

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)

STANDARD REVIEW
https://standards.iteh.ai/catalog/standards/sist/395f6824-2f6e-47b1-85c2-14b859b7e5e0/etsi-ts-123-280-v14-4-0-2018-01



ReferenceRTS/TSGS-0623280ve40

KeywordsLTE

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.

© ETSI 2018.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M logo is protected for the benefit of its Members.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

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

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	10
1 Scope	11
2 References	11
3 Definitions, symbols and abbreviations	12
3.1 Definitions	12
3.2 Symbols.....	13
3.3 Abbreviations	13
4 Introduction	14
5 Assumptions and architectural requirements.....	15
5.1 Assumptions	15
5.1.1 Service continuity	15
5.1.2 Trust domain.....	15
5.2 Architectural requirements	15
5.2.1 General architectural requirements	15
5.2.2 Roaming requirements	16
5.2.3 UE-to-network relay MC service requirements	16
5.2.4 MC service user profile requirements	16
5.2.5 MC service group affiliation and MC service group de-affiliation.....	16
5.2.6 GCS AS requirements for the MC services	17
5.2.7 Bearer management	18
5.2.7.0 General	18
5.2.7.1 MBMS bearer management	18
5.2.7.2 EPS bearer considerations	19
5.2.8 External applications access to services in a MC system.....	19
6 Involved business relationships.....	19
7 Functional model.....	22
7.1 General	22
7.2 Description of the planes	22
7.3 Functional model description	22
7.3.1 On-network functional model.....	22
7.3.2 Off-network functional model	25
7.4 Functional entities description.....	26
7.4.1 General.....	26
7.4.2 Application plane.....	26
7.4.2.1 General	26
7.4.2.2 Common services core	26
7.4.2.2.1 Configuration management client.....	26
7.4.2.2.2 Configuration management server.....	27
7.4.2.2.3 Group management client.....	27
7.4.2.2.4 Group management server.....	27
7.4.2.2.5 Identity management client	27
7.4.2.2.6 Identity management server.....	27
7.4.2.2.7 Key management client	27
7.4.2.2.8 Key management server	27
7.4.2.2.9 Location management client.....	28
7.4.2.2.10 Location management server.....	28
7.4.2.3 MC service	28
7.4.2.3.1 MC service client.....	28
7.4.2.3.2 MC service server.....	28

7.4.2.3.3	MC service user database	28
7.4.3	Signalling control plane	28
7.4.3.1	SIP entities	28
7.4.3.1.1	Signalling user agent	28
7.4.3.1.2	SIP AS	28
7.4.3.1.3	SIP core	29
7.4.3.1.3.1	General.....	29
7.4.3.1.3.2	Local inbound / outbound proxy.....	29
7.4.3.1.3.3	Registrar finder	29
7.4.3.1.3.4	Registrar / application service selection.....	30
7.4.3.2	SIP database	30
7.4.3.2.1	General	30
7.4.3.2.2	SIP database logical functions.....	31
7.4.3.3	HTTP entities	31
7.4.3.3.1	HTTP client	31
7.4.3.3.2	HTTP proxy.....	31
7.4.3.3.3	HTTP server	32
7.5	Reference points	32
7.5.1	General reference point principle.....	32
7.5.2	Application plane.....	32
7.5.2.1	General	32
7.5.2.2	Reference point CSC-1 (between the identity management client and the identity management server)	32
7.5.2.3	Reference point CSC-2 (between the group management client and the group management server for configuration while UE is on-network)	32
7.5.2.4	Reference point CSC-3 (between the MC service server and the group management server).....	32
7.5.2.5	Reference point CSC-4 (between the configuration management client and the configuration management server for configuration while UE is on-network)	33
7.5.2.6	Reference point CSC-5 (between the MC service server and the configuration management server)	33
7.5.2.7	Reference point CSC-7 (between the group management servers).....	33
7.5.2.8	Reference point CSC-8 (between the key management server and the key management client).....	33
7.5.2.9	Reference point CSC-9 (between the key management server and the MC service server)	33
7.5.2.10	Reference point CSC-10 (between the key management server and the group management server)	34
7.5.2.11	Reference point CSC-11 (between the configuration management client and the configuration management server for configuration while UE is off-network).....	34
7.5.2.12	Reference point CSC-12 (between the group management client and the group management server for configuration while UE is off-network).....	34
7.5.2.13	Reference point CSC-13 (between the configuration management server and the MC service user database)	34
7.5.2.14	Reference point CSC-14 (between the location management client and the location management server)	34
7.5.2.15	Reference point CSC-15 (between the location management server and the MC service server)	34
7.5.3	Signalling control plane	35
7.5.3.1	General	35
7.5.3.2	Reference point SIP-1(between the signalling user agent and the SIP core).....	35
7.5.3.3	Reference point SIP-2 (between the SIP core and the SIP AS).....	35
7.5.3.4	Reference point SIP-3 (between the SIP core and SIP core).....	35
7.5.3.5	Reference point HTTP-1 (between the HTTP client and the HTTP proxy).....	36
7.5.3.6	Reference point HTTP-2 (between the HTTP proxy and the HTTP server).....	36
7.5.3.7	Reference point HTTP-3 (between the HTTP proxy and HTTP proxy)	36
7.5.3.8	Reference point AAA-1 (between the SIP database and the SIP core).....	36
8	Identities	36
8.1	Application plane	36
8.1.1	Mission Critical user identity (MC ID).....	36
8.1.2	MC service user identity (MC service ID).....	36
8.1.3	MC service group identity (MC service group ID).....	37
8.1.3.1	General	37
8.1.3.2	MC service group ID management (off-network operation).....	37
8.2	SIP signalling control plane.....	38

