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| Annex A | (informative): Change history | 497 |
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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.

The present document is part 1 of a multi-part deliverable covering conformance test specification for Mission Critical Services over LTE consisting of:

3GPP TS 36.579-1: "Mission Critical (MC) services over LTE; Part 1: Common test environment" (the present document)

3GPP TS 36.579-2 [2]: "Mission Critical (MC) services over LTE; Part 2: Mission Critical Push To Talk (MCPTT) User Equipment (UE) Protocol conformance specification"

3GPP TS 36.579-3 [3]: "Mission Critical (MC) services over LTE; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification"

3GPP TS 36.579-4 [4]: "Mission Critical (MC) services over LTE; Part 4: Test Applicability and Implementation Conformance Statement (ICS)"

3GPP TS 36.579-5 [5]: "Mission Critical (MC) services over LTE; Part 5: Abstract test suite (ATS)"

3GPP TS 36.579-6 [84]: "Mission Critical (MC) services over LTE; Part 6: Mission Critical Video (MCVideo) User Equipment (UE) Protocol conformance specification"

3GPP TS 36.579-7 [85]: "Mission Critical (MC) services over LTE; Part 7: Mission Critical Data (MCData) User Equipment (UE) Protocol conformance specification"

1 Scope

The present document defines the common test environment required for testing Client and Server implementations for compliance to the Mission Critical Services over LTE protocol requirements defined by 3GPP.

It contains definitions of reference conditions and test signals, default messages and other parameters, generic procedures, and, common requirements for test equipment with the goal for facilitating testing in general and test procedures specification in particular. Various parts of its content are referred to from other parts of the Mission Critical Services over LTE protocol conformance testing specification e.g. TS 36.579-2 [2], TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The present document does not define the common test environment required for testing the implementation of the underlying LTE protocols, i.e. the LTE bearers used for transport of the Mission Critical Services signalling and media. This is defined in TS 36.508 [6] and referred to from the present document whenever needed.

In regard to default messages or other information elements contents, the present document refers to content defined in requirements specifications specified by 3GPP or other organisations.

2 References

[13]

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*.

| Release as the present document. | |
|----------------------------------|--|
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| [3] | 3GPP TS 36.579-3: "Mission Critical (MC) services over LTE; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification". |
| [4] | 3GPP TS 36.579-4: "Mission Critical (MC) services over LTE; Part 4: Test Applicability and Implementation Conformance Statement (ICS)". |
| [5] | 3GPP TS 36.579-5: " Mission Critical (MC) services over LTE; Part 5: Abstract test suite (ATS)". |
| [6] | 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common Test Environments for User Equipment (UE) Conformance Testing". |
| [7] | 3GPP TS 22.179: "Mission Critical Push To Talk (MCPTT) over LTE; Stage 1". |
| [8] | 3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2". |
| [9] | 3GPP TS 24.379: "Mission Critical Push To Talk (MCPTT) call control; Protocol specification". |
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| [11] | 3GPP TS 24.481: "Mission Critical Services (MCS) group management; Protocol specification". |
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| | |

3 Definitions, symbols and abbreviations

Editor's Note: Implication to the content of the present chapter due to the introduction of MCVideo and MCData are FFS.

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 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].

For the purpose of the present document, the following terms and definitions given in TS 24.379 [9] apply:

An MCPTT user is affiliated to an MCPTT group An MCPTT user is affiliated to an MCPTT group at an MCPTT client Affiliation status Group identity

In-progress emergency private call state

In-progress imminent peril group state

MCPTT client ID

MCPTT emergency alert state

MCPTT emergency group state

MCPTT emergency group call state

MCPTT emergency private call state

MCPTT emergency private priority state

MCPTT imminent peril group call state

MCPTT imminent peril group state

MCPTT private emergency alert state

MCPTT speech

Media-floor control entity

Temporary MCPTT group identity

Trusted mutual aid

Untrusted mutual aid

For the purposes of the present document, the following terms and definitions given in TS 22.179 [7] apply:

In-progress emergency MCPTT emergency alert MCPTT emergency group call MCPTT emergency state Partner MCPTT system Primary MCPTT system

For the purpose of the present document, the following terms and definitions given in 3GPP TS 24.380 [10] apply:

MBMS subchannel

For the purpose of the present document, the following terms and definitions given in 3GPP TS 23.179 [8] apply:

Pre-selected MCPTT user profile

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ECGI E-UTRAN Cell Global Identification

FFS For Further Study

ICS Implementation Conformance Statement

IPEG In-Progress Emergency Group
IPEPC In-Progress Emergency Private Call
IPIG In-Progress Imminent peril Group
IUT Implementation Under Test

IXIT Implementation eXtra Information for Testing MBMS Multimedia Broadcast and Multicast Service

MBSFN Multimedia Broadcast multicast service Single Frequency Network

MCPTT Mission Critical Push To Talk
MCPTT group ID MCPTT group IDentity
MEA MCPTT Emergency Alert
MEG MCPTT Emergency Group
MEGC MCPTT Emergency Group Call
MEPC MCPTT Emergency Private Call

| MEPP | MCPTT Emergency Private Priority |
|------|---------------------------------------|
| MES | MCPTT Emergency State |
| MIME | Multipurpose Internet Mail Extensions |
| MIG | MCPTT Imminent peril Group |
| MIGC | MCPTT Imminent peril Group Call |
| MONP | MCPTT Off-Network Protocol |
| MPEA | MCPTT Private Emergency Alert |
| NAT | Network Address Translation |
| QCI | QoS Class Identifier |
| RTP | Real-time Transport Protocol |
| SAI | Service Area Identifier |
| SDP | Session Description Protocol |
| SIP | Session Initiation Protocol |
| SS | System Simulator |
| SSRC | Synchronization SouRCe |
| TGI | Temporary MCPTT Group Identity |
| TMGI | Temporary Mobile Group Identity |
| TP | Transmission Point |
| URI | Uniform Resource Identifier |

4 General

Editor's note: Implication to the content of the present chapter due to the introduction of MCVideo and MCData are FFS

4.1 MCPTT Conformance testing test points overview

Figure 4.1.1 provides a general overview of all MCPTT players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCPTT deployment or implementation.

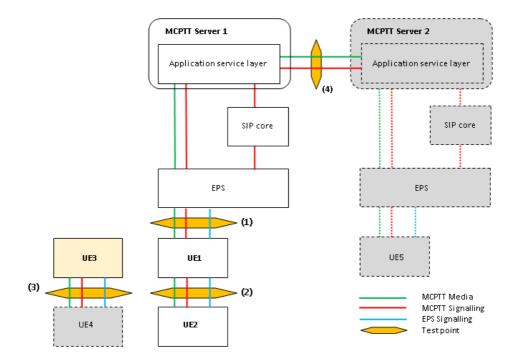


Figure 4.1.1: MCPTT Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE3) will be Implementation Under Test (IUT). The entities with white fill will be either simulated or IUTs or real implementation (e.g. network) depending on the test scenario.

NOTE 2: While showing the different players, figure 4.1.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.1.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCPTT on-network (whenever relevant, reference points as specified in TS 23.179 [8] Functional model description clause 7.3.1 'On-network functional model' are referred):
 - Application plane (MCPTT-1, MCPTT-4, MCPTT-7, MCPTT-8 and MCPTT-9), and, (CSC-1, CSC-2, CSC-4 and CSC-8); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1) or (2). IUT: the UE or the MCPTT Server.
 - MCPTT-3 (between different MCPTT Servers), CSC-7 (other group management Servers, normally associated with other MCPTT Servers); Signalling control plane (SIP-2, HTTP-1, HTTP2 and HTTP-3). Test point: (4). IUT: the MCPTT Server.
- MCPTT off-network (TS 23.179 [8], clause 7.3.2 'Off-network functional model'). Test point: (3). IUT: the UE.
- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe including among others UE-to-network relay, MBMS). Test point: (1), (2) or (3).

Figure 4.1.2 provides a general overview of functions distributions at the MCPTT server side when multiple MCPTT Servers are involved. More functional models can be found in TS 24.379 [9].

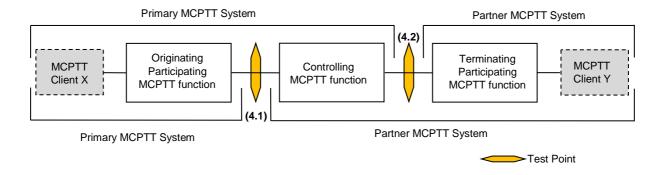


Figure 4.1.2: MCPTT Conformance testing Client-to-Client test points model

NOTE 3: While showing the different players and Server functionality, figure 4.1.2 should not be understood as showing test environment implementation.

The test points shown on Figure 4.1.2 provide an example of how 2 different communication scenarios between 2 MCPTT Servers will result in the communication between the servers being monitored at different test points (4.1) and (4.2). It should be noted that Figure 4.1.2 does not imply the physical existence of 2 test points during MCPTT Server-to-Server testing rather it shows two different information flows which need to be verified for conformance. In practice this will also mean that for testing the MCPTT Server on the Server-to-Server interface (test point 4 on Figure 4.1.1), the System Simulator (SS) will need to implement (i.e. be able to simulate) at least all 3 MCPTT functions.

4.2 MCPTT Conformance testing test environment overview

Based on the test points models shown in clause 4.1 examples for test environment implementations are provided below. Figures 4.2.1 to 4.2.3 show test configuration where the Implementation Under Test (IUT) and the System

Simulator communicate, one with the other, over the LTE radio interface (test points (1), (2) and (3)). Figure 4.2.4 shows test configuration where the IUT and the system simulator, simulating MCPTT Clients, communicate, one with the other, over the LTE radio interface (test points (1)). Figures 4.2.5 and 4.2.6 show test configuration where the IUT and the System Simulator communicate, one with the other, over the MCPTT-3 interface, as defined by TS 23.179 [8], clause 7.5.2.4 (test points (4)).

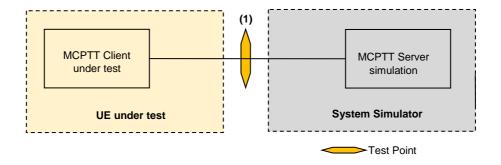


Figure 4.2.1: Testing the MCPTT Client (on-network)

NOTE 1: Figure 4.2.1 covers also the case for testing the UE at interface (1) when the IUT behaves as a Relay. For testing this the existence of another UE playing the role of an UE off-network which uses the Relay to connect to the Server will be needed. This could be implemented by the SS simulating both in similar manner as it is shown on Figure 4.2.2.

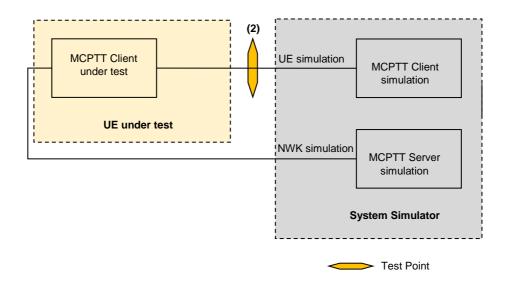


Figure 4.2.2: Testing the MCPTT Client (on-network) Relay side

NOTE 1: Figure 4.2.2 covers the case for testing the UE at interface (2) when the IUT behaves as a Relay. For testing this, the existence of LTE NWK and Server to which the Relay relays the data will be needed. This could be implemented by the SS simulating both.

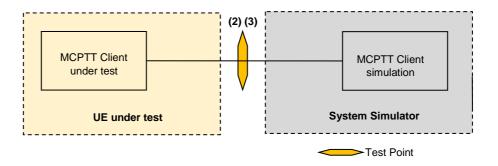


Figure 4.2.3: Testing the MCPTT Client (off-network)

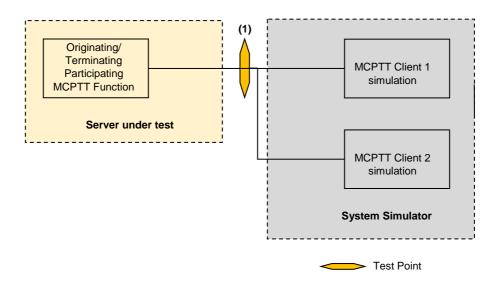


Figure 4.2.4: Testing the MCPTT Server (server-to-client)

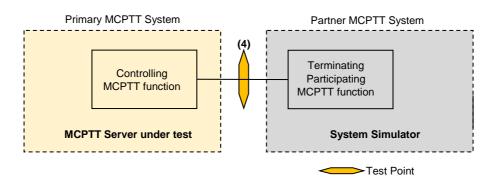


Figure 4.2.5: Testing the MCPTT Server (server-to-server), Controlling function

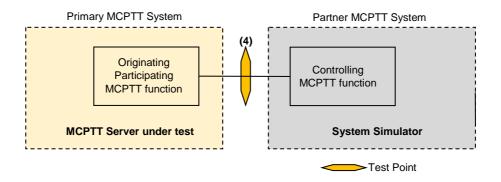


Figure 4.2.6: Testing the MCPTT Server (server-to-server), Originating function

4.3 MCPTT Conformance testing players and roles assumptions

Based on the described in clause 4.2 test environment scenarios a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCPTT Client testing

1 MCPTT Server:

- Server A simulated by the SS (in the case of on-network operation).

2 MCPTT Clients:

- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCPTT Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCPTT groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

For the purposes of MCPTT Server testing

1 MCPTT Server:

- Server A installed on the implementation under test.

2 MCPTT Clients:

- Client A simulated by the System Simulator (SS)
- Client B simulated by the System Simulator (SS).

2 MCPTT Users:

- User A registered with Client A simulated by the System Simulator (SS); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User B registered with Client B simulated by the System Simulator (SS); pre-set at User A configuration as User allowed to be called by User A for any types of calls

1 MCPTT group:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A and User B to be available throughout the entire testing.

4.4 References to TS 33.179 and TS 33.180

For the purposes of this Technical Specification, it is assumed that TS 33.180 supersedes TS 33.179 and is a backwards compatible substitute for TS 33.179.

4.5 MCVideo Conformance testing test points overview

Figure 4.5.1 provides a general overview of all MCVideo players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCVideo deployment or implementation.

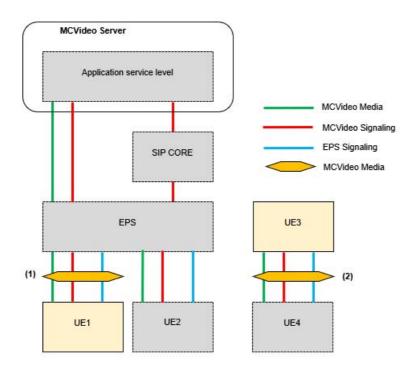


Figure 4.5.1: MCVideo Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE 1 or UE3) will be Implementation Under Test (IUT).

NOTE 2: While showing the different players, figure 4.5.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.5.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCVideo on-network (TS 23.280 [110] Functional model description clause 7.3.1 'On-network functional model' and TS 23.281 [91] Functional model description clause 6.1.1 'On-network functional model'.):
- Application plane (MCVideo-1, MCVideo-4, MCVideo-5, MCVideo-6, MCVideo-7, MCVideo-8 and MCVideo-9), and, (CSC-1, CSC-2, CSC-4, CSC-8, and CSC-14); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1). IUT: the UE.
- MCVideo off-network (TS 23.280 [110], clause 7.3.2 'Off-network functional model' and TS 23.281 [91], clause 6.1.2 'Off-network functional model'.). Test point: (2). IUT: the UE.
- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe, MBMS). Test point: (1) or (2).

4.6 MCVideo Conformance testing test environment overview

Based on the test points models shown in clause 4.5 examples for test environment implementations are provided below. Figures 4.6.1 and 4.6.2 show test configuration where the Implementation Under Test (IUT) and the System Simulator communicate, one with the other, over the LTE radio interface (test points (1) and (2)).

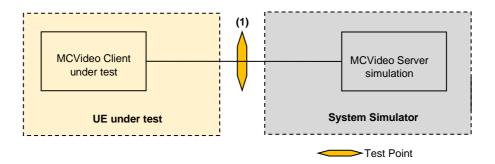


Figure 4.6.1: Testing the MCVideo Client (on-network)

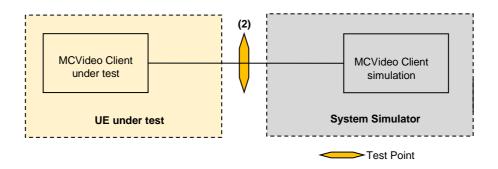


Figure 4.6.2: Testing the MCVideo Client (off-network)

4.7 MCVideo Conformance testing players and roles assumptions

Based on the described test environment scenarios in clause 4.6, a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCVideo Client testing

1 MCVideo Server:

- Server A simulated by the SS (in the case of on-network operation).

2 MCVideo Clients:

- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCVideo Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCVideo groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

4.8 MCData Conformance testing test points overview

Figure 4.8.1 provides a general overview of all MCData players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCData deployment or implementation.

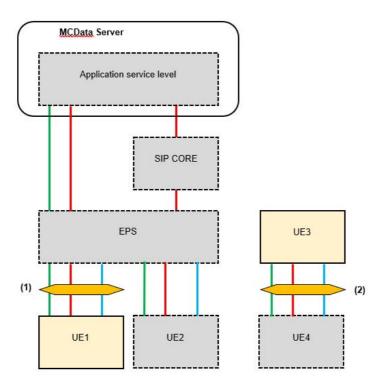


Figure 4.8.1: MCData Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE1 or UE3) will be Implementation Under Test (IUT).

NOTE 2: While showing the different players, figure 4.8.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.8.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCData on-network (TS 23.280 [110] Functional model description clause 7.3.1 'On-network functional model' and TS 23.282 [91] Functional model description clause 6.4.1, 6.5.1, and 6.6.1 'On-network functional model'.):
- Application plane (MCData-SDS-1, MCData-SDS-2, MCData-SDS-3, MCData-FD-1, MCData-FD-2, MCData-FD-3, MCData-FD-4, MCData -5, and MCData -6), and, (CSC-1, CSC-2, CSC-4, CSC-8, and CSC-14); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1). IUT: the UE.
- MCData off-network (TS 23.280 [110], clause 7.3.2 'Off-network functional model' and TS 23.282 [91], clause 6.4.2 'Off-network functional model'.). Test point: (2). IUT: the UE.
- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe). Test point: (1) or (2).

4.9 MCData Conformance testing test environment overview

Based on the test points models shown in clause 4.8 examples for test environment implementations are provided below. Figures 4.9.1 and 4.9.2 show test configuration where the Implementation Under Test (IUT) and the System Simulator communicate, one with the other, over the LTE radio interface (test points (1) and (2)).

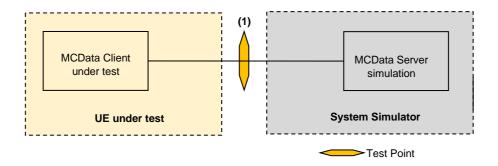


Figure 4.9.1: Testing the MCData Client (on-network)

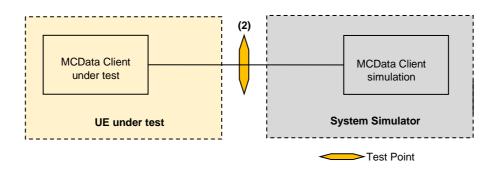


Figure 4.9.2: Testing the MCData Client (off-network)

4.10 MCData Conformance testing players and roles assumptions

Based on the described test environment scenarios in clause 4.9, a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCData Client testing

1 MCdata Server:

- Server A simulated by the SS (in the case of on-network operation).

2 MCData Clients:

- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCData Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls

- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCData groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

5 Common Test Environment

5.1 General

Clause 5 provides basic test requirements, and, Generic Procedures and Default messages content to be used by the test cases wherever applicable.

5.2 Reference test conditions

5.2.1 General

Any E-UTRA frequency band can be used to provide the underlying communication bearer to carry the MCS communication. The requirements are defined in TS 36.508 [6].

5.2.2 On-network

There are no specific requirements to the UE on which the MCS client is installed when operating in on-network environment. The basic E-UTRA/EPC procedures shall be supported.

5.2.3 Off-network

When operating in off-network environment a MCS client shall:

- implement the procedures for ProSe direct discovery for public safety use as specified in 3GPP TS 24.334 [78];
- implement the procedures for one-to-one ProSe direct communication for Public Safety use as specified in 3GPP TS 24.334 [78].
- implement the procedures for one-to-many ProSe direct communication for Public Safety use as specified in 3GPP TS 24.334 [78].

5.3 Generic test procedures for UE MCS operation

5.3.1 General

The purpose of the procedures specified in the following clauses is to facilitate test description by providing procedure sequences which can be referred from the relevant TCs specified e.g. in 3GPP TS 36.579-2 [2], 3GPP TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The procedures specified are required to ensure that any MC service can take place or specific MC relevant preconditions are met before a test case can be executed.

5.3.2 Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation

5.3.2.1 Initial conditions

System Simulator:

- SS (MCPTT server)
 - For the underlying "transport bearer" over which the SS and the UE will communicate Parameters are set to the default parameters for the basic E-UTRA Single cell network scenarios, as defined in TS 36.508 [6] clause 4.4. The simulated Cell 1 shall belong to PLMN1 (the PLMN specified for MCPTT operation in the MCPTT configuration document).

Implementation Under Test (IUT):

- UE (MCPTT client)
 - The MCPTT Client has been provisioned with the Initial UE Configuration Data as specified in clause 5.5.8.1 allowing for the location of the configuration management server for configuration of the MCPTT UE initial configuration management object (MO) and the default MCPTT user profile configuration management object (MO).
 - According to TS 33.180 [94] all HTTP connections are secured by TLS. The HTTP-1 interface authentication between the HTTP client in the MC UE and the HTTP server endpoint (HTTP proxy, IdM server or KMS) shall be performed by one-way authentication of the HTTP server endpoint based on server certificate as described in TS 33.180 [94] clause 6.1.1..
 - The UE User is provided with username/password for user authentication (px_MCPTT_User_A_username, px_MCPTT_User_A_password as provided in TS 36.579-5 [5], Table 9.2-1: MCPTT Client Common PIXIT)
 - The test USIM set as defined in clause 5.5.10 is inserted.

The UE is attached to EPS services.

- The UE is provisioned with the names and values of the Transport Key (TrK) and the Integrity Key (InK), since the KMS shall encrypt the key material sent to the client with the TrK and sign the response with the TrK or the InK according to TS 33.180 [94].

5.3.2.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.2.3 Procedures

Table 5.3.2.3-1: MCPTT user authentication

| St | Procedure Message Sequence | | TP | Verdict | |
|----------|--|-------|---------------------------|---------|---|
| | | U - S | Message | 1 | |
| 1 | Void | - | - | - | ı |
| 2 | Void | - | - | - | - |
| - | EXCEPTION: Depending on the UE capabilities, the UE | - | - | - | - |
| | (MCX client) executes the sequence described in Table | | | | |
| | 5.3.2.3-1A | | | | |
| - | EXCEPTION: The messages below up to and including | - | - | - | - |
| | step 7 are transmitted over a secure TLS tunnel that has | | | | |
| | been established by the UE (MCPTT client) as specified by | | | | |
| | 3GPP TS 33.310 [70], to the authorisation endpoint of the IdM server as specified in 3GPP TS 33.180 [94] using the | | | | |
| | configured URL of the authorisation endpoint of the IdM | | | | |
| | server as specified in the | | | | |
| | " <x>/OnNetwork/AppServerInfo/IDMSAuthEndpoint" leaf</x> | | | | |
| | node, Table 5.5.8.1-1. | | | | |
| - | EXCEPTION: Steps 3a1-3b1 describe behaviour that | - | - | - | - |
| | depends on UE implementation of the OpenID Connect | | | | |
| | protocol; the "lower case letter" identifies a step sequence | | | | |
| | that takes place when one or the other is the case. | | | | |
| 3a1 | The UE (MCPTT client) sends an OpenID Connect | > | HTTP GET (Authorization) | - | Р |
| | Authentication Request using HTTP GET. | | | | |
| 3b1 | The UE (MCPTT client) sends an OpenID Connect | > | HTTP POST (Authorization) | - | Р |
| <u> </u> | Authentication Request using HTTP POST. | | LUTTO COO (OLC | | |
| 4 | The SS sends a HTTP 200 (OK) including the HTML form | < | HTTP 200 (OK) | - | - |
| <u></u> | requesting username and password. | | | | |
| 5 | Make the UE user provide user credentials: username and | _ | - | - | - |
| | password (px_MCX_User_A_username, | | | | |
| | px_MCX_User_A_password). NOTE 2 | | | | |
| 6 | The UE (MCPTT client) sends an HTTP POST Request | > | HTTP POST | - | Р |
| " | message to the SS containing user name and password. | / | 11111 1 031 | _ | ı |
| 7 | The SS sends a HTTP 302 (Found) as the OpenID | < | HTTP 302 (Found) | _ | _ |
| | Connect Authentication Response containing an | | (1 54.14) | | |
| | authorization code. | | | | |
| 8 | Void | - | - | - | - |
| - | EXCEPTION: The messages in steps 9 to 10 are | - | - | - | - |
| | transmitted over a secure TLS tunnel that has been | | | | |
| | established by the UE (MCPTT client) as specified by | | | | |
| | 3GPP TS 33.310 [70] to the token endpoint of the IdM | | | | |
| | server as specified in 3GPP TS 33.180 [94] using the | | | | |
| | configured URL of the token endpoint of the IdM server as specified in the | | | | |
| | "/ <x>/OnNetwork/AppServerInfo/IDMSTokenEndpoint" leaf</x> | | | | |
| | node, Table 5.5.8.1-1. | | | | |
| 9 | The UE (MCPTT client) sends an HTTP POST Request | > | HTTP POST | _ | Р |
| | message to the SS (OIDC Token Request message), | | | | 1 |
| | passing the authorization code obtained in step 7. | | | | |
| 10 | The SS sends a HTTP 200 (OK) providing id_token, | < | HTTP 200 (OK) | - | - |
| | access_token and refresh token. | | (- / | | |
| - | EXCEPTION: The messages in steps 11 to 14 are | - | - | | |
| | transmitted over a secure TLS tunnel that has been | | | | |
| | established by the UE (MCPTT client) as specified by | | | | |
| | 3GPP TS 33.310 [70] to the HTTP Proxy as specified in | | | | |
| | 3GPP TS 33.180 [94] using the configured URL of the | | | | |
| | HTTP Proxy as specified in the | | | | |
| | "/ <x>/OnNetwork/AppServerInfo/HTTPproxy" leaf node,</x> | | | | |
| 11 | Table 5.5.8.1-1. The UE (MCPTT client) sends a HTTP POST message | - | HTTP POST | | Р |
| '' | presenting the access token obtained in step 10 to the SS | > | 11115 5031 | - | F |
| | over HTTP for Key Management Initialisation. | | | | |
| | Over 111 11 101 Ney management initialisation. | | | | |
| | NOTE: Step 11 is the start of the second stage which was | | | | |
| | started in Step 2. Steps 11 through 14 involve Key | | | | |
| | Management Authorization. The MCPTT Client/Key | | | | |
| | Management Client presents the access token to the Key | | | | |
| | Management Server. The end result is the user gets | | | | |
| | specific key material. | | | | |
| | | | | | |

| St | Procedure | Message Sequence | | TP | Verdict |
|-----------|--|------------------|---------------|----|---------|
| | | U-S | Message | Ī | |
| 12 | The SS replies to the UE with identity specific key information. | < | HTTP 200 (OK) | - | ı |
| 13 | The UE (MCPTT client) sends a HTTP POST message presenting an access token to the SS over HTTP for Key Material Request. | > | HTTP POST | - | Р |
| 14 | The SS replies to the UE with identity specific key information. | < | HTTP 200 (OK) | - | - |
| 15- 32 | Void | - | - | - | - |

NOTE 1: Void.

NOTE 1A: Void.

NOTE 2: The UE is expected to prompt the MCPTT user for their username and password, or it may be stored on the UE. The provision of the username/password is expected to be done via a suitable implementation dependent MMI.

Table 5.3.2.3-1A: MCPTT Initial UE Configuration Request

| St | Procedure | | Message Sequence | TP | Verdict |
|----|--|-----|-------------------------------------|----|---------|
| | | U-S | Message | | |
| 1 | The UE (MCPTT client) sends an HTTP GETrequestto retrieve the initial UE configuration from the Server | > | HTTP GET (initial UE configuration) | - | Р |
| 2 | The SS sends a HTTP 200 (OK) including the initial UE configuration document | < | HTTP 200 (OK) | - | |

Table 5.3.2.3-2: MCPTT Service Authorization and Key Generation

| St | Procedure | Message Sequence | TP | Verdict | |
|-----|---|------------------|--------------|---------|---|
| | | U-S | Message | | |
| - | EXCEPTION: In parallel to procedure of all steps below the behaviour of table 5.3.2.3-2A, the behaviour of table 5.3.2.3-2B and the behaviour of table 5.3.2.3-2C takes place. | - | - | - | - |
| - | EXCEPTION: Steps 1a1-1b2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case. NOTE: Step 1a1 is the start of the third stage which was started in Step 3 of table 5.3.2.3-1. Steps 1a1 and 1b1 involve User Service Authorization. | - | - | - | - |
| 1a1 | The UE (MCPTT client) sends a SIP REGISTER request for service authorisation. | > | SIP REGISTER | - | Р |
| 1a2 | The SS (MCPTT server) sends SIP 200 (OK). NOTE: The user is now authorized for MCPTT service. | < | SIP 200 (OK) | - | - |
| 1a3 | The UE (MCPTT client) sends a SIP PUBLISH request for update of PoC-settings (NOTE 1). | > | SIP PUBLISH | - | Р |
| 1a4 | The SS (MCPTT server) sends SIP 200 (OK). | < | SIP 200 (OK) | - | - |
| 1b1 | The UE (MCPTT client) sends a SIP PUBLISH request for service authorisation and update of PoC-settings (NOTE 1). | > | SIP PUBLISH | | Р |
| 1b2 | The SS (MCPTT server) sends SIP 200 (OK). NOTE: The user is now authorized for MCPTT service. | < | SIP 200 (OK) | | - |

NOTE 1: The PoC-settings document contains the user profile index of the selected user profile.

 \Rightarrow In general the UE sends the SIP PUBLISH request not before it has retrieved the user profile at step 8 in Table 5.3.2.3-2A.

Table 5.3.2.3-2A: Configuration management subscription and notification procedure

| St | Procedure | | Message Sequence | | Verdict |
|----|--|-----|------------------|----|---------|
| | | U-S | Message | TP | |
| 1 | The UE (MCPTT client) sends a SIP SUBSCRIBE - subscription to multiple documents simultaneously - to the SS containing the access token and a resource list mime body containing a list of the following documents: MCPTT UE Configuration document, MCPTT User Profile Configuration Document, and the MCPTT Service configuration document. The base URI of each list entry is set to the CMS XCAP-ROOT-URI. NOTE: Step 1 is the start of the fourth stage which was started in Step 3 of table 5.3.2.3-1. Steps 1 through 10 involve Configuration Management Authorization. The end result of the fourth stage is that the MCPTT Client receives 3 configuration documents: UE Configuration Document, User Profile Configuration Document, and the Service Configuration Document. | > | SIP SUBSCRIBE | - | P |
| 2 | The SS sends a SIP 200 (OK) message. | < | SIP 200 (OK) | - | - |
| 3 | The SS sends a SIP NOTIFY message to the UE that contains the XCAP-URI of the documents. | < | SIP NOTIFY | - | - |
| - | EXCEPTION: The order of steps 4, 5, 7 and 9 depends on UE and SS implementation and is not checked by the implementation | - | - | - | - |
| 4 | The UE (MCPTT client) sends a SIP 200 (OK) message. | > | SIP 200 (OK) | - | Р |
| 5 | The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT UE Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT UE Configuration Document. | > | HTTP GET | - | Р |
| 6 | The SS sends the HTTP 200 (OK) message including the MCPTT UE Configuration Document. | < | HTTP 200 (OK) | - | - |
| 7 | The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT User Profile Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT User Profile Configuration Document. | > | HTTP GET | - | Р |
| 8 | The SS sends the HTTP 200 (OK) message including the MCPTT User Profile Configuration Document. NOTE: The MCPTT User Profile Configuration Document includes information on MCPTT groups including for which groups the MCPTT Client is a member. The MCPTT User Profile Configuration Document includes Group A as a group for which the MCPTT Client is a member and is implicitly affiliated. Group A is used as the default group for all test cases in TS 36.579-2 and TS 36.579-3. | < | HTTP 200 (OK) | - | - |
| 9 | The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT Service Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT Service Configuration Document. | > | HTTP GET | - | Р |
| 10 | The SS sends the HTTP 200 (OK) message including the MCPTT Service Configuration Document. | < | HTTP 200 (OK) | - | |

Table 5.3.2.3-2B: Group document subscription and notification procedure

| St | Procedure | | Message Sequence | | Verdict |
|------|--|---|------------------|---|---------|
| | | | Message | | |
| 1 | The UE (MCPTT client) sends a SIP SUBSCRIBE to the SS, containing the access token and a resource list mime body and a list of the Groups to be obtained. The base URI of each list entry is set to the GMS XCAP-ROOT-URI, and the MCPTT group ID identifies a group document. NOTE: Step 1 is the start of the fifth stage which was started in Step 2 of table 5.3.2.3-1. Steps 1 through 6 involve Group Management Authorization. The end result is the MCPTT Client will receive group information for Group A. The MCPTT Client will also get the Group Master Key (GMK) for the group which will be used to derive keys for the group. There will also be a Group User Key Identifier (GUK-ID), and a Group Master Key Identifier (GMK-ID). According TS 33.180 [94], clause 7.4.1, the GMK shall be used as the MIKEY Traffic Generating Key (TGK) and the GUK-ID shall be used as the MIKEY CSB ID. These shall be used to generate the SRTP Master Key and SRTP Master Salt as specified in IETF RFC 3830 [24]. | > | SIP SUBSCRIBE | | P |
| 2 | The SS sends a SIP 200 (OK) message. | < | SIP 200 (OK) | - | _ |
| 3 | The SS sends a SIP NOTIFY message to the UE that contains the XCAP-URI of the Group documents. | < | SIP NOTIFY | - | - |
| - | EXCEPTION: The order of steps 4 and 5 depends on UE and SS implementation and is not checked by the implementation | - | - | - | - |
| 4 | The UE (MCPTT client) sends a SIP 200 (OK) message. | > | SIP 200 (OK) | - | Р |
| 5 | The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the Group Configuration document. | > | HTTP GET | - | Р |
| 6 | The SS sends the HTTP 200 (OK) message including the Group Document 'MCPTT UE Configuration document'. NOTE 1 | < | HTTP 200 (OK) | - | - |
| - | EXCEPTION: Steps 7a1-7a2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case. | - | - | | |
| 7a1 | IF the Resource-Lists received from the UE at step 1 contains an entry referring to an MCPTT-GKTP document THEN the SS sends a SIP NOTIFY message to the UE containing the group key transport payloads (GKTP) document. | < | SIP NOTIFY | | |
| 7a2 | The UE (MCPTT client) sends a SIP 200 (OK) | > | SIP 200 (OK) | | |
| NOTE | message.1: This completes MCPTT service enabling on the UE. | | | | |
| NOIE | This completes incert is service enabling on the UE. | | | | |

Table 5.3.2.3-2C: Group communication key retrieval procedure

| St | Procedure | | Message Sequence TP Ver | | Verdict |
|-------|---|--------|--------------------------------|------------|----------|
| | | U-S | Message | | |
| 1 | The SS starts timer Timer_1 = 5 seconds. | - | - | - | - |
| - | EXCEPTION: Steps 2a5-3a1 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case. | - | - | - | - |
| 2a1 | The UE (MCPTT client) sends a SIP SUBSCRIBE to the SS, creating a new dialog and containing the access token and a resource list mime body containing an entry to request group key transport payloads (GKTP) document. | > | SIP SUBSCRIBE | - | Р |
| 2a2 | The SS sends a SIP 200 (OK) message | < | SIP 200 (OK) | - | - |
| 2a3 | The SS sends a SIP NOTIFY message to the UE containing the group key transport payloads (GKTP) document. | < | SIP NOTIFY | - | - |
| 2a4 | The UE (MCPTT client) sends a SIP 200 (OK) message. | > | SIP 200 (OK) | - | Р |
| 2a5 | The SS stops Timer_1. | - | - | - | - |
| 2b1 | Timer_1 expires | - | - | | |
| NOTE: | This key retrieval from the GMS is necessary for the in group communications. | MCX UE | under test to enable ciphering | g exchange | ed media |

5.3.2.4 Specific message contents

Table 5.3.2.4-1: HTTP GET (Step 3a1, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.2-1, condition AUTH

Table 5.3.2.4-2: HTTP POST (Step 3b1, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition AUTH

Table 5.3.2.4-3: HTTP 200 (OK) (Step 4, Table 5.3.2.3-1)

| Derivation Path: Table 5.5.4.6-1 Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--|-------------------------------------|-----------|
| Content-Type | | | 11010101100 | |
| media-type | "text/html" | | RFC 2854 [111] | |
| Message-body | | | | |
| HTML form | html <html> <html> <body> <form action="/idms/userauth" method="post"> Username: <input name="user" type="text"/> Password: <input name="password" type="password" vtype="password"/><button type="submit">Login</button> </form> </body> </html></html> | "/idms/userauth" given by tsc_MCX_IdMS_userau th_UriPath is the URI to be used by the UE as request URI in the HTTP POST request for user authentication | HTML 4.01 Specification [105] | |

Table 5.3.2.4-4: HTTP POST (Step 6, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition USERAUTH

Table 5.3.2.4-5: HTTP 302 (Found) (Step 7, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.8-1, condition AUTH.

