ETSI TS 123 280 V14.4.0 (2018-01)

LTE;
Common functional architecture
to support mission critical services;
Stage 2
(3GPP TS 23.280 version 14.4.0 Release 14)

3GPP A GLOBAL INITIATIVE

LTE Advanced Pro

Reference
RTS/TSGS-0623280ve40

Keywords
LTE

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

Intellectual Property Rights

Essential patents

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.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

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

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 document specifies the common functional architecture, procedures and information flows needed to support mission critical services including the common services core architecture.

The corresponding service requirements are defined in 3GPP TS 22.179 [2], 3GPP TS 22.280 [3], 3GPP TS 22.281 [4] and 3GPP TS 22.282 [5].

The present document is applicable primarily to mission critical services using E-UTRAN access based on the EPC architecture defined in 3GPP TS 23.401 [17]. Certain MC service functions such as dispatch and administrative functions could also be supported via non-3GPP access networks but no additional functionality is specified to support non-3GPP access.

The common functional architecture to support mission critical services can be used for public safety applications and also for general commercial applications e.g. utility companies and railways.

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 22.179: "Mission Critical Push to Talk (MCPTT) over LTE; Stage 1".

[3] 3GPP TS 22.280: "Mission Critical Services Common Requirements (MCCoRe); Stage 1".

[4] 3GPP TS 22.281: "Mission Critical Video services over LTE".

[5] 3GPP TS 22.282: "Mission Critical Data services over LTE".

[6] 3GPP TS 23.002: "Network Architecture".

[7] 3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2"

[8] 3GPP TS 23.203: "Policy and charging control architecture".

[9] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[10] 3GPP TS 23.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 2".

[11] 3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description".

[12] 3GPP TS 23.281: "Functional architecture and information flows to support Mission Critical Video (MCVideo); Stage 2".

[13] 3GPP TS 23.282: "Functional architecture and information flows to support Mission Critical Data (MCData); Stage 2".

[14] 3GPP TS 23.303: "Proximity-based services (ProSe); Stage 2".

[15] 3GPP TS 23.335: "User Data Convergence (UDC); Technical realization and information flows".

[16] 3GPP TS 23.379: "Functional architecture and information flows to support Mission Critical Push To Talk (MCPTT); Stage 2".

[17] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".

[18] 3GPP TS 23.468: "Group Communication System Enablers for LTE (GCSE_LTE); Stage 2".

[19] 3GPP TS 29.283: "Diameter Data Management Applications".

[20] 3GPP TS 33.179: "Security of Mission Critical Push-To-Talk (MCPTT)".

[21] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[22] IETF RFC 5245 (April 2010): "Interactive Connectivity Establishment (ICE): A Protocol for Network Address Translator (NAT) Traversal for Offer/Answer Protocols".

[23] GSMA PRD IR.92 v10.0: "IMS Profile for Voice and SMS".

[24] GSMA PRD IR.88 v15.0: "LTE and EPC Roaming Guidelines".

[25] 3GPP TS 33.180: "Security of the mission critical service".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP 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 3GPP TR 21.905 [1].

Active MC service user profile: The MC service user profile that is currently used by an MC service client of an MC service user while receiving MC service.

Location: The current physical location of the MC service UE.

MC service: A generic name for any one of the three mission critical services: either MCPTT, or MCVideo, or MCData.

MC service affiliated group member: An MC service user who has indicated an interest in a particular MC service group and has been accepted to participate in MC service group communication for that MC service group.

MC service client: A generic name for the client application function of a specific MC service. MC service client could be replaced by MCPTT client, or MCVideo client, or MCData client depending on the context.

MC service group: A defined set of MC service users with associated communication dispositions (e.g. media restrictions, default priority and commencement directions) configured for the use with one or more MC services.

MC service group affiliation: A mechanism by which an MC service user's MC service(s) communication interest in one or more MC service groups is determined.

MC service group call: A mechanism by which an MC service user can make a one-to-many MC service(s) transmission to other users that are members of MC service group(s).

MC service group de-affiliation: A mechanism by which an MC service user's MC service(s) communication interest in one or more MC service groups is removed.

MC service group home system: The mission critical system where the MC service group is defined.

MC service group host MC service server: The MC service server within a mission critical system which provides centralised support for a particular MC service of an MC service group defined in a MC service group home system.