

ETSI TS 129 283 V13.1.0 (2016-08)



LTE;
Universal Mobile Telecommunications System (UMTS);
Diameter data management applications
(3GPP TS 29.283 version 13.1.0 Release 13)



Reference

RTS/TSGC-0429283vd10

Keywords

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
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.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
1 Scope	7
2 References	7
3 Definitions, symbols and abbreviations	8
3.1 Definitions	8
3.2 Abbreviations	8
4 Main Concept	8
4.1 Introduction	8
5 MCPTT General Architecture	8
5.1 Introduction	8
5.2 Functional requirements of network entities	8
5.2.1 Functional Requirements of the MCPTT Server	8
5.2.2 Functional Requirements of the Configuration Management Server.....	8
5.2.3 Functional requirements of MCPTT User Database.....	9
5.3 Functional classification of MCPTT-2 interface procedures.....	9
5.4 Functional classification of CSC-13 interface procedures	9
6 Procedure Descriptions for MCPTT.....	9
6.1 Introduction	9
6.2 MCPTT User data handling procedures	10
6.2.1 Data Pull	10
6.2.1.1 General	10
6.2.1.2 Detailed behaviour of the requesting entity	11
6.2.1.3 Detailed behaviour of the MCPTT User Database.....	11
6.2.2 Data Update	12
6.2.2.1 General	12
6.2.2.2 Detailed behaviour of the Configuration Management Server.....	13
6.2.2.3 Detailed behaviour of the MCPTT User Database.....	14
6.2.3 Data Notification	15
6.2.3.1 General	15
6.2.3.2 Detailed behaviour of the MCPTT User Database.....	16
6.2.3.3 Detailed behaviour of the receiving entity	17
6.3 Requesting entity permissions list	17
6.3.1 General.....	17
7 Protocol Specification and Implementation for MCPTT	18
7.1 General	18
7.1.1 Use of Diameter base protocol.....	18
7.1.2 Securing Diameter Messages	18
7.1.3 Accounting functionality	18
7.1.4 Use of sessions.....	18
7.1.5 Transport protocol	19
7.1.6 Routing considerations	19
7.1.7 Advertising Application Support	19
7.1.8 Diameter Application Identifier.....	20
7.1.9 Use of the Supported-Features AVP.....	20
7.1.10 MCPTT ID to MCPTT User Database resolution.....	20
7.2 Commands.....	22
7.2.1 Introduction.....	22
7.2.2 Command-Code values.....	22