Table 5.3.2.4-6: HTTP POST (Step 9, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition TOKEN

Table 5.3.2.4-7: HTTP 200 (OK) (Step 10, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition TOKEN

Table 5.3.2.4-8: HTTP POST (Step 11, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.33-1, condition KMSINIT.

Table 5.3.2.4-9: HTTP 200 (OK) (Step 12, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition KMSINIT.

Table 5.3.2.4-10: HTTP POST (Step 13, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition KMSKEY.

Table 5.3.2.4-11: HTTP 200 (OK) (Step 14, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition KMSKEY.

Table 5.3.2.4-12: SIP REGISTER (Step 1a1, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.13-1, condition CONFIG

Table 5.3.2.4-13: SIP PUBLISH (Step 1b1, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.11-1, condition CONFIG

Table 5.3.2.4-13A: SIP PUBLISH (Step 1a3, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.11-1, condition POC-SETTINGS-EVENT

Table 5.3.2.4-14: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.2.14-1, condition CONFIG

Table 5.3.2.4-15: SIP NOTIFY (Step 3, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.2.8-1, condition CONFIG

Table 5.3.2.4-16: HTTP GET (Step 5, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UECONFIG.

Table 5.3.2.4-17: HTTP GET (Step 7, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UEUSERPROF.

Table 5.3.2.4-18: HTTP GET (Step 9, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UESERVCONFIG.

Table 5.3.2.4-19: HTTP 200 (OK) (Step 6, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UECONFIG.

Table 5.3.2.4-20: HTTP 200 (OK) (Step 8, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UEUSERPROF.

Table 5.3.2.4-21: HTTP 200 (OK) (Step 10, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UESERVCONFIG.

Table 5.3.2.4-22: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG

Table 5.3.2.4-22A: VoidTable 5.3.2.4-22B: SIP NOTIFY (Step 3, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.8-1, condition GROUPCONFIG

Table 5.3.2.4-23: HTTP GET (Step 5, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.4.2-1, condition GROUPCONFIG

Table 5.3.2.4-24: HTTP 200 (OK) (Step 6, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.4.6-1, condition GROUPCONFIG.

Table 5.3.2.4-25: Void

Table 5.3.2.4-26: SIP 200 (OK) (Steps 1a2, 1a4, 1b2, Table 5.3.2.3-2, step 2, Table 5.3.2.3-2A, step 2, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.17.1.2-1

Table 5.3.2.4-27: SIP 200 (OK) (Step 4, Table 5.3.2.3-2A, step 4, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.17.1.1-1

Table 5.3.2.4-28: HTTP GET (Step 1, Table 5.3.2.3-1A)

Derivation Path: Table 5.5.4.2-1, condition UEINITIALCONFIG

Table 5.3.2.4-29: HTTP 200 (OK) (Step 2, Table 5.3.2.3-1A)

Derivation Path: Table 5.5.4.6-1, condition UEINITIALCONFIG

Table 5.3.2.4-30: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2C)

| Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG | | | | | | |
|--|---|----------------|--|--|--|--|
| Message-body | | | | | | |
| MIME body part | | Resource-lists | | | | |
| MIME-part-headers | | | | | | |
| Content-Type | "application/resource- lists+xml" | | | | | |
| MIME-part-body | Resource-lists as described in Table 5.3.2.4-31 | | | | | |

Table 5.3.2.4-31: Resource-Lists in SIP SUBSCRIBE (Table 5.3.2.4-30)

Derivation Path: Table 5.5.3.3.1-1 condition GROUPKEY

Table 5.3.2.4-32: SIP NOTIFY (Step 7a, Table 5.3.2.3-2B and Step 3, Table 5.3.2.3-2C)

| Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG | | | | | |
|--|---|--|--|--|--|
| Message-body | | | | | |
| xcap-diff document | xcap-diff document as described in Table 5.3.2.4-33 | | | | |

Table 5.3.2.4-33: Xcap-Diff Document (Table 5.3.2.4-32)

Derivation Path: Table5.5.3.12-2, condition GROUPKEY

5.3.2A Generic Test Procedure for MCVideo Authorization/Configuration and Key Generation

The same as the procedure described in 5.3.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo"
- FFS

5.3.2B Generic Test Procedure for MCData Authorization/Configuration and Key Generation

FFS

5.3.3 Generic Test Procedure for MCPTT pre-established session establishment CO

5.3.3.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- For the underlying "transport bearer" over which the SS and the UE will communicate Parameters are set to the default parameters for the basic E-UTRA Single cell network scenarios, as defined in TS 36.508 [6] clause 4.4. The simulated Cell 1 shall belong to PLMN1 (the PLMN specified for MCPTT operation in the MCPTT configuration document)

IUT:

- UE (MCPTT client)
 - The UE has performed the Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation as specified in clause 5.3.2 and thereby the MCPTT client is authorised for and able to use the MCPTT service including making group and private calls on- and off-network, and, the MCPTT user is registered for receiving MCPTT service through the MCPTT Client.

5.3.3.2 Definition of system information messages

5.3.3.3 Procedure

Table 5.3.3.3-1: MCPTT pre-established session establishment CO

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|---|-------|---------------------------|----|---------|
| | | U - S | Message | | |
| 1 | Void | - | - | - | - |
| - | EXCEPTION: Step 1Aa1 describes behaviour that | - | - | - | - |
| | depends on the E-UTRA RRC state at the time the | | | | |
| | present procedure is called. | | | | |
| 1Aa | IF in RRC_IDLE state, the E-UTRA/EPC actions which | - | - | - | - |
| 1 | are related to the MCPTT call establishment described | | | | |
| | in subclause 5.4.3 'Generic Test Procedure for MCPTT | | | | |
| | CO communication in E-UTRA' take place. | | | | |
| 2-7 | Void. | - | - | - | - |
| 8 | Check: Does the UE (MCPTT Client) send a SIP | > | SIP INVITE | - | Р |
| | INVITE message in order to create a pre-established | | | | |
| | session? | | | | |
| 8A | The SS sends SIP 100 Trying | < | SIP 100 Trying | - | - |
| 9 | Void. | - | - | - | - |
| 10 | The SS (MCPTT server) responds with a SIP 200 (OK) | < | SIP 200 (OK) | - | - |
| | message. | | | | |
| 10A | Check: Does the UE (MCPTT Client) respond with a | > | SIP ACK | - | Р |
| | SIP ACK message? | | | | |
| 11 | Void | - | - | - | - |
| 12 | The SS transmits an RRCConnectionRelease | < | RRC: RRCConnectionRelease | - | - |
| | message. | | | | |

5.3.3.4 Specific message contents

Table 5.3.3.4-1: SIP INVITE (step 8, Table 5.3.3.3-1)

| Derivation Path: Table 5.5.2.5.1 | -1 | | | |
|----------------------------------|--|--|-------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Answer-Mode | not present | | | |
| Contact | | | RFC 3261 [22 RFC 3840 [33] | |
| feature-param list | not including "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt" | | | |
| Accept | not present | | RFC 3261 [22] | |
| Message-body | MIME body not including MCPTT-Info | not including any MIME body part with Content- Type being "application/vnd.3gpp. mcptt-info+xml" | | |

Table 5.3.3.4-2: SIP 200 (OK) (step 10, Table 5.3.3.3-1)

| Derivation Path: Table 5.5.2.17 Information Element | Value/remark | Comment | Reference | Condition |
|---|------------------------------|--|--|--------------|
| Contact | Talas, Silan | | 11010101100 | - Containion |
| addr-spec | | | | |
| user-info and host | tsc_MCX_SessionID_B | The URI that identifies the pre-established session | | |
| port | not present | | | |
| Resource-Share | | | 24.379, clause 8.2.2 [9] 24.229, clause 7.2.13 [16] | |
| r-s-param | "media-sharing" | | _ | |
| origin | "session-initiator" | | | |
| timestamp | "timestamp" EQUAL 1*DIGIT | Indicates when the application server determined the resource sharing rules and is used to determine the most applicable resource sharing option | | |
| rules | | | | |
| new-sharing-key | "audio" | | | |
| directionality | "DL" | | | - |
| rules | | | | |
| new-sharing-key | "application" | | | |
| directionality | "DL" | | | |

5.3.3A Generic Test Procedure for MCVideo pre-established session establishment CO

The same as the procedure described in 5.3.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo"

5.3.4 Generic Test Procedure for MCPTT CT session establishment/modification without provisional responses other than 100 Trying

5.3.4.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.4.2 Definition of system information messages

5.3.4.3 Procedure

Table 5.3.4.3-1: MCPTT CT session establishment/modification without provisional responses other than 100 Trying

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|--|-------|------------------|----|---------|
| | | U - S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour that depends on the E-UTRA RRC state at the time the present procedure is called. | - | - | 1 | - |
| 1a1 | IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call establishment described in clause 5.4.4 'Generic Test Procedure for MCPTT CT communication in E-UTRA' take place. | - | - | - | - |
| 2 | The SS (MCPTT Server) sends a SIP INVITE requesting the establishment/modification of an MCPTT call. | < | SIP INVITE | - | - |
| - | EXCEPTION: Step 3a1 describes behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place if the UE responds to a SIP INVITE with a SIP 100 (Trying) | - | - | - | - |
| 3a1 | The UE (MCPTT client) sends SIP 100 (Trying) | > | SIP 100 (Trying) | - | - |
| 4 | Check: Does the UE (MCPTT client) respond to the SIP INVITE with SIP 200 (OK)? | > | SIP 200 (OK) | - | Р |
| 5 | The SS (MCPTT server) sends a SIP ACK to acknowledge the session establishment/modification | < | SIP ACK | - | - |

5.3.4.4 Specific message contents

All message contents are as specified in clause 5.5 with the following clarifications:

Table 5.3.4.4-1: SIP 200 (OK) (step 4, Table 5.3.4.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.5 Generic Test Procedure for MCPTT CT group call establishment, manual commencement

5.3.5.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.5.2 Definition of system information messages

5.3.5.3 Procedure

Table 5.3.5.3-1: MCPTT CT group call establishment, manual commencement

| St | Procedure | Message Sequence | | TP | Verdict |
|---------------|--|------------------|----------------------------|----------|---------|
| | | U - S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour that | - | - | - | - |
| | depends on the E-UTRA RRC state at the time | | | | |
| | the present procedure is called. | | | | |
| 1a1 | IF in RRC_IDLE state, the E-UTRA/EPC actions | - | - | - | - |
| | which are related to the MCPTT call | | | | |
| | establishment described in clause 5.4.4 'Generic | | | | |
| | Test Procedure for MCPTT CT communication in | | | | |
| | E-UTRA' take place. | | | | |
| 2 | The SS (MCPTT Server) sends an initial SIP | < | SIP INVITE | - | - |
| | INVITE requesting the establishment of an | | | | |
| | MCPTT group call. | | | | |
| - | EXCEPTION: Step 3a1 describes behaviour that | - | - | - | - |
| | depends on the UE implementation; the "lower | | | | |
| | case letter" identifies a step sequence that take | | | | |
| | place if the UE responds to a SIP INVITE with a | | | | |
| | SIP 100 (Trying) | | | | |
| 3a1 | The UE (MCPTT client) sends SIP 100 (Trying). | > | SIP 100 (Trying) | - | - |
| 4 | The SS starts timer Timer_1 = 5 seconds. | - | - | - | - |
| - | EXCEPTION: Steps 5a1 to 5c1 describe | - | - | - | - |
| | behaviour that depends on the UE | | | | |
| | implementation; the "lower case letter" identifies | | | | |
| | a step sequence that may take place if the UE | | | | |
| | responds reliably or unreliably to a SIP INVITE | | | | |
| | with a SIP 183 (Session Progress) | | 015 400 (0 : 5 | | _ |
| 5a1 | Check: Does the UE (MCPTT client) send SIP | > | SIP 183 (Session Progress) | - | Р |
| | 183 (Session Progress) unreliably? | | | | |
| 5a2 | The SS stops Timer_1. | - | - | - | - |
| 5b1 | Check: Does the UE (MCPTT client) send SIP | > | SIP 183 (Session Progress) | - | Р |
| F1.0 | 183 (Session Progress) reliably? | | | | |
| 5b2 | The SS stops Timer_1. | - | - | - | - |
| 5b3 | The SS (MCPTT Server) acknowledges the | < | PRACK | - | - |
| - FI 4 | receipt of SIP 183 (Session Progress) | | OID 000 (OI() | | |
| 5b4 | The UE (MCPTT Client) responds PRACK with | > | SIP 200 (OK) | - | - |
| 5c1 | SIP 200 (OK) Check: Does Timer_1 expire? | - | _ | <u> </u> | P |
| | Make UE (MCPTT User) accept the call | - | - | - | P |
| <u>6</u> 7 | Check: Does the UE (MCPTT client) respond to | - | | | - P |
| ' | the SIP INVITE with SIP 200 (OK)? | > | SIP 200 (OK) | - | 「 |
| 8 | The SS (MCPTT server) sends a SIP ACK to | < | SIP ACK | _ | |
| 0 | acknowledge the session establishment | < | SIF AUN | - | - |
| | acknowledge the session establishinelit | | | | |

5.3.5.4 Specific message contents

All message contents are as specified in clause 5.5 with condition GROUP-CALL where applicable and with the following clarifications:

Table 5.3.5.4-1: SIP INVITE (step 2, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and GROUP-CALL and MCPTT

Table 5.3.5.4-1A: SIP 183 (Session Progress) (step 5a1, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.16.3.1-1 with condition MCPTT

Table 5.3.5.4-2: SIP 183 (Session Progress) (step 5b1, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.16.3.1-1 with condition 100rel and MCPTT

Table 5.3.5.4-3: SIP 200 (OK) (step 7, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.6 Generic Test Procedure for MCPTT CT private call establishment, manual commencement

5.3.6.1 Initial conditions

The same initial conditions apply as specified in clause 5.3.3.1.

5.3.6.2 Definition of system information messages

5.3.6.3 Procedure

Table 5.3.6.3-1: MCPTT CT private call establishment, manual commencement

| St | Procedure | | Message Sequence | TP | Verdict |
|------|---|-------------|-------------------|----|---------|
| | | U - S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour that | - | - | - | - |
| | depends on the E-UTRA RRC state at the time | | | | |
| | the present procedure is called. | | | | |
| 1a1 | IF in RRC_IDLE state, the E-UTRA/EPC actions | - | - | - | - |
| | which are related to the MCPTT call | | | | |
| | establishment described in clause 5.4.4 'Generic | | | | |
| | Test Procedure for MCPTT CT communication in | | | | |
| | E-UTRA' take place. | | | | |
| 2 | The SS (MCPTT Server) sends an initial SIP | < | SIP INVITE | - | - |
| | INVITE requesting the establishment of an | | | | |
| | MCPTT private call. | | | | |
| - | EXCEPTION: Step3a1 describes behaviour that | - | - | - | - |
| | depends on the UE implementation; the "lower | | | | |
| | case letter" identifies a step sequence that take | | | | |
| | place if the UE responds to a SIP INVITE with a | | | | |
| 2-4 | SIP 100 (Trying) | | CID 400 (Truin a) | | |
| 3a1 | The UE (MCPTT client) sends SIP 100 (Trying). | > | SIP 100 (Trying) | - | - |
| - | EXCEPTION: Steps 4a1 to 4b3 describe behaviour that depends on the UE | - | - | - | - |
| | implementation; the "lower case letter" identifies | | | | |
| | a step sequence that takes place if the UE | | | | |
| | responds either unreliably or reliably to a SIP | | | | |
| | INVITE with a SIP 180 (Ringing) | | | | |
| 4a1 | Check: Does the UE (MCPTT client) send a SIP | > | SIP 180 (Ringing) | | Р |
| | 180 (Ringing) unreliably? | | on roo (runging) | | ' |
| 4b1 | Check: Does the UE (MCPTT client) send a SIP | > | SIP 180 (Ringing) | - | Р |
| | 180 (Ringing) reliably? | | 3 3, | | |
| 4b2 | The SS (MCPTT Server) acknowledges the | < | PRACK | - | - |
| | receipt of SIP 180 (Ringing) | | | | |
| 4b3 | The UE (MCPTT Client) responds PRACK with | > | SIP 200 (OK) | - | - |
| | SIP 200 (OK) | | | | |
| 4A | Check: Does the UE (MCPTT client) notify the | - | - | - | Р |
| | User of the incoming call request? (NOTE 1) | | | | |
| 5 | Make UE (MCPTT User) accept the call | - | - | - | - |
| 6 | Check: Does the UE (MCPTT client) respond to | > | SIP 200 (OK) | - | Р |
| | the SIP INVITE with SIP 200 (OK)? | | | | |
| 7 | The SS (MCPTT server) sends a SIP ACK to | < | SIP ACK | - | - |
| | acknowledge the session establishment | | | | |
| NOTE | 1: This expected to be done via a suitable implement | ntation dep | pendent MMI. | | |

5.3.6.4 Specific message contents

All message contents are as specified in clause 5.5 with condition PRIVATE-CALL where applicable and with the following clarifications:

Table 5.3.6.4-1: SIP INVITE (step 2, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and PRIVATE-CALL and MCPTT

Table 5.3.6.4-1A: SIP 180 (Ringing) (step 4a1, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.16.2.1-1 with condition MCPTT

Table 5.3.6.4-2: SIP 180 (Ringing) (step 4b1, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.16.2.1-1 with condition 100rel and MCPTT

Table 5.3.6.4-3: SIP 200 (OK) (step 6, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.7 Generic Test Procedure for MCPTT CO session establishment/modification without provisional responses other than 100 Trying

5.3.7.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.7.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.7.3 Procedure

Table 5.3.7.3-1: MCPTT CO session establishment/modification without provisional responses other than 100 Trying

| St | Procedure | | Message Sequence | TP | Verdict |
|----------|--|-----|------------------|----------|----------|
| | | U-S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour that | - | - | - | - |
| | depends on the E-UTRA RRC state at the time | | | | |
| 1a1 | the present procedure is called. | | | | |
| lai | IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call | - | - | - | - |
| | establishment described in clause 5.4.3 'Generic | | | | |
| | Test Procedure for MCPTT CO communication in | | | | |
| | E-UTRA' take place. | | | | |
| 2 | Check: Does the UE (MCPTT Client) send a SIP | > | SIP INVITE | - | Р |
| | INVITE requesting the | | | | |
| | establishment/modification of an MCPTT call? | | | | |
| 3 | The SS sends SIP 100 Trying | < | SIP 100 (Trying) | - | - |
| 4 | The SS (MCPTT server) responds with a SIP | < | SIP 200 (OK) | - | - |
| | 200 (OK) | | OID AOI/ | | - |
| 5 | Check: Does the UE (MCPTT Client) send a SIP | > | SIP ACK | - | Р |
| | ACK to acknowledge the session establishment/modification? | | | | |
| <u> </u> | EXCEPTION: Steps 6a1 describes behaviour | _ | _ | <u> </u> | _ |
| | that depends on the test case requirements; the | | | | |
| | "lower case letter" identifies a step sequence that | | | | |
| | takes place if the UE requests implicit floor | | | | |
| | control in step 2 (i.e. the "mc_implicit_request" | | | | |
| | fmtp attribute included in the SDP offer and the | | | | |
| | SS responded with the "mc_implicit_request" | | | | |
| | fmtp attribute included and the "mc_granted" | | | | |
| | fmtp attribute not present in the SDP answer | | | | |
| 6a1 | (NOTE1) | < | Floor Granted | - | |
| bai | The SS (MCPTT server) sends a Floor Granted | < | Floor Granted | - | <u> </u> |
| | message. | 1 | | | |

NOTE1: Possibilities in SDP-offer/answer depend on the test case requirements

- a. UE sends SDP offer without implicit floor request
- b. UE sends SDP offer with implicit floor request
 - i. SDP answer from SS contains "mc_implicit_request" and "mc_granted" (Floor is implicitly granted)
 - ii. SDP answer from SS contains "mc_implicit request" and but no "mc_granted" (Floor needs to be explicitly granted ar step 6a1)
 - iii. SDP answer from SS contains no "mc_implicit_request"and no "mc_granted" (the UE needs to explicitly request the floor)

5.3.7.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure with the following clarifications:

Table 5.3.7.4-1: SIP INVITE (step 2, Table 5.3.7.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MCPTT

Table 5.3.7.4-2: SIP 200 (OK) (step 4, Table 5.3.7.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP and MCPTT

5.3.8 Generic Test Procedure for MCPTT CO private call establishment, manual commencement

5.3.8.1 Initial conditions

The same initial conditions apply as specified in clause 5.3.3.1.

5.3.8.2 Definition of system information messages

5.3.8.3 Procedure

Table 5.3.8.3-1: MCPTT CO private call establishment, manual commencement

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|---|-------|-------------------|----|---------|
| | | U - S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour that depends on the E-UTRA RRC state at the time the present procedure is called. | - | - | - | - |
| 1a1 | IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call establishment described in clause 5.4.3 'Generic Test Procedure for MCPTT CO communication in E-UTRA' take place. | - | - | - | - |
| 2 | Check: Does the UE (MCPTT Client) send a SIP INVITE requesting the establishment of an MCPTT call? | > | SIP INVITE | - | P |
| 3 | The SS sends SIP 100 Trying | < | SIP 100 (Trying) | - | - |
| 4 | The SS (MCPTT server) responds with a SIP 180 (Ringing) | < | SIP 180 (Ringing) | - | - |
| 5 | The SS (MCPTT server) responds with a SIP 200 (OK) | < | SIP 200 (OK) | - | - |
| 6 | Check: Does the UE (MCPTT Client) send a SIP ACK to acknowledge the session establishment/modification? | > | SIP ACK | - | P |
| - | EXCEPTION: Steps 7a1 describes behaviour that depends on the test case requirements; the "lower case letter" identifies a step sequence that takes place if the UE requests implicit floor control in step 2 (i.e. the "mc_implicit_request" fmtp attribute included in the SDP offer and the SS responded with the "mc_implicit_request" fmtp attribute included and the "mc_granted" fmtp attribute not present in the SDP answer (NOTE1) | - | - | - | - |
| 7a1 | The SS (MCPTT server) sends a Floor Granted message. | < | Floor Granted | - | - |

NOTE1: Possibilities in SDP-offer/answer depend on the test case requirements

- a. UE sends SDP offer without implicit floor request
- b. UE sends SDP offer with implicit floor request
 - i. SDP answer from SS contains "mc_implicit_request" and "mc_granted" (Floor is implicitly granted)
 - ii. SDP answer from SS contains "mc_implicit request" and but no "mc_granted" (Floor needs to be explicitly granted ar step 7a1)
 - iii. SDP answer from SS contains no "mc_implicit_request" and no "mc_granted" (the UE needs to explicitly request the floor)

5.3.8.4 Specific message contents

All message contents are as specified in clause 5.5 with condition PRIVATE-CALL where applicable and in the test case calling the procedure, with the following clarifications: Table 5.3.8.4-1: SIP INVITE (step 2, Table 5.3.8.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and PRIVATE-CALL and MCPTT

Table 5.3.8.4-2: SIP 200 (OK) (step 5, Table 5.3.8.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP and MCPTT

5.3.9 Generic Test Procedure for MCPTT CO call establishment using a pre-established session

5.3.9.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.9.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.9.3 Procedure

Table 5.3.9.3-1: MCPTT CO call establishment using a pre-established session

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|---|-------|------------------|----|---------|
| | | U - S | Message | | |
| - | EXCEPTION: Step 1a1 describes behaviour | - | - | - | - |
| | that depends on the E-UTRA RRC state at the | | | | |
| | time the present procedure is called. | | | | |
| 1a1 | IF in RRC_IDLE state, the E-UTRA/EPC | - | - | - | - |
| | actions which are related to the MCPTT call | | | | |
| | establishment described in clause 5.4.4 | | | | |
| | 'Generic Test Procedure for MCPTT CT | | | | |
| | communication in E-UTRA' take place. | | | | |
| 2 | Check: Does the UE (MCPTT Client) send a | > | SIP REFER | - | Р |
| | SIP REFER message to request the | | | | |
| | establishment of an MCPTT call using a pre- | | | | |
| | established session? | | | | |
| 3 | The SS (MCPTT Server) responds with a SIP | < | SIP 200 (OK) | - | - |
| | 200 (OK) message indicating that the MCPTT | | | | |
| | call has been established | | | | |
| 4 | The SS sends a Connect message | < | Connect | - | - |
| 5 | Check: Does the UE (MCPTT Client) send an | > | Acknowledge | - | Р |
| | Acknowledgement in response to the Connect | | | | |
| | message? | | | | |

5.3.9.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.10 Generic Test Procedure for MCPTT CO call release

5.3.10.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.10.2 Definition of system information messages

5.3.10.3 Procedure

Table 5.3.10.3-1: MCPTT CO call release

| St | Procedure | | Message Sequence | TP | Verdict |
|----|---|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a SIP BYE request to terminate the MCPTT session? | > | SIP BYE | - | Р |
| 2 | The SS (MCPTT Server) responds with a SIP 200 (OK) message? | < | SIP 200 (OK) | - | - |
| - | EXCEPTION: The SS waits 2 seconds before the SS deactivates the dedicated EPS bearer and releases the RRC connection. NOTE: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished and any not allowed behaviour captured. | - | - | - | |

5.3.10.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.11 Generic Test Procedure for MCPTT CO call release keeping the pre-established session

5.3.11.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.11.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.11.3 Procedure

Table 5.3.11.3-1: MCPTT CO call release keeping the pre-established session

| St | Procedure | Message Sequence | | TP | Verdict |
|----|--|------------------|--------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a SIP REFER message with method "BYE" to release the MCPTT session and keep the preestablished session? | > | SIP REFER | - | Р |
| 2 | The SS (MCPTT Server) responds with a SIP 200 (OK) | < | SIP 200 (OK) | - | - |
| - | EXCEPTION: The SS waits 2 seconds before the SS releases the RRC connection. NOTE: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished and any not allowed behaviour captured. | - | - | - | - |

5.3.11.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:.

Table 5.3.11.4-1: SIP REFER (step 1, Table 5.3.11.3-1)

Derivation Path: Table 5.5.2.12-1 with condition METHOD-BYE

5.3.12 Generic Test Procedure for MCPTT CT call release

5.3.12.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.12.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.12.3 Procedure

Table 5.3.12.3-1: MCPTT CT call release

| St | Procedure | | Message Sequence | TP | Verdict |
|----|---|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | The SS (MCPTT Server) sends a SIP BYE | < | SIP BYE | - | - |
| | request to terminate the MCPTT session. | | | | |
| 2 | Check: Does the UE (MCPTT Client) respond | > | SIP 200 (OK) | - | Р |
| | with a SIP 200 (OK) message? | | | | |
| - | EXCEPTION: The SS waits 2 seconds before | - | - | - | - |
| | the SS deactivates the dedicated EPS bearer | | | | |
| | and releases the RRC connection. | | | | |
| | NOTE: The specified wait period of 2s shall | | | | |
| | ensure that lower layer signalling (TCP) is | | | | |
| | finished. | | | | |

5.3.12.4 Specific message contents

All message contents are as specified in clause 5.5. and in the test case calling the procedure, with the following clarifications:

none

5.3.13 Generic Test Procedure for MCPTT CT call release keeping the preestablished session

5.3.13.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.13.2 Definition of system information messages

5.3.13.3 Procedure

Table 5.3.13.3-1: MCPTT CT call release keeping the pre-established session

| St | Procedure | | Message Sequence | TP | Verdict |
|----|--|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | SS (MCPTT Server) releases the call by sending a Disconnect message | < | Disconnect | - | - |
| 2 | Check: Does the UE (MCPTT Client) send an Acknowledgement to accept the release of the call? | > | Acknowledge | - | Р |
| - | EXCEPTION: the SS releases the RRC connection. | - | - | - | - |

5.3.13.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.14 Generic Test Procedure for MCPTT CO session modification with implicit Floor Control

5.3.14.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.14.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.14.3 Procedure

Table 5.3.14.3-1: MCPTT CO session modification with implicit Floor Control

| St | Procedure | | Message Sequence | TP | Verdict |
|----|---|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a SIP INVITE requesting the establishment/modification of an MCPTT call? | > | SIP re-INVITE | - | Р |
| 2 | The SS sends SIP 100 Trying | < | SIP 100 (Trying) | - | - |
| 3 | The SS (MCPTT server) responds with a SIP 200 (OK) | < | SIP 200 (OK) | - | - |
| 4 | Check: Does the UE (MCPTT Client) send a SIP ACK to acknowledge the session establishment/modification? | > | SIP ACK | - | Р |
| 5 | The SS (MCPTT Server) sends a Floor Granted message with an acknowledgement required. | < | Floor Granted | - | - |
| 6 | Check: Does the UE (MCPTT Client) sends a Floor Ack message in response to the Floor Granted message? | > | Floor Ack | - | Р |

5.3.14.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.14.4-1: SIP 200 (OK) (step 2, Table 5.3.14.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP

5.3.15 Generic Test Procedure for MCPTT CO session modification without implicit Floor Control

5.3.15.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.15.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.15.3 Procedure

Table 5.3.15.3-1: MCPTT CO session modification without implicit Floor Control

| St | Procedure | | Message Sequence | TP | Verdict |
|----|---|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a SIP INVITE requesting the establishment/modification of an MCPTT call? | > | SIP re-INVITE | - | Р |
| 2 | The SS sends SIP 100 Trying | < | SIP 100 (Trying) | - | - |
| 3 | The SS (MCPTT server) responds with a SIP 200 (OK) | < | SIP 200 (OK) | - | - |
| 4 | Check: Does the UE (MCPTT Client) send a SIP ACK to acknowledge the session establishment/modification? | > | SIP ACK | - | Р |
| 5 | The SS (MCPTT Server) sends a Floor Idle message with no acknowledgement required. | < | Floor Idle | - | - |

5.3.15.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.15.4-1: SIP 200 (OK) (step 2, Table 5.3.15.3-1)

| Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP | | | | | | | |
|---|--|-------------|-----------|-----------|--|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | | |
| Message-body | | | | | | | |
| MIME body part | | SDP message | RFC 4566 | | | | |
| MIME-part-headers | | | | | | | |
| Content-Type | "application/sdp" | | | | | | |
| MIME-part-body | SDP message as described in Table 5.3.15.4-2 | | | | | | |

Table 5.3.15.4-2: SDP in SIP 200 (OK) (Table 5.3.15.4-1)

| Derivation Path: Table 5.5.3.1.2-1 SDP Message from the SS for MCPTT | | | | | | | |
|--|--------------|------------------|----------------|-----------|--|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | | |
| Session description: | | | | | | | |
| media attribute | | a= line | | | | | |
| | | attribute = fmtp | | | | | |
| mc_implicit_request | Not present | Parameter has no | TS 24.380 [10] | | | | |
| · | | value | cl. 12.1.2.3 | | | | |

5.3.16 Generic Test Procedure for MCPTT Floor Request – Floor Granted

5.3.16.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.16.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.16.3 Procedure

Table 5.3.16.3-1: MCPTT Floor Request - Floor Granted

| St | Procedure | | Message Sequence | TP | Verdict |
|----|--|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a | > | Floor Request | - | Р |
| | Floor Request message? | | | | |
| 2 | The SS (MCPTT Server) sends a Floor | < | Floor Granted | - | - |
| | Granted message with an acknowledgement | | | | |
| | required. | | | | |
| 3 | Check: Does the UE (MCPTT Client) send a | > | Floor Ack | - | Р |
| | Floor Ack message in response to the Floor | | | | |
| | Granted message? | | | | |

5.3.16.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.17 Generic Test Procedure for MCPTT Floor Request – Floor Queue Position Info

5.3.17.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.17.2 Definition of system information messages

5.3.17.3 Procedure

Table 5.3.17.3-1: MCPTT Floor Request – Floor Queue Position Info

| St | Procedure | | Message Sequence | TP | Verdict |
|----|---|-----|---------------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a | > | Floor Request | - | Р |
| | Floor Request message? | | | | |
| 2 | The SS (MCPTT Server) sends a Floor Queue | < | Floor Queue Position Info | - | - |
| | Position Info message indicating that the Floor | | | | |
| | Request was queued message with no | | | | |
| | acknowledgement required. | | | | |

5.3.17.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none.

5.3.18 Generic Test Procedure for MCPTT Queuing Position Request

5.3.18.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.18.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.18.3 Procedure

Table 5.3.18.3-1: MCPTT Queuing Position Request

| St | Procedure | | Message Sequence | | Verdict |
|----|---|-------|------------------------------|---|---------|
| | | U - S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a Floor Queue Position Request message? | > | Floor Queue Position Request | - | Р |
| 2 | The SS (MCPTT Server) responds with a Floor Queue Position Info message with no acknowledgement required. | < | Floor Queue Position Info | - | - |

5.3.18.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.19 Generic Test Procedure for MCPTT Floor Request – Floor Deny

5.3.19.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.19.2 Definition of system information messages

5.3.19.3 Procedure

Table 5.3.19.3-1: MCPTT Floor Request – Floor Deny

| St | Procedure | | Message Sequence | | Verdict |
|----|---|-----|------------------|---|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a Floor Request message? | > | Floor Request | - | Р |
| 2 | The SS (MCPTT Server) sends a Floor Deny message with no acknowledgement required | < | Floor Deny | - | - |

5.3.19.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.20 Generic Test Procedure for MCPTT Floor Release – Floor Idle

5.3.20.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.20.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.20.3 Procedure

Table 5.3.20.3-1: MCPTT Floor Release - Floor Idle

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|--|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a | > | Floor Release | - | Р |
| | Floor Release message? | | | | |
| - | EXCEPTION: Step 2a1 describes behaviour | - | - | - | - |
| | that depends on the UE implementation; the | | | | |
| | "lower case letter" identifies a step sequence | | | | |
| | that take place if the UE requests an | | | | |
| | acknowledgement to the Floor Release | | | | |
| | message. | | | | |
| 2a1 | The SS (MCPTT Server) sends a Floor Ack | < | Floor Ack | - | - |
| | message in response to the Floor Release | | | | |
| | message | | | | |
| 3 | The SS (MCPTT Server) sends a Floor Idle | < | Floor Idle | - | - |
| | message with no acknowledgement required. | | | | |

5.3.20.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

None

5.3.21 Generic Test Procedure for MCPTT Floor Release – Floor Taken

5.3.21.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.21.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.21.3 Procedure

Table 5.3.21.3-1: MCPTT Floor Release - Floor Taken

| St | Procedure | | Message Sequence | TP | Verdict |
|-----|--|-----|------------------|----|---------|
| | | U-S | Message | | |
| 1 | Check: Does the UE (MCPTT Client) send a | > | Floor Release | - | Р |
| | Floor Release message? | | | | |
| - | EXCEPTION: Step 2a1 describes behaviour | - | - | - | - |
| | that depends on the UE implementation; the | | | | |
| | "lower case letter" identifies a step sequence | | | | |
| | that take place if the UE requests an | | | | |
| | acknowledgement to the Floor Release | | | | |
| | message. | | | | |
| 2a1 | The SS (MCPTT Server) sends a Floor Ack | < | Floor Ack | - | - |
| | message in response to the Floor Release | | | | |
| | message | | | | |
| 3 | The SS (MCPTT Server) sends a Floor Taken | < | Floor Taken | - | - |
| | message with no acknowledgement required. | | | | |

5.3.21.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.4 Generic test procedures for UE operation over EUTRA/EPS

5.4.1 General

The purpose of the procedures specified in the following clauses is to facilitate test description by providing procedure sequences which can be referred from the relevant TCs specified e.g. in 3GPP TS 36.579-2 [2], 3GPP TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The intention is, wherever possible, that E-UTRA/EPS signalling and initial conditions should not be provided in the test descriptions rather should be referred to the procedure steps described in the generic procedures below, whereas, the MCS SIP signalling and initial conditions when relevant for the test purposes shall be explicitly provided in the tests description itself.

