud data models are described in 3GPP TR 29.935 [19].

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 TR 41.001: "GSM Release specifications".
- [3] 3GPP TR 21 912 (V3.1.0): "Example 2, using fixed text".
- [4] IETF RFC 4510: "Lightweight Directory Access Protocol (v3)".
- [5] IETF RFC 5805: "Lightweight Directory Access Protocol (LDAP) Transactions".
- [6] W3C Recommendation "Simple Object Access Protocol (SOAP) 1.2" (27 April 2007).
<http://www.w3.org/TR/>.
- [7] IETF RFC 2616 (June 1999): "Hypertext Transfer Protocol – HTTP/1.1".
- [8] IETF RFC 4511: "Lightweight Directory Access Protocol (LDAP): The Protocol".
- [9] IETF RFC 4528: "Lightweight Directory Access Protocol (LDAP) Assertion Control".
- [10] 3GPP TS 23.335: "User Data Convergence (UDC); Technical realization and information flows".
- [11] IETF RFC 4512: "Lightweight Directory Access Protocol (LDAP): Directory Information Models".
- [12]. 3GPP TS 32.182: "Telecommunication management; User Data Convergence (UDC); Common Baseline Information Model".
- [13] Void