8.3	Relationship between identities in different planes	38
8.3.1	Relationship between MC service ID and public user identity	38
8.3.2	Relationship between MC service group ID and public service identity	39
9	Application of functional model to deployments	39
9.1	General	39
9.2	Architecture model and deployment scenarios for on-network operations	40
9.2.1	On-network architectural model	40
9.2.1.1	On-network architectural model diagram	40
9.2.1.2	Application services layer	40
9.2.1.2.1	Overview	40
9.2.1.2.2	Common services core	40
9.2.1.2.3	MC services	41
9.2.1.3	SIP core	41
9.2.1.4	EPS	41
9.2.1.5	UE 1	41
9.2.1.6	UE 2	41
9.2.2	Deployment scenarios	41
9.2.2.1	Administration of MC service, SIP core and EPS	41
9.2.2.1.1	General	41
9.2.2.1.2	Common administration of all planes	42
9.2.2.1.3	MC service provider separate from SIP core and EPS	42
9.2.2.1.4	MC service provider administers SIP core, separate from EPS	43
9.2.2.1.5	SIP core partially administered by both PLMN operator and MC service provider	44
9.2.2.1.6	PLMN operator administers SIP core with SIP identities administered by MC service provider	44
9.2.2.2	MC service user database, SIP database and HSS	45
9.2.2.3	Control of bearers by SIP core and MC service server	48
9.2.2.3.1	General	48
9.2.2.3.2	Control of bearers by SIP core	48
9.2.2.3.3	Control of bearers by MC service server	48
9.3	Architecture model for off-network operations	49
9.3.1	Off-network architectural model diagram	49
9.3.2	UE 3	49
9.3.3	UE 4	50
9.3.4	Offline common services server	50
9.4	Architecture model for roaming	50
10	Procedures and information flows	50
10.1	MC service configuration	50
10.1.1	General	50
10.1.2	Information flows for MC service configuration	51
10.1.2.1	Store group configuration request	51
10.1.2.2	Store group configuration response	52
10.1.2.3	Get group configuration request	52
10.1.2.4	Get group configuration response	52
10.1.2.5	Subscribe group configuration request	52
10.1.2.6	Subscribe group configuration response	53
10.1.2.7	Notify group configuration request	53
10.1.2.8	Notify group configuration response	53
10.1.3	MC service UE configuration data	53
10.1.3.1	General	53
10.1.3.2	Procedures	53
10.1.3.3	Structure of UE configuration data	54
10.1.4	MC service user profile	54
10.1.4.1	General	54
10.1.4.2	Information flows for MC service user profile	55
10.1.4.2.1	Get MC service user profile request	55
10.1.4.2.2	Get MC service user profile response	55
10.1.4.2.3	Notification for MC service user profile data update	55
10.1.4.2.4	Get updated MC service user profile data request	56
10.1.4.2.5	Get updated MC service user profile data response	56