Throughout the generic test procedures E-UTRA/EPC behaviour is denoted as "SS" for the System Simulator simulating the NWK side of the communication, and, "UE" for the Implementation Under Test (IUT), whereas the MCPTT/MCVideo/MCData relevant behaviour is denoted as "SS (MCPTT/MCVideo/MCData server)" and "UE (MCPTT/MCVideo/MCData client)"/"UE (MCPTT/MCVideo/MCData user)" respectively. ProSe related SS behaviour when the SS simulates an UE device is denoted e.g. as "SS-UE1".

5.4.1A UE APN/PDN support assumptions

A MCPTT (or in general Mission Critical Services) capable UE, depending on implementation/deployment, may be provided with up to 3 MCPTT related APN: An APN utilised by the MCPTT service including the MCPTT service APN for the SIP-1 reference point, an MC common core services APN for the HTTP-1 reference point and a MC identity management service APN for the CSC-1 reference point (see TS 23.179 [8], clause 5.2.9).

To limit the test specification complexity utilisation of single APN/PDN to be used for all 3 MCPTT services is assumed and only 2 QCIs are used for the bearers established in regard to the PDN:

1. MCPTT (QCI=69 for signalling bearer, QCI=65 for voice)

NOTE 1: It should be noted that the core specs impose a requirement that the QCI value 8 or better shall be used for the EPS bearer that transports HTTP-1 reference point messaging. Using a single APN and having for the EPS bearer QCI=69 will satisfy this.

NOTE 2: Void.

In addition to the MCPTT relevant APN, a MCPTT (or in general Mission Critical Services) capable UE may support 2 additional different APNs for which different PDNs each with its specific QCI:

- 2. Internet (QCI=9)
- 3. IMS (VOLTE QCI=5 for signalling bearer, QCI=1 for voice call)

This will result in the need the MCPTT tests to be able to handle a 3 APNs and different PDNs.

NOTE 3: It should be noted that, handling IMS and MCPTT with one APN is theoretically possible but may have undesirable implications e.g. VoLTE signalling could delay MCPTT signalling therefore the assumption is that such implementations will be undesirable and unlikely.

Consequently, for the IMS and MCPTT it should be assumed that the UE will do 2 different registrations, i.e. for each of them there will be a separate IP connection (different IP addresses at the UE and the SS).

Depending on UE configuration PDN connectivities for the up-to three PDNs may be established. There are two major scenarios:

- 1. The MCX PDN connectivity gets established automatically after switch-on during the initial registration procedure. In addition the UE may establish PDN connectivities to the IMS PDN and/or the internet PDN. The connectivity to these PDNs may be requested in any order. There can be 1, 2 or 3 PDNs.
- 2. The UE requests PDN connectivities for IMS and/or internet but not for MCPTT. If IMS and internet are requested, it may be in any order. Establishment of the MCX PDN connectivity is triggered after the initial registration in a separate procedure. There can be 2 or 3 PDNs in total.

To serve the above scenarios the following parameters are defined in TS 36.579-5 [5]:

- px_MCX_InitialRegistration_TypeOfPDN1:
 First PDN registered during initial registration (either 'ims' or 'internet' or 'mcx')
- px_MCX_InitialRegistration_TypeOfPDN2: Second PDN registered during initial registration; in addition to 'ims' or 'internet' or 'mcx' it may be 'none' to indicate that there is no second PDN connectivity requested by the UE during initial registration.
- px_MCX_InitialRegistration_TypeOfPDN3:
 Third PDN registered during initial registration; in addition to 'ims' or 'internet' or 'mcx' it may be 'none' to indicate that there is no third PDN connectivity requested by the UE during initial registration.

The type of the parameters is a TTCN-3 enumerated type with values 'ims', 'internet', 'mcx' and 'none'.

In addition there is the parameter px_AccessPointName in TS 36.523-3 [74] which is used as default APN, i.e. for a PDN for which the UE does not provide an APN (NOTE: Any, but only one, of the three PDNs can be the one with default APN).

In regard to the MCPTT the following shall be also taken into account

- If the PDN connection established during the initial attach by the UE is to an APN other than the MCPTT service APN, then prior to user authentication, the UE shall establish another PDN connection to the MCPTT service APN. PDN connection establishment can also be caused by a SIP registration request for MCPTT. The QCI value of 69 shall be used for the EPS bearer that transports SIP-1 reference point messaging. It is used for SIP signalling.
- For the MCPTT service APN, the MCPTT UE does not activate EPS bearers for media streams.
- The network initiates the creation of a dedicated bearer to transport the voice media. The dedicated bearer for Conversational Voice utilises the standardised QCI value of 65. The network, utilising dynamic PCC, creates no more than one dedicated bearer for voice media (the UE is required to support at minimum one UM bearer which is used for MCPTT voice).

Editor's Note: The requirements in regard to MCVideo and MCData are FFS.

5.4.2 Generic Test Procedure for MCPTT UE registration

5.4.2.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client)
 - The UE is MCPTT capable. The MCPTT preconditions required for initiation of MCPTT service authorization for the MCPTT client and the MCPTT service are specified in the test cases.
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE shall be switched off.

5.4.2.2 Definition of system information messages

5.4.2.3 Procedure

Table 5.4.2.3-1: EUTRA/EPS signalling for UE registration

| St | Procedure | | Message Sequence | | |
|----------|--|-----|--|--|--|
| 0. | rioccaute | U-S | Message | | |
| 0 | Switch the UE on. | - | - moodage | | |
| 1 | Void | _ | _ | | |
| 2 | UE transmits an RRCConnectionRequest message. | > | RRC: RRCConnectionRequest | | |
| 3 | SS transmits an <i>RRCConnectionSetup</i> message. | < | RRC: RRCConnectionSetup | | |
| 4 | The UE transmits an RRCConnectionSetupComplete | > | RRC: RRCConnectionSetupComplete | | |
| | message to confirm the successful completion of the | | NAS: ATTACH REQUEST | | |
| | connection establishment and to initiate the Attach | | NAS: PDN CONNECTIVITY REQUEST | | |
| | procedure by including the ATTACH REQUEST | | TWICH BIT COMMEDITION THE REGISTER | | |
| | message. The PDN CONNECTIVITY REQUEST | | | | |
| | message is piggybacked in ATTACH REQUEST. | | | | |
| | (NOTE 1) | | | | |
| 5 | The SS transmits an AUTHENTICATION REQUEST | < | RRC: DLInformationTransfer | | |
| | message to initiate the EPS authentication and AKA | | NAS: AUTHENTICATION REQUEST | | |
| | procedure. | | | | |
| 6 | The UE transmits an AUTHENTICATION RESPONSE | > | RRC: ULInformationTransfer | | |
| | message and establishes mutual authentication. | | NAS: AUTHENTICATION RESPONSE | | |
| 7 | The SS transmits a NAS SECURITY MODE | < | RRC: DLInformationTransfer | | |
| | COMMAND message to activate NAS security. | | NAS: SECURITY MODE COMMAND | | |
| 8 | The UE transmits a NAS SECURITY MODE | > | RRC: ULInformationTransfer | | |
| | COMPLETE message and establishes the initial | | NAS: SECURITY MODE COMPLETE | | |
| | security configuration. | | | | |
| - | EXCEPTION: Steps 9a1 to 9a2 describe behaviour that | - | - | | |
| | depends on UE configuration; the "lower case letter" | | | | |
| | identifies a step sequence that take place if the UE has | | | | |
| 0.4 | ESM information which needs to be transferred. | | DDO DU (T. (| | |
| 9a1 | IF the UE sets the ESM information transfer flag in the | < | RRC: DLInformationTransfer | | |
| | last PDN CONNECTIVITY REQUEST message THEN | | NAS: ESM INFORMATION REQUEST | | |
| | the SS transmits an ESM INFORMATION REQUEST | | | | |
| | message to initiate exchange of protocol configuration options and/or APN. | | | | |
| 9a2 | The UE transmits an ESM INFORMATION RESPONSE | > | RRC: ULInformationTransfer | | |
| 9a2 | message to transfer protocol configuration options | > | NAS: ESM INFORMATION RESPONSE | | |
| | and/or APN. | | TWO. LOW IN CHANGE THE CONCE | | |
| 10 | The SS transmits a SecurityModeCommand message | < | RRC: SecurityModeCommand | | |
| ' | to activate AS security. | , | | | |
| 11 | The UE transmits a SecurityModeComplete message | > | RRC: SecurityModeComplete | | |
| | and establishes the initial security configuration. | | , | | |
| 12 | The SS transmits a UECapabilityEnquiry message to | < | RRC: UECapabilityEnquiry | | |
| | initiate the UE radio access capability transfer | | | | |
| | procedure. | | | | |
| 13 | The UE transmits a UECapabilityInformation message | > | RRC: UECapabilityInformation | | |
| | to transfer UE radio access capability. | | | | |
| 14 | The SS transmits an RRCConnectionReconfiguration | < | RRC: RRCConnectionReconfiguration | | |
| | message to establish the default bearer with condition | | NAS: ATTACH ACCEPT | | |
| | SRB2-DRB(1, 0) according to TS 36.508 [6] | | NAS: ACTIVATE DEFAULT EPS | | |
| | clause 4.8.2.2.1.1. | | BEARER CONTEXT REQUEST | | |
| | This message includes the ATTACH ACCEPT | | | | |
| | message. The ACTIVATE DEFAULT EPS BEARER | | | | |
| | CONTEXT REQUEST message is piggybacked in | | | | |
| 4.5 | ATTACH ACCEPT. (NOTE 1) | _ | DDC: | | |
| 15 | The UE transmits an RRCConnectionReconfigurationComplete message to | > | RRC: RRCConnectionReconfigurationComplet | | |
| | confirm the establishment of default bearer. | | _ | | |
| <u> </u> | EXCEPTION: In parallel to the event described in steps | _ | e - | | |
| 1 - | 16 and 16A below, if initiated by the UE the generic | _ | | | |
| | procedure for IP address allocation in the U-plane as | | | | |
| | defined in TS 36.508 [6] clause 4.5A.1 takes place. | | | | |
| _ | EXCEPTION: IF the UE is configured to register for | _ | - | | |
| | MCX as first PDN during initial registration, THEN in | | | | |
| | parallel to the event described in steps 16 and | | | | |
| | 16Abelow the events described in table 5.4.2.3-2 take | | | | |
| | place. | | | | |
| | | | • | | |

| St | Procedure | Message Sequence | | |
|-----|--|------------------|---|--|
| | | U - S | Message | |
| - | EXCEPTION: IF the UE is configured to register for IMS | - | - | |
| | as first PDN during initial registration, THEN in parallel | | | |
| | to the event described in steps 16 and 16A below the | | | |
| | generic procedure for IMS signalling in the U-plane | | | |
| | specified in TS 36.508 clause 4.5A.3 takes place if | | | |
| 40 | requested by the UE | | DDO III. (T. (| |
| 16 | This message includes the ATTACH COMPLETE | > | RRC: ULInformationTransfer | |
| | message. The ACTIVATE DEFAULT EPS BEARER | | NAS: ATTACH COMPLETE | |
| | CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. | | NAS: ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT | |
| _ | EXCEPTION: Depending on the UE capability step 16A | | BEARER CONTEXT ACCEPT | |
| - | may be performed 0, 1 or 2 times. (NOTE 1) | - | _ | |
| 16A | The EUTRA/EPS signalling for establishment of an | | - | |
| 107 | additional PDN connectivity according to table 5.4.2.3- | _ | | |
| | 1A takes place | | | |
| 17 | The SS transmits an RRCConnectionRelease | < | RRC: RRCConnectionRelease | |
| | message. | • | | |
| - | EXCEPTION: IF the UE is not configured to register for | - | - | |
| | MCX during initial registration, THEN steps 18 to 27 | | | |
| | take place. | | | |
| 18 | Make the UE user request MCPTT service | - | - | |
| | authorisation/configuration. | | | |
| | NOTE 2 | | | |
| 19 | The UE transmits an RRCConnectionRequest | > | RRCConnectionRequest | |
| | message. | | | |
| 20 | SS transmit an RRCConnectionSetup message. | < | RRC: RRCConnectionSetup | |
| 21 | The UE transmits an RRCConnectionSetupComplete | > | RRC: RRCConnectionSetupComplete | |
| | message to confirm the successful completion of the | | NAS: SERVICE REQUEST | |
| | connection establishment and to initiate the session | | | |
| | management procedure by including the SERVICE | | | |
| 22 | REQUEST message. The SS transmits a SecurityModeCommand message | | RRC: SecurityModeCommand | |
| 22 | to activate AS security. | < | RRC. SecurityiviodeCommand | |
| 23 | The UE transmits a SecurityModeComplete message | > | RRC: SecurityModeComplete | |
| 23 | and establishes the initial security configuration. | | 100. Gecantywode Complete | |
| 24 | The SS configures a new data radio bearer, associated | < | RRC: RRCConnectionReconfiguration | |
| | with the default EPS bearer context. | ` | Thirte. Thirte commencement to commence the | |
| | The RRCConnectionReconfiguration message is using | | | |
| | condition SRB2-DRB(N, 0) with N being the number of | | | |
| | PDN connectivities established during initial registration | | | |
| | (steps 0 – 17). | | | |
| | The DRBs associated with the respective default EPS | | | |
| | bearer context obtained during the attach procedure are | | | |
| | established | | | |
| 25 | The UE transmits an | > | RRC: | |
| | RRCConnectionReconfigurationComplete message to | | RRCConnectionReconfigurationComplet | |
| | confirm the establishment of the new radio bearer, | | е | |
| 00 | associated with the default EPS bearer context. | | | |
| 26 | The EUTRA/EPS signalling for establishment of an | - | - | |
| | additional PDN connectivity according to table 5.4.2.3- | | | |
| 27 | 1A takes place The SS transmits an RRCConnectionRelease | | RRC: RRCConnectionRelease | |
| 21 | | < | INO. INCCOMMEDIANTERASE | |
| | message. | | 1 | |

NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.

NOTE 2: This will start a 5 stage process. The first stage involves MCPTT User Authentication and includes Steps 3a1 through 10 of Table 5.3.2.3-1. The end result of the first stage is the MCPTT Client receives 3 tokens: access token, ID token, and refresh token.

Table 5.4.2.3-1A: EUTRA/EPS signalling for establishment of an additional PDN connectivity

| St | Procedure | Message Sequence | |
|----|---|------------------|-------------------------------------|
| | | U-S | Message |
| 1 | The UE transmits a PDN CONNECTIVITY REQUEST | > | RRC: ULInformationTransfer |
| | message to request an additional PDN. | | NAS: PDN CONNECTIVITY REQUEST |
| 2 | The SS configures a new data radio bearer, associated | < | RRC: RRCConnectionReconfiguration |
| | with the additional default EPS bearer context. | | NAS: |
| | RRCConnectionReconfiguration message contains the | | ACTIVATE DEFAULT EPS BEARER |
| | ACTIVATE DEFAULT EPS BEARER CONTEXT | | CONTEXT REQUEST |
| | REQUEST message. | | |
| 3 | The UE transmits an | > | RRC: |
| | RRCConnectionReconfigurationComplete message to | | RRCConnectionReconfigurationComplet |
| | confirm the establishment of additional default bearer. | | е |
| - | EXCEPTION: In parallel to the event described in step | - | - |
| | 4 below, if initiated by the UE the generic procedure for | | |
| | IP address allocation in the U-plane specified in | | |
| | TS 36.508 clause 4.5A.1 takes place performing IP | | |
| | address allocation in the U-plane. | | |
| - | EXCEPTION: IF ADD_IMS THEN in parallel to the | - | - |
| | event described in step 4 below the generic procedure | | |
| | for IMS signalling in the U-plane specified in TS 36.508 | | |
| | clause 4.5A.3 takes place if requested by the UE | | |
| - | EXCEPTION: IF ADD_MCX THEN in parallel to the | - | - |
| | event described in step 4 below the SIP registration for | | |
| | MCPTT as specified in table 5.4.2.3-2 takes place | | |
| 4 | The UE transmits an ACTIVATE DEFAULT EPS | > | RRC: ULInformationTransfer |
| | BEARER CONTEXT ACCEPT message. | | NAS: ACTIVATE DEFAULT EPS |
| | | | BEARER CONTEXT ACCEPT |

| Condition | Explanation |
|-----------|---|
| ADD_IMS | true if PDN CONNECTIVITY REQUEST is for IMS |
| ADD MCX | true if PDN CONNECTIVITY REQUEST is for MCX |

Table 5.4.2.3-2: SIP registration for MCPTT

| St | Procedure | Message Sequence | | | | |
|-----|--|------------------|----------------------|--|--|--|
| | | U - S | Message | | | |
| - | EXCEPTION: In parallel to the event described | | | | | |
| | in steps 1 to 4 below the MCPTT user | | | | | |
| | authentication as according to table 5.3.2.3-1 | | | | | |
| | take place. | | | | | |
| 1 | The UE sends initial registration for IMS | > | SIP REGISTER | | | |
| | services. | | | | | |
| 2 | The SS responds with a valid AKAv1-MD5 | < | SIP 401 Unauthorized | | | |
| | authentication challenge and security | | | | | |
| | mechanisms supported by the network. | | | | | |
| 3 | The UE completes the security negotiation | > | SIP REGISTER | | | |
| | procedures, sets up a temporary set of SAs | | | | | |
| | and uses those for sending another | | | | | |
| | REGISTER with AKAv1-MD5 credentials. | | | | | |
| 4 | The SS responds with 200 OK. | < | SIP 200 OK | | | |
| 5-6 | Void | | | | | |
| 6A | The generic procedure for MCPTT Service | | | | | |
| | Authorization as specified in table 5.3.2.3-2 | | | | | |
| | takes place | | | | | |
| 7 | The SS (MCPTT server) sends SIP MESSAGE | < | SIP MESSAGE | | | |
| | for configuring Location Info reporting. | | | | | |
| 8 | The UE (MCPTT client) responds with SIP 200 | > | SIP 200 (OK) | | | |
| | (OK) | | | | | |

5.4.2.4 Specific message contents

All specific EUTRA/EPS signalling message contents shall be referred to TS 36.508 [6] clause 4.6 and 4.7.

The MCPTT relevant SIP message contents, Table 5.4.2.3-2, are specified in the present document clause 5.5.2, except for the following messages.

Table 5.4.2.4-1: SIP MESSAGE (step 7)

| Derivation Path: Table 5.5.2.7.2-1 SIP MESSAGE from the SS, condition LOCATION-INFO | | | | | | |
|---|-----------------------|------------|-----------|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| Message-body | | | | | | |
| MIME body part | | MCPTT Info | | | | |
| MIME-part-body | As described in Table | | | | | |
| | 5.4.2.4-1A | | | | | |

Table 5.4.2.4-1A: MCPTT Info in SIP MESSAGE (Table 5.4.2.4-1)

| Derivation Path: Table 5.5.3.2.2-1 | | | | | | | |
|------------------------------------|--------------|---------|-----------|-----------|--|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | | |
| mcpttinfo | | | | | | | |
| mcptt-Params | | | | | | | |
| mcptt-calling-user-id | not present | | | | | | |

Table 5.4.2.4-2: SIP 200 (OK) (Step 8, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.17.1.1-1

Table 5.4.2.4-3: REGISTER (Step 1, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.13-1 with condition SIP_REGISTER_INITIAL

Table 5.4.2.4-4: SIP 401 (Unauthorized) (Step 2, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.19.7-1

Table 5.4.2.4-5: REGISTER (Step 3, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.13-1

Table 5.4.2.4-6: SIP 200 (OK) (Step 4, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.17.1.2-1

5.4.2A Generic Test Procedure for MCVideo UE registration

The same as the procedure described in 5.4.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".

5.4.2B Generic Test Procedure for MCData UE registration

The same as the procedure described in 5.4.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".

5.4.3 Generic Test Procedure for MCPTT CO communication in E-UTRA

5.4.3.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling.
 - NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.3.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.3.3 Procedure

Table 5.4.3.3-1: EUTRA/EPS signalling for MCPTT CO communication

| St | Procedure | Message Sequence | |
|----|---|------------------|-----------------------------------|
| | | U - S | Message |
| 1 | Make the UE attempt an MCPTT call | - | - |
| 2 | The UE transmits an RRCConnectionRequest message | > | RRCConnectionRequest |
| | with ' establishmentCause' set to ' mo-Data '. | | |
| 3 | SS transmit an RRCConnectionSetup message. | < | RRC: RRCConnectionSetup |
| 4 | The UE transmits an RRCConnectionSetupComplete | > | RRC: RRCConnectionSetupComplete |
| | message to confirm the successful completion of the | | NAS: SERVICE REQUEST |
| | connection establishment and to initiate the session | | |
| | management procedure by including the SERVICE | | |
| | REQUEST message. | | |
| 5 | The SS transmits a SecurityModeCommand message | < | RRC: SecurityModeCommand |
| | to activate AS security. | | |
| 6 | The UE transmits a SecurityModeComplete message | > | RRC: SecurityModeComplete |
| | and establishes the initial security configuration. | | |
| 7 | The SS configures a new data radio bearer, associated | < | RRC: RRCConnectionReconfiguration |
| | with the default EPS bearer context. | | |
| | The RRCConnectionReconfiguration message is using | | |
| | condition SRB2-DRB(1, 0) as specified in TS 36.508 [6] | | |
| | clause 4.8.2.2.1. The DRB associated with default EPS | | |
| | bearer context obtained during the attach procedure is | | |
| | established (see Preamble). | | |
| - | EXCEPTION: In parallel to the events described below, | - | - |
| | depending on the test case, one of the generic procedures in clause 5.3 for MCPTT CO call | | |
| | <u> </u> | | |
| | establishment, starting with step 2, takes place | | |

| St | Procedure | Message Sequence | | |
|------|---|------------------|--|--|
| | | U - S | Message | |
| 8 | The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer context. | > | RRC: RRCConnectionReconfigurationComplet e | |
| 9-12 | Void. | - | - | |
| 13 | The SS configures a new RLC-UM data radio bearer, associated with the dedicated EPS bearer context. RRCConnectionReconfiguration message contains the ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST message. EPS bearer context #5 (QCI 65) according to table 6.6.2-1: Reference dedicated EPS bearer contexts is used. NOTE 1: The same MCPTT PDN address is applicable because the linked EPS bearer ID refers to the default EBC. NOTE 2: The network initiates the creation of a dedicated bearer to transport the voice media see 5.4.1A. | < | RRC: RRCConnectionReconfiguration NAS: ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST | |
| 14 | The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer for emergency IMS signalling. | > | RRC: RRCConnectionReconfigurationComplet e | |
| 15 | The UE transmits an ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT message. | > | RRC: ULInformationTransfer NAS:ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT | |

Table 5.4.3.3-2: Void

5.4.3.4 Specific message contents

All specific EUTRA/EPS signalling message contents shall be referred to TS 36.508 [6] clauses 4.6 and 4.7.

5.4.3A Generic Test Procedure for MCVideo CO communication in E-UTRA

The same as the procedure described in 5.4.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".
- EPS bearer context #3 (QCI 2) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.3B Generic Test Procedure for MCData CO communication in E-UTRA

The same as the procedure described in 5.4.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".
- EPS bearer context #[9] (QCI 70) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.4 Generic Test Procedure for MCPTT CT communication in E-UTRA

5.4.4.1 Initial conditions

System Simulator:

- SS (MCPTT server)

- E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client):
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling.
- NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.4.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.4.3 Procedure

Table 5.4.4.3-1: EUTRA/EPS signalling for MCPTT CT communication

| St | Procedure | Message Sequence | |
|----------|---|------------------|-------------------------------------|
| | | U - S | Message |
| 1 | SS sends a <i>Paging</i> message to the UE on the | < | RRC: Paging (PCCH) |
| | appropriate paging block, and including the UE identity | | |
| | in one entry of the IE pagingRecordLists. | | |
| 2 | The UE transmits an RRCConnectionRequest message | > | RRCConnectionRequest |
| | with ' establishmentCause' set to 'mt-Access'. | | |
| 3 | SS transmit an RRCConnectionSetup message. | < | RRC: RRCConnectionSetup |
| 4 | The UE transmits an RRCConnectionSetupComplete | > | RRC: RRCConnectionSetupComplete |
| | message to confirm the successful completion of the | | NAS: SERVICE REQUEST |
| | connection establishment and to initiate the session | | |
| | management procedure by including the SERVICE | | |
| | REQUEST message. | | DDC: Constituted a Common and |
| 5 | The SS transmits a SecurityModeCommand message | < | RRC: SecurityModeCommand |
| 6 | to activate AS security. The UE transmits a SecurityModeComplete message | > | RRC: SecurityModeComplete |
| 0 | and establishes the initial security configuration. | > | KKC. SecuritywodeComplete |
| 7 | The SS configures a new data radio bearer, associated | < | RRC: RRCConnectionReconfiguration |
| ' | with the default EPS bearer context. | | 100. 10000meetionreconingulation |
| | The RRCConnectionReconfiguration message is using | | |
| | condition SRB2-DRB(1, 0) as specified in TS 36.508 [6] | | |
| | clause 4.8.2.2.1. The DRB associated with default EPS | | |
| | bearer context obtained during the attach procedure is | | |
| | established (see Preamble). | | |
| 8 | The UE transmits an | > | RRC: |
| | RRCConnectionReconfigurationComplete message to | | RRCConnectionReconfigurationComplet |
| | confirm the establishment of the new data radio bearer, | | е |
| | associated with the default EPS bearer context. | | |
| - | EXCEPTION: In parallel to the events described below, | - | - |
| | depending on the test case, one of the generic | | |
| | procedures in clause 5.3 for MCPTT CT call | | |
| | establishment, starting with step 2, takes place | | |
| 9-12 | Void. | - | - |

| St | Procedure | | Message Sequence |
|----|--|-------|--|
| | | U - S | Message |
| 13 | The SS configures a new RLC-UM data radio bearer, associated with the dedicated EPS bearer context. RRCConnectionReconfiguration message contains the ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST message. EPS bearer context #5 (QCI 65/69) according to table 6.6.2-1: Reference dedicated EPS bearer contexts is used. NOTE 1: The same MCPTT PDN address is applicable because the linked EPS bearer ID refers to the default EBC. NOTE 2: The network initiates the creation of a dedicated bearer to transport the voice media see 5.4.1A. | < | RRC: RRCConnectionReconfiguration NAS: ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST |
| 14 | The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer for emergency IMS signalling. | ^ | RRC: RRCConnectionReconfigurationComplet e |
| 15 | The UE transmits an ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT message. | > | RRC: ULInformationTransfer NAS:ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT |
| 16 | Void | - | - |

Table 5.4.4.3-2: Void

5.4.4.4 Specific message contents

All specific EUTRA/EPS signalling message contents shall be referred to TS 36.508 [6] clause 4.6 and 4.7.

5.4.4A Generic Test Procedure for MCVideo CT communication in E-UTRA

The same as the procedure described in 5.4.4 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".
- EPS bearer context #3 (QCI 2) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.4B Generic Test Procedure for MCData CT communication in E-UTRA

The same as the procedure described in 5.4.4 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".
- EPS bearer context #[9] (QCI 70) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.5 Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment

5.4.5.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).

- For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client):
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.5.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.5.3 Procedure

Table 5.4.5.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT CO communication-establishment

| St | Procedure | Message Sequence | | |
|-----|--|------------------|--|--|
| | | U - S | Message | |
| 1 | Power up the UE. | 1 | - | |
| 2 | Wait for 15 sec to allow the UE to establish that it is out of coverage and initiate scanning the frequency pre-set for ProSe communication for any activities. | - | - | |
| 3 | Make the UE initiate one-to-one ProSe direct communication with the remote UE preconfigured (ProSe Layer-2 Group ID). | - | - | |
| 4 | UE sends a DIRECT_COMMUNICATION_REQUEST message, IP Address Config IE set to "address allocation not supported". | > | DIRECT_COMMUNICATION_REQUES T | |
| 5 | SS-UE1 sends a DIRECT_SECURITY_MODE_COMMAND message. | < | DIRECT_SECURITY_MODE_COMMAND | |
| 6 | UE sends a DIRECT_SECURITY_MODE_COMPLETE message ciphered and integrity protected with the new security context. | > | DIRECT_SECURITY_MODE_COMPLET E | |
| 7 | SS-UE1 sends a DIRECT_COMMUNICATION_ACCEPT message. | < | DIRECT_COMMUNICATION_ACCEPT | |
| - | EXCEPTION: After the communication is established, an IP address configuration procedure is performed depending on what the UE has indicated in the IP Address Config IE (if it is not "address allocation not supported") in the DIRECT_COMMUNICATION_REQUEST message, and, the SS-UE1 itself indicating "address allocation not supported" in the DIRECT_COMMUNICATION_ACCEPT message. EXCEPTION: Steps 9a1 to 9a2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that depends on the UE implementation of keepalive procedure. | - | - | |
| 9a1 | UE sends a DIRECT_COMMUNICATION_KEEPALIVE message. | > | DIRECT_COMMUNICATION_KEEPALI VE | |
| 9a2 | SS-UE1 sends a DIRECT_COMMUNICATION_KEEPALIVE_ACK message. | < | DIRECT_COMMUNICATION_KEEPALI VE_ACK | |

5.4.5.4 Specific message contents

Table 5.4.5.4-1: DIRECT_COMMUNICATION_ACCEPT (step 7 Table 5.4.5.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-6. Information Element | Value/remark | Comment | Condition |
|---|---|----------------------------------|-----------|
| IP Address Config | '0011'B | address allocation not supported | |
| Link Local IPv6 Address | If the UE indicated 'address allocation not supported' in the IP Address Config IE in the DIRECT_COMMUNICAT ION_REQUEST message then a link-local IPv6 address formed locally | 128-bit IPv6 address | |

Table 5.4.5.4-2: DIRECT_SECURITY_MODE_COMMAND (step 5, Table 5.4.5.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-7. | | | |
|--|--|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| UE Security Capabilities | Set to the UE Security Capabilities received in the DIRECT_COMMUNICAT | | |
| | ION_REQUEST message | | |
| Chosen Algorithms | One of the non-null algorithms provided in UE Security Capabilities (i.e. different to EIA0 (null integrity protection algorithm)/EEA0 (null ciphering algorithm)) | | |
| MSB of K_D ID | The MSB of KD ID of the new KD | | |
| K _D Freshness | Not included | | |
| GPI | Not included | | |
| User Info { | | | |
| Type of User Info | IMSI | | |
| Odd/even indication | Reflecting the number of digits in the IMSI | | |
| Identity digits | A value different to the IMSI of the UE | | |
| } | | | |

Table 5.4.5.4-3: DIRECT_SECURITY_MODE_COMPLETE (step 6, Table 5.4.5.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-8. | | | |
|--|--------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| LSB of KD ID | Not included | | |

Table 5.4.5.4-4: DIRECT_COMMUNICATION_KEEPALIVE (step 9a1, Table 5.4.5.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-9. | | | |
|--|-------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Keepalive Counter | 0 | | |
| Maximum Inactivity Period | Any allowed value | | |

5.4.6 Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment

5.4.6.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.6.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.6.3 Procedure

Table 5.4.6.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT CT communication-establishment

| St | Procedure | | Message Sequence | |
|----|--|-------|--|--|
| | | U - S | Message | |
| 1 | Power up the UE. | - | - | |
| 2 | Wait for 15 sec to allow the UE to establish that it is out of coverage and initiate scanning the frequency pre-set for ProSe communication for any activities. | - | - | |
| 3 | SS-UE1 sends a DIRECT_COMMUNICATION_REQUEST message, IP Address Config IE set to "address allocation not supported". | < | DIRECT_COMMUNICATION_REQUES T | |
| 4 | UE sends a DIRECT_SECURITY_MODE_COMMAND message uncyphered but integrity protected with the new security context. | > | DIRECT_SECURITY_MODE_COMMAN D | |
| 5 | SS-UE1 sends a DIRECT_SECURITY_MODE_COMPLETE message ciphered and integrity protected with the new security context. | < | DIRECT_SECURITY_MODE_COMPLET E | |
| 6 | UE sends a DIRECT_COMMUNICATION_ACCEPT message. | > | DIRECT_COMMUNICATION_ACCEPT | |
| 7 | EXCEPTION: After the communication is established, an IP address configuration procedure is performed depending on what the UE has indicated in the IP Address Config IE (if it is not "address allocation not supported") in the DIRECT_COMMUNICATION_REQUEST message, and, the SS-UE1 itself indicating "address allocation not supported" in the DIRECT_COMMUNICATION_ACCEPT message. | - | - | |
| 8 | SS-UE1 sends a DIRECT_COMMUNICATION_KEEPALIVE message with a Keepalive Counter IE that contains the value of the keepalive counter for this link=0, and a Maximum Inactivity Period IE. | < | DIRECT_COMMUNICATION_KEEPALI VE | |
| 9 | UE sends a DIRECT_COMMUNICATION_KEEPALIVE_ACK message including the Keepalive Counter IE set to the same value as that received in the DIRECT_COMMUNICATION_KEEPALIVE message. | > | DIRECT_COMMUNICATION_KEEPALI VE_ACK | |

5.4.6.4 Specific message contents

Table 5.4.6.4-1: DIRECT_COMMUNICATION_REQUEST (step 3, Table 5.4.6.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-5. | | | | | |
|--|---|---|-----------|--|--|
| Information Element | Value/remark | Comment | Condition | | |
| User Info { | | | | | |
| Type of User Info | IMSI | | | | |
| Odd/even indication | Reflecting the number of digits in the IMSI | | | | |
| Identity digits | A value different to the IMSI of the UE | | | | |
| } | | | | | |
| IP Address Config | '0011'B | address allocation not supported | | | |
| Maximum Inactivity Period | '10 0000 0000'B | 512 sec, randomly chosen to allow sufficient time for a TC which uses this procedure to be completed without need to repeat the keepalive procedure | | | |
| Nonce_1 | | | | | |
| UE Security Capabilities | 01111111 01111111 | All but null algorithms supported | | | |
| MSB of K _{D-sess} ID | the 8 most significant bits of the KD-sess ID | | | | |
| K _D ID | Not present | | | | |
| Signature | the ECCSI signature calculated with the User Info and Nonce_1 as specified in 3GPP TS 33.303 [67] | | | | |
| Link Local IPv6 Address | a link-local IPv6 address formed locally | | | | |

Table 5.4.6.4-2: DIRECT_SECURITY_MODE_COMMAND (step 4 Table 5.4.6.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-7. | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MSB of K _D ID | Any allowed value | | |
| K _D Freshness | Not included | | |
| GPI | Not included | | |
| Signature | The ECCSI signature calculated with the User Info and Nonce_1 as specified in 3GPP TS 33.303 [67] | | |
| Encrypted Payload | The SAKKE payload generated as specified in 3GPP TS 33.303 [67]. | | |

Table 5.4.6.4-3: DIRECT_SECURITY_MODE_COMPLETE (step 5, Table 5.4.6.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-8. | | | |
|--|------------------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| LSB of KD ID | 16 least significant bits of | | |
| | KD ID | | |

Table 5.4.6.4-4: DIRECT_COMMUNICATION_KEEPALIVE (step 8, Table 5.4.6.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-9. | | | |
|--|-----------------|---|-----------|
| Information Element | Value/remark | Comment | Condition |
| Keepalive Counter | 0 | | |
| Maximum Inactivity Period | '10 0000 0000'B | 512 sec, randomly chosen to allow sufficient time for a TC which uses this procedure to be completed without need to repeat the keepalive procedure | |

5.4.7 Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication out of E-UTRA coverage - release by the SS

5.4.7.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

IUT:

- UE (MCPTT client)

ProSe related configuration

- Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

UE state

- The UE has established ProSe direct communication one-to-one out of E-UTRA coverage using the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

5.4.7.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.7.3 Procedure

Table 5.4.7.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT communication - release by the SS

| St | Procedure | Message Sequence | |
|----|--|------------------|------------------------------|
| | | U - S | Message |
| 1 | SS-UE1 sends a | < | DIRECT_COMMUNICATION_RELEASE |
| | DIRECT_COMMUNICATION_RELEASE message with | | |
| | a Release Reason IE indicating 'Direct Communication | | |
| | to peer UE no longer needed'. | | |
| 2 | UE sends a | > | DIRECT_COMMUNICATION_RELEASE |
| | DIRECT_COMMUNICATION_RELEASE_ACCEPT | | _ACCEPT |
| | message. | | |

5.4.7.4 Specific message contents

Table 5.4.7.4-1: DIRECT_COMMUNICATION_RELEASE (step 1, Table 5.4.7.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-11. | | | |
|---|--------------|---|-----------|
| Information Element | Value/remark | Comment | Condition |
| Release Reason | '0001'B | Direct communication to the peer UE no longer needed | |

5.4.8 Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication out of E-UTRA coverage - release by the UE

5.4.8.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

IUT:

- UE (MCPTT client)

ProSe related configuration

Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

UE state

The UE has established ProSe direct communication one-to-one out of E-UTRA coverage using the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

5.4.8.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.8.3 Procedure

Table 5.4.8.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT communication - release by the UE

| St | Procedure | Message Sequence | |
|----|---|------------------|--------------------------------------|
| | | U - S | Message |
| 1 | UE sends a DIRECT_COMMUNICATION_RELEASE message with a Release Reason IE indicating 'Direct Communication to peer UE no longer needed'. | > | DIRECT_COMMUNICATION_RELEASE |
| 2 | SS-UE1 sends a DIRECT_COMMUNICATION_RELEASE_ACCEPT message. | < | DIRECT_COMMUNICATION_RELEASE _ACCEPT |

5.4.8.4 Specific message contents

Table 5.4.8.4-1: DIRECT COMMUNICATION RELEASE (step 1, Table 5.4.8.3-1)

| Derivation path: 36.508 [6], Table 4.7F.3-11. | | | |
|---|--------------|---|-----------|
| Information Element | Value/remark | Comment | Condition |
| Release Reason | '0001'B | Direct communication to the peer UE no longer needed | |

5.4.9 Generic Test Procedure for MCPTT communication in E-UTRA / Change of cells

5.4.9.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA
 - Parameters are set to the default parameters for the basic E-UTRA single mode multi cell network scenarios, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case.
 - 3 cells (Cell 1, Cell 2 and Cell 4, all operating on the same frequency). Cells 1 and 2 are on the same PLMN1, whereas Cell 4 is on a different PLMN2.