7.2.3	Data-Pull-Request (DPR) Command	22
7.2.4	Data-Pull-Answer (DPA) Command	23
7.2.5	Data-Update-Request (DUR) Command	23
7.2.6	Data-Update-Answer (DUA) Command	23
7.2.7	Notification-Data-Request (PDR) Command	24
7.2.8	Notification-Data-Answer (PDA) Command	24
7.3	AVPs	25
7.3.1	General	25
7.3.2	MCPTT-ID	26
7.3.3	Requested-Data	26
7.3.4	DRMP	26
7.3.5	OC-OLR	26
7.3.6	OC-Supported-Features	26
7.3.7	User-Data	26
7.3.8	User-Identifier	27
7.3.9	Feature-List-ID AVP	27
7.3.10	Feature-List AVP	27
7.3.11	Data-Identification-Prefix	27
7.3.12	Data-Identification-Flags	27
7.3.13	DPR-Flags	27
7.3.14	DPA-Flags	28
7.3.15	DUR-Flags	28
7.3.16	DUA-Flags	28
7.3.17	NDR-Flags	28
7.3.18	NDA-Flags	29
7.3.19	User-Data-Id	29
7.3.20	MCPTT-User-Profile-Data	29
7.3.21	Sequence-Number	29
7.3.22	Data	29
7.4	Result-Code and Experimental-Result-Code Values	30
7.4.1	Introduction	30
7.4.2	Success	30
7.4.2.1	General	30
7.4.3	Permanent Failures	30
7.4.3.1	General	30
7.4.3.2	DIAMETER_ERROR_USER_UNKNOWN (5001)	30
7.4.3.3	DIAMETER_ERROR_USER_DATA_NOT_RECOGNIZED (5100)	30
7.4.3.4	DIAMETER_ERROR_OPERATION_NOT_ALLOWED (5101)	30
7.4.3.5	DIAMETER_ERROR_USER_DATA_CANNOT_BE_READ (5102)	30
7.4.3.6	DIAMETER_ERROR_USER_DATA_CANNOT_BE_MODIFIED (5103)	30
7.4.3.7	DIAMETER_ERROR_USER_DATA_CANNOT_BE_NOTIFIED (5104)	30
7.4.3.8	DIAMETER_ERROR_TOO_MUCH_DATA (5008)	31
7.4.3.9	DIAMETER_ERROR_DATA_OUT_OF_SYNC (5105)	31
7.4.3.10	DIAMETER_ERROR_FEATURE_UNSUPPORTED (5011)	31
7.4.2.11	DIAMETER_ERROR_NO_SUBSCRIPTION_TO_DATA (5107)	31
7.4.3.12	DIAMETER_ERROR_UNKNOWN_DATA (5670)	31
7.4.3.13	DIAMETER_ERROR_REQUIRED_KEY_NOT_PROVIDED (5671)	31
7.4.4	Transient Failures	31
7.4.4.1	General	31
7.4.3.2	DIAMETER_USER_DATA_NOT_AVAILABLE (4100)	31
7.4.3.3	DIAMETER_PRIOR_UPDATE_IN_PROGRESS (4101)	31
Annex A (normative): Diameter overload control mechanism		32
A.1	General	32
A.2	MCPTT User Database behaviour	32
A.3	MCPTT Server and Configuration Management Server behaviour	32
Annex B (Informative): Diameter overload node behaviour		33
B.1	Message prioritization	33
Annex C (normative): Diameter message priority mechanism		34
C.1	General	34

C.2 MCPTT-2 and CSC-13 interfaces34
C.2.1 General.....34
C.2.2 MCPTT Server and Configuration Management Server behaviour.....34
C.2.3 MCPTT User Database behaviour34

Annex D (informative): Change history35
History36

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

This 3GPP Technical Specification (TS) specifies:

1. The interactions between the MCPTT User Database and the MCPTT Server. This interface is referred to as the MCPTT-2 reference point.
2. The interactions between the MCPTT User Database and the Configuration Management Server. This interface is referred to as the CSC-13 reference point.

The functional architecture for support of mission critical communication services is specified in 3GPP TS 23.179 [2].

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 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2".
 - [3] IETF RFC 3588: "Diameter Base Protocol".
 - [4] 3GPP TS 33.210: "3G security; Network Domain Security (NDS); IP network layer security".
 - [5] IETF RFC 4960: "Stream Control Transmission Protocol".
 - [6] 3GPP TS 29.229: "Cx and Dx interfaces based on the Diameter protocol; Protocol details".
 - [7] IETF RFC 5234: "Augmented BNF for Syntax Specifications: ABNF".
 - [8] IETF draft-ietf-dime-drmp-03: "Diameter Routing Message Priority".
- Editor's note:** The above document cannot be formally referenced until it is published as an RFC.
- [9] 3GPP TS 29.329: "Sh interface based on the Diameter protocol; Protocol details".
 - [10] 3GPP TS 29.336: "Home Subscriber Server (HSS) diameter interfaces for interworking with packet data networks and applications".
 - [11] IETF RFC 7683: "Diameter Overload Indication Conveyance".
 - [12] 3GPP TS 23.003: "Numbering, addressing and identification".
 - [13] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
 - [14] 3GPP TS 29.228: "IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents".
 - [15] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".