10.1.4.2.6	Update MC service user profile data request.....	56
10.1.4.2.7	Update MC service user profile data response	56
10.1.4.2.8	Update pre-selected MC service user profile request	56
10.1.4.2.9	Update pre-selected MC service user profile response	57
10.1.4.2.10	Update selected MC service user profile request.....	57
10.1.4.2.11	Update selected MC service user profile response	57
10.1.4.3	MC service user obtains the MC service user profile(s) from the network	57
10.1.4.4	MC service user receives updated MC service user profile data from the network	58
10.1.4.5	MC service user updates MC service user profile data to the network	59
10.1.4.6	Updating the pre-selected MC service user profile	60
10.1.4.7	Updating the selected MC service user profile for an MC service.....	61
10.1.5	MC service group configuration management.....	63
10.1.5.1	Store group configurations at the group management server	63
10.1.5.2	Retrieve group configurations at the group management client.....	63
10.1.5.3	Subscription and notification for group configuration data.....	64
10.1.5.4	Structure of group configuration data	65
10.1.5.5	Dynamic data associated with a group	65
10.2	Group management (on-network)	66
10.2.1	General.....	66
10.2.2	Information flows for group management	66
10.2.2.1	Group creation request	66
10.2.2.2	Group creation confirmation response	66
10.2.2.3	Group regroup request (group management client – group management server)	66
10.2.2.4	Group regroup response (group management server – group management client)	67
10.2.2.5	Group regroup teardown request.....	67
10.2.2.6	Group regroup teardown response	67
10.2.2.7	Group creation notify	67
10.2.2.8	Group regroup notify.....	68
10.2.2.9	Group regroup teardown notify.....	68
10.2.2.10	Group regroup teardown notification.....	68
10.2.2.11	Group regroup teardown notification response.....	68
10.2.2.12	Group regroup request (group management server – group management server).....	69
10.2.2.13	Group regroup response (group management server – group management server)	69
10.2.2.14	Group regroup notification.....	69
10.2.2.15	Group regroup notification response.....	69
10.2.2.16	Group information query request	69
10.2.2.17	Group information query response.....	70
10.2.2.18	Group membership update request.....	70
10.2.2.19	Group membership update response	70
10.2.2.20	Group membership notification	70
10.2.2.21	Group deletion request	71
10.2.2.22	Group deletion response.....	71
10.2.2.23	Group deletion notification	71
10.2.3	Group creation	71
10.2.4	Group regrouping.....	72
10.2.4.1	Temporary group formation - group regrouping within an MC system	72
10.2.4.2	Temporary group formation involving multiple MC systems.....	74
10.2.4.3	Temporary group tear down involving multiple group host servers	75
10.2.5	Membership and affiliation list query.....	77
10.2.5.1	General.....	77
10.2.5.2	Procedure	77
10.2.6	Group membership	77
10.2.6.1	Group membership notification	77
10.2.6.2	Group membership update by authorized user.....	78
10.2.7	Group deletion	79
10.3	Pre-established session (on-network).....	80
10.3.1	General.....	80
10.3.2	Procedures.....	81
10.3.2.1	General.....	81
10.3.2.2	Pre-established session establishment	81
10.3.2.3	Pre-established session modification	82
10.3.2.4	Pre-established session release.....	84

10.4	Simultaneous session (on-network).....	85
10.4.1	General.....	85
10.5	Use of UE-to-network relay	85
10.5.1	UE-to-network relay service authorization	85
10.5.2	UE-to-network relay MC service.....	85
10.6	General user authentication and authorization for MC services.....	85
10.7	Use of MBMS transmission	86
10.7.1	General.....	86
10.7.2	Information flows for MBMS transmission.....	87
10.7.2.1	MBMS bearer announcement.....	87
10.7.2.2	MBMS listening status report	87
10.7.2.3	MBMS suspension reporting instruction.....	87
10.7.2.4	Discover bearer request.....	88
10.7.2.5	Discover bearer response	88
10.7.2.6	Media distribution request.....	88
10.7.2.7	Media distribution response	89
10.7.2.8	Identify multicast participants request	89
10.7.2.9	Remove call from bearer request	89
10.7.3	Procedures for MBMS usage.....	89
10.7.3.1	Use of pre-established MBMS bearers.....	89
10.7.3.1.1	General	89
10.7.3.1.2	Procedure.....	90
10.7.3.2	Use of dynamic MBMS bearer establishment.....	91
10.7.3.3	Switching from MBMS bearer to unicast bearer.....	92
10.7.3.4	Use of MBMS bearer for application level control signalling	93
10.7.3.4.1	Description	93
10.7.3.4.2	Procedure.....	94
10.7.3.5	MBMS bearer announcement over MBMS bearer.....	94
10.7.3.5.1	Description	94
10.7.3.5.2	Procedure.....	95
10.7.3.6	MBMS bearer quality detection.....	96
10.7.3.6.1	Description	96
10.7.3.6.2	Procedure.....	96
10.7.3.7	Service continuity in MBMS scenarios.....	97
10.7.3.7.1	General	97
10.7.3.7.2	Service continuity when moving from one MBSFN to another	97
10.7.3.7.3	Service continuity with a UE-to-Network relay	99
10.7.3.8	MBMS suspension notification.....	101
10.7.3.8.1	Description	101
10.7.3.8.2	Procedure.....	101
10.7.3.9	Multi-server bearer coordination.....	102
10.7.3.9.1	General	102
10.7.3.9.2	Procedures	102
10.8	Affiliation and de-affiliation to/from MC service group(s).....	106
10.8.1	General.....	106
10.8.2	Information flows	106
10.8.2.1	MC service group affiliation request.....	106
10.8.2.2	MC service group affiliation request (MC service server – MC service server).....	106
10.8.2.3	MC service group affiliation response	106
10.8.2.4	MC service group affiliation response (MC service server – MC service server)	107
10.8.2.5	Group affiliation status update	107
10.8.2.6	MC service group de-affiliation request.....	107
10.8.2.7	MC service group de-affiliation request (MC service server – MC service server).....	107
10.8.2.8	MC service group de-affiliation response	108
10.8.2.9	MC service group de-affiliation response (MC service server – MC service server)	108
10.8.2.10	Group de-affiliation status update	108
10.8.2.11	MC service group affiliation change request.....	108
10.8.2.12	MC service group affiliation change response	109
10.8.3	Affiliation	109
10.8.3.1	MC service group affiliation procedure	109
10.8.3.2	Affiliation to MC service group(s) defined in partner MC service system	110
10.8.3.2.1	Functional description	110