NOTE: The procedure only requires at maximum 2 cells to be active at any one instance.

IUT:

- UE (MCPTT client)
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state on Cell 1 with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling. The UE is allowed to operate on both PLMN1 and PLMN2.
 - NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.

- The UE has performed the Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation as specified in clause 5.3.2 and thereby the MCPTT client is authorised for and able to use the MCPTT service including making group and private calls on- and off-network, and, the MCPTT user is registered for receiving MCPTT service through the MCPTT Client. The PLMN1 is set as HPLMN and PLMN2 is set as VPLMN in Table 5.5.8.1-1: MCPTT Initial UE Configuration Defaults.
- Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.9.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.9.3 Procedure

Table 5.4.9.3-1 illustrates the downlink power levels and other changing parameters to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" ... "Tn" are to be applied subsequently. The exact instants on which these values shall be applied are described elsewhere in the present clause.

Table 5.4.9.3-1: Time instances of cell power level and parameter changes

| | Parameter | Unit | Cell 1 | Cell 2 | Cell 4 |
|----|------------------|---------|--------|--------|--------|
| T0 | Cell-specific RS | dBm/15k | -79 | "Off" | "Off" |
| | EPRE | Hz | | | |
| T1 | Cell-specific RS | dBm/15k | "Off" | -79 | "Off" |
| | EPRE | Hz | | | |
| T2 | Cell-specific RS | dBm/15k | "Off" | "Off" | -79 |
| | ÉPRE | Hz | | | |

Table 5.4.9.3-2: EUTRA/EPS signalling for UE changing cells

| St | Procedure | | Message Sequence |
|----|--|-------|------------------|
| | | U - S | Message |
| 1 | The SS configures: Cell 1 and Cell 2 parameters according to the row "T1" in table 5.4.9.3-1 in order to simulate needs for cell reselection to Cell2. | - | - |
| 2 | Wait for 5 sec to allow the UE to adjust to cell changes. NOTE 1. | - | - |
| 3 | The SS configures: Cell 2 and Cell 4 parameters according to the row "T2" in table 5.4.9.3-1 in order to simulate needs for cell reselection to Cell4. | - | - |
| 4 | The Generic test procedure for 'Tracking area updating procedure' defined in TS 36.508 [6] clause 4.5A.2 take place. NOTE 2. | - | - |

NOTE 1: Depending on implementation the UE may start transmitting MCPTT protocol relevant data earlier. What may be transmitted is specified in the TCs.

NOTE 2: The UE may start transmitting MCPTT protocol relevant data as soon as it receives TRACKING AREA UPDATE ACCEPT message. If this happens the SS shall not execute step 7 of the Generic test procedure for 'Tracking area updating procedure' and shall continue with the rest of the messages exchange defined in the test case.

5.4.9.4 Specific message contents

None.

5.4.10 Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-many communication out of E-UTRA coverage / Announcing/Discoveree procedure for group member discovery

5.4.10.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.10.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.10.3 Procedure

Table 5.4.10.3-1: ProSe Direct Discovery for public safety use / Announcing/Discoveree procedure for group member discovery for MCPTT off-network CT group calls

| St | Procedure | | lessage Sequence |
|--------|--|---------------|----------------------------|
| | | U - S | Message |
| 1 | Power up the UE. | - | - |
| 2 | Wait for 60 sec to allow the UE to determine that it is in the Geographical area #1 set in the USIM for operation when UE is "not served by E-UTRAN and acquire reference timing. | - | - |
| - | EXCEPTION: Steps 3a1-3b3b1 describe events which depend on the UE capabilities; the "lower case letter" identifies a step sequence that takes place if the UE is capable or not of Announcing for group member discovery. | - | - |
| 3a1 | IF pc_ProSeAnnForGroupMemberDiscovery (TS 36.523-2 [75]) THEN Force the UE upper layer application corresponding to ProSe Application ID px_ProSeAnnApplicationIdentity2 (TS 36.523-3 [74]) to initiate continuous announcing its availability in a discovery group. NOTE 1. | - | - |
| 3a2 | The UE transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Announcement applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message. | > | PC5_DISCOVERY |
| 3b1 | ELSE SS sets WaitForMessageCounter=1 | - | - |
| - | EXCEPTION: Steps 3b2-3b3b1 are repeated until the event described in step 3b3a1 takes place OR WaitForMessageCounter=11. | - | - |
| 3b2 | SS-UE1 transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Solicitation applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message. WaitForMessageCounter=WaitForMessageCounter+1 | < | PC5_DISCOVERY |
| - | EXCEPTION: Steps 3b3a1-3b3b1 describe events which depend on the UE behaviour; the "lower case letter" identifies a step sequence that take place if the UE transmit or not in the next transmission period a PC5_DISCOVERY message. | - | - |
| 3b3a1 | The UE transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Response applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message and including the target Discovery Group ID of the discovery group to be discovered in step 3b2. | > | PC5_DISCOVERY |
| 3b3b1 | The WaitForMessageCounter=11. | - | - |
| - | EXCEPTION: Steps 4 and 5 may be repeated multiple times depending on the MCPTT procedure taking place. | - | - |
| - | EXCEPTION: Step 4 is repeated until the MCPTT protocol data unit provided by the higher layers is transmitted in full. NOTE 2. | - | - |
| 4 | SS-UE1 sends sidelink communication over the PC5 interface in the next transmission period using the timing reference provided by the GNSS simulator (same to be used by the UE). NOTE 3. | < | STCH PDCP SDU packet |
| - | EXCEPTION: Step 5 is repeated until the MCPTT protocol data unit provided by the higher layers is transmitted in full. NOTE 4. | - | - |
| 5 | The UE sends sidelink communication over the PC5 interface in the next transmission period using the timing reference provided by the GNSS simulator (same to be used by the SS-UE1). NOTE 3. | > | STCH PDCP SDU packet |
| NOTE 1 | : UEs which are capable of Announcing for group member discover | v may start a | announcement automatically |

NOTE 1: UEs which are capable of Announcing for group member discovery may start announcement automatically. NOTE 2: The SS-UE1 may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the UE.

NOTE 3: What MCPTT protocol data units are included in the sidelink communication is defined in the test case using the present generic procedure.

NOTE 4: The UE may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the SS-UE1.

5.4.10.4 Specific message contents

Table 5.4.10.4-1: PC5_DISCOVERY (step 3a2 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5A.

Table 5.4.10.4-2: PC5_DISCOVERY (step 3b2 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5B.

Table 5.4.10.4-3: PC5_DISCOVERY (step 3b3a1 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5C.

5.4.11 Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-many communication out of E-UTRA coverage / Monitoring/Discoverer procedure for group member discovery / One-to-many communication

5.4.11.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.11.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.11.3 Procedure

Table 5.4.11.3-1: ProSe Direct Discovery for public safety use / Monitoring/Discoverer procedure for group member discovery for MCPTT off-network CO group calls

| St | Procedure | Message Sequence | |
|-----|--|------------------|----------------------|
| | | U-S | Message |
| 1 | Power up the UE. | - | - |
| 2 | Wait for 60 sec to allow the UE to determine that it is in | - | - |
| | the Geographical area #1 set in the USIM for operation when UE is "not served by E-UTRAN and acquire | | |
| | reference timing. | | |
| - | EXCEPTION: Steps 3a1-3b3 describe events which | - | - |
| | depend on the UE capabilities; the "lower case letter" | | |
| | identifies a step sequence that takes place if the UE is | | |
| | capable or not of Monitoring for group member | | |
| 3a1 | discovery. IF pc_ProSeMonForGtoupMemberDiscovery | < | PC5_DISCOVERY |
| Jai | (TS 36.523-2 [75]) THEN the SS-UE1 starts | | T CO_DIOCOVERT |
| | continuously transmitting in the relevant transmission | | |
| | periods a PC5_DISCOVERY message for Group | | |
| | Member Discovery Announcement applying DUIK, | | |
| | DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the | | |
| | PC5_DISCOVERY message. | | |
| 3b1 | ELSE Force the UE upper layer application | - | - |
| | corresponding to ProSe Application ID | | |
| | px_ProSeAnnApplicationIdentity2 (TS 36.523-3 [74]) to | | |
| | solicit proximity of other UEs in a discovery group. NOTE 1. | | |
| 3b2 | The UE transmits in the next transmission period a | > | PC5_DISCOVERY |
| 002 | PC5_DISCOVERY message for Group Member | | 1 00_B1000 VERVI |
| | Discovery Solicitation applying DUIK, DUSK, and | | |
| | DUCK with the associated Encrypted Bitmask, along | | |
| | with the UTC-based counter to the PC5_DISCOVERY | | |
| 3b3 | message. SS-UE1 transmits a PC5_DISCOVERY message for | < | PC5_DISCOVERY |
| | Group Member Discovery Response applying DUIK, | | 1 00_B1000 VERVI |
| | DUSK, and DUCK with the associated Encrypted | | |
| | Bitmask, along with the UTC-based counter to the | | |
| | PC5_DISCOVERY message and including the target Discovery Group ID of the discovery group to be | | |
| | discovery Group to be discovery group to be discovered in step 2b2. | | |
| - | EXCEPTION: Steps 4 and 5 may be repeated multiple | - | - |
| | times depending on the MCPTT procedure taking | | |
| | place. | | |
| - | EXCEPTION: Step 4 is repeated until the MCPTT | - | - |
| | protocol data unit provided by the higher layers is transmitted in full. | | |
| | NOTE 2. | | |
| 4 | The UE sends sidelink communication over the PC5 | > | STCH PDCP SDU packet |
| | interface in the next transmission period using the | | · |
| | timing reference provided by the GNSS simulator | | |
| | (same to be used by the SS-UE1). NOTE 3. | | |
| _ | EXCEPTION: Step 5 is repeated until the MCPTT | _ | - |
| | protocol data unit provided by the higher layers is | | |
| | transmitted in full. | | |
| | NOTE 4. | | |
| 5 | SS-UE1 sends sidelink communication over the PC5 | < | STCH PDCP SDU packet |
| | interface in the next transmission period using the timing reference provided by the GNSS simulator | | |
| | (same to be used by the UE). | | |
| | NOTE 3. | | |
| | • | | |

| St | Procedure | Message Sequence | | | |
|------|--|------------------|--|--|--|
| | | U - S | Message | | |
| NOTE | 1: UEs which are not capable of Monitoring for group member discovery may start Discoverer procedure automatically. | | | | |
| NOTE | E 2: The UE may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the SS-UE1. | | | | |
| NOTE | E 3: Which MCPTT protocol data units are included in the sidelink communication is defined in the test case using the present generic procedure. | | | | |
| NOTE | 4: The SS-UE1 may need to send more than one MCPTT expected between them from the UE. | Γ protocol o | data unit in sequence with no response | | |

5.4.11.4 Specific message contents

Table 5.4.11.4-1: PC5_DISCOVERY (step 3a1 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5A

Table 5.4.11.4-2: PC5_DISCOVERY (step 3b2 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5B.

Table 5.4.11.4-3: PC5_DISCOVERY (step 3b3 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5C.

5.4.12 Generic Test Procedure for MCPTT communication over MBMS

5.4.12.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA
 - E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case.
 - MBSFNAreaConfiguration as defined in TS 36.508[6] table 4.6.1-4A is transmitted on MCCH

IUT:

- UE (MCPTT client):
 - E-UTRAN UE supporting MBMS services. The UE has performed the Generic Test Procedure for MCPTT
 UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state. The UE is made
 interested in receiving MBMS service in the PLMN of Cell 1 with MBMS Service ID 0.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.12.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used. System information combination 15 as defined in TS 36.508[6] clause 4.4.3.1 is used in the E-UTRA cell.

5.4.12.3 Procedure

Table 5.4.12.3-1: MCPTT communication over MBMS

| St | Procedure | Message Sequence | | |
|----|---|------------------|------------------------|--|
| | | U-S | Message | |
| 1 | SS transmits MBSFNAreaConfiguration message | < | MBSFNAreaConfiguration | |
| 2 | Wait for a period equal to the MCCH modification period for the UE to receive MBSFNAreaConfiguration message. | - | - | |
| - | EXCEPTION: Step 3 is repeated continuously to carry the relevant MCPTT protocol data units provided by the higher layers. | - | - | |
| 3 | The SS transmits 1 MBMS Packet on the MTCH in the next MCH Scheduling Period. | < | MBMS Packet | |
| | NOTE: Which MCPTT protocol data units are sent and at which time is defined in the test case using the present generic procedure. | | | |

5.4.12.4 Specific message contents

None.

5.5 Default message and other information elements content

5.5.1 General

The following conditions apply throughout clause 5.5:

Table 5.5.1-1: Conditions

| Condition | Explanation |
|----------------------|--|
| ON-NETWORK | Message/IE sent only in on-network scenario. |
| OFF-NETWORK | Message/IE sent only in off-network scenario. |
| PRIVATE-CALL | Message/IE sent only as part of a Private call handling. |
| GROUP-CALL | Message/IE sent only as part of a Group call handling. |
| EMERGENCY-CALL | Message/IE sent only as part of an Emergency call handling. |
| IMMPERIL-CALL | Message/IE sent only as part of an Immanent Peril call handling. |
| BROADCAST-GROUP-CALL | Message/IE sent only as part of a Broadcast group call scenario. |
| CHAT-GROUP-CALL | Message/IE sent only as part of a Chat group call scenario. |
| EMERGENCY-ALERT | Message/IE sent only as part of an Emergency Alert. |
| CONFIG | Message/IE sent only in configuration/authentication/authorisation scenario. |
| GROUPCONFIG | Message/IE sent only in group configuration scenario. |
| GROUPKEY | Message/IE sent only in group key material retrieval scenario. |
| PRESENCE-EVENT | Message/IE for presence even package |
| POC-SETTINGS-EVENT | Message/IE for poc-settings even package |
| AFFILIATION | Message/IE for affiliation |
| LOCATION-INFO | Message containing location info |
| UDP | UE uses UDP for sending a request (this implies UDP to be used for a |
| | corresponding response) |
| TCP | UE uses TCP for sending a request (this implies TCP to be used for a |
| | corresponding response) |
| MO_CALL | Call (dialog) has been initiated by the UE (mobile originated call) |
| MT_CALL | Call (dialog) has been initiated by the SS (mobile terminated call) |
| MCPTT | MCPTT specific message content |
| MCVIDEO | MCVideo specific message content |
| MCDATA | MCData specific message content |

5.5.2 Default SIP message and other information elements

5.5.2.1 SIP ACK

5.5.2.1.1 SIP ACK from the UE

Table 5.5.2.1.1-1: SIP ACK from the UE

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|-------------------------|--------------------------|-----------------|-----------|
| Request-Line | Talas, Silian | 00 | RFC 3261 [22] | Containen |
| Method | "ACK" | | THE O SECT [EE] | |
| Request-URI | same URI as the SS | | | |
| Request-ORI | has sent earlier in the | | | |
| | Contact header of a | | | |
| | response within the | | | |
| | same dialog | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | 31F/2.0 | | RFC 3261 [22] | |
| | "CID/2 0/LIDD" | | KFC 3201 [22] | LIDD |
| sent-protocol | "SIP/2.0/UDP" | | | UDP |
| | "SIP/2.0/TCP" | | | TCP |
| sent-by | Same value as in | | | |
| | INVITE message | | | |
| via-branch | Value starting with | | | |
| | 'z9hG4bK' | | | |
| Route | | | RFC 3261 [22] | |
| route-param list | URIs of the Record- | | | |
| | Route header sent to | | | |
| | the UE in the response | | | |
| | which has established | | | |
| | the dialog, in reverse | | | |
| | order | | | |
| From | | | RFC 3261 [22] | |
| addr-spec | same value as in the | Local URI of the dialog | | |
| | INVITE message | (from the UE's point of | | |
| | | view) | | |
| tag | same value as in the | Local tag of the dialog | | |
| | INVITE | ID (from the UE's point | | |
| | | of view) | | |
| То | | | RFC 3261 [22] | |
| addr-spec | same value as in the | Remote URI of the | | |
| | INVITE | dialog (from the UE's | | |
| | | point of view) | | |
| tag | same tag as in the To- | Remote tag of the | | |
| | header of the response | dialog ID (from the UE's | | |
| | which has established | point of view) | | |
| | the dialog | | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | same value as in | | | |
| | INVITE message | | | |
| Cseq | | | RFC 3261 [22] | |
| value | same value as in | | | |
| | INVITE message | | | |
| method | "ACK" | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | 0 0=01 [=2] | |
| Content-Length | if present | | RFC 3261 [22] | |
| value | "O" | No message body | 0 0201 [22] | |
| value | ľ | included | | |
| | i | oiaaoa | 1 | I |

5.5.2.1.2 SIP ACK from the SS

Table 5.5.2.1.2-1: SIP ACK from the SS

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|---------------|-----------|
| Request-Line | | | RFC 3261 [22] | |
| Method | "ACK" | | | |
| Request-URI | same URI as the UE has sent earlier in the Contact header of a response within the same dialog | Contact URI of the UE ("callee") | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | same as in the INVITE but with updated via- branches in case of an ACK for 2xx response | see Table 5.5.2.5.2-1 | RFC 3261 [22] | |
| Route | not present | | RFC 3261 [22] | |
| From | · | | RFC 3261 [22] | |
| addr-spec | same URI as in the From-header of the INVITE | remote URI of the dialog (from the UE's point of view) | . 1 | |
| tag | same tag as in the From-header of the INVITE | remote tag of the dialog (from the UE's point of view) | | |
| То | | | RFC 3261 [22] | |
| addr-spec | same URI as in the To- header of the INVITE | local URI of the dialog (from the UE's point of view) | | |
| tag | same tag as in the To- header of the response which has established the dialog | local tag of the dialog (from the UE's point of view) | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Same value as in INVITE | Call-Id of the dialog | | |
| Cseq | | | RFC 3261 [22] | |
| value | Same value as in INVITE | | | |
| method | "ACK" | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | "68" | The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

5.5.2.2 SIP BYE

5.5.2.2.1 SIP BYE from the UE

Table 5.5.2.2.1-1: SIP BYE from the UE

| Derivation Path: TS 24.229 [16], Information Element | Value/remark | Comment | Reference | Condition |
|---|---|--------------------------|-------------------|-----------|
| Request-Line | | | RFC 3261 [22] | 22 |
| Method | "BYE" | | 10 0 0201 [22] | |
| | same URI as the SS | Contact URI of the | | |
| Request-URI | | | | |
| | has sent earlier in the | recipient of the BYE | | |
| | Contact header of a | | | |
| | message within the | | | |
| | same dialog | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] | |
| sent-protocol | "SIP/2.0/UDP" | | | UDP |
| | "SIP/2.0/TCP" | | | TCP |
| sent-by | same value as in | | | MO_CALL |
| • | INVITE message | | | _ |
| sent-by | | | | MT_CALL |
| host | IP address or FQDN | Either the UE's IP | | |
| 11001 | ii dddioos oi i qbit | address or its home | | |
| | | domain name | | |
| nort | protected conver port of | | | |
| port | protected server port of the UE | as assigned during | | |
| via branch | | registration | | |
| via-branch | Value starting with | | | |
| B | 'z9hG4bK' | | DE0 222 : 522 | |
| Route | | | RFC 3261 [22] | |
| route-param list | URIs of the Record- | | | MO_CALL |
| | Route header sent to | | | |
| | the UE in the response | | | |
| | which has established | | | |
| | the dialog, in reverse | | | |
| | order | | | |
| | URIs of the Record- | | | MT_CALL |
| | Route header sent to | | | WII_O/KEE |
| | the UE in the INVITE | | | |
| From | the OE in the HAVITE | | RFC 3261 [22] | |
| | Same URI of the UE as | Local LIDL of the dialog | 10 0 0 0 0 1 [22] | |
| addr-spec | | Local URI of the dialog | | |
| | used earlier in the | (from the UE's point of | | |
| | dialog | view) | | |
| tag | Same tag of the UE as | Local tag of the dialog | | |
| | used earlier in the | ID (from the UE's point | | |
| | dialog | of view) | | |
| То | | | RFC 3261 [22] | |
| addr-spec | Same URI of the SS as | Remote URI of the | | |
| | used earlier in the | dialog (from the UE's | | |
| | dialogURI | point of view) | | |
| tag | Same tag of the SS as | Remote tag of the | | |
| - | used earlier in the | dialog ID (from the UE's | | |
| | dialog | point of view) | | |
| Call-ID | " | , | RFC 3261 [22] | |
| callid | same value as in | | 5 5251 [22] | |
| Jama | INVITE message | | | |
| CSeq | I WITE mossage | | RFC 3261 [22] | |
| | Value of Ceas cant by | + | NEC 3201 [22] | |
| value | value of CSeq sent by | | | |
| | the endpoint within its | | | |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "BYE" | | | |
| Require | | | RFC 3261 [22] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Proxy-Require | <u> </u> | | RFC 3261 [22] | |
| y | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | 1 | 5 5525 [60] | |
| Security-Verify | Jeo-agree | 1 | RFC 3329 [53] | |
| occurity-verily | 1 | | NEC 3328 [33] | |
| | como valua as Carinita | | | |
| sec-mechanism | same value as Security -Server header sent by | | | |

| Max-Forwards | | | RFC 3261[22] |
|-----------------------|---|--------------------------|--------------------------------|
| value | any allowed value | Non-zero value | |
| P-Access-Network-Info | | | RFC 7315 [52] RFC 7913 [51] |
| access-net-spec | Access network technology and, if applicable, the cell ID | | |
| Content-Length | if present | | RFC 3261 [22] |
| value | "0" | No message body included | |

5.5.2.2.2 SIP BYE from the SS

Table 5.5.2.2.2-1: SIP BYE from the SS

| Derivation Path: TS 24.229 [16 Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|---------------|-----------|
| Request-Line | | | RFC 3261 [22] | |
| Method | "BYE" | | | |
| Request-URI | same URI as the UE has sent earlier in the Contact header of a response within the same dialog | Contact URI of the UE ("callee") | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | same as specified for INVITE sent by the SS in Table 5.5.2.5.2- | | RFC 3261 [22] | MO_CALL |
| Via | same as in INVITE but with updated via- branches | | RFC 3261 [22] | MT_CALL |
| Route | Not present | | RFC 3261 [22] | |
| From | | | RFC 3261 [22] | |
| addr-spec | Same URI of the SS as used earlier in the dialog | Remote URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the SS as used earlier in the dialog | Remote tag of the dialog (from the UE's point of view) | | |
| То | | | RFC 3261 [22] | |
| addr-spec | Same URI of the UE as used earlier in the dialog | Local URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the UE as used earlier in the dialog | Local tag of the dialog (from the UE's point of view) | | |
| Call-ID | 3 | , | RFC 3261 [22] | |
| callid | same value as in INVITE message | | | |
| CSeq | | | RFC 3261 [22] | |
| value | value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one | | | |
| method | "BYE" | | | |
| Max-Forwards | | | RFC 3261[22] | |
| value | "68" | The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE | | |
| P-Asserted-Identity | | | RFC 3325 [32] | |
| addr-spec | | | | |
| user-info and host | tsc_MCPTT_PublicServ iceId_A | The URI of the SS | | |
| port | not present | | DEC 05 | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

5.5.2.3 SIP CANCEL

This message is sent by the SS.

Table 5.5.2.3-1: SIP CANCEL

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|--------------------------|---------------|-----------|
| Request-Line | | | RFC 3261 [22] | |
| Method | "CANCEL" | | | |
| Request-URI | same value as in the INVITE being cancelled | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] | |
| via-parm | same value as in the INVITE being cancelled | | | |
| From | <u> </u> | | RFC 3261 [22] | |
| addr-spec | same value as in the INVITE being cancelled | | | |
| tag | same value as in the INVITE being cancelled | | | |
| То | | | RFC 3261 [22] | |
| addr-spec | same value as in the INVITE being cancelled | | | |
| Call-ID | | | RFC 3261 [22] | |
| Callid | same value as in the INVITE being cancelled | | | |
| CSeq | | | RFC 3261 [22] | |
| value | same value as in the INVITE being cancelled | | | |
| Method | "CANCEL" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

5.5.2.4 SIP INFO

This message is sent by the SS.

Table 5.5.2.4-1: SIP INFO

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|---------------------------|----------------------------------|---------------|-----------|
| Request-Line | | | | |
| Method | "INFO" | | | |
| Request-URI | px_MCPTT_Client_A_I | | | |
| | D | | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | _ID | | | MODATA |
| | px_MCData_Client_A_I D | | | MCDATA |
| SIP-Version | "SIP/2.0" | | | |
| Via | Sii 72.0 | | RFC 3261 [22] | |
| | | | RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | | | |
| sent-by | any allowed value | IP address or FQDN | | |
| | | and protected server | | |
| | | port of the UE | | |
| via-branch | any allowed value | Value starting with | | |
| From | | 'z9hG4bK' | RFC 3261 [22] | |
| addr-spec | px_MCPTT_Client_A_I | | RFC 3201 [22] | |
| addi-spec | D | | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | | | | |
| | px_MCData_Client_A_I | | | MCDATA |
| | D | | | |
| tag | "1" | | | |
| То | | | RFC 3261 [22] | |
| addr-spec | tsc_MCPTT_PublicSer | | RFC 5031 [54] | |
| addi-spec | viceId_A | | | |
| | px_MCVideo_PublicSer | | | MCVIDEO |
| | viceId_A | | | |
| | px_MCData_PublicSer | | | MCDATA |
| | viceId_A | | | |
| Call-ID | | | RFC 3261 [22] | |
| Callid | same value as in the | | | |
| CSeq | INVITE | | DEC 2064 [22] | |
| value | value of CSeq sent by | | RFC 3261 [22] | |
| value | the SS within its | | | |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| Method | "INFO" | | 1 | |
| Max-Forwards | 70 | - · · | RFC 3261 [22] | |
| value | "70" | The recommended | | |
| | | initial value is 70 in RFC 3261. | | |
| | | Editor's Note: to be | | |
| | | changed to realistic | | |
| | | value taking into | | |
| | | account number of | | |
| Operand Local Control | | hops | DEC 222: 222 | |
| Content-Length | law with a five | | RFC 3261 [22] | |
| value | length of message body | | | |
| Message Body | any allowed value | | | |
| ooougo Bouy | arry anowed value | J | | |

Editor's note: Table 5.5.2.4-1 needs to be reviewed

5.5.2.5 SIP INVITE

5.5.2.5.1 SIP INVITE from the UE

Table 5.5.2.5.1-1: SIP INVITE from the UE

| Information Element | rivation Path: TS 24.229 [16 Value/remark | Comment | Reference | Condition |
|---------------------------------|---|---|---------------|----------------------|
| Request-Line | Value/Tellial K | Comment | RFC 3261 [22] | Condition |
| | | | RFC 5031 [54] | |
| Method | "INVITE" | | | |
| Request-URI | tsc_MCPTT_PublicServ iceId_A | The public service identity identifying the participating MCPTT function serving the MCPTT user | | |
| | px_MCVideo_PublicSer viceId_A | The public service identity identifying the participating MCVideo function serving the MCVideo user | | MCVIDEO |
| | px_MCData_PublicServ iceId_A | The public service identity identifying the participating MCData function serving the MCData user | | MCDATA |
| Request-URI SIP-Version | same URI as the SS has sent earlier in the Contact header of a message within the same dialog "SIP/2.0" | Contact URI of the recipient of the BYE | | re_INVITE |
| Via | OII /2.0 | | RFC 3261 [22] | |
| | | | RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | UE accesses the server via UDP | | UDP |
| | "SIP/2.0/TCP" | UE accesses the server via TCP | | TCP |
| sent-by | | | | |
| host | IP address or FQDN | Either the UE's IP address or its home domain name | | |
| port | protected server port of the UE | as assigned during registration | | |
| via-branch | Value starting with 'z9hG4bK' | | | |
| Route | | | RFC 3261 [22] | |
| addr-spec[1] | SIP URI | | | |
| user-info and host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| uri-parameters | "Ir" | | | |
| addr-spec[2] user-info and host | SIP URI "scscf.3gpp.org" | same value as in the Service-Route header field of the 200 OK response to REGISTER | | |
| port | not present | | | |
| uri-parameters | "lr" | | | |
| route-param list | URIs of the Record- Route header sent to the UE in the response which has established the dialog, in reverse order | | RFC 3261 [22] | re_INVITE MO_CALL |
| | URIs of the Record- Route header sent to the UE in the INVITE | | | MT_CALL |

| | rivation Path: TS 24.229 [16 | | | |
|---------------------------------|------------------------------|----------------------------------|---------------|------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| From | | | RFC 3261 [22] | |
| addr-spec | | | | |
| user-info and host | px_MCPTT_Client_A_I | | | |
| | D | | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | _ID | | | |
| | px_MCData_Client_A_I | | | MCDATA |
| | D | | | |
| port | any value if present | | | |
| tag | any value | | 550 1001 | |
| From | | | RFC 3261 [22] | re_INVITE |
| addr-spec | Same URI of the UE as | Local URI of the dialog | | |
| | used earlier in the | (from the UE's point of | | |
| 4 | dialog | view) | | |
| tag | Same tag of the UE as | Local tag of the dialog | | |
| | used earlier in the | ID (from the UE's point of view) | | |
| То | dialog | or view) | RFC 3261 [22] | |
| 10 | | | | |
| addr cnoc | | | RFC 5031 [54] | |
| addr-spec user-info and host | Samo LIPL on Paguast | | | |
| user-inio and nost | Same URI as Request- URI | | | |
| port | not present | | | |
| tag | not present | | | |
| To | not present | | RFC 3261 [22] | re_INVITE |
| addr-spec | Same URI of the SS as | Remote URI of the | KFC 3201 [22] | IE_IIIVIIE |
| addi-spec | used earlier in the | dialog (from the UE's | | |
| | dialogURI | point of view) | | |
| tag | Same tag of the SS as | Remote tag of the | | |
| tag | used earlier in the | dialog ID (from the UE's | | |
| | dialog | point of view) | | |
| Call-ID | enone g | | RFC 3261 [22] | |
| callid | any allowed value | | | |
| callid | same value as in | | | re_INVITE |
| | INVITE creating the | | | _ |
| | dialog | | | |
| CSeq | - | | RFC 3261 [22] | |
| value | any allowed value | | • • | |
| value | value of CSeq sent by | | | re_INVITE |
| | the endpoint within its | | | |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "INVITE" | | | |
| Supported | | | RFC 3261 [22] | |
| option-tag | "timer" | | | |
| Session-Expires | | | RFC 4028 [30] | |
| delta-seconds | any allowed value | | | |
| Require | | | RFC 3261 [22] | |
| | | | RFC 3312 [56] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Proxy-Require | | | RFC 3261 [22] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | DE0 2222 : | |
| Security-Verify | | | RFC 3329 [53] | |
| | | | | |
| sec-mechanism | same value as Security | | | |
| | -Server header sent by | | | |
| Contact | SS during registration | | DE0 0004 500 | |
| Contact | | | RFC 3261 [22 | |
| | | | RFC 3840 [33] | j |

| Derivation Path: TS 24.229 [16], clause A.2.1.4.7, A.2.2.4.7 | | | | | |
|--|---|---|-----------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| addr-spec | SIP URI | | | | |
| user-info and host | IP address or FQDN (px_MCPTT_Client_A_I | | | | |
| | (px_wcP11_client_A_1 D) | | | | |
| | IP address or FQDN | | | MCVIDEO | |
| | (px_MCVideo_Client_A | | | MOVIBLO | |
| | _ID) | | | | |
| | IP address or FQDN | | | MCDATA | |
| | (px_MCData_Client_A_ | | | | |
| | ID) | | | | |
| port | protected server port of UE | as assigned during | | | |
| feature-param | "+g.3gpp.mcptt" | registration This media feature tag | | | |
| leature-param | +9.39рр.пісріі | when used in a SIP | | | |
| | | request or a SIP | | | |
| | | response indicates that | | | |
| | | the function sending | | | |
| | | the SIP message | | | |
| | | supports Mission | | | |
| | | Critical Push To Talk | | | |
| | | (MCPTT) communication. | | | |
| | "+g.3gpp.mcvideo" | This media feature tag | | MCVIDEO | |
| | i g.ogpp.movidoo | when used in a SIP | | MOVIBLO | |
| | | request or a SIP | | | |
| | | response indicates that | | | |
| | | the function sending | | | |
| | | the SIP message | | | |
| | | supports Mission | | | |
| | | Critical Video (MCVideo) | | | |
| | | communication. | | | |
| | "+g.3gpp.mcdata.sds" | This media feature tag | | MCDATA | |
| | 9.0917 | when used in a SIP | | | |
| | | request or a SIP | | | |
| | | response indicates that | | | |
| | | the function sending | | | |
| | | the SIP message | | | |
| | | supports mission critical data (MCData) | | | |
| | | service.communication. | | | |
| feature-param | "+g.3gpp.icsi- | This URN indicates that | | | |
| • | ref=urn:urn-7:3gpp- | the device has the | | | |
| | service.ims.icsi.mcptt" | capabilities to support | | | |
| | | the mission critical | | | |
| | | push to talk (MCPTT) | | | |
| | "+g.3gpp.icsi- | service. This URN indicates that | | MCVIDEO | |
| | ref=urn:urn-7:3gpp- | the device has the | | MOVIDEO | |
| | service.ims.icsi.mcvide | capabilities to support | | | |
| | 0" | the Mission Critical | | | |
| | | Video (MCVideo) | | | |
| | | communication. | | | |
| | "+g.3gpp.icsi- | This URN indicates that | | MCDATA | |
| | ref=urn:urn-7:3gpp- | the device has the | | | |
| | service.ims.icsi.mcdata. sds" | capabilities to support the mission critical data | | | |
| | ouo | (MCData) service. | | | |
| feature-param | "audio" | This feature tag | | MCPTT | |
| | | indicates that the | | OR | |
| | | device supports audio | | MCVIDEO | |
| | | as a streaming media | | | |
| | | type. | | | |

| Information Element | rivation Path: TS 24.229 [16 Value/remark | Comment | Reference | Condition |
|-----------------------|--|-------------------------|----------------|--------------|
| feature-param | "video" | This feature tag | 11010101100 | MCVIDEO |
| reature param | | indicates that the | | |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| reature param | toxt | indicates that the | | MODATA |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | | |
| Max-Forwards | + | type. | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | KFC 3201 [22] | |
| P-Access-Network-Info | any anowed value | Non-zero value | RFC 7315 [52] | |
| access-net-specs | Access network | AUTO | KI C 7313 [32] | |
| access-rier-specs | technology and, if | 7010 | | |
| | applicable, the cell ID | | | |
| Account | applicable, the cell ib | | DEC 2004 [20] | |
| Accept | | | RFC 3261 [22] | |
| media-range[1] | "application/sdp" | | | <u> </u> |
| media-range[2] | "application/vnd.3gpp. | | | |
| | mcptt-info+xml" | | | |
| | application/vnd.3gpp.m | | | MCVIDEO |
| | cvideo-info+xml | | | |
| | "application/vnd.3gpp. | | | MCDATA |
| | mcdata-info+xml" | | | |
| P-Preferred-Service | | | RFC 6050 [31] | |
| Service-ID | "urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "urn:urn-7:3gpp- | | | MCVIDEO |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "urn:urn-7:3gpp- | | | MCDATA |
| | service.ims.icsi.mcdata. | | | MODATA |
| | sds" | | | |
| P-Preferred-Identity | 343 | | RFC 3325 [32] | |
| PPreferredID-value | same URI as in From- | | 10 0020 [02] | |
| FFIelelleuiD-value | header | | | |
| Accept-Contact | Headel | | RFC 3841 [29] | |
| | + | | KFC 3041 [29] | |
| ac-value[1] | # O i i | | | |
| feature-param | "+g.3gpp.icsi- | | | |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- | | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcvide | | | |
| | О" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| req-param | "require" | | | |
| explicit-param | "explicit" | | | |
| ac-value[2] | <u>'</u> | 1 | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| 2 F 20.20 | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| req-param | "require" | | | MODAIA |
| explicit-param | "explicit" | 1 | | |
| | exhiinit | | DEC 5370 [0.4] | |
| Answer-Mode | | | RFC 5373 [34] | |
| answer-mode-value | "Auto" | | | |
| answer-mode-value | "Manual" | | | MANUAL |
| Resource-Priority | | | RFC 4412 [40] | EMERGE |
| | | | RFC 7134 [57] | CY-CALL |
| | | | RFC 8101 [45] | or |
| | | | | IMMPERI |
| | Ī | 1 | 1 | -CALL |

| Derivation Path: TS 24.229 [16], clause A.2.1.4.7, A.2.2.4.7 | | | | | | |
|--|---|----------------------------------|----------------|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| r-value | | | | EMERGEN | | |
| nomoonoo | value of the <resource-< td=""><td>As configured in Table</td><td></td><td>CY-CALL</td></resource-<> | As configured in Table | | CY-CALL | | |
| namespace | priority-namespace> | As configured in Table 5.5.8.4-1 | | | | |
| | element contained in | 0.0.0.4 1 | | | | |
| | the <emergency-< td=""><td></td><td></td><td></td></emergency-<> | | | | | |
| | resource-priority> | | | | | |
| | element contained in | | | | | |
| | the <onnetwork></onnetwork> | | | | | |
| | element of the MCX | | | | | |
| | service configuration documents | | | | | |
| r-priority | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | | | |
| , phony | priority-priority> | 5.5.8.4-1 | | | | |
| | element contained in | | | | | |
| | the <emergency-< td=""><td></td><td></td><td></td></emergency-<> | | | | | |
| | resource-priority> | | | | | |
| | element contained in | | | | | |
| | the <onnetwork> element of the MCX</onnetwork> | | | | | |
| | service configuration | | | | | |
| | document | | | | | |
| r-value | | | | IMMPERIL | | |
| | | | | -CALL | | |
| namespace | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | | | |
| | priority-namespace> | 5.5.8.4-1 | | | | |
| | element contained in the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<> | | | | | |
| | resource-priority> | | | | | |
| | element contained in | | | | | |
| | the <onnetwork></onnetwork> | | | | | |
| | element of the MCX | | | | | |
| | service configuration | | | | | |
| uiits e | documents value of the <resource-< td=""><td>As soutieurs die Toble</td><td></td><td></td></resource-<> | As soutieurs die Toble | | | | |
| r-priority | priority-priority> | As configured in Table 5.5.8.4-1 | | | | |
| | element contained in | 5.5.6.4-1 | | | | |
| | the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<> | | | | | |
| | resource-priority> | | | | | |
| | element contained in | | | | | |
| | the <onnetwork></onnetwork> | | | | | |
| | element of the MCX | | | | | |
| | service configuration document | | | | | |
| Content-Type | document | | RFC 5621 [58] | | | |
| media-type | "multipart/mixed" | | | | | |
| Content-Length | present in case of TCP | | RFC 3261 [22] | | | |
| | and when there is a | | | | | |
| | message body | | | | | |
| value | (otherwise optional) any value | length of message- | | | | |
| value | any value | body | | | | |
| Message-body | | | RFC 3261 [22] | | | |
| MIME body part | | SDP message | | | | |
| MIME-part-headers | H P & / L P | | DE0 (500 (500) | | | |
| Content-Type | "application/sdp" | | RFC 4566 [27] | | | |
| MIME-part-body | SDP Message as described in Table | | | | | |
| | 5.5.3.1.1-1 | | | | | |
| | SDP Message as | | | MCVIDEO | | |
| | described in Table | | | | | |
| | 5.5.3.1.1-2 | | | | | |
| | SDP Message as | | | MCDATA | | |
| | described in Table | | | | | |
| | 5.5.3.1.1-3 | | | | | |

| | rivation Path: TS 24.229 [1 | | | |
|---|--|--|----------------|---------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| MIME body part | | MCPTT Info/MCVideo/MCData | | |
| MIME-part-headers | | IIIIO/IVIC V IUEO/IVIC DATA | | |
| Content-Type | "application/vnd.3gpp. | | | |
| | mcptt-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" "application/vnd.3gpp. | | | MCDATA |
| | mcdata-info+xml" | | | WICDATA |
| Content-ID | any value | Unique URL identifying | TS 24.379 [9] | |
| | | the | clause 6.6.3.1 | |
| | | MCPTT/MCVideo/MCD ata Info XML MIME | | |
| | | body; used as | | |
| | | reference in the | | |
| | | signature MIME body | | |
| MIME-part-body | MCPTT-Info as | | TS 24.379 [9] | |
| | described in Table 5.5.3.2.1-1 | | clause F.1 | |
| | MCVideo-Info as | | TS 24.281 [86] | MCVIDEO |
| | described in Table | | clause F.1 | |
| | 5.5.3.2.1-2 | | | |
| | MCData-Info as | | TS 24.282 [87] | MCDATA |
| | described in Table 5.5.3.2.1-3 | | clause D.1 | |
| MIME body part | 0.0.0. <u>2</u> .1-0 | Resource list | RFC 5366 [35] | PRIVATE- |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | CALL OR |
| | | | | MCD_1to1 |
| MIME-part-headers | II I' C / | | | |
| Content-Type | "application/resource- lists+xml" | | | |
| Content-ID | any value | Unique URL identifying | TS 24.379 [9] | |
| | | the Resource-lists XML | clause 6.6.3.1 | |
| | | MIME body; used as | | |
| | | reference in the signature MIME body | | |
| MIME-part-body | As described in Table | Signature WillVIL body | | |
| | 5.5.3.3.1-1 | | | |
| | As described in Table | | | MCVIDEO |
| | 5.5.3.3.1-2 | | | MODATA |
| | As described in Table 5.5.3.3.1-3 | | | MCDATA |
| MIME body part | 3.3.3.3.1-3 | Location info | | EMERGEN |
| | | | | CY-ALERT |
| | | | | OR |
| | | | | (EMERGE NCY-CALL |
| | | | | AND |
| | | | | ALERT_IN |
| | | | | D) |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. | This MIME part shall be | | |
| , r - | mcptt-location- | included if the MCPTT- | | |
| | info+xml" | Info 'alert-ind' element | | |
| | | sent in the MCPTT-Info is set to true. | | |
| | "application/vnd.3gpp. | This MIME part shall be | | MCVIDEO |
| | mcvideo-location- | included if the | | |
| | info+xml" | MCVideo-Info 'alert-ind' | | |
| | | element sent in the | | |
| | | MCVideo-Info is set to true. | | |
| | | uue. | | l |

| De | rivation Path: TS 24.229 [1 | 6], clause A.2.1.4.7, A.2.2. | 4.7 | |
|---------------------|--|--|----------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Content-ID | any value | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Location-info as described in Table 5.5.3.4.1-1 | | TS 24.379 [9] clause F.3 | |
| | Location-info as described in Table 5.5.3.4.1-2 | | TS 24.281 [86] clause F.3 | MCVIDEO |
| MIME body part | | MIKEY message | | MCD_1to1 |
| MIME-part-headers | | | | |
| Content-Type | "application/mikey" | | | |
| MIME-part-body | As described in Table 5.5.9.1-2A | MIKEY message, containing the PSK | TS 33.180 [30] TS 24.282 [87] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

| Condition | Explanation | |
|--|--|--|
| MANUAL | Call etablishment with manual commencement mode | |
| MCD_1to1 | A one-to-one MCData call | |
| re_INVITE | INVITE within a dialog | |
| ALERT_IND | In case of EMERGENCY-CALL depending on UE implementation the UE may set the <alert-ind> element of the mcptt-info to true in which case the Location info shall be present</alert-ind> | |
| For further conditions see table 5.5.1-1 | | |

5.5.2.5.2 SIP INVITE from the SS

Table 5.5.2.5.2-1: SIP INVITE from the SS

| Derivation Path: TS 24.229 [16], | clause A.2.1.4.7, A.2.2.4.7 | | | |
|----------------------------------|--|---|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Request-Line | | | RFC 3261 [22] RFC 5031 [54] | |
| Method | "INVITE" | | | |
| Request-URI | SIP URI of the UE's contact address as provided in the Contact-header of the REGISTER message | | | |
| Request-URI | same URI as the UE has sent earlier in the Contact header of a response within the same dialog | Contact URI of the UE ("callee") | | re_INVITE |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol[1] | "SIP/2.0/TCP" | | | |
| sent-by[1] | | Address of the P-CSCF that communicates with the called party | | |

| Derivation Path: TS 24.229 [16] | | Camma::- | Deferen | Condittee |
|---------------------------------|--|---|---------------|-----------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| via-branch[1] | Value assigned by the SS starting with 'z9hG4bK' | | | |
| sent-protocol[2] | "SIP/2.0/UDP" | | | |
| sent-by[2] | | Address of the other endpoint (the caller) | | |
| host | Host name of the SIP URI being used in the From header | | | |
| port | Same port number as in Contact-header | Caller's port number | | |
| via-branch[2] | Value assigned by the SS starting with 'z9hG4bK' | | | |
| Record-Route | | Record-Route corresponding to the Via header | RFC 3261 [22] | |
| addr-spec[1] | SIP URI | SIP URI corresponding to first entry of Via header | | |
| user-info and host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| uri-parameters | "lr" | | | |
| addr-spec[2] | SIP URI | | | |
| user-info and host | "term@scscf1.3gpp.org | | | |
| port | not present | | | |
| uri-parameters | "lr" | | | |
| addr-spec[3] | SIP URI | | | |
| user-info and host | "orig@scscf2.3gpp.org" | | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |
| addr-spec[4] | SIP URI | | | |
| user-info and host | "pcscf2.3gpp.org" | | | |
| port | not present | | | |
| uri-parameters Record-Route | | | DEC 2004 [20] | TO INIVITE |
| Record-Route | same as in the 180, 183 or 200 response sent to the UE during MO call establishment in reverse order | | RFC 3261 [22] | re_INVITE AND MO_CALL |
| From | | | RFC 3261 [22] | |
| addr-spec | | | | |
| user-info and host | tsc_MCPTT_PublicServ iceId_A | SIP URI of the calling UE | | |
| | px_MCVideo_PublicSer viceId_A | SIP URI of the calling UE | | MCVIDEO |
| | px_MCData_PublicServ iceId_A | SIP URI of the calling UE | | MCDATA |
| port | not present | | | |
| tag | Value assigned by the SS | | | |

| Information Element | , clause A.2.1.4.7, A.2.2.4.7 Value/remark | Comment | Reference | Condition |
|---------------------|---|--------------------------|-----------------|------------|
| From | | | RFC 3261 [22] | re_INVITE |
| addr-spec | Same URI of the SS as | Remote URI of the | | · · · · - |
| • | used earlier in the | dialog (from the UE's | | |
| | dialog | point of view) | | |
| tag | Same tag of the SS as | Remote tag of the | | |
| | used earlier in the | dialog (from the UE's | | |
| | dialog | point of view) | | |
| То | | | RFC 3261 [22] | |
| | | | RFC 5031 [54] | |
| addr-spec | | | | |
| user-info and host | px_MCPTT_Client_A_I | Public user ID (IMPU) | | |
| | D | as stored in the UICC | | |
| | px_MCVideo_Client_A | Public user ID (IMPU) | | MCVIDEO |
| | _ID | as stored in the UICC | | 1405 4 7 4 |
| | px_MCData_Client_A_I | Public user ID (IMPU) | | MCDATA |
| | D | as stored in the UICC | | |
| port | not present | | | |
| tag | not present | | DE0 0004 500 | |
| То | 10 1151 111 115 | 1 11151 (4) 21 | RFC 3261 [22] | re_INVITE |
| addr-spec | Same URI of the UE as | Local URI of the dialog | | |
| | used earlier in the | (from the UE's point of | | |
| 40.0 | dialog | view) | - | |
| tag | Same tag of the UE as | Local tag of the dialog | | |
| | used earlier in the | (from the UE's point of | | |
| 0.11.10 | dialog | view) | DE0 0004 [00] | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Value assigned by the | | | |
| 0.11.15 | SS | | DEC 2004 (201 | 15.15.47 |
| Call-ID | | | RFC 3261 [22] | re_INVITE |
| callid | same value as in | | | |
| | INVITE creating the | | | |
| 00 | dialog | | DE0 0004 [00] | |
| CSeq | | | RFC 3261 [22] | |
| value | Value assigned by the | | | |
| velve | SS | | | TO INIVITE |
| value | value of CSeq sent by the endpoint within its | | | re_INVITE |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "INVITE" | | | |
| Supported | | | RFC 3261 [22] | |
| option-tag | "100rel" | This option tag | 111 0 0201 [22] | |
| option tag | 100101 | indicates that the UA | | |
| | | can send or receive | | |
| | | reliable provisional | | |
| | | responses. | | |
| option-tag | "timer" | 10000110001 | | |
| option-tag | "tdialog" | | | |
| option-tag | "norefersub" | | | |
| P-Called-Party-ID | Horototado | | RFC 7315 [52] | |
| called-pty-id-spec | px_MCPTT_Client_A_I | same user ID as in To- | 111 0 1010 [02] | |
| odilod pty lu-spec | D D | header | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | ID | | | |
| | px_MCData_Client_A_I | | 1 | MCDATA |
| | D | | | W.SD/ CIA |
| Session-Expires | - | | RFC 4028 [30] | |
| generic-param | "1800" | The recommended | 111 0 7020 [00] | |
| genenc-param | 1000 | initial value is 1800 in | | |
| | | RFC 4028 [30]. | | |
| P-Early-Media | | 1.1 0 1020 [00]. | RFC 5009 [60] | |
| i Laity-Media | "inactive" | | [00] 6000 [01] | 1 |

| Derivation Path: TS 24.229 [16]. Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|---|-----------|
| Require | Taraonomark | Common | RFC 3261 [22] RFC 3312 [56] RFC 3329 [53] | Condition |
| option-tag | "sec-agree" | | 111 0 0028 [00] | |
| Proxy-Require | | | RFC 3261 [22] RFC 3329 [53] | |
| option-tag | "sec-agree" | | DE0 0005 (001 | |
| P-Asserted-Identity addr-spec | | | RFC 3325 [32] | |
| user-info and host | same URI as in From- header | | | |
| port | not present | | | |
| Contact | | | RFC 3261 [22] RFC 3840 [33] | |
| addr-spec | SIP URI | | | |
| user-info and host | tsc_MCPTT_PublicServ iceld_A | | | |
| | px_MCVideo_PublicSer viceId_A | | | MCVIDEO |
| | px_MCData_PublicServ iceId_A | | | MCDATA |
| port | Value assigned by the SS | | | |
| feature-param | "+g.3gpp.mcptt" | This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Push To Talk (MCPTT) communication. | RFC 3840 [33] clause 9 | |
| | "+g.3gpp.mcvideo" | This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. | RFC 3840 [33] clause 9 | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. | RFC 3840 [33] clause 9 | MCDATA |
| feature-param | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt" | This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. | RFC 3840 [33] clause 9 | |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. | RFC 3840 [33] clause 9 | MCVIDEO |

| Derivation Path: TS 24.229 [16], Information Element | Value/remark | Commont | Deference | Condition |
|--|---|---------------------------------|----------------------------|-------------|
| iniormation Element | "+g.3gpp.icsi- | Comment This URN indicates that | Reference RFC 3840 [33] | MCDATA |
| | ref=urn:urn-7:3gpp- | the device has the | clause 9 | MCDATA |
| | service.ims.icsi.mcdata. | capabilities to support | clause 9 | |
| | sds" | the mission critical data | | |
| | sus | (MCData) service. | | |
| feature-param | "audio" | This feature tag | RFC 3840 [33] | MCPTT |
| ioataie-paiaiii | addio | indicates that the | clause 10.1 | OR |
| | | device supports audio | ciause 10.1 | MCVIDEO |
| | | as a streaming media | | IVICVIDEO |
| | | type. | | |
| feature-param | "video" | This feature tag | | MCVIDEO |
| reature param | Video | indicates that the | | WOVIDEO |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| reature param | toxt | indicates that the | | WODATA |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | | |
| feature-param | "isfocus" | .,,,,,,, | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | "68" | The recommended | | |
| | | initial value is 70 in | | |
| | | RFC 3261 [22]. | | |
| | | Assuming 2 hops as | | |
| | | according to the Via | | |
| | | header this results in a | | |
| | | value of 68 in the | | |
| | | message sent to the | | |
| | | UE | | |
| Accept | | | RFC 3261 [22] | |
| media-range[1] | "application/sdp " | | | |
| media-range[2] | "application/vnd.3gpp. | | | |
| 3-1 1 | mcptt-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCDATA |
| | mcdata-info+xml" | | | |
| P-Preferred-Service | | | RFC 6050 [31] | |
| Service-ID | "urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "urn:urn-7:3gpp- | | | MCVIDEO |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "urn:urn-7:3gpp- | | | MCDATA |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| P-Preferred-Identity | | | RFC 3325 [32] | |
| PPreferredID-value | same URI as in From- | | | |
| | header | | | |
| Accept-Contact | | | RFC 3841 [29] | |
| ac-value[1] | | | | |
| feature-param | "+g.3gpp.icsi- | | | |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | 140: "= = = |
| | "+g.3gpp.icsi- | | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | |
| | | i | ī | |
| | service.ims.icsi.mcdata. | | | |
| | service.ims.icsi.mcdata. sds" "require" | | | |

| | , clause A.2.1.4.7, A.2.2.4.7 | Commont | Doforance | Condition |
|---------------------|---|------------------------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| explicit-param | "explicit" | 1 | | |
| ac-value[2] | | | | |
| feature-param | "+g.3gpp.mcptt" | | | 140\(\) |
| | "+g.3gpp.mcvideo" | - | - | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | <u> </u> | MCDATA |
| req-param | "require" | | <u> </u> | |
| explicit-param | "explicit" | | | |
| Answer-Mode | | | RFC 5373 [34] | |
| answer-mode-value | "Auto" | | | |
| answer-mode-value | "Manual" | | | MANUAL |
| Resource-Priority | | | RFC 4412 [40] | EMERGEN |
| | | | RFC 7134 [57] | CY-CALL |
| | | | RFC 8101 [45] | or |
| | | | | IMMPERIL |
| | | | <u> </u> | -CALL |
| r-value | | | | EMERGEN |
| | | | | CY-CALL |
| namespace | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | |
| | priority-namespace> | 5.5.8.4-1 | | |
| | element contained in | | | |
| | the <emergency-< td=""><td></td><td></td><td></td></emergency-<> | | | |
| | resource-priority> | | | |
| | element contained in | | | |
| | the <onnetwork></onnetwork> | | | |
| | element of the MCX | | | |
| | service configuration | | | |
| | documents | | | |
| r-priority | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | |
| | priority-priority> | 5.5.8.4-1 | | |
| | element contained in | | | |
| | the <emergency-< td=""><td></td><td></td><td></td></emergency-<> | | | |
| | resource-priority> | | | |
| | element contained in | | | |
| | the <onnetwork></onnetwork> | | | |
| | element of the MCX | | | |
| | service configuration | | | |
| | document | | | |
| r-value | | | | IMMPERIL |
| | | | | -CALL |
| Namespace | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | |
| | priority-namespace> | 5.5.8.4-1 | | |
| | element contained in | | | |
| | the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<> | | | |
| | resource-priority> | | | |
| | element contained in | | | |
| | the <onnetwork></onnetwork> | | | |
| | element of the MCX | | | |
| | service configuration | | | |
| | documents | | <u> </u> | |
| r-priority | value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<> | As configured in Table | | |
| | priority-priority> | 5.5.8.4-1 | | |
| | element contained in | | | |
| | the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<> | | | |
| | resource-priority> | | | |
| | element contained in | | | |
| | the <onnetwork></onnetwork> | | | |
| | element of the MCX | | | |
| | service configuration | | | |
| | document | | | |
| Content-Type | | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | | |
| Content-Length | | | RFC 3261 [22] | |
| Value | length of message- | | | |
| | body | | | |
| Message-body | | | RFC 3261 [22] | |

| Derivation Path: TS 24.229 [16], clause A.2.1.4.7, A.2.2.4.7 | | | | | | |
|--|--|---|---------------------------------|---|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| MIME body part | | SDP message | | | | |
| MIME-part-headers | | | | | | |
| MIME-Content-Type | "application/sdp" SDP Message as | | DEC 4560 [07] | | | |
| MIME-part-body | described in Table 5.5.3.1.2-1 | | RFC 4566 [27] | | | |
| | SDP Message as described in Table 5.5.3.1.2-2 | | RFC 4566 [27] | MCVIDEO | | |
| | SDP Message as described in Table 5.5.3.1.2-3 | | RFC 4566 [27] | MCDATA | | |
| MIME body part | | MCPTT/MCVideo/MCD ata Info | | | | |
| MIME-part-headers | | | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-info+xml" "application/vnd.3gpp. | | | MCVIDEO | | |
| | mcvideo-info+xml" "application/vnd.3gpp. | | | MCDATA | | |
| Content-ID | mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | | | |
| MIME-part-body | MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as | oignatare miniz body | | MCVIDEO | | |
| | described in Table 5.5.3.2.2-2 As described in Table | | | MCDATA | | |
| | 5.5.3.2.2-3 | | | WODATA | | |
| MIME body part | | Resource lists | RFC 5366 [35] | PRIVATE- CALL | | |
| MIME-part-headers | | | | | | |
| MIME-Content-Type | "application/resource- lists+xml" | | | | | |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | | | |
| MIME-part-body | Resource-lists as described in Table 5.5.3.3.2-1 | | | | | |
| | Resource-lists as described in Table 5.5.3.3.2-2 | | | MCVIDEO | | |
| | Resource-lists as described in Table 5.5.3.3.2-3 | | | MCDATA | | |
| MIME body part | | Location info | | EMERGEN CY-CALL or IMMPERIL -CALL | | |
| MIME-part-headers | | | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-location- info+xml" | | | | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|--|----------------------------------|-----------|
| | "application/vnd.3gpp. mcvideo-location- info+xml" | | | MCVIDEO |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Location-info as described in Table 5.5.3.4.2-1 | | TS 24.379 [9] clause F.3 | |
| | Location-info as described in Table 5.5.3.4.2-2 | | TS 24.281 [86] clause F.3 | |
| MIME body part | | MIKEY message | | MCD_1to1 |
| MIME-part-headers | | | | |
| Content-Type | "application/mikey" | | | |
| MIME-part-body | As described in Table 5.5.9.1-2 | MIKEY message, containing the PSK | TS 33.180 [30] TS 24.282 [87] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-2 | | TS 24.379 [9] | |

| Condition | Explanation |
|--|---|
| MANUAL | Call etablishment with manual commencement mode |
| re_INVITE | INVITE within a dialog |
| MCD_1to1 | A one-to-one MCData call |
| For further conditions see table 5.5.1-1 | |

5.5.2.6 Void

5.5.2.7 SIP MESSAGE

5.5.2.7.1 SIP MESSAGE from the UE

Table 5.5.2.7.1-1: SIP MESSAGE from the UE

| Derivation Path: TS 24.229 [16], | | | | 0 1141 |
|----------------------------------|---|---|--------------------------------|-----------|
| Information Element Request-Line | Value/remark | Comment | Reference RFC 3261 [22] | Condition |
| Nequest-Line | | | RFC 5261 [22] | |
| Method | "MESSAGE" | | | |
| Request-URI | tsc_MCPTT_PublicSer viceId_A | The public service identity identifying the originating participating MCPTT function serving the MCPTT user | | |
| | px_MCVideo_PublicSer viceId_A | The public service identity identifying the originating participating MCVideo function serving the MCVideo user | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | The public service identity identifying the originating participating MCData function serving the MCData user | | MCDATA |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | | | UDP |
| | "SIP/2.0/TCP" | | | TCP |
| sent-by | | | | |
| host | IP address or FQDN | Either the UE's IP address or its home domain name | | |
| port | protected server port of the UE | as assigned during registration | | |
| via-branch | Value starting with 'z9hG4bK' | | | |
| From | | | RFC 3261 [22] | |
| addr-spec user-info and host | tsc_MCPTT_PublicSer viceId_Apx_MCPTT_CI ient_A_ID | The URI of the UE | | |
| | px_MCVideo_Client_A | The URI of the UE | | MCVIDEO |
| | px_MCData_Client_A_I D | The URI of the UE | | MCDATA |
| port | any value if present | | | |
| tag To | any allowed value | | RFC 3261 [22] RFC 5031 [54] | |
| addr-spec | | | | |
| user-info and host | | The URI of the SS | | |
| | px_MCVideo_PublicSer viceId_A | The URI of the SS | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | The URI of the SS | | MCDATA |
| port | not present | | | |
| tag | not present | | DEC 2004 [00] | |
| Call-ID callid | any allowed value | | RFC 3261 [22] | |
| Cseq | any anowed value | | RFC 3261 [22] | |
| value | any allowed value | | 111 0 0201 [22] | |
| method | "MESSAGE" | | | |
| Max-Forwards | · | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | | |
| P-Access-Network-Info | | | RFC 7315 [52] | |

| access-net-spec | Access network | | | |
|---------------------|--|--|---------------------------------|------------------------|
| | technology and, if applicable, the cell ID | | | |
| Route | same as specified for INVITE sent by the UE | | RFC 3261 [22] | |
| P-Preferred-Service | in Table 5.5.2.5.1-1 | | DEC 6050 [24] | |
| Service-ID | "urn:urn-7:3gpp- | | RFC 6050 [31] | |
| Service-ID | service.ims.icsi.mcptt" | | | |
| | "urn:urn-7:3gpp- | | | MCVIDEO |
| | service.ims.icsi.mcvide | | | WOVIDEO |
| | "urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | MCDATA |
| Content-Type | 303 | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | 141 0 0021 [00] | |
| Content-Length | present in case of TCP and when there is a message body | | RFC 3261 [22] | |
| | (otherwise optional) | | | |
| value | any value | length of message- body | | |
| Message-body | | | RFC 3261 [22] | |
| MIME body part | | MCPTT/MCVideo/MCD ata Info | | |
| MIME-part-headers | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCVIDEC |
| | mcvideo-info+xml" | | | MODATA |
| | "application/vnd.3gpp. mcdata-info+xml" | | | MCDATA |
| Content-ID | any value | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the | TS 24.379 [9] clause 6.6.3.1 | |
| | | signature MIME body | | |
| MIME-part-body | MCPTT-Info as described in Table | - sg. come come comp | TS 24.379 [9] clause F.1 | |
| | 5.5.3.2.1-1 MCVideo-Info as described in Table | | TS 24.281 [86] clause F.1 | MCVIDEC |
| | 5.5.3.2.1-2 | | | |
| | MCData-Info as described in Table 5.5.3.2.1-3 | | | MCDATA |
| MIME body part | 5.5.5.2.1 | Affiliation-Command | | MCPTT OR MCVideo |
| MIME-part-headers | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-affiliation- command+xml" "application/vnd.3gpp. | | | |
| | mcvideo-affiliation- command+xml" | | | |
| Content-ID | any value | Unique URL identifying the affiliation-command XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPPT-Affiliation- | | TS 24.379 [9] | |
| | Command as described in Table 5.5.3.7-1 | | clause F.4 | |

| 1 | MOV/:-I Affili-ti | 1 | TO 04 004 [00] | I |
|----------------------|--|--|----------------------------------|---------------------|
| | MCVideo-Affiliation- Command as described in Table 5.5.3.7-2 | | TS 24.281 [86] clause F.4 | |
| MIME body part | III Table 5.5.3.7-2 | Resource lists | RFC 5366 [35] | PRIVATE- CALL OR |
| NAINAE mant baardana | | | | MCD_1to1 |
| MIME-part-headers | Hanniagtion/reserves | | | |
| MIME-Content-Type | "application/resource- lists+xml" | | | |
| Content-ID | any value | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Resource-lists as described in Table 5.5.3.3.1-1 | | | |
| | Resource-lists as described in Table 5.5.3.3.1-2 | | | MCVIDEO |
| | As described in Table 5.5.3.3.1-3 | | | MCDATA |
| MIME body part | | Location info | TS 24.379 [9] clause F.3 | EMERGEN CY-ALERT |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-location- info+xml" | This MIME part shall be included if the MCPTT-Info 'alert-ind' element sent in the MCPTT-Info is set to true. | | |
| Content-ID | any value | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Location-info as described in Table 5.5.3.4.1-1 | | | |
| MIME body part | | MIKEY message | | MCD_1to1 |
| MIME-part-headers | | | | |
| Content-Type | "application/mikey" | | | |
| MIME-part-body | As described in Table 5.5.9.1-2A | MIKEY message, containing the PSK | TS 33.180 [30] TS 24.282 [87] | |
| MIME body part | | SDS SIGNALLING PAYLOAD | | MCDATA |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcdata-signalling" | | | |
| MIME-part-body | As described in Table 5.5.3.8.1-1 | | TS 24.282 [87] | |
| MIME body part | | DATA PAYLOAD | | MCDATA |
| MIME-part-headers | | | | |
| Content-Type | application/vnd.3gpp.m cdata-payload | | | |
| MIME-part-body | As described in Table 5.5.3.9-1 | | TS 24.282 [87] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

| Condition | Explanation |
|--|--------------------------|
| MCD_1to1 | A one-to-one MCData call |
| For further conditions see table 5.5.1-1 | |

5.5.2.7.2 SIP MESSAGE from the SS

Table 5.5.2.7.2-1: SIP MESSAGE from the SS

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|-------------------------------|------------------------|---------------|-----------|
| Request-Line | | | RFC 3261 [22] | |
| | | | RFC 5031 [54] | |
| Method | "MESSAGE" | | | |
| Request-URI | Public user id | px_MCX_SIP_PublicUs | | |
| | associated to the MC | erld_A_1 (in general) | | |
| | service id | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] | |
| | 1017 (0.0 707) | | RFC 3581 [55] | |
| sent-protocol[1] | "SIP/2.0/TCP" | | | |
| sent-by[1] | | Address of the P-CSCF | | |
| | | that communicates with | | |
| | | the called party | | |
| host | P-CSCF address of the | P-CSCF address as | | |
| | SS | assigned to the UE via | | |
| | | NAS signalling or P- | | |
| nort | protected converger port of | CSCF discovery | | |
| port | protected server port of | as assigned during | | |
| via hyanah[4] | the SS Value assigned by the | registration | | |
| via-branch[1] | SS starting with | | | |
| | 'z9hG4bK' | | | |
| cont protocol[2] | "SIP/2.0/UDP" | | | |
| sent-protocol[2] sent-by[2] | 31F/2.0/0DF | | | |
| host | "scscf.3gpp.org" | | | |
| | Value assigned by the | Caller's port number | | |
| port | SS SSIGNED by the | Caller's port number | | |
| via-branch[2] | Value assigned by the | | | |
| via branon[2] | SS starting with | | | |
| | 'z9hG4bK' | | | |
| sent-protocol[3] | "SIP/2.0/UDP" | | | |
| sent-by[3] | | | | |
| host | host name of the MC | | | |
| | server | | | |
| port | not present | | | |
| via-branch[3] | Value assigned by the | | | |
| | SS starting with | | | |
| | 'z9hG4bK' | | | |
| From | | | RFC 3261 [22] | |
| addr-spec | | | | |
| user-info and host | tsc_MCPTT_PublicSer | | | |
| | viceld_A | | | |
| | px_MCVideo_PublicSer | | | MCVIDEO |
| | viceId_A | | | |
| | px_MCData_PublicSer | | | MCDATA |
| | viceId_A | | | |
| port | not present | | | |
| tag | Value assigned by the | | | |
| | SS | | | |
| То | | | RFC 3261 [22] | |
| | | | RFC 5031 [54] | |
| addr-spec | | | | |
| user-info and host | same URI as used as | | | |
| | Request URI | | | |

| Derivation Path: TS 24.229 [16], | clause A.2.1.4.7a, A.2.2.4.7 | 'a | | |
|----------------------------------|------------------------------|---|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| port | not present | | | |
| tag | not present | | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Value assigned by the SS | | | |
| Cseq | | | RFC 3261 [22] | |
| value | Value assigned by the SS | | | |
| method | "MESSAGE" | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | "67" | The recommended initial value is 70 in RFC 3261. Assuming 3 hops as according to the Via header this results in a value of 67 in the message sent to the UE | | |

| Derivation Path: TS 24.229 [16], | | | Doforon | Condition |
|--|---|---|------------------------------|-------------------|
| Information Element P-Asserted-Service | Value/remark | Comment | Reference | Condition |
| | | | RFC 6050 [31] | MCDATA |
| Service-ID | "urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | |
| Accept-Contact | | | | LOCATIO N-INFO |
| ac-value[1] | | | | |
| feature-param | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | | | MCVideo |
| req-param | "require" | | | |
| explicit-param | "explicit" | | | |
| Accept-Contact | | | RFC 3841 [29] | MCDATA |
| ac-value[1] | "····································· | | | |
| feature-param | "+g.3gpp.mcdata.sds" | | | |
| req-param | "require" | | | |
| explicit-param ac-value[2] | "explicit" | | | |
| feature-param | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | |
| req-param | "require" | | | |
| explicit-param | "explicit" | | | |
| P-Asserted-Identity | | | RFC 3325 [32] | MCDATA |
| name-addr | px_MCData_ID_User_ B | The public user identity of the originating MCData User | | |
| Content-Type | | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | length of message- body | | | |
| Message-body | | | RFC 3261 [22] | |
| MIME body part | | MCPTT/MCVideo/MCD ata Info | | |
| MIME-part-headers | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-info+xml" | | | |
| | "application/vnd.3gpp. mcvideo-info+xml" | | | MCVIDEO |
| | "application/vnd.3gpp. mcdata-info+xml" | | | MCDATA |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPTT-Info as described in Table 5.5.3.2.2-1 | o.g | TS 24.379 [9] clause F.1 | |
| | MCVideo-Info as described in Table 5.5.3.2.2-2 | | TS 24.281 [86] clause F.1 | MCVIDEO |
| | MCData-Info as described in Table 5.5.3.2.2-3 | | TS 24.282 [87] clause D.1.2 | MCDATA |
| MIME body part | | Affiliation-Command | | AFFILIATI ON |

| Information Element MIME-part-headers MIME-Content-Type | Value/remark "application/vnd.3gpp. mcptt-affiliation- | Comment | Reference | Condition |
|---|--|--|---|---|
| | mcptt-affiliation- | | <u> </u> | I |
| ivilivi⊵-Content-Type | mcptt-affiliation- | ĺ | | |
| | command+xml" | | | |
| | "application/vnd.3gpp. mcvideo-affiliation- command+xml" | | | MCVIDEO |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the affiliation-command XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPPT-Affiliation- Command as described in Table 5.5.3.7-1 | | TS 24.379 [9] clause F.4 | MOVUDEO |
| | MCVideo-Affiliation- Command as described in Table 5.5.3.7-2 | | TS 24.281 [86] clause F.4 | MCVIDEO |
| MIME body part | | Resource lists | RFC 5366 [35] | PRIVATE- CALL |
| MIME-part-headers | | | | |
| MIME-Content-Type | "application/resource- lists+xml" | | | |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Resource-lists as described in Table 5.5.3.3.2-1 | | | |
| | Resource-lists as described in Table 5.5.3.3.2-2 | | | MCVIDEO |
| | Resource-lists as described in Table 5.5.3.3.2-3 | | | MCDATA |
| MIME body part | | Location info | | LOCATIO N-INFO OR EMERGEN CY-CALL OR IMMPERIL -CALL Editor's note: EMERGEN CY-CALL and IMMPERIL -CALL to be removed when being replaced by LOCATIO N-INFO in all references to this |
| MIME-part-headers | | | | table |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|--|------------------------------|-----------|
| MIME-Content-Type | "application/vnd.3gpp. mcptt-location- info+xml" | | | |
| | "application/vnd.3gpp. mcvideo-location- info+xml" | | | MCVIDEO |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Location-info as described in Table 5.5.3.4.2-1 | | TS 24.379 [9] clause F.3 | |
| | Location-info as described in Table 5.5.3.4.2-2 | | TS 24.281 [86] clause F.3 | MCVIDEO |
| MIME body part | | SDS SIGNALLING PAYLOAD | | MCDATA |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcdata-signalling" | | | |
| MIME-part-body | As described in Table 5.5.3.8.2-1 | | TS 24.282 [87] | |
| MIME body part | | DATA PAYLOAD | | MCDATA |
| MIME-part-headers | | | | |
| Content-Type | application/vnd.3gpp.m cdata-payload | | | |
| MIME-part-body | As described in Table 5.5.3.9-2 | | TS 24.282 [87] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-2 | | TS 24.379 [9] | |

5.5.2.8 SIP NOTIFY

This message is sent by the SS.