10.8.3.2.2	Procedure.....	110
10.8.4	De-affiliation from MC service group(s).....	112
10.8.4.1	General.....	112
10.8.4.2	MC service group de-affiliation procedure.....	112
10.8.4.3	De-affiliation from MC service group(s) defined in partner MC service system.....	113
10.8.5	Remote change of affiliation.....	114
10.8.5.1	Remote change of affiliation for groups defined in primary MC service system.....	114
10.8.5.1.1	Authorized user remotely changes another MC service user's affiliated MC service group(s) – mandatory mode.....	114
10.8.5.1.2	Authorized user remotely changes another MC service user's affiliated MC service group(s) – negotiated mode.....	116
10.8.5.2	Remote change of affiliation for groups defined in partner MC service system.....	117
10.8.5.2.1	Authorized user remotely changes another MC service user's affiliated MC service group(s) defined in partner MC service system – mandatory mode.....	117
10.9	Location management (on-network).....	119
10.9.1	General.....	119
10.9.2	Information flows for location information.....	119
10.9.2.1	Location reporting configuration.....	119
10.9.2.2	Location information report.....	120
10.9.2.3	Location information request.....	120
10.9.2.4	Location reporting trigger.....	120
10.9.2.5	Location information subscription request.....	121
10.9.2.6	Location information subscription response.....	121
10.9.2.7	Location information notification.....	121
10.9.3	Procedure.....	122
10.9.3.1	Event-triggered location reporting procedure.....	122
10.9.3.2	On-demand location reporting procedure.....	123
10.9.3.3	Client-triggered location reporting procedure.....	123
10.9.3.4	Location reporting cancel procedure.....	124
10.9.3.5	Location information subscription procedure.....	125
10.9.3.6	Usage of location information procedure.....	125
10.9.3.6.1	Event-trigger location information notification procedure.....	125
10.9.3.6.2	On-demand usage of location information procedure.....	126
10.10	Emergency Alert.....	126
10.10.1	On-network emergency alert.....	126
10.10.1.1	General.....	126
10.10.1.2	MC service emergency alert.....	127
10.10.1.2.1	MC service emergency alert initiation.....	127
10.10.1.2.2	MC service emergency state cancel.....	129
10.10.2	Off-network emergency alert.....	131
10.10.2.1	General.....	131
10.10.2.2	MC service emergency alert.....	131
10.10.2.2.1	Emergency alert initiation.....	131
10.10.2.2.2	Emergency state cancel.....	132
Annex A (normative): Configuration data for MC services.....		134
A.1	General.....	134
A.2	MC service UE configuration data.....	135
A.3	MC service user profile configuration data.....	135
A.4	Group configuration data.....	135
A.5	MC service configuration data.....	140
A.6	Initial MC service UE configuration data.....	140
Annex B (informative): Service continuity for MC service.....		142
B.1	Service continuity between on-network MC service and UE-to-network relay MC service.....	142
Annex C (informative): Change history.....		145

History148

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/395f6824-2f6e-47b1-85c2-14b859b7e5ec/etsi-ts-123-280-v14.4.0-2018-01>

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/395f6824-2f6e-47b1-85e2-14b859b7e5ec/etsi-ts-123-280-v14.4.0-2018-01>

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 MCDData.

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 MCDData 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.