Table 5.5.2.8-1: SIP NOTIFY

| Derivation Path: TS 24.229 [16] | | _ | | |
|---------------------------------|--|---|-----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Request-Line | | | RFC 3261 [22] | |
| Method | "NOTIFY" | | | |
| Request-URI | same URI as the UE | | | |
| | has provided earlier in | | | |
| | the Contact header of | | | |
| | the SUBSCRIBE | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] | |
| sent-protocol[1] | "SIP/2.0/TCP" | | | |
| sent-by[1] | | | | |
| host | P-CSCF address of the | P-CSCF address as | | |
| | SS | assigned to the UE via NAS signalling or P- | | |
| | | CSCF discovery | | |
| port | protected server port of the SS | | | |
| via-branch[1] | Value assigned by the | | | |
| | SS starting with 'z9hG4bK' | | | |
| sent-protocol[2] | "SIP/2.0/UDP" | | | |
| sent-by[2] | 0,2.0,001 | | | |
| host | "scscf.3gpp.org" | | | |
| port | not present | | | |
| via-branch[2] | Value assigned by the | | | |
| via-brancii[2] | SS starting with | | | |
| sent-protocol[3] | "SIP/2.0/UDP" | | | |
| sent-by[3] | | | | |
| host | host name of the MC | | | |
| nost | server | | | |
| | tsc_MCX_CMS_Hostna | | | CONFIG |
| | me | | | CONTIG |
| | tsc_MCX_GMS_Hostn | | | GROUPC |
| | ame | | | ONFIG |
| nort | | | | UNFIG |
| port | not present | | | |
| via-branch[3] | Value assigned by the SS starting with 'z9hG4bK' | | | |
| From | 20110 1511 | | RFC 3261 [22] | |
| addr-spec | same URI as received | Remote URI of the | 111 0 0201 [22] | |
| addi-spec | in the To header of the | dialog (from the UE's | | |
| | SUBSCRIBE message | point of view) | | |
| tag | same tag as in the To- | Remote tag of the | | |
| way | header of the response | dialog (from the UE's | | |
| | which has established | point of view) | | |
| | the dialog | point or viour) | | |
| То | the dialog | | RFC 3261 [22] | |
| addr-spec | same URI as received | Local URI of the dialog | 111 0 0201 [22] | |
| auur-spec | in the From header of the SUBSCRIBE | (from the UE's point of view) | | |
| | message | | | |
| tag | same value as received in From tag of the | Local tag of the dialog (from the UE's point of | | |
| | SUBSCRIBE message | view) | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | same as value received in SUBSCRIBE | | | |
| 0 | message | | DE0 000 : **** | |
| Cseq | | | RFC 3261 [22] | |
| value | value of CSeq sent by | | | |
| | the SS within its | | | |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "NOTIFY" | | | |

| Derivation Path: TS 24.229 [16] | | | | |
|---------------------------------|---|--|--------------------------------|----------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Contact | | | RFC 3261 [22] | |
| addr-spec | / MODIT DILL O | | | |
| user-info and host | tsc_MCPTT_PublicSer viceId_A | | | |
| | px_MCVideo_PublicSer viceId_A | | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | | | MCData |
| | "sip:" & tsc_MCX_CMS_Hostna | | | CONFIG |
| | me "sip:" & tsc_MCX_GMS_Hostn ame | | | GROUPC ONFIG |
| port | not present | | | |
| Event | | | RFC 6665 [39] RFC 3842 [61] | |
| event-type | "presence" | | 111 0 0042 [01] | PRESENC E-EVENT |
| | "xcap-diff" | | | CONFIG. GROUPC ONFIG |
| Max-Forwards | | | RFC 3261 [22] | OIVI IG |
| value | "67" | The recommended initial value is 70 in RFC 3261. Assuming 3 hops as according to the Via header this results in a value of 67 in the | 111 0 3231 [22] | |
| | | message sent to the UE | 750 222 1221 | |
| Subscription-State | | | RFC 6665 [39] | |
| substate-value | "active" | | | |
| expires | "7200" | | DE0 0004 [00] | |
| Content-Type | | | RFC 3261 [22] RFC 3842 [61] | |
| media-type | "multipart/mixed" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | length of message- body | | | |
| Message-body | | | RFC 3261 [22] | |
| MIME body part | | PIDF | | PRESENC E-EVENT |
| MIME-part-headers | | | | |
| Content-Type | "application/pidf+xml" | | | |
| MIME-part-body | PIDF as described in Table 5.5.3.5-1 | | TS 24.379 [9] clause 9.3.1 | |
| | PIDF as described in Table 5.5.3.5-2 | | TS 24.281 [86] clause 8.3.1 | MCVIDEO |
| | PIDF as described in Table 5.5.3.5-3 | | TS 24.282 [87] clause 8.4.1 | MCDATA |
| MIME body part | | xcap-diff | | CONFIG, GROUPC ONFIG |
| MIME-part-headers | | | | 514110 |
| Content-Type | "application/xcap- diff+xml" | | | |
| MIME-part-body | xcap-diff document as described in Table 5.5.3.12-1 | | | CONFIG |
| | xcap-diff document as described in Table 5.5.3.12-2 | | | GROUPC ONFIG |
| MIME body part | | Signature | | |

| Derivation Path: TS 24.229 [16] c | lause A.2.1.4.8, A2.2.4.8 | | | |
|-----------------------------------|--|---------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-2 | | TS 24.379 [9] | |

5.5.2.9 SIP OPTIONS

Editor's note: It shall be specified who is sending the message.

Table 5.5.2.9-1: SIP OPTIONS

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|---|--|--------------------------------|-----------|
| Request-Line | - alao/ioillain | - Commont | 1.010101100 | Jonation |
| Method | "OPTIONS" | | | |
| Request-Disposition | px_MCPTT_Client_A_I | | | |
| • • | D | | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | _ID | | | |
| | px_MCData_Client_A_I | | | MCDATA |
| OID) (| D | | | |
| SIP-Version | "SIP/2.0" | | DE0 0004 [00] | |
| Via | | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | | KFC 3361 [33] | |
| sent-by | any allowed value | IP address or FQDN | | |
| Sent-by | arry allowed value | and protected server | | |
| via-branch | any allowed value | Value starting with | | |
| | | 'z9hG4bK' | | |
| From | | | RFC 3261 [22] | |
| addr-spec | px_MCPTT_Client_A_I | | | |
| | D | | | |
| | px_MCVideo_Client_A | | | MCVIDEO |
| | _ID | | | |
| | px_MCData_Client_A_I D | | | MCDATA |
| tag | "1" | | | |
| То | | | RFC 3261 [22] | |
| - d do | to a MODITE Dublic Com | | RFC 5031 [54] | |
| addr-spec | tsc_MCPTT_PublicSer | | | |
| | viceId_A px_MCVideo_PublicSer | | | MCVIDEO |
| | viceId_A | | | |
| | px_MCData_PublicSer | | | MCDATA |
| | viceId_A | | | |
| Call-ID | | | RFC 3261 [22] | |
| Callid | same value as in the | | | |
| | INVITE | | | |
| CSeq | 100 | | RFC 3261 [22] | |
| value | value of CSeq sent by | | | |
| | the SS within its | | | |
| | previous request in the same dialog but | | | |
| | increased by one | | | |
| Method | "INFO" | | | |
| Contact | 1111 3 | | RFC 3261 [22 | |
| | | | RFC 3840 [33] | |
| addr-spec | SIP URI | | | |
| user-info and host | IP address or FQDN | | | |
| | (px_MCPTT_Client_A_I | | | |
| | D) | | | |
| | IP address or FQDN | | | MCVIDEO |
| | (px_MCVideo_Client_A _ID) | | | |
| | IP address or FQDN | | | MCDATA |
| | (px_MCData_Client_A_ | | | |
| feature-param | ID) | T | 1 | |
| | "+g.3gpp.mcptt" | This media feature tag | | |
| | | when used in a SIP request or a SIP | | |
| | | request or a SIP response indicates that | | |
| | | the function sending | | |
| | | the SIP message | | |
| | | supports Mission | | |
| | | Critical Push To Talk | | |
| | | (MCPTT) | | |
| | | communication. | | 1 |

| when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) (MCVide | | | | | |
|--|-----------------|-------------------------|------------------------|---------------|---------|
| when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. **g.3gpp.mcdata.sds** This media feature tag when used in a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. This media feature tag when used in a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. "*g.3gpp.icsi-ref-um:um-7:3gpp-service.ims.icsi.mcvide of the mission critical video (MCVideo) service. "*g.3gpp.icsi-ref-um:um-7:3gpp-service.ims.icsi.mcvide of the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This leafure tag indicates that the device supports audio as a streaming media type. feature-param "video" This feature tag indicates that the device supports audio as a streaming media type. feature-param "text" This leafure tag indicates that the device supports video as a streaming media type. feature-param "text" This feature tag indicates that the device supports video as a streaming media type. | | "+g.3gpp.mcvideo" | This media feature tag | | MCVIDEO |
| request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. *+g.3gpp.mcdata.sds* This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. Feature-param *+g.3gpp.icsi-refl-um:um-7:3gpp-service.ims.icsi.mcptt* *+g.3gpp.icsi-refl-um:um-7:3gpp-service.ims.icsi.mcvide or "+g.3gpp.icsi-refl-um:um-7:3gpp-service.ims.icsi.mcvide or "+g.3gpp.icsi-refl-um:um-7:3gpp-service.ims.icsi.mcvide or "his URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical data (MCData) service. This feature tag indicates that the device bas the capabilities to support the mission critical data (MCData) service. This feature tag indicates that the device supports audio as a streaming media type. feature-param *video* This feature tag indicates that the device supports video as a streaming media type. feature-param *text* This feature tag indicates that the device supports video as a streaming media type. feature-param *text* This feature tag indicates that the device supports video as a streaming media type. | | | | | |
| response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. "+g.3gpp.mcdata.sds" This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. feature-param "+g.3gpp.icsi-ref=urm.urm-7:3gpp-service.ims.icsi.mcptt" service. This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. "+g.3gpp.icsi-ref=urm.urm-7:3gpp-service.ims.icsi.mcvide o" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi-ref=urm.urm-7:3gpp-service.ims.icsi.mcvide o" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi-ref=urm.urm-7:3gpp-service.ims.icsi.mcdata.sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This IRN indicates that the device has the capabilities to support the mission critical video (MCData) service. This feature tag indicates that the device supports audio as a streaming media type. feature-param "video" This feature tag indicates that the device supports video as a streaming media type. feature-param "text" This feature tag indicates that the device supports video as a streaming media type. | | | | | |
| the function sending the SIP message supports Mission Critical Video (MCVideo) communication. "+g.3gpp.mcdata.sds" This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. feature-param "+g.3gpp.icsi-ref=um:urn-7:3gpp-service.ims.icsi.mcptt" This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. "+g.3gpp.icsi-ref=um:urn-7:3gpp-service.ims.icsi.mcvide o" "+g.3gpp.icsi-ref=um:urn-7:3gpp-service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi-ref=um:urn-7:3gpp-service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi-ref=um:urn-7:3gpp-service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This feature tag indicates that the device supports video as a streaming media type. feature-param "video" This feature tag indicates that the device supports video as a streaming media type. feature-param "text" This feature tag indicates that the device supports video as a streaming media type. | | | | | |
| the SIP message supports Mission Critical Video (MCVideo) (CMCVideo) (MCVideo) (MCDI (MCDI (MCVideo) (MCDI (MC | | | | | |
| supports Mission Critical Video (MCVideo) (MCVideo) communication. This media feature tag when used in a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. (MCData) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service. "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service. "-g.3gpp.icsi- ref=urn:urn-7: | | | | | |
| Critical Video (MCVideo) (MCVideo) (Communication. This media feature tag when used in a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service. "+g.3gpp.icsi-ref=urn.urn-7:3gpp-service.ims.icsi.mcvide o" "+g.3gpp.icsi-ref=urn.urn-7:3gpp-service.ims.icsi.mcvide o" "+g.3gpp.icsi-ref=urn.urn-7:3gpp-service.ims.icsi.mcvide o" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. "+g.3gpp.icsi-ref=urn.urn-7:3gpp-service.ims.icsi.mcdata. sds" This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service. This URN indicates that the device has the capabilities to support the mission critical video (MCData) service. This Geature tag indicates that the device supports audio as a streaming media type. feature-param "video" This feature tag indicates that the device supports video as a streaming media type. feature-param "text" This feature tag indicates that the device supports video as a streaming media type. | | | | | |
| (MCVideo) communication. "+g.3gpp.mcdata.sds" This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. feature-param | | | | | |
| "+g.3gpp.mcdata.sds" This media feature tag when used in a SIP request or a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. feature-param | | | | | |
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| type. | | | _ | | |
| Accept type. | Accent | | type. | | |
| media-range "application/sdp" | | "application/cdp" | | | |
| | | application/sup | | DEC 2064 [00] | |
| | | l annuallar de la | Nian and | KFU 3201 [22] | |
| value any allowed value Non-zero value | | any allowed value | Non-zero value | 5-0 | |
| Content-Length RFC 3261 [22] | | | | RFC 3261 [22] | |
| value "0" No message body | value | "0" | | | |
| included - end of SIP | | | included - end of SIP | | |
| message | | | message | | |

Editor's note: Table 5.5.2.9-1 needs to be reviewed

5.5.2.10 SIP PRACK

5.5.2.10.1 SIP PRACK from the UE

Table 5.5.2.10.1-1: SIP PRACK from the UE

| Derivation Path: TS 24.229 [16] | | | Doforonos | Candition |
|---------------------------------|--|--------------------------------------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Status-Line | "DD A OLC" | | RFC 3261 [22] | |
| Method Request-URI | "PRACK" same URI as the SS | | | |
| Request-ORI | has sent earlier in the | | | |
| | Contact header of a | | | |
| | response within the | | | |
| | same dialog | | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | | | RFC 3261 [22] | |
| sent-protocol | "SIP/2.0/UDP" | | | UDP |
| | "SIP/2.0/TCP" | | | TCP |
| sent-by | same value as in INVITE message | | | |
| via-branch | Value starting with | | | |
| | 'z9hG4bK' | | | |
| Route | | | RFC 3261 [22] | |
| route-param list | URIs of the Record- | | | |
| | Route header sent to | | | |
| | the UE in the response | | | |
| | which has established | | | |
| | the dialog, in reverse | | | |
| From | order | | DEC 2064 [00] | |
| From addr spec | same value as in the | Local URI of the dialog | RFC 3261 [22] | |
| addr-spec | INVITE message | (from the UE's point of | | |
| | INVITE Illessage | view) | | |
| tag | same value as in the | Local tag of the dialog | | |
| tag | INVITE | ID (from the UE's point | | |
| | | of view) | | |
| То | | , | RFC 3261 [22] | |
| addr-spec | same value as in the | Remote URI of the | • 1 | |
| • | INVITE | dialog (from the UE's point of view) | | |
| tag | same tag as in the To- | Remote tag of the | | |
| | header of the response | dialog ID (from the UE's | | |
| | which has established | point of view) | | |
| 0.11.15 | the dialog | | 550 000/ 500 | |
| Call-ID | | | RFC 3261 [22] | |
| callid | same value as in | | | |
| CSeq | INVITE message | | DEC 2264 [22] | |
| value | value of CSeq sent by | | RFC 3261 [22] | |
| valu c | the endpoint within its | | | |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "PRACK" | | | _ |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | | |
| RAck | | | RFC 3261 [22] | |
| response-num | same value as in RSeq | | | |
| | header of the reliable | | | |
| | response | | | |
| cseq-num | same value as in CSeq | | | |
| m ath a d | of reliable response | | | |
| method | same value as in CSeq of reliable response | | | |
| P-Access-Network-Info | or reliable response | | RFC 7315 [52] | |
| access-net-spec | Access network | | NEC (313 [32] | |
| access-liet-spec | technology and, if | | | |
| | applicable, the cell ID | | | |
| Content-Length | if present | | RFC 3261 [22] | |
| value | "0" | No message body | | |
| | 1 | included | • | |

5.5.2.10.2 SIP PRACK from the SS

Table 5.5.2.10.2-1: SIP PRACK from the SS

| Information Element | 6] clause A.2.1.4.10, A2.2.4.10 | Comment | Reference | Condition |
|---------------------|--|---|---------------|-----------|
| Status-Line | | | RFC 3261 [22] | |
| Method | "PRACK" | | | |
| Request-URI | same URI as the UE has sent earlier in the Contact header of a response within the same dialog | Contact URI of the UE ("callee") | | |
| SIP-Version | "SIP/2.0" | | | |
| Via | same as in the INVITE but with updated via- branches | see Table 5.5.2.5.2-1 | RFC 3261 [22] | |
| From | | | RFC 3261 [22] | |
| addr-spec | same URI as in the From-header of the INVITE | remote URI of the dialog (from the UE's point of view) | | |
| tag | same tag as in the From-header of the INVITE | remote tag of the dialog (from the UE's point of view) | | |
| То | | | RFC 3261 [22] | |
| addr-spec | same URI as in the To- header of the INVITE | local URI of the dialog (from the UE's point of view) | | |
| tag | same tag as in the To- header of the response which has established the dialog | local tag of the dialog (from the UE's point of view) | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Same value as in INVITE | Call-Id of the dialog | | |
| CSeq | | | RFC 3261 [22] | |
| value | value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one | | | |
| method | "PRACK" | | 550 000/ 700 | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | "68" | The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE | | |
| RAck | | | RFC 3261 [22] | |
| response-num | same value as in RSeq header of the reliable response | | | |
| cseq-num | same value as in CSeq of reliable response | | | |
| method | same value as in CSeq of reliable response | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

5.5.2.11 SIP PUBLISH

This message is sent by the UE.

Table 5.5.2.11-1: SIP PUBLISH

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|---|---|--------------------------------|------------|
| Request-Line | | | RFC 3261 [22] RFC 5031 [54] | |
| Method | "PUBLISH" | | | |
| Request-URI | tsc_MCPTT_PublicSer viceId_A | The public service identity identifying the originating participating MCPTT function serving the MCPTT user | | |
| | px_MCVideo_PublicSer viceId_A | The public service identity identifying the originating participating MCVideo function serving the MCVideo user | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | The public service identity identifying the originating participating MCData function serving the MCData user | | MCDATA |
| SIP-Version | "SIP/2.0" | | | |
| Route | OID LIE! | | RFC 3261 [22] | |
| addr-spec[1] user-info and host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| uri-parameters | "lr" | | | |
| addr-spec[2] | SIP URI | | | |
| user-info and host | "scscf.3gpp.org" | | | |
| port | not present | | | |
| uri-parameters Via | If | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" "SIP/2.0/TCP" | | KFC 3361 [33] | UDP TCP |
| sent-by | 011 7216/1101 | | | 101 |
| user-info and host | IP address or FQDN | Either the UE's IP address or its home domain name | | |
| port | protected server port of the UE | as assigned during registration | | |
| via-branch | Value starting with 'z9hG4bK' | | | |
| From | | | RFC 3261 [22] | |
| addr-spec user-info and host | Default public user id (px_MCX_SIP_PublicU serId_A_1) | | | |
| port | any value of present | | | |
| tag To | any value | | RFC 3261 [22] | |
| addr-spec | | | RFC 5031 [54] | |
| user-info and host | same URI as used as Request URI | | | |
| port | not present | | | |
| tag | not present | | | |
| Expires | | | RFC 3261 [22] RFC 3903 [43] | |
| delta-seconds | "4294967295" | | | |

| Derivation Path: TS 24.229 [16] | clause A.2.1.4.10A, A.2.2.4. | 10A | | |
|---------------------------------|---|-------------------|-----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Require | | | RFC 3261 [22] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Proxy-Require | | | RFC 3261 [22] | |
| | <u> </u> | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | DEC 0000 (50) | |
| Security-Verify sec-mechanism | | | RFC 3329 [53] | |
| sec-mechanism | same value as Security -Server header sent by | | | |
| | SS during registration | | | |
| Cseq | 33 during registration | | RFC 3261 [22] | |
| value | any allowed value | | 111 0 0201 [22] | |
| method | "PUBLISH" | | | |
| Call-ID | . 022.0.1 | | RFC 3261 [22] | |
| callid | any allowed value | | 111 0 0201 [22] | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | | | |
| P-Access-Network-Info | , | | RFC 7315 [52] | |
| | | | RFC 7913 [51] | |
| access-net-spec | Access network | | | |
| - | technology and, if | | | |
| | applicable, the cell ID | | | |
| Event | | | RFC 3903 [43] | |
| event-type | "presence" | | | PRESENC |
| | | | | E-EVENT |
| | "poc-settings" | | | CONFIG |
| | | | | OR POC- |
| | | | | SETTINGS |
| P-Preferred-Service | | | RFC 6050 [31] | -EVENT |
| Service-ID | "urn:urn-7:3gpp- | | TS 24.379 [9] | |
| Selvice-ID | service.ims.icsi.mcptt" | | clause 7.2.1A | |
| | "urn:urn-7:3gpp- | | TS 24.281 [86] | MCVIDEO |
| | service.ims.icsi.mcvide | | clause 7.2.1A | MOVIDEO |
| | 0" | | | |
| | "urn:urn-7:3gpp- | | TS 24.282 [87] | MCDATA |
| | service.ims.icsi.mcdata | | clause 7.2.1A | |
| | " | | | |
| Accept | | | RFC 3261 [22] | PRESENC |
| | | | | E-EVENT |
| media-range | "application/pidf+xml" | | | |
| port | not present | | DE0 5004 7503 | |
| Content-Type | lloculting of lands of all | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | DEC 2004 [00] | |
| Content-Length | present in case of TCP and when there is a | | RFC 3261 [22] | |
| | message body | | | |
| | (otherwise | | | |
| | optional)length of | | | |
| | message-body | | | |
| value | any value | | | |
| Message-body | , | | RFC 3261 [22] | |
| MIME body part | | MCPTT/MCVideo/MCD | . 7 | |
| | | ata Info | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. | | | _ |
| | mcptt-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCDATA |
| | mcdata-info+xml" | | | |

| Derivation Path: TS 24.229 [16 | | | | |
|--------------------------------|--|---|---------------------------------|---|
| Information Element | Value/remark | Comment | Reference | Condition |
| Content-ID | any value | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPTT-Info as described in Table 5.5.3.2.1-1 | | TS 24.379 [9] clause F.1 | |
| | MCVideo-Info as described in Table 5.5.3.2.1-2 | | TS 24.281 [86] clause F.1 | MCVIDEO |
| | MCData-Info as described in Table 5.5.3.2.1-3 | | TS 24.282 [87] clause D.1 | MCDATA |
| MIME body part | | PIDF | | PRESENC E-EVENT |
| MIME-part-headers | | | | |
| Content-Type | "application/pidf+xml" | | | |
| MIME-part-body | PIDF as described in Table 5.5.3.5-1 | | TS 24.379 [9] clause 9.3.1 | |
| | PIDF as described in Table 5.5.3.5-2 | | TS 24.281 [86] clause 8.3.1 | MCVIDEO |
| | PIDF as described in Table 5.5.3.5-3 | | TS 24.282 [87] clause 8.3.1 | MCDATA |
| MIME body part | | MIKEY | | CONFIG |
| MIME-part-headers | | | | |
| Content-Type | "application/mikey" | | RFC 3830 [24] | |
| MIME-part-body | MIKEY message as described in Table 5.5.9.1-1 | MIKEY message, containing the CSK | TS 33.180 [94] | |
| MIME body part | | PoC-Settings | | CONFIG OR POC- SETTINGS -EVENT |
| MIME-part-headers | | | | |
| Content-Type | "application/poc- settings+xml" | | RFC 4354 [103] | |
| Content-ID | any value | Unique URL identifying the PoC-settings XML MIME body; used as reference in the signature MIME body | | |
| MIME-part-body | PoC Settings as described in Table 5.5.3.11-1 | | TS 24.379 [9] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

5.5.2.12 SIP REFER

This message is sent by the UE outside of a dialog.

Table 5.5.2.12-1: SIP REFER

| Derivation Path: TS 24.229 [16] | clause A.2.1.4.11, A.2.2.4.11 | | Doforonce | Condition |
|---------------------------------|---|---|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Request-Line | | | RFC 3261 [22] RFC 5031 [54] | |
| Method | "REFER" | | KFC 5031 [54] | |
| Request-URI | tsc_MCX_SessionID_B | session identity of the | | |
| request ord | ISC_IVIOX_CCGSIOTIID_B | pre-established session | | |
| SIP-Version | "SIP/2.0" | p. 0 00.00 | | |
| Via | | | RFC 3261 [22] | |
| | | | RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | | | UDP |
| | "SIP/2.0/TCP" | | | TCP |
| sent-by | | | | |
| host | IP address or FQDN | Either the UE's IP address or its home domain name | | |
| port | protected server port of the UE | | | |
| via-branch | Value starting with 'z9hG4bK' | | | |
| Route | | | RFC 3261 [22] | |
| addr-spec[1] | SIP URI | | | |
| user-info and host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| uri-parameters | "lr" | | | |
| addr-spec[2] | SIP URI | | | |
| user-info and host | "scscf.3gpp.org" | | | |
| port | not present | | | |
| uri-parameters | "lr" | | DEC 2004 (201 | |
| From | | | RFC 3261 [22] | |
| addr-spec user-info and host | Default public user id (px_MCX_SIP_PublicU serId_A_1) | | | |
| port | not present | | | |
| tag | any allowed value | | | |
| То | any anomou varao | | RFC 3261 [22] RFC 5031 [54] | |
| addr-spec | | | , | |
| user-info and host | Same URI as request URI | | | |
| port | not present | | | |
| tag | not present | | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | any allowed value | | | |
| CSeq | | | RFC 3261 [22] | |
| value | any allowed value | | | |
| method | "REFER" | | | |
| Supported | | | RFC 3261 [22] RFC 6442 [62] RFC 4488 [36] | |
| option-tag | "norefersub" | | - 1-1 | |
| Refer-Sub | | | RFC 4488 [36] | |
| refer-sub-value | "false" | | | |
| Target-Dialog | | | RFC 4538 [37] | |
| callid | Callid of the pre- established session | Callid as used by the UE in the INVITE for establishment of the pre-established session | | |
| Require | | pre-established session | RFC 3261 [22] RFC 3312 [56] RFC 3329 [53] | |

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|---|---|----------------|-----------|
| option-tag | "sec-agree" | Comment | TO GO GO GO | Condition |
| option-tag | "multiple-refer" | | | |
| Proxy-Require | munipie-reiei | | RFC 3261 [22] | |
| r loxy-require | | | RFC 3201 [22] | |
| option-tag | "sec-agree" | | 10 0029 [00] | |
| Security-Verify | 3ec-agree | | RFC 3329 [53] | |
| sec-mechanism | same value as Security | | Ki C 3329 [33] | |
| Sec-mechanism | -Server header sent by | | | |
| | SS during registration | | | |
| Contact | | | RFC 3261 [22 | |
| | | | RFC 3840 [33] | |
| addr-spec | SIP URI | | | |
| user-info and host | IP address or FQDN (px_MCPTT_Client_A_I | | | |
| | D) | | | MOVUDEO |
| | IP address or FQDN (px_MCVideo_Client_A ID) | | | MCVIDEO |
| | IP address or FQDN | | | MCDATA |
| | (px_MCData_Client_A_ | | | |
| factions in a second | ID) | This would for the | | |
| feature-param | "+g.3gpp.mcptt" | This media feature tag | | |
| | | when used in a SIP request or a SIP | | |
| | | | | |
| | | response indicates that the function sending | | |
| | | the SIP message | | |
| | | | | |
| | | supports Mission Critical Push To Talk | | |
| | | (MCPTT) | | |
| | | communication. | | |
| | "+g.3gpp.mcvideo" | This media feature tag | | MCVIDEO |
| | +g.sgpp.mcvideo | when used in a SIP | | MCVIDEO |
| | | request or a SIP | | |
| | | response indicates that | | |
| | | | | |
| | | the function sending | | |
| | | the SIP message | | |
| | | supports Mission | | |
| | | Critical Video | | |
| | | (MCVideo) | | |
| | ". a. 2 a. | communication. | | MODATA |
| | "+g.3gpp.mcdata.sds" | This media feature tag | | MCDATA |
| | | when used in a SIP | | |
| | | request or a SIP | | |
| | | response indicates that the function sending | | |
| | | the SIP message | | |
| | | | | |
| | | supports Mission | | |
| | | Critical Data (MCData) | | |
| footure perem | "La 2ann ioni | communication. | | |
| feature-param | "+g.3gpp.icsi- | This URN indicates that | | |
| | ref=urn:urn-7:3gpp- | the device has the | | |
| | service.ims.icsi.mcptt" | capabilities to support | | |
| | | the mission critical | | |
| | | push to talk (MCPTT) | | |
| | "La 2ann icci | Service. | | MCVIDEO |
| | "+g.3gpp.icsi- | This URN indicates that | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | the device has the | | |
| | service.ims.icsi.mcvide | capabilities to support | | |
| | 0" | the mice:::::! | | |
| | О" | the mission critical | | |
| | o" | the mission critical video (MCVideo) service. | | |

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------|--|---------------|----------------|
| o | "+g.3gpp.icsi- | This URN indicates that | ROTOTOTOG | MCDATA |
| | ref=urn:urn-7:3gpp- | the device has the | | |
| | service.ims.icsi.mcdata. | capabilities to support | | |
| | sds" | the mission critical data | | |
| | | (MCData) service. | | |
| feature-param | "audio" | This feature tag | | MCPTT |
| | | indicates that the | | OR |
| | | device supports audio | | MCVIDEO |
| | | as a streaming media | | |
| | | type. | | 140) ((DE0 |
| feature-param | "video" | This feature tag | | MCVIDEO |
| | | indicates that the device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| reature-param | text | indicates that the | | WODATA |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | | |
| Refer-To | | | RFC 3515 [38] | |
| addr-spec | a Content-ID ("cid") | | | |
| | Uniform Resource | | | |
| | Locator (URL) as | | | |
| | specified in IETF RFC | | | |
| | 2392 that points to an | | | |
| | application/resource- | | | |
| | lists+xml MIME body as | | | |
| | specified in IETF RFC | | | |
| Refer-To | 5366 | | | METHOD |
| Refer-10 | | | | METHOD- BYE |
| addr-spec | tsc_MCX_SessionID_B | The session identity of | | DIL |
| dda spec | ISC_WOX_CCSSIOIIID_B | the pre-established | | |
| | | session to leave. | | |
| method | "BYE" | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | | |
| P-Access-Network-Info | | | RFC 7315 [52] | |
| access-net-specs | Access network | | | |
| | technology and, if | | | |
| | applicable, the cell ID | | | |
| P-Preferred-Service | | | RFC 6050 [31] | |
| Service-ID | "urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | 140) (1550 |
| | "urn:urn-7:3gpp- | | | MCVIDEO |
| | service.ims.icsi.mcvide | | | |
| | _ | | | MCDATA |
| | "urn:urn-7:3gpp- | | | IVICDATA |
| | service.ims.icsi.mcdata | | | |
| Accept-Contact | | | RFC 3841 [29] | |
| ac-value[1] | | | 0 00 11 [20] | |
| feature-param | "+g.3gpp.icsi- | | | |
| . Jataro param | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- | | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| req-param | "require" | | | |
| | | | | |

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|------------------------------|--|
| explicit-param | "explicit" | Comment | Kelelelice | Condition |
| ac-value[2] | ехріісіі | | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| reature-param | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCVIDEO MCDATA |
| | +g.3gpp.mcdata.sus | | | MCDATA |
| req-param | "require" | | | |
| explicit-param | "explicit" | | 550 (5) | |
| Content-Type | | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | | |
| Content-Length | present in case of TCP | | RFC 3261 [22] | |
| | and when there is a | | | |
| | message body | | | |
| | (otherwise optional) | | | |
| Value | any value | length of message- body | | |
| Message-body | Not present | | | METHOD- BYE |
| Message-body | | | RFC 3261 [22] | סוב |
| MIME body part | + | SDP message | 111 0 0201 [22] | |
| | + | ODI Message | | |
| MIME-part-headers | "opplienties /s de " | | DEC 4500 [07] | |
| Content-Type | "application/sdp" | <u> </u> | RFC 4566 [27] | |
| MIME-part-body | SDP Message as described in Table 5.5.3.1.1-1 | | | |
| | SDP Message as | | | MCVIDEO |
| | described in Table 5.5.3.1.1-2 | | | MCVIDEO |
| | SDP Message as described in Table | | | MCDATA |
| MIME body part | 5.5.3.1.1-3 | MCPTT/MCVideo/MCD | | |
| | | ata Info | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-info+xml" | | TS 24.379 [9] cl. 10.1 | MCPTT AND (GROUP- CALL OR CHAT- GROUP- CALL) |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" | | | |
| | "application/vnd.3gpp. mcdata-info+xml" | | | MCDATA |
| Content-ID | any value | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPTT-Info as | J 22 2009 | TS 24.379 [9] | |
| | described in Table 5.5.3.2.1-1 | | clause F.1 | |
| | MCVideo-Info as described in Table 5.5.3.2.1-2 | | TS 24.281 [86] clause F.1 | MCVIDEO |
| | MCData-Info as described in Table 5.5.3.2.1-3 | | TS 24.282 [87] clause D.1 | MCDATA |

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|------------------------------|--|
| MIME body part | | Resource list | RFC 5366 [35] | PRIVATE- CALL OR PRE- ESTABLIS HED- SESSION |
| MIME-part-headers | | | | |
| Content-Type | "application/resource- lists+xml" | | | |
| Content-ID | any value | Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Resource-lists as described in Table 5.5.3.3.1-1 | | | |
| | Resource-lists as described in Table 5.5.3.3.1-2 | | | MCVIDEO |
| | Resource-lists as described in Table 5.5.3.3.1-3 | | | MCDATA |
| MIME body part | | Location info | | MCPTT OR MCVIDEO |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-location- info+xml" | | | |
| | "application/vnd.3gpp. mcvideo-location- info+xml" | | | MCVIDEO |
| Content-ID | any value | Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Location-info as described in Table 5.5.3.4.1-1 | | TS 24.379 [9] clause F.3 | |
| | Location-info as described in Table 5.5.3.4.1-2 | | TS 24.281 [86] clause F.3 | MCVIDEO |
| MIME body part | | Signature | | |
| MIME-part-headers | | | TO 04 5=2 727 | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

| Condition | Explanation |
|--|---|
| PRE-ESTABLISHED-SESSION | Prearranged group call or a Chat group call using a pre-established |
| | session |
| For further conditions see table 5.5.1-1 | |

5.5.2.13 SIP REGISTER

This message is sent by the UE.

Table 5.5.2.13-1: SIP REGISTER

| Derivation Path: TS 24.229 [16] of Information Element | Value/remark | | Doforonce | Condition |
|--|---------------------------------------|--------------------------|-----------------|--|
| | value/remark | Comment | Reference | Condition |
| Request-Line | "DECICTED" | | RFC 3261 [22] | |
| Method | "REGISTER" | 5 " " 115 | | |
| Request-URI | SIP URI of the home | Depending on the UE | | |
| | domain name | configuration the UE | | |
| | (px_MCX_SIP_HomeD | may know the home | | |
| | omain_A) if available at | domain name of the | | |
| | the UE or derived from | SIP core (e.g. when | | |
| | the IMSI otherwise | there is an ISIM) or the | | |
| | | UE needs to derive it | | |
| | | from the IMSI as | | |
| | | according to | | |
| | | 23.003 [69] clause 13.2 | | |
| | | (e.g. when there is a | | |
| | | USIM only) | | |
| SIP-Version | "SIP/2.0" | | DE0 0004 (00) | |
| Route | Not present | | RFC 3261 [22] | |
| Via | | | RFC 3261 [22] | |
| | | | RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" | UE uses UDP for | | UDP |
| | #01D/0.6/7707 | registration | | T05 |
| | "SIP/2.0/TCP | UE uses TCP for | | TCP |
| | | registration | | |
| sent-by | ID address FORM | | | |
| host | IP address or FQDN | | | OID DES |
| port | any value if present | | | SIP_REGI |
| | | | | STER_INI |
| | | | | TIAL |
| | any value if present | | | TCP |
| | protected server port of | | | UDP |
| | the UE when using | | | |
| | UDP | | | |
| via-branch | Value starting with | | | |
| From | 'z9hG4bK' | | DEC 2264 [22] | |
| From | | | RFC 3261 [22] | |
| addr-spec user-info and host | same value as in the | | | |
| user-inio and nost | same value as in the initial REGISTER | | | |
| | Default public user id | Depending on the UE | | SIP_REGI |
| | (px_MCX_SIP_PublicU | configuration the UE | | STER_INI |
| | serId_A_1) if available | may know the default | | TIAL |
| | at the UE or derived | public user id (e.g. | | |
| | from the IMSI otherwise | when there is an ISIM) | | |
| | | or the UE needs to | | |
| | | derive it from the IMSI | | |
| | | as according to | | |
| | | 23.003 [69] | | |
| | | clause 13.4B (e.g. | | |
| | | when there is a USIM | | |
| port | not procest | only) | | |
| port | not present | | | |
| tag To | any value | | | |
| | same value as in From- | | | |
| addr-spec | header | | | |
| tag | Not present | | | |
| tag Contact | 140t present | | RFC 3261 [22] | |
| addr-spec | SIP URI | | 111 0 0201 [22] | |
| user-info and host | IP address or FQDN | | | |
| | any value if present | | | SIP_REGI |
| port | any value ii present | | | STER_INI |
| | | | | TIAL |
| | protected server port of | | | IIAL |
| | | i | i e | i . |
| | the UE | | | |

| | Γ., | 1 | | |
|---|---|---|---|------------------------------|
| | "+g.3gpp.mcvideo" | This media feature tag | | MCVIDEO |
| | | when used in a SIP | | |
| | | request or a SIP | | |
| | | response indicates that | | |
| | | the function sending | | |
| | | the SIP message | | |
| | | supports Mission | | |
| | | Critical Video | | |
| | | (MCVideo) | | |
| | | communication. | | |
| | "+g.3gpp.mcdata.sds" | This media feature tag | | MCDATA |
| | +g.5gpp.mcdata.sus | when used in a SIP | | WODATA |
| | | | | |
| | | request or a SIP | | |
| | | response indicates that | | |
| | | the function sending | | |
| | | the SIP message | | |
| | | supports Mission | | |
| | | Critical Data (MCData) | | |
| | | communication. | | |
| feature-param | "+g.3gpp.icsi- | | | |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- | This URN indicates that | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | the device has the | | |
| | service.ims.icsi.mcvide | capabilities to support | | |
| | 0" | the mission critical | | |
| | | video (MCVideo) | | |
| | | service. | | |
| | "+g.3gpp.icsi- | This URN indicates that | | MCDATA |
| | ref=urn:urn-7:3gpp- | the device has the | | WODITII |
| | service.ims.icsi.mcdata. | | | |
| | sds" | capabilities to support the mission critical data | | |
| | Sus | | | |
| facture reserve | "avdia" | (MCData) service. | | MODTT |
| feature-param | "audio" | | | MCPTT |
| | | | | OR NO. |
| | | | | MCVIDEO |
| feature-param | "video" | This feature tag | | MCVIDEO |
| | | indicates that the | | |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| | | indicates that the | | |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | | |
| feature-param | "expires=600000" if | | | |
| | present | | | |
| Expires | Present if no expires | | RFC 3261 [22] | |
| | | | | I |
| | parameter in Contact | | RFC 3903 1431 | |
| | parameter in Contact header | | RFC 3903 [43] | |
| value | header | | RFC 3903 [43] | |
| value Require | | | | |
| value Require | header | | RFC 3261 [22] | |
| Require | header "600000" | | | |
| Require option-tag | header | | RFC 3261 [22] RFC 3329 [53] | |
| Require | header "600000" | | RFC 3261 [22] RFC 3329 [53] | |
| option-tag Proxy-Require | header "600000" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] | |
| option-tag Proxy-Require option-tag | header "600000" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] | |
| option-tag Proxy-Require | header "600000" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] | |
| option-tag Proxy-Require option-tag | header "600000" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3261 [22] RFC 3261 [22] RFC 6442 [62] | |
| option-tag Proxy-Require option-tag Supported | header "600000" "sec-agree" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] | |
| option-tag Proxy-Require option-tag Supported option-tag | header "600000" "sec-agree" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3261 [22] RFC 3261 [22] RFC 6442 [62] | |
| option-tag Proxy-Require option-tag Supported option-tag option-tag option-tag | header "600000" "sec-agree" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 6442 [62] RFC 4488 [36] | |
| option-tag Proxy-Require option-tag Supported option-tag option-tag option-tag Cseq | header "600000" "sec-agree" "sec-agree" "path" "timer" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3261 [22] RFC 3261 [22] RFC 6442 [62] | |
| option-tag Proxy-Require option-tag Supported option-tag option-tag option-tag | header "600000" "sec-agree" "sec-agree" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 6442 [62] RFC 4488 [36] | SIP_REGI |
| option-tag Proxy-Require option-tag Supported option-tag option-tag option-tag Cseq | header "600000" "sec-agree" "sec-agree" "path" "timer" | | RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 3329 [53] RFC 3261 [22] RFC 6442 [62] RFC 4488 [36] | SIP_REGI STER_INI TIAL |

| | value sent by the UE in | | | |
|-------------------|---|-------------------------|-----------------|------------------|
| | previous REGISTER | | | |
| | incremented by one | | | |
| method | "REGISTER" | | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | any value | | 0 020 : [22] | |
| Security-Client | any value | | RFC 7315 [52] | |
| mechanism-name | "ipsec-3gpp" | | 141 0 7010 [02] | |
| algorithm | "hmac-sha-1-96" | | | |
| | "esp" (if present) | | | |
| protocol mode | "trans" (if present) | | | |
| | | | | |
| encrypt-algorithm | "des-ede3-cbc" or "aes- cbc" | | | |
| spi-c | SPI number of the | | | |
| | inbound SA at the protected client port | | | |
| spi-s | SPI number of the | | | |
| ор. с | inbound SA at the | | | |
| | protected server port | | | |
| port-c | protected client port | | | |
| port-s | protected server port | | | |
| Security-Verify | Not present | | RFC 3329 [53] | SIP_REGI |
| Security-verify | Not present | | KFC 3329 [53] | STER_INI TIAL |
| Security-Verify | | | RFC 3329 [53] | |
| sec-mechanism | same value as Security | | | |
| | Server header sent by SS | | | |
| Authorization | | | RFC | SIP_REGI |
| | | | 2617 [72], | STER_INI |
| | | | RFC 3310 [96] | TIAL |
| username | Private user id | Depending on the UE | ` 1 | |
| | (px_MCX_SIP_Private | configuration the UE | | |
| | UserId_A) if available | may know the private | | |
| | at the UE or derived | public user id (e.g. | | |
| | from the IMSI otherwise | when there is an ISIM) | | |
| | | or the UE needs to | | |
| | | derive it from the IMSI | | |
| | | as according to | | |
| | | 23.003 [69] clause 13.3 | | |
| | | (e.g. when there is a | | |
| | | USIM only) | | |
| realm | same home domain | OSHVI OTHY) | | |
| Tealiti | name as used in | | | |
| | Request-URI | | | |
| nanaa | "" | Empty string | | |
| nonce | same SIP-URI as used | Empty string | | |
| digest-uri | | | | |
| | as Request-URI | | | |
| opaque | any value if present | | | |
| qop | any value if present | | | |
| cnonce | any value if present | | | |
| nc | any value if present | | | |
| algorithm | any value if present | | | |
| response | "" | Empty string | | |
| Authorization | | | RFC | |
| | | | 2617 [72], | |
| | | | RFC 3310 [96] | |
| username | same value as for | | | |
| | condition | | | |
| | SIP_REGISTER_INITI | | | |
| | AL | | | |
| realm | same value as received | | | |
| | in the realm directive in | | | |
| | the WWW Authenticate | | | |
| | | I | 1 | |
| | header sent by SS | | | |

| | | | | 1 |
|---|---|--------------------------|---|----------------|
| nonce | same value as in | | | |
| | WWW-Authenticate | | | |
| | header sent by SS | | | |
| digest-uri | same SIP-URI as used | | | |
| | as Request-URI | | | |
| opaque | same value as sent by | | | |
| | the server in "401 | | | |
| | Unauthorized for | | | |
| | REGISTER" | | | |
| qop | "auth" | | | |
| cnonce | any value | value assigned by UE | | |
| CHOHOO | any value | affecting the response | | |
| | | calculation | | |
| nc | nonce-count value | counter to indicate how | | |
| TIC | Horice-count value | many times the UE has | | |
| | | sent the same value of | | |
| | | nonce within | | |
| | | | | |
| | | successive | | |
| | | REGISTERs, initial | | |
| al acadela ca | "ALCA: 4 PADE" | value shall be 1 | | |
| algorithm | "AKAv1-MD5" | | | |
| response | Digest response | calculated by the client | | |
| | | according to RFC 2617 | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | | |
| P-Access-Network-Info | | | RFC 7315 [52] | |
| access-net-specs | Access network | | | |
| | technology and, if | | | |
| | applicable, the cell ID | | | |
| Content-Type | | | RFC 5621 [58] | CONFIG |
| media-type | "multipart/mixed" | | - | |
| Content-Length | present in case of TCP | | RFC 3261 [22] | |
| 3 | and when there is a | | | |
| | message body | | | |
| | (otherwise optional) | | | |
| value | any value | length of the message | | |
| Value | any value | body | | |
| Message-body | | Body | RFC 3261 [22] | CONFIG |
| MIME body part | | MCPTT/MCVideo/MCD | 1(1 0 0201 [22] | 0011110 |
| William body part | | ata Info | | |
| MIME part bandara | + | ata iiiio | | |
| MIME-part-headers | llandiantian / mad 2 mm | | | |
| Content-Type | "application/vnd.3gpp. | | | |
| | mcptt-info+xml" | | | 140) ((DE0 |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCDATA |
| _ | mcdata-info+xml" | | | |
| Content-ID | any value | Unique URL identifying | TS 24.379 [9] | |
| | | the | clause 6.6.3.1 | |
| | | MCPTT/MCVideo/MCD | | |
| | | ata Info XML MIME | | |
| | | body; used as | | |
| | | reference in the | | |
| | | signature MIME body | | |
| MIME-part-body | | | =0 0 / 0=0 /01 | |
| | MCPTT-Info as | | TS 24.379 [9] | |
| • | MCPTT-Info as described in Table | | TS 24.379 [9] clause F.1 | |
| | | | | |
| | described in Table 5.5.3.2.1-1 | | clause F.1 | MCVIDEO |
| · · · | described in Table 5.5.3.2.1-1 MCVideo-Info as | | clause F.1 TS 24.281 [86] | MCVIDEO |
| | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table | | clause F.1 | MCVIDEO |
| | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 | | Clause F.1 TS 24.281 [86] clause F.1 | |
| | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as | | Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87] | MCVIDEO MCDATA |
| | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table | | Clause F.1 TS 24.281 [86] clause F.1 | |
| MIME hody part | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as | MIKEY | Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87] | |
| MIME body part | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table | MIKEY | Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87] | |
| MIME body part MIME-part-headers Content-Type | described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table | MIKEY | Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87] | |

| MIME-part-body | MIKEY message as described in Table 5.5.9.1-1 | MIKEY message, containing the CSK | TS 33.180 [94] |
|-------------------|--|-----------------------------------|----------------|
| MIME body part | | Signature | |
| MIME-part-headers | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] |

| Condition | Explanation |
|--|------------------------------|
| SIP_REGISTER_INITIAL | Initial unprotected REGISTER |
| For further conditions see table 5.5.1-1 | |

5.5.2.14 SIP SUBSCRIBE

This message is sent by the UE.

Table 5.5.2.14-1: SIP SUBSCRIBE

| Derivation Path: TS 24.229 [16] Information Element | clause A.2.1.4.13, A.2.2.4.13 Value/remark | Comment | Reference | Condition |
|---|---|--|-----------------------------------|------------------|
| Request-Line | | | RFC 3261 [22] | |
| | #01 ID 0 0 D ID 7 " | | RFC 5031 [54] | |
| Method | "SUBSCRIBE" | The public convice | | MCV/IDEO |
| | px_MCVideo_PublicSer viceId_A | The public service identity identifying the originating participating MCVideo function serving the MCVideo user | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | The public service identity identifying the originating participating MCData function serving the MCData user | | MCDATA |
| | "sip:" & tsc_MCX_CMS_Hostna me | SIP URI of the CMS's domain name: public service identity (PSI) for performing subscription proxy function of the CMS | TS 24.484 [14] clause 6.3.13. | CONFIG |
| | tsc_MCX_GMSURI | public service identity (PSI) for performing subscription proxy function of the GMS as configured in the <gms-uri> element of the initial UE configuration</gms-uri> | TS 24.481 [11] clause 6.3.13. 2.1 | GROUPC ONFIG |
| | same URI as the SS has sent earlier in the Contact header of a message within the same dialog | Contact URI of the recipient of the previous 200 OK | | re_SUBSC RIBE |
| SIP-Version | "SIP/2.0" | | 550 000 1001 | |
| Route | OID LID! | | RFC 3261 [22] | |
| addr-spec[1] user-info and host | P-CSCF address of the SS | P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery | | |
| port | protected server port of the SS | as assigned during registration | | |
| uri-parameters | " r" | | | |
| addr-spec[2] user-info and host | SIP URI "scscf.3gpp.org" | | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |
| Route | | | RFC 3261 [22] | re_SUBSC RIBE |
| route-param list | URIs of the Record- Route header sent to the UE in the response which has established the dialog, in reverse order | | | |
| Via | | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" "SIP/2.0/TCP" | | | UDP TCP |
| sent-by | | | | |
| host | IP address or FQDN | Either the UE's IP address or its home domain name | | |

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|--|--------------------------------|------------------|
| port | protected server port of | as assigned during | | |
| | the UE | registration | | |
| via-branch | value starting with 'z9hG4bK' | | | |
| From | | | RFC 3261 [22] | |
| addr-spec | | | | |
| user-info and host | Default public user id (px_MCX_SIP_PublicU serId_A_1) | | | |
| port | not present | | | |
| tag | any value | | 550 000 / 100 | 01.12.00 |
| From | | | RFC 3261 [22] | re_SUBSC RIBE |
| addr-spec | Same URI of the UE as used earlier in the dialog | Local URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the UE as used earlier in the dialog | Local tag of the dialog ID (from the UE's point of view) | | |
| То | | | RFC 3261 [22] RFC 5031 [54] | |
| addr-spec | | | | |
| user-info and host | same URI as used as Request URI | | | |
| port | not present | | | |
| tag | not present | | | |
| То | | | RFC 3261 [22] | re_SUBSC RIBE |
| addr-spec | Same URI of the SS as used earlier in the dialogURI | Remote URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the SS as used earlier in the dialog | Remote tag of the dialog ID (from the UE's point of view) | | |
| Contact | and g | | RFC 3261 [22] | |
| addr-spec | SIP URI | | | |
| user-info and host | IP address or FQDN | | | |
| port | protected server port of UE | as assigned during registration | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication. | | MCDATA |
| feature-param | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt" | | | |

| Derivation Path: TS 24.229 [16] o | | | | 0 1141 |
|-----------------------------------|---|--|--------------------------------|---------------|
| Information Element | Value/remark | Comment This LIDN indicates that | Reference | Condition |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- | This URN indicates that the device has the | | MCVIDEO |
| | service.ims.icsi.mcvide | capabilities to support | | |
| | o" | the mission critical | | |
| | | video (MCVideo) | | |
| | | service. | | |
| | "+g.3gpp.icsi- | This URN indicates that | | MCDATA |
| | ref=urn:urn-7:3gpp- | the device has the | | |
| | service.ims.icsi.mcdata. | capabilities to support | | |
| | sds" | the mission critical data | | |
| facture param | "audio" | (MCData) service. | | MCPTT |
| feature-param | audio | | | OR |
| | | | | MCVIDEO |
| feature-param | "video" | This feature tag | | MCVIDEO |
| , | | indicates that the | | |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| | | indicates that the | | |
| | | device supports text as | | |
| | | a streaming media type. | | |
| Expires | | туре. | RFC 3261 [22] | |
| | | | RFC 3903 [43] | |
| value | any value | | | |
| Require | | | RFC 3261 [22] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | DEC 0004 [00] | |
| Proxy-Require | | | RFC 3261 [22] RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Security-Verify | | | RFC 3329 [53] | |
| sec-mechanism | same value as Security | | | |
| | -Server header sent by | | | |
| • | SS during registration | | DEC 2004 (201 | |
| Cseq | any allowed value | | RFC 3261 [22] | |
| value | any allowed value value of CSeq sent by | | | re_SUBSC |
| | the endpoint within its | | | RIBE |
| | previous request in the | | | INDL |
| | same dialog but | | | |
| | increased by one | | | |
| method | "SUBSCRIBE" | | | |
| Call-ID | | | RFC 3261 [22] | · · · · · |
| callid | any allowed value | | | |
| | same value as in | | | re_SUBSC |
| | SUBSCRIBE creating | | | RIBE |
| May-Forwards | the dialog | | DEC 2064 [00] | |
| Max-Forwards | any allowed value | Non zoro volus | RFC 3261 [22] | |
| value P-Access-Network-Info | any allowed value | Non-zero value | RFC 7315 [52] | |
| F-ACCESS-NELWOLK-IIIIO | | | RFC 7315 [52] | |
| access-net-spec | Access network | Access network | 5 / 5 / 5 [5 /] | |
| access her open | technology and, if | technology and, if | | |
| | applicable, the cell ID | applicable, the cell ID | | |
| Event | | | RFC 6665 [39] | |
| event-type | "presence" | | | |
| | "xcap-diff" | | | CONFIG |
| | | Î. | Ī | GROUPC |
| | | | | |
| | Un no notation of U | | | ONFIG |
| Accept | "poc-settings" | | RFC 3261 [22] | |

| Derivation Path: TS 24.229 [16] | | | | |
|---------------------------------|---------------------------------|--------------------------------|-----------------------------|-------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| | "application/xcap- diff+xml" | | | CONFIG, GROUPC |
| | diii+xiiii | | | ONFIG |
| P-Preferred-Service | | | RFC 6050 [31] | ONTIG |
| Service-ID | "urn:urn-7:3gpp- | | 111 0 0000 [01] | |
| | service.ims.icsi.mcptt" | | | |
| | "urn:urn-7:3gpp- | | | MCVIDEO |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "urn:urn-7:3gpp- | | | MCDATA |
| | service.ims.icsi.mcdata | | | |
| | | | | |
| Content-Type | | | RFC 5621 [58] | |
| media-type | "multipart/mixed" | | 141 0 0021 [00] | |
| Content-Length | present in case of TCP | | RFC 3261 [22] | |
| g | and when there is a | | | |
| | message body | | | |
| | (otherwise optional) | | | |
| value | any value | length of message- | | |
| | | body | DE0 | |
| Message-body | | MODIT/MOVER MACE | RFC 3261 [22] | |
| MIME body part | | MCPTT/MCVideo/MCD ata Info | | |
| MIME-part-headers | | ata info | | |
| Content-Type | "application/vnd.3gpp. | | | |
| Content-Type | mcptt-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCVIDEO |
| | mcvideo-info+xml" | | | |
| | "application/vnd.3gpp. | | | MCDATA |
| | mcdata-info+xml" | | | |
| Content-ID | any value | Unique URL identifying | TS 24.379 [9] | |
| | | the | clause 6.6.3.1 | |
| | | MCPTT/MCVideo/MCD | | |
| | | ata Info XML MIME | | |
| | | body; used as reference in the | | |
| | | signature MIME body | | |
| MIME-part-body | MCPTT-Info as | | TS 24.379 [9] | |
| 1 | described in Table | | clause F.1 | |
| | 5.5.3.2.1-1 | | | |
| | MCVideo-Info as | | TS 24.281 [86] | MCVIDEO |
| | described in Table | | clause F.1 | |
| | 5.5.3.2.1-2 | | TO 0 : 222 | 1105:=: |
| | MCData-Info as | | TS 24.282 [87] | MCDATA |
| | described in Table | | clause D.1 | |
| MIME body part | 5.5.3.2.1-3 | SIMPLE-FILTER | | PRESENC |
| while body part | | ONTH EL-FIETER | | E-EVENT |
| MIME-part-headers | | | | |
| Content-Type | "application/simple- | | | |
| . 71. | filter+xml" | | | |
| MIME-part-body | SIMPLE-FILTER as | | TS 24.379 [9] | |
| - | described in Table | | clause 9.3.2 | |
| | 5.5.3.6-1 | | | |
| | SIMPLE-FILTER as | | TS 24.281 [86] | MCVIDEO |
| | described in Table | | clause 8.3.2 | |
| | 5.5.3.6-2 SIMPLE-FILTER as | | TC 24 202 [07] | MCDATA |
| | described in Table | | TS 24.282 [87] clause 8.4.2 | IVICDATA |
| | 5.5.3.6-3 | | ∪aust 0.4.∠ | |
| MIME body part | 0.0.0.0 0 | Resource-lists | | CONFIG, |
| body part | | | | GROUPC |
| | | | | ONFIG |
| MIME-part-headers | | | | 1 |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---|------------------------------|----------------------------|
| Content-Type | "application/resource- lists+xml" | | | |
| Content-ID | Unique id in format of a Message-ID assigned by the SS | Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | Resource-lists as described in Table 5.5.3.3.1-1 | | | |
| | Resource-lists as described in Table 5.5.3.3.1-2 | | | MCVIDEO |
| | Resource-lists as described in Table 5.5.3.3.1-3 | | | MCDATA |
| MIME body part | | MIKEY | RFC 3830 [24] | CONFIG, GROUPC ONFIG |
| MIME-part-headers | | | | |
| Content-Type | "application/mikey" | | | |
| MIME-part-body | MIKEY message as described in Table 5.5.9.1-1 | MIKEY message, containing the CSK | TS 33.180 [94] | |
| MIME body part | | Signature | | |
| MIME-part-headers | | | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

| Condition | Explanation |
|--|---------------------------|
| re_SUBSCRIBE | SUBSCRIBE within a dialog |
| For further conditions see table 5.5.1-1 | |

5.5.2.15 SIP UPDATE

5.5.2.15.1 SIP UPDATE from the UE

Table 5.5.2.15.1-1: SIP UPDATE from the UE

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|---|---|--------------------------------|-------------------|
| Request-Line | valuo/i omark | Commone | RFC 3261 [22] RFC 5031 [54] | Contaition |
| Method | "UPDATE" | | 10 3031 [34] | |
| Request-URI | The same URI value as the recipient of UPDATE has earlier sent in its Contact header within the same | | | |
| | dialog | | | |
| SIP-Version | 'SIP/2.0" | | | |
| Via | | | RFC 3261 [22] RFC 3581 [55] | |
| sent-protocol | "SIP/2.0/UDP" "SIP/2.0/TCP" | | | TCP |
| sent-by | same value as in | | | MO_CALL |
| • | INVITE message | | | |
| sent-by | | | | MT_CALL |
| host | IP address or FQDN | Either the UE's IP address or its home domain name | | |
| port | protected server port of the UE | as assigned during registration | | |
| via-branch | Value starting with 'z9hG4bK' | | | |
| Route | | | RFC 3261 [22] | |
| route-param list | URIs of the Record- Route header sent to the UE in the response which has established the dialog, in reverse order | | | MO_CALL |
| | URIs of the Record- Route header sent to the UE in the INVITE | | | MT_CALL |
| From | | | RFC 3261 [22] | |
| addr-spec | Same URI of the UE as used earlier in the dialog | Local URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the UE as used earlier in the dialog | Local tag of the dialog ID (from the UE's point of view) | | |
| То | | | RFC 3261 [22] RFC 5031 [54] | |
| addr-spec | Same URI of the SS as used earlier in the dialog | Remote URI of the dialog (from the UE's point of view) | KFC 5031 [54] | |
| tag | Same tag of the SS as used earlier in the dialog | Remote tag of the dialog ID (from the UE's point of view) | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Same value as used in the INVITE initiating the dialog | | | |
| Contact | | | RFC 3261 [22] | |
| addr-spec | same as in the INVITE creating the dialog | | | MO_CALL |
| addr-spec | same as in the response for the INVITE creating the dialog | | | MT_CALL |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" "+g.3gpp.mcdata.sds" | | | MCVIDEO MCDATA |

| factives navers | II. a. Oama issi nof | 1 | | 1 |
|---------------------------|---|--------------------|---------------|---|
| feature-param | "+g.3gpp.icsi-ref= | | | |
| | urn:urn- 7:3gpp- service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- | | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | MICVIDEO |
| | service.ims.icsi.mcvide | | | |
| | o" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | WODATA |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| feature-param | "isfocus" | | | |
| feature-param | "audio" | | | MCPTT |
| • | | | | OR |
| | | | | MCVIDEO |
| feature-param | "video" | | | MCVIDEO |
| feature-param | "text" | | | MCDATA |
| CSeq | | | RFC 3261 [22] | |
| value | value of CSeq sent by | | | 1 |
| | the UE within its | | | 1 |
| | previous request in the | | | |
| | same dialog but | | | |
| | increased by one | | | |
| method | "UPDATE" | | | |
| Require | | | RFC 3261 [22] | |
| • | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Proxy-Require | | | RFC 3261 [22] | |
| | | | RFC 3329 [53] | |
| option-tag | "sec-agree" | | | |
| Security-Verify | | | RFC 3329 [53] | |
| sec-mechanism | same value as Security | | | |
| | -Server header sent by | | | |
| | SS during registration | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | any allowed value | Non-zero value | | |
| P-Access-Network-Info | | | RFC 7315 [52] | |
| | | | RFC 7913 [51] | |
| access-net-spec | Access network | | | |
| | technology and, if | | | |
| Content Time | applicable, the cell ID | | DEC 5004 [50] | |
| Content-Type | "application/sdp" | | RFC 5621 [58] | 1 |
| media-type Content-Length | present in case of TCP | | RFC 3261 [22] | |
| Content-Length | and when there is a | | KFC 3201 [22] | |
| | message body | | | 1 |
| | (otherwise optional) | | | 1 |
| value | any value | length of message- | | |
| valuo | any value | body | | 1 |
| Message-body | | | RFC 3261 [22] | |
| SDP Message | As described in Table | | | |
| - | 5.5.3.1.1-1 | | | <u> </u> |
| | As described in Table | | | MCVIDEO |
| | 5.5.3.1.1-2 | | | |
| | As described in Table | | | MCDATA |
| | 5.5.3.1.1-3 | | | |

5.5.2.15.2 SIP UPDATE from the SS

Table 5.5.2.15.2-1: SIP UPDATE from the SS

| Derivation Path: TS 24.229 [16] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|--|--------------------------------|------------------------|
| Request-Line | | | RFC 3261 [22] RFC 5031 [54] | |
| Method | "UPDATE" | | | |
| Request-URI | same URI as the UE has sent earlier in the Contact header of a response within the same dialog | Contact URI of the UE ("callee") | | |
| SIP-Version | 'SIP/2.0" | | | |
| Via | same as specified for INVITE sent by the SS in Table 5.5.2.5.2-1 | | RFC 3261 [22] RFC 3581 [55] | MO_CALL |
| Via | same as in INVITE but with updated via- branches | | RFC 3261 [22] RFC 3581 [55] | MT_CALL |
| From | | | RFC 3261 [22] | |
| addr-spec | Same URI of the SS as used earlier in the dialog | Remote URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the SS as used earlier in the dialog | Remote tag of the dialog (from the UE's point of view) | | |
| То | | | RFC 3261 [22] RFC 5031 [54] | |
| addr-spec | Same URI of the UE as used earlier in the dialog | Local URI of the dialog (from the UE's point of view) | | |
| tag | Same tag of the UE as used earlier in the dialog | Local tag of the dialog (from the UE's point of view) | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | Same value as used in the INVITE initiating the dialog | | | |
| Contact | | | RFC 3261 [22] | |
| addr-spec | same as in the response for the INVITE creating the dialog | | | MO_CALL |
| addr-spec | same as in the INVITE creating the dialog | | | MT_CALL |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| feature-param | "+g.3gpp.icsi-ref= urn:urn- 7:3gpp- service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | | | MCVIDEO |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | MCDATA |
| feature-param | "isfocus" | | | |
| feature-param | "audio" | | | MCPTT OR MCVIDEO |
| feature-param | "video" | This feature tag indicates that the device supports video as a streaming media type. | | MCVIDEO |

| feature-param | "text" | This feature tag indicates that the device supports text as | | MCDATA |
|----------------|--|---|---------------|---------|
| | | a streaming media | | |
| | | type. | | |
| CSeq | | | RFC 3261 [22] | |
| value | value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one | | | |
| method | "UPDATE" | | | |
| Max-Forwards | | | RFC 3261 [22] | |
| value | "68" | The recommended initial value is 70 in RFC 3261 [22]. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE. | | |
| Content-Type | | | RFC 5621 [58] | |
| media-type | "application/sdp" | | | |
| Content-Length | length of message- body | | RFC 3261 [22] | |
| value | length of message- body | | | |
| Message-body | | | RFC 3261 [22] | |
| SDP Message | As described in Table 5.5.3.1.1-2 As described in Table 5.5.3.1.2-2 | | | MCVIDEO |
| | As described in Table 5.5.3.1.2-3 | | | MCDATA |

5.5.2.16 SIP 1xx

5.5.2.16.1 SIP 100 (Trying)

This message is sent by the UE or the SS.

Table 5.5.2.16.1-1: SIP 100 (Trying)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---|-----------|-----------|
| Status-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "100" | | | |
| Reason-Phrase | "Trying" | | | |
| Via | | | | |
| via-parm | same value as received in INVITE message | | | |
| From | - | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in INVITE message | | | |
| То | | | | |
| addr-spec | same value as received in INVITE message | | | |
| Call-ID | | | | |
| callid | same value as received in INVITE message | | | |
| CSeq | | | | |
| value | same value as received in INVITE message | | | |
| Content-Length | Optional in case of the message being sent by the UE | | | |
| value | "0" | No message body included - end of SIP message | | |

5.5.2.16.2 SIP 180 (Ringing)

5.5.2.16.2.1 SIP 180 (Ringing) from the UE

Table 5.5.2.16.2.1-1: SIP 180 (Ringing) from the UE

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|---------------------------------|--------------------------------|------------------------|
| Status-Line | | | 1.0.0.3.100 | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "180" | | | |
| Reason-Phrase | "Ringing" | | | |
| Record-Route | | | RFC 3261 [22] | |
| rec-route | same as received in INVITE message | | | |
| Via | same as received in INVITE message | | RFC 3261 [22] RFC 3581 [55] | |
| Require | | | • • | 100rel |
| option-tag | "100rel" | | | |
| From | | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in INVITE message | | | |
| То | | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in the INVITE message or any value if missing | | | |
| Contact | in the INVITE message. | | | |
| addr-spec | SIP URI | | | |
| user-info and host | IP address or FQDN | | | |
| user-into and nost | (px_MCPTT_Client_A_I D) | | | |
| | IP address or FQDN (px_MCVideo_Client_A _ID) | | | MCVIDEO |
| | IP address or FQDN (px_MCData_Client_A_ ID) | | | MCDATA |
| port | protected server port of UE | as assigned during registration | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| feature-param | "+g.3gpp.icsi-ref= urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | 140: ::= = = |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | | | MCVIDEO |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | MCDATA |
| feature-param | "audio" | | | MCPTT OR MCVideo |
| feature-param | "video" | | | MCVIDEO |
| feature-param | "text" | | | MCDATA |
| feature-param | "isfocus" | | | |
| Supported | | | | |
| option-tag | "norefersub" | | | |
| Rseq | | | RFC 3262 [97] | 100rel |
| response-num | previous RSeq number sent in the same direction incremented by one | | | |
| Call-ID | by one | | | 1 |

| Derivation Path: RFC 3261 [22] | | | | |
|--------------------------------|--|--------------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| callid | same value as received in INVITE message | | | |
| CSeq | | | | |
| value | same value as received in INVITE message | | | |
| Content-Length | if present | | | |
| value | "0" | No message body included | | |

| Condition | Explanation |
|-----------|--|
| 100rel | Reponse sent reliable according to RFC 3262 [97] |

5.5.2.16.2.2 SIP 180 (Ringing) from the SS

Table 5.5.2.16.2.2-1: SIP 180 (Ringing) from the SS

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--------------------|--------------------------------|-------------------|
| Status-Line | Valuorioniain | | Reference | 33114111311 |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "180" | | | |
| Reason-Phrase | "Ringing" | | | |
| Record-Route | same as spefied for the SIP 200 (OK) from the SS in table 5.5.2.17.1.2-1 with condition INVITE-RSP | | RFC 3261 [22] | |
| Via | same as received in the INVITE message | | RFC 3261 [22] RFC 3581 [55] | |
| Require | | | | 100rel |
| option-tag | "100rel" | | | |
| From | | | | |
| addr-spec | same value as in the request | | | |
| tag | same value as in the request | | | |
| То | · | | | |
| addr-spec | same value as in the request | | | |
| tag | same value as in the request or To-tag assigned by the SS if missing in the request | | | |
| Contact | | | | |
| addr-spec | | | | |
| user-info and host | px_MCPTT_Client_B_I D | Callee contact Uri | | |
| | px_MCVideo_Client_B _ID | Callee contact Uri | | MCVIDEO |
| | px_MCData_Client_B_I D | Callee contact Uri | | MCDATA |
| port | not present | | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" "+g.3gpp.mcdata.sds" | | | MCVIDEO MCDATA |
| feature-param | "+g.3gpp.icsi-ref= urn:urn-7:3gpp- service.ims.icsi.mcptt" | | | |

| Derivation Path: RFC 3261 [22 Information Element | Value/remark | Comment | Reference | Condition |
|---|--|-------------------------|---------------|-----------|
| mormation Liement | "+g.3gpp.icsi- | Comment | Reference | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | MOVIDEO |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | Mobritin |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| feature-param | "audio" | | | MCPTT |
| · | | | | OR |
| | | | | MCVIDEO |
| feature-param | "video" | This feature tag | | MCVIDEO |
| · | | indicates that the | | |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| | | indicates that the | | |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | | |
| feature-param | "isfocus" | | | |
| Supported | | | | |
| option-tag | "norefersub" | | | |
| Rseq | | | RFC 3262 [97] | 100rel |
| response-num | previous RSeq number | | | |
| | sent in the same | | | |
| | direction incremented | | | |
| | by one; arbitrarily | | | |
| | selected if there is no | | | |
| 0.11.15 | previous RSeq number | | | |
| Call-ID | anna value es esse | | | - |
| callid | same value as received in INVITE message | | | |
| CSeq | III III III Essage | | | |
| value | same value as received | | | |
| value | in INVITE message | | | |
| Content-Length | | | | |
| value | "0" | No message body | | |
| | | included | | |

| Condition | Explanation |
|-----------|--|
| 100rel | Reponse sent reliable according to RFC 3262 [97] |

5.5.2.16.3 SIP 183 (Session Progress)

5.5.2.16.3.1 SIP 183 (Session Progress) from the UE

Table 5.5.2.16.3.1-1: SIP 183 (Session Progress) from the UE

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|---------------------------------|--------------------------------|------------------------|
| Status-Line | | | 110.0.3.100 | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "183" | | | |
| Reason-Phrase | "Session progress" | | | |
| Record-Route | | | RFC 3261 [22] | |
| rec-route | same as received in INVITE message | | | |
| Via | same as received in INVITE message | | RFC 3261 [22] RFC 3581 [55] | |
| Require | 9 | | | 100rel |
| option-tag | "100rel" | | | |
| From | | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in INVITE message | | | |
| То | | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in the INVITE message or any value if missing in the INVITE message. | | | |
| Contact | iii uie iivvii E iiiessage. | | | |
| addr-spec | SIP URI | | | |
| user-info and host | IP address or FQDN | | | |
| user into and riost | (px_MCPTT_Client_A_I D) | | | |
| | IP address or FQDN (px_MCVideo_Client_A _ID) | | | MCVIDEO |
| | IP address or FQDN (px_MCData_Client_A_ ID) | | | MCDATA |
| port | protected server port of UE | as assigned during registration | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| feature-param | "+g.3gpp.icsi-ref= urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | 140) (1550 |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | | | MCVIDEO |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | MCDATA |
| feature-param | "audio" | | | MCPTT OR MCVideo |
| feature-param | "video" | | | MCVIDEO |
| feature-param | "text" | | | MCDATA |
| feature-param | "isfocus" | | | |
| Supported | | | | |
| option-tag | "norefersub" | | | |
| Rseq | | | | 100rel |
| response-num | previous RSeq number sent in the same direction incremented by one | | | |
| Call-ID | by one | | + | |

| Derivation Path: RFC 3261 [22] | | | | |
|--------------------------------|--|--------------------------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| callid | same value as received in INVITE message | | | |
| CSeq | | | | |
| value | same value as received in INVITE message | | | |
| P-Answer-State | if present | | | |
| value | "unconfirmed" | | | |
| Content-Length | if present | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

| Condition | Explanation | |
|-----------|--|--|
| 100rel | Reponse sent reliable according to RFC 3262 [97] | |

5.5.2.16.3.2 SIP 183 (Session Progress) from the SS

Table 5.5.2.16.3.2-1: SIP 183 (Session Progress) from the SS

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|-----------------------------------|-------------------------|-----------------|-----------|
| Status-Line | value/reinark | Comment | Keielence | Condition |
| SIP-Version | "CID/2 O" | | | |
| | "SIP/2.0" "183" | | | |
| Status-Code | | | | |
| Reason-Phrase Record-Route | "Session progress" | | DEO 0004 [00] | |
| Record-Route | same as spefied for the | | RFC 3261 [22] | |
| | SIP 200 (OK) from the SS in table | | | |
| | 5.5.2.17.1.2-1 with | | | |
| | condition INVITE-RSP | | | |
| Via | same as received in the | | RFC 3261 [22] | |
| Viα | INVITE message | | RFC 3581 [55] | |
| Require | INVITE message | | [NI C 3301 [33] | 100rel |
| option-tag | "100rel" | | | 100101 |
| From | 100101 | | | |
| addr-spec | same value as in the | | | |
| addi-spec | request | | | |
| tag | same value as in the | | | |
| tag | request | | | |
| То | .594551 | | | |
| addr-spec | same value as in the | | | |
| addi opoo | request | | | |
| tag | same value as in the | | | |
| way | request or To-tag | | | |
| | assigned by the SS if | | | |
| | missing in the request | | | |
| Contact | iniconig in the request | | | |
| addr-spec | | | | |
| user-info and host | px_MCPTT_Client_B_I | Callee contact Uri | | |
| user-inio and nost | D D | Cance contact on | | |
| | px_MCVideo_Client_B | Callee contact Uri | | MCVIDEO |
| | _ID | Cance cornact on | | WOVIDEO |
| | px_MCData_Client_B_I | Callee contact Uri | | MCDATA |
| | D | Cance cornact on | | WODATA |
| port | not present | | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| rodiaro param | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| feature-param | "+g.3gpp.icsi-ref= | | | WODATA |
| reature param | urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- | | | MCVIDEO |
| | ref=urn:urn-7:3gpp- | | | WOVIDEO |
| | service.ims.icsi.mcvide | | | |
| | 0" | | | |
| | "+g.3gpp.icsi- | | | MCDATA |
| | ref=urn:urn-7:3gpp- | | | |
| | service.ims.icsi.mcdata. | | | |
| | sds" | | | |
| feature-param | "audio" | | | MCPTT |
| 1 | | | | OR |
| | | | | MCVIDEO |
| feature-param | "video" | This feature tag | | MCVIDEO |
| 1 | | indicates that the | | |
| | | device supports video | | |
| | | as a streaming media | | |
| | | type. | | |
| feature-param | "text" | This feature tag | | MCDATA |
| • | | indicates that the | | |
| | | device supports text as | | |
| | | a streaming media | | |
| | | type. | <u> </u> | |
| feature-param | "isfocus" | | | |
| | | | | |
| Supported | | | | |
| Supported option-tag | "norefersub" | | | |

| response-num | previous RSeq number sent in the same direction incremented by one; arbitrarily selected if there is no previous RSeq number | | | |
|---------------------|--|--------------------------|---------------|---------|
| Call-ID | | | | |
| callid | same value as received in INVITE message | | | |
| CSeq | | | | |
| value | same value as received in INVITE message | | | |
| P-Answer-State | | | | |
| value | "unconfirmed" | | | |
| P-Asserted-Identity | | | RFC 3325 [32] | |
| addr-spec | | | | |
| user-info and host | tsc_MCPTT_PublicSer viceId_A | | | |
| | px_MCVideo_PublicSer viceId_A | | | MCVIDEO |
| | px_MCData_PublicSer viceId_A | | | MCDATA |
| port | not present | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included | | |

| Condition | Explanation |
|-----------|--|
| 100rel | Reponse sent reliable according to RFC 3262 [97] |

5.5.2.17 SIP 2xx

5.5.2.17.1 SIP 200 (OK)

5.5.2.17.1.1 SIP 200 (OK) from the UE

Table 5.5.2.17.1.1-1: SIP 200 (OK) from the UE

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---------------------------------|--------------------------------|------------------------|
| Status-Line | 1 414071 61114111 | | 11010101100 | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "200" | | | |
| Reason-Phrase | "OK" | | | |
| Via | same as received in the request | | RFC 3261 [22] RFC 3581 [55] | |
| Record-Route | request | | RFC 3261 [22] | INVITE- RSP |
| rec-route | same as received in the request | | | KOF |
| From | Tequest | | | |
| addr-spec | Same value as received in the request | | | |
| tag | same value as received in the request | | | |
| То | , | | | |
| addr-spec | same value as received in the request | | | |
| tag | same value as received in the request or any value if missing in the | | | |
| Contact | request. | | | INVITE- RSP |
| user-info and host | IP address or FQDN (px_MCPTT_Client_A_ | | | RSP |
| | URI) IP address or FQDN (px_MCVideo_Client_A ID) | | | MCVIDEO |
| | IP address or FQDN (px_MCData_Client_A_ ID) | | | MCDATA |
| port | protected server port of UE | as assigned during registration | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| feature-param | "+g.3gpp.icsi-ref= urn:urn- 7:3gpp- service.ims.icsi.mcptt" | | | |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o" | | | MCVIDEO |
| | "+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | | | MCDATA |
| feature-param | "audio" | | | MCPTT OR MCVideo |
| feature-param | "video" | | | MCVIDEO |
| feature-param | "text" | | | MCDATA |
| feature-param | "isfocus" | | | |
| Call-ID | | | | |
| callid | same value as received in the request | | | |
| CSeq | , | | | |
| value | same value as received in the request | | | |
| Require | | | | INVITE- RSP |

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|---|---------------------------------|----------------|
| Session-Expires | | | | INVITE- RSP |
| delta-seconds | Same value as session expires header in SIP | | RFC 4028 [30] TS 24.229 [16] | Kor |
| | INVITE | | cl.5.1.4.1 | |
| refresher | "uas" | | DEO 5004 (50) | IND CITE |
| Content-Type | | | RFC 5621 [58] | INVITE- RSP |
| value | "multipart/mixed" | | | |
| Content-Length | present in case of TCP and when there is a message body (otherwise optional) | | RFC 3261 [22] | |
| value | any value | length of message- body | | |
| Message-body | | Jour | RFC 3261 [22] | INVITE- RSP |
| MIME body part | | SDP message | | |
| MIME-part-header | | | | |
| MIME-Content-Type | "application/sdp" | | RFC 4566 [27] | |
| MIME-part-body | SDP message as described in Table 5.5.3.1.1-1 | | | |
| | SDP message as described in Table 5.5.3.1.1-2 | | | MCVIDEO |
| | SDP message as described in Table 5.5.3.1.1-3 | FFS | | MCDATA |
| MIME body part | | MCPTT/MCVideo/MCD ata Info | | |
| MIME-part-header | | | | |
| MIME-Content-Type | "application/vnd.3gpp. mcptt-info+xml" | | | |
| | "application/vnd.3gpp. mcvideo-info+xml" | | | MCVIDEO |
| | "application/vnd.3gpp. mcdata-info+xml" | | | MCDATA |
| Content-ID | any value | Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body | TS 24.379 [9] clause 6.6.3.1 | |
| MIME-part-body | MCPTT-Info as described in Table 5.5.3.2.1-1 | | TS 24.379 [9] clause F.1 | |
| | MCVideo-Info as described in Table 5.5.3.2.1-2 | | TS 24.281 [86] clause F.1 | MCVIDEO |
| | MCData-Info as described in Table 5.5.3.2.1-3 | | TS 24.282 [87] clause D.1 | MCDATA |
| MIME body part | | Signature | | |
| MIME-part-headers | | - | | |
| Content-Type | "application/vnd.3gpp. mcptt-signed+xml" | | TS 24.379 [9] | |
| MIME-part-body | Signatures for XML MIME bodies as described in Table 5.5.13.1-1 | | TS 24.379 [9] | |

| Condition | Explanation |
|------------|--|
| INVITE-RSP | 200 OK is the response to the SIP INVITE |

5.5.2.17.1.2 SIP 200 (OK) from the SS

Table 5.5.2.17.1.2-1: SIP 200 (OK) from the SS

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|-------------------------|----------------------------------|--------------------------------|--------------------|
| Status-Line | v alue/l eilidi K | Comment | Meletetice | Condition |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "200" | | | |
| Reason-Phrase | "OK" | | | |
| Via | same as received in the | | RFC 3261 [22] | |
| | request | | RFC 3581 [55] | |
| Record-Route | , | | RFC 3261 [22] | INVITE- |
| | | | | RSP |
| addr-spec[1] | SIP URI | | | |
| user-info and host | pcscf.other.com | | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |
| addr-spec[2] | SIP URI | | | |
| user-info and host | scscf.other.com | | | |
| port | not present | | | |
| uri-parameters | " r" | | | |
| addr-spec[3] | SIP URI | | | |
| user-info and host | orig@scscf.3gpp.org | | | |
| port uri-parameters | not present | | | |
| addr-spec[4] | SIP URI | | | |
| user-info and host | same address as sent | P-CSCF address | | |
| aser-inio and nost | by the UE in the first | 1 0001 addiess | | |
| | entry of the Route | | | |
| | header of the INVITE | | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |
| Record-Route | | | RFC 3261 [22] | SUBSCRI |
| | | | | BE-RSP |
| addr-spec[1] | SIP URI | | | |
| user-info and host | P-CSCF address of the | P-CSCF address as | | |
| | SS | assigned to the UE via | | |
| | | NAS signalling or P- | | |
| | | CSCF discovery (px_MCPTT_PCSCF_A | | |
| | | (px_MCPTT_PCSCF_A URI) | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |
| From | | | | |
| addr-spec | same value as in the | | | |
| | request | | | |
| tag | same value as in the | | | |
| | request | | | |
| То | | | | |
| addr-spec | same value as in the | | | |
| | request | | | |
| tag | same value as in the | | | |
| | request or To-tag | | | |
| | assigned by the SS if | | | |
| Expires | missing in the request | | DEC 2064 [00] | CLIDCODI |
| Eyhiles | | | RFC 3261 [22] RFC 3903 [43] | SUBSCRI BE-RSP, |
| | | | NEC 3803 [43] | PUBLISH- |
| | | | | RSP |
| value | same value as in the | | | |
| | request | | | |
| Contact | - | | | REGISTE |
| | | | | R-RSP |
| addr-spec | same value as received | | | |
| <u> </u> | in the REGISTER | | | |
| feature-param | "+g.3gpp.mcptt" | | | |
| | "+g.3gpp.mcvideo" | | | MCVIDEO |
| | "+g.3gpp.mcdata.sds" | | | MCDATA |
| expires | "600000" | | | 1 |

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---------|---------------|----------------|
| Contact | Value/Terriar K | Comment | Kelelelice | SUBSCRI |
| | | | | BE-RSP |
| addr-spec | | | | |
| user-info and host | tsc_MCPTT_PublicSer | | | |
| | viceId_A px_MCVideo_PublicSer | | | MCVIDEO |
| | viceId_A | | | MCVIDEO |
| | px_MCData_PublicSer | | | MCDATA |
| | viceId_A | | | |
| | "sip:" & | | | CONFIG |
| | tsc_MCX_CMS_Hostna | | | |
| | me "sip:" & | | | GROUPC |
| | tsc_MCX_GMS_Hostn | | | ONFIG |
| | ame | | | OI II IO |
| port | not present | | | |
| Contact | | | | INVITE- |
| - d do - o - o | | | | RSP |
| addr-spec user-info and host | too MCDTT Dublises | | | 1 |
| user-inio and nost | tsc_MCPTT_PublicSer viceId_Apx_MCPTT_CI | | | |
| | ient_B_ID | | | |
| | px_MCVideo_PublicSer | | | MCVIDEO |
| | viceId_A | | | |
| | px_MCData_PublicSer | | | MCDATA |
| nort | viceId_A | | | |
| port feature-param | not present "audio" | | | MCPTT |
| reature-param | audio | | | OR |
| | | | | MCVIDEO |
| feature-param | "video" | | | MCVIDEO |
| feature-param | "text" | | | MCDATA |
| Call-ID | | | | |
| callid | same value as received | | | |
| CSeq | in the request | | | |
| value | same value as received | | | |
| value | in the request | | | |
| Require | | | | INVITE- |
| | | | | RSP |
| option-tag | "timer" | | | |
| Session-Expires | | | | INVITE- RSP |
| generic-param | "3600" | | | KSP |
| refresher | "uac" | | | |
| Supported | | | | INVITE- |
| | | | | RSP |
| option-tag | "tdialog" | | | |
| option-tag | "norefersub" | | | |
| option-tag | "explicitsub" "nosub" | | | 1 |
| option-tag P-Associated-URI | HUSUD | | RFC 3261 [22] | REGISTE |
| | | | [10 0201 [22] | R-RSP |
| addr-spec[1] | SIP URI | | | |
| host | px_MCX_SIP_PublicUs | | | |
| | erld_A_1 | | | |
| port | not present | | DE0 0001 1001 | DE0:0== |
| Service-Route | | | RFC 3261 [22] | REGISTE |
| addr-spec[1] | SIP URI | | | R-RSP |
| host | scscf.3gpp.org | | | |
| port | not present | | | |
| uri-parameters | "Ir" | | | |

| Derivation Path: RFC 3261 [22] | | | | |
|--------------------------------|---|---------|---------------|-----------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| SIP-ETag | | | RFC 3903 [43] | PUBLISH- RSP |
| entity-tag | unique value arbitrarily selected by the SS | | | |
| Content-Type | | | RFC 4566 [27] | INVITE- RSP |
| media-type | " application/sdp " | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | length of message- body | | | |
| Message-body | | | RFC 3261 [22] | INVITE- RSP |
| SDP message | SDP message as described in Table 5.5.3.1.2-1 | | | |
| | SDP message as described in Table 5.5.3.1.2-2 | | | MCVIDEO |
| | SDP message as described in Table 5.5.3.1.2-3 | FFS | | MCDATA |

| Condition | Explanation |
|---------------|---|
| REGISTER-RSP | 200 OK is the response to a SIP REGISTER |
| INVITE-RSP | 200 OK is the response to a SIP INVITE |
| SUBSCRIBE-RSP | 200 OK is the response to a SIP SUBSCRIBE |
| PUBLISH-RSP | 200 OK is the response to a SIP PUBLISH |

5.5.2.17.2 SIP 202 (Accepted)

Table 5.5.2.17.2-1: SIP 202 (Accepted)

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|---------|---------------|-----------|
| Status-Line | | | RFC 3261 [22] | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "202" | | | |
| Reason-Phrase | "Accepted" | | | |
| Via | same value as received in request | | RFC 3261 [22] | |
| From | | | RFC 3261 [22] | |
| addr-spec | same value as received in request | | | |
| tag | same value as received in request | | | |
| То | | | RFC 3261 [22] | |
| addr-spec | same value as received in request | | | |
| tag | same value as in the request or To-tag assigned by the SS if missing in the request | | | |
| Call-ID | | | RFC 3261 [22] | |
| callid | same value as received in request | | | |
| CSeq | ' | | RFC 3261 [22] | |
| value | same value as received in request | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | | | |

5.5.2.18 SIP 3xx

5.5.2.18.1 SIP 302 (Moved Temporarily)

Table 5.5.2.18.1-1: SIP 302 (Moved Temporarily)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---------------------|---|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "302" | | | |
| Reason-Phrase | "Moved Temporarily" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.18.1-1 needs to be reviewed

5.5.2.19 SIP 4xx

5.5.2.19.1 SIP 403 (Forbidden)

Table 5.5.2.19.1-1: SIP 403 (Forbidden)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---|---------------|-----------|
| Status-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "403" | | | |
| Reason-Phrase | "Forbidden" | | | |
| Warning | | | | |
| mcptt-warn-code | "100" | | | |
| mcptt-warn-text | "function not allowed due to" <detailed reason></detailed | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.19.1-1 needs to be reviewed

5.5.2.19.2 SIP 404 (Not Found)

Table 5.5.2.19.2-1: SIP 404 (Not Found)

| Delivery Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------|---|---------------|-----------|
| Request-Line | | | 1101010101 | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "404" | | | |
| Reason-Phrase | "Not Found" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.19.2-1 needs to be reviewed

5.5.2.19.3 SIP 423 (Interval Too Brief)

Table 5.5.2.19.3-1: SIP 423 (Interval Too Brief)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|----------------------|---|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "423" | | | |
| Reason-Phrase | "Internal Too Brief" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.19.3-1 needs to be reviewed

5.5.2.19.4 SIP 480 (Temporarily unavailable)

This message is sent by the UE.

Table 5.5.2.19.4-1: SIP 480 (Temporarily unavailable)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|--------------------------|--------------------------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "480" | | | |
| Reason-Phrase | "Temporarily Unavailable" | | | |
| Via | same as received in request message | | RFC 3261 [22] RFC 3581 [55] | |
| From | | | | |
| addr-spec | same value as received in INVITE message | | | |
| tag | same value as received in request message | | | |
| То | | | | |
| addr-spec | same value as received in request message | | | |
| tag | same value as received in the INVITE or any value if missing in the INVITE. | | | |
| Warning | | | | |
| warn-code | "110" | | | |
| warn-text | "user declined the call invitation" | | | |
| Call-ID | same value as received in request message | | | |
| CSeq | same value as received in request message | | | |
| Content Length | if present | | | |
| value | "0" | No message body included | | |

5.5.2.19.5 SIP 486 (Busy Here)

Table 5.5.2.19.5-1: SIP 486 (Busy Here)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--------------|---|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "486" | | | |
| Reason-Phrase | "Busy Here" | | | |
| Content-Length | - | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.18.5-1 needs to be reviewed

5.5.2.19.6 SIP 488 (Not Acceptable Here)

Table 5.5.2.19.6-1: SIP 488 (Not Acceptable Here)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|-----------------------|---------------------------------------|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "488" | | | |
| Reason-Phrase | "Not Acceptable Here" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP | | |
| | | message | | |

Editor's note: Table 5.5.2.19.6-1 needs to be reviewed

5.5.2.19.7 SIP 401 (Unauthorized)

Table 5.5.2.19.7-1: SIP 401 (Unauthorized)

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|---------|-----------------|-----------|
| Status-Line | | | RFC 3261 [22] | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "401" | | | |
| Reason-Phrase | | | | |
| Via | Same value as | | RFC 3261 [22] | |
| | received in the | | | |
| | REGISTER message | | | |
| То | | | RFC 3261 [22] | |
| addr-spec | Same value as | | | |
| | received in the | | | |
| | REGISTER message | | | |
| tag | To-tag assigned by the SS | | | |
| From | Same value as | | RFC 3261 [22] | |
| FIOIII | received in the | | KFC 3201 [22] | |
| | REGISTER message | | | |
| Call-ID | Same value as | | RFC 3261 [22] | |
| Call-ID | received in the | | [KI C 3201 [22] | |
| | REGISTER message | | | |
| CSeq | Same value as | | RFC 3261 [22] | |
| | received in the | | 111 0 0201 [22] | |
| | REGISTER message | | | |
| WWW-Authenticate | | | RFC 2617 [72] | |
| | | | RFC 3310 [96] | |
| Realm | px_MCX_DomainName | | | |
| | _Organization_A | | | |
| algorithm | "AKAv1-MD5" | | | |
| qop-value | "auth" | | | |
| nonce | Base 64 encoding of | | | |
| | RAND and AUTN | | | |
| opaque | arbitrary value (to be | | | |
| | returned by the UE in | | | |
| | subsequent | | | |
| 0 | REGISTER) | | DE0 0000 (50) | |
| Security-Server | II: 0 II | | RFC 3329 [50] | |
| mechanism-name | "ipsec-3gpp" | | | |
| algorithm[1] | px_lpSecAlgorithm | | | |
| | (hmac-md5-96 or | | | |
| oni o[4] | hmac-sha-1-96) SPI number of the | | | |
| spi-c[1] | inbound SA at the | | | |
| | protected client port | | | |
| spi-s[1] | SPI number of the | | | |
| 251 0[1] | inbound SA at the | | | |
| | protected server port | | | |
| port-c[1] | protected client port of | | | |
| | SS | | | |
| port-s[1] | protected server port of | | | |
| | SS | | | |
| Encrypt-algorithm[1] | des-ede3-cbc or aes- | | | |
| | cbc | | | |
| q[1] | "0.9" | | | |
| mechanism-name[2] | "Ipsec-3gpp" | | | |
| algorithm[2] | Algorithm not selected | | | |
| | by px_lpSecAlgorithm | | | |
| | (hmac-sha-1-96 or | | | |
| an: a[0] | hmac-md5-96) | | | |
| spi-c[2] | SPI number of the | | | |
| | inbound SA at the | | | |
| coi cl2l | protected client port SPI number of the | | | |
| spi-s[2] | inbound SA at the | | | |
| | protected server port | | | |
| port-c[2] | protected client port of | | | |
| ροιτ-ο[∠] | SS SIGNATURE OF THE POINT OF | | | |
| | 00 | | 1 | 1 |

| port-s[2] | protected server port of | | |
|----------------------|--------------------------|---------------|--|
| | SS | | |
| encrypt-algorithm[2] | des-ede3-cbc or aes- | | |
| | cbc | | |
| q[2] | "0.7" | | |
| Content-Length | | RFC 3261 [22] | |
| value | "0" | | |

5.5.2.20 SIP 5xx

5.5.2.20.1 SIP 500 (Server Internal Error)

Table 5.5.2.20.1-1: SIP 500 (Server Internal Error)

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|-------------------------|---|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "500" | | | |
| Reason-Phrase | "Server Internal Error" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.20.1-1 needs to be reviewed

5.5.2.21 SIP 6xx

5.5.2.21.1 SIP 606 (Not Acceptable)

Table 5.5.2.21.1-1: SIP 606 (Not Acceptable)

| Derivation Path: RFC 3261 [22] Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------|---|---------------|-----------|
| Request-Line | | | | |
| SIP-Version | "SIP/2.0" | | | |
| Status-Code | "606" | | | |
| Reason-Phrase | "Not Acceptable" | | | |
| Content-Length | | | RFC 3261 [22] | |
| value | "0" | No message body included - end of SIP message | | |

Editor's note: Table 5.5.2.21.1-1 needs to be reviewed

5.5.3 Default SDP message and other information elements

5.5.3.1 SDP Message

5.5.3.1.0 Common conditions for SDP Message

The following conditions apply throughout clause 5.5.3.1:

Table 5.5.3.1.0-1: Conditions

| 0 """ | |
|-----------|-------------|
| Condition | Explanation |
| Condition | |

| INITIAL_SDP_OFFER | SDP message is an initial offer |
|--------------------------|---|
| SDP_OFFER | SDP message is an offer |
| SDP_ANSWER | SDP message is an Answer |
| FIRST_SDP_FROM_UE | First SDP message sent by the UE within the session |
| FIRST_SDP_FROM_SS | First SDP message sent by the SS within the session |
| IMPLICIT_GRANT_REQUESTED | An implicit grant is requested by the user |
| IMPLICIT_FLOOR_GRANTED | An implicit grant shall be granted by the SS |

5.5.3.1.1 SDP Message from the UE

- MCPTT

Table 5.5.3.1.1-1: SDP Message from the UE for MCPTT

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--|---|---------------------------|
| Session description: | | | | |
| Protocol Version | "0" | v= line | | |
| Origin | Same o=line as in the previous SDP message sent by the UE except that sess-version is incremented by one | o= line | | |
| Origin | moremented by one | o= line | | FIRST_SI P_FROM_ UE |
| username | any allowed value | | | 02 |
| sess-id | any allowed value | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | any allowed value | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | | | |
| unicast-address | IP address of the UE | IP address assigned at initial registration | | |
| Session Name | at least one UTF-8- encoded character, or if no name is given, a single empty space | s= line | | |
| Connection Data | not required if included in all media | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | | | |
| connection-address | IP address of the UE | | | |
| Bandwidth | | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | ======================================= | |
| bandwidth | any allowed value | | TS 26.114 [64] Table K.6 | |
| Time description Timing | | t line | | |
| start-time | "0" | t= line | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line media = audio | RFC 4867 [59] | |
| media | "audio" | | | |
| port | any allowed value | The transport port to which the media stream is sent | | |
| proto | "RTP/SAVP" | | | |
| fmt | any allowed value(s) | Indicating RTP payload type numbers | | |
| media title | "speech" | i= line | | |
| Connection Data | present if session description does not contain a c=line; optional otherwise | c= line | | |
| nettype | "IN" "IP4" or "IP6" | | | |
| Addrtype | depending on IP address" | | | |
| connection-address | IP address of the UE | | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|--|-----------------------------|------------------|
| Bandwidth | Value/Terriark | b= line | Reference | Condition |
| bwtype | "AS" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | TS 26.114 [64] Table K.6 | |
| bwtype | "RS" | | RFC 3556 [113] | |
| bandwidth | any value if present | | | |
| bwtype | "RR" | | RFC 3556 [113] | |
| bandwidth | any value if present | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | same value as format parameter of the "fmtp" attribute | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | "fmtp" | | | |
| format | a value given in fmt in the audio media description | | | |
| format specific parameters | | Parameters of WB- AMR codec NOTE: In addition to the parameters below the UE may provide further parameters | | |
| mode-change-capability | "2" | To be able to interoperate fully with gateways to circuit switched networks | RFC 4867 [59] clause 8.2 | |
| max-red | "0" | No redundancy will be used | RFC 4867 [59] clause 8.2 | |
| media attribute | | a= line attribute =ptime | | |
| ptime | any allowed value | packet time | | |
| media attribute | | a= line attribute =maxptime | | |
| maxptime | any allowed value | maximum packet time | | |
| media attribute | optional | a= line attribute =sendrecv Indicates send and receive mode being activated | | |
| sendrecv | | Parameter has no value | | |
| media attribute | | a= line attribute = key-mgmt | | PRIVATE- CALL |
| key-mgmt | | | TS 24.379 [9] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A | | RFC 4567 [44] | |
| media description | | m= line media = application | | |
| | | SDP media-level section for a media-floor control entity | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------------|---|---|-----------------------------|---|
| media | "application" | | | |
| port | any allowed value | The port for the media- floor control entity | | |
| proto | "udp" | | | |
| fmt | "MCPTT" | | | |
| Connection Data | present if session description does not contain a c=line; optional otherwise | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address" | | | |
| connection-address | IP address of the UE | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | | | | |
| format | "MCPTT" | | | |
| format specific parameters | | | | SDP_OFF ER, INITIAL_S DP_OFFE R |
| mc_queueing | optional | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_priority | any allowed value | Any integer value in the range of 1255 | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_granted | not present | | | |
| | present | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | INITIAL_S DP_OFFE R |
| mc_implicit_request | not present | | | |
| | present | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | IMPLICIT_ GRANT_R EQUESTE D |
| mc_ssrc | any allowed value if present | SSRC value of the UE | TS 24.380 [10] cl. 12.1.2.3 | |
| format specific parameters | | | | SDP_ANS WER |
| mc_queueing | optional | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_priority | same value as in the offer | | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_granted | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_implicit_request | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_ssrc | not present | | TS 24.380 [10] cl. 12.1.2.3 | |

- MCVideo

Table 5.5.3.1.1-2: SDP Message from the UE for MCVideo

| Derivation Path: RFC 4566 [27] | | | | |
|--------------------------------|--------------|---------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Session description: | | | | |
| Protocol Version | "0" | v= line | | |

| Derivation Path: RFC 4566 [27] | Value/ramaris | Commont | Deference | Candista |
|--------------------------------|---|--|-----------------|-----------|
| Information Element Origin | Value/remark Same o=line as in the | Comment o= line | Reference | Condition |
| Origin | previous SDP message | o= line | | |
| | sent by the UE except | | | |
| | that sess-version is | | | |
| | incremented by one | | | |
| Origin | | o= line | | FIRST_SD |
| | | | | P_FROM_ |
| | | | | UE |
| username | px_ MCVideo | Username of client | | |
| id | _User_A_ID any allowed value | A source onion of this or out of | | |
| sess-id | any allowed value | A numeric string such that the tuple of | | |
| | | <username>, <sess-< td=""><td></td><td></td></sess-<></username> | | |
| | | id>, <nettype>,</nettype> | | |
| | | <addrtype>, and</addrtype> | | |
| | | <unicast-address></unicast-address> | | |
| | | forms a globally unique | | |
| | | identifier for the | | |
| | <u> </u> | session. | | |
| sess-version | any allowed value | | | |
| nettype | "IN" "IP4" or "IP6" | | | |
| Addrtype | depending on IP | | | |
| | address" | | | |
| unicast-address | IP address of the UE | IP address assigned at | | |
| | | initial registration | | |
| Session Name | at least one UTF-8- | s= line | | |
| | encoded character, or if | | | |
| | no name is given, a | | | |
| | single empty space | | | |
| Connection Data | not required if included | c= line | | |
| nettyne | in all media "IN" | | | |
| nettype Addrtype | "IP4" or "IP6" | | | |
| Additype | depending on IP | | | |
| | address" | | | |
| connection-address | IP address of the UE | | | |
| Bandwidth | | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | TS 26.114 [64] | |
| | | | Table K.6 | |
| Time description | | 4 P | | |
| Timing | "0" | t= line | | |
| start-time | "0" | | | |
| stop-time Media descriptions | U | | | |
| media description | | m= line | RFC 4867 [59] | |
| modia accomplicit | | media = audio | 111 0 4007 [08] | |
| media | "audio" | | | |
| port | any allowed value | The transport port to | | |
| • • • | , , | which the media stream | | |
| | | is sent | | |
| proto | "RTP/SAVP" | | | |
| fmt | any allowed value(s) | Indicating RTP payload | | |
| | | type numbers | | |
| media title | "speech" | i= line | | |
| Connection Data | present if session description does not | c= line | | |
| | contain a c=line; | | | |
| | optional otherwise | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" | | | |
| - 31 | depending on IP | | | |
| | address" | | | |
| connection-address | IP address of the UE | | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|--|-----------------------------|------------------|
| Bandwidth | | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | TS 26.114 [64] Table K.6 | |
| bwtype | "RS" | | RFC 3556 [113] | |
| bandwidth | any value if present | | | |
| bwtype | "RR" | | RFC 3556 [113] | |
| bandwidth | any value if present | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | same value as format parameter of the "fmtp" attribute | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | "fmtp" | | | |
| format | a value given in fmt in the audio media description | | | |
| format specific parameters | | Parameters of WB- AMR codec NOTE: In addition to the parameters below the UE may provide further parameters | | |
| mode-change-capability | "2" | To be able to interoperate fully with gateways to circuit switched networks | RFC 4867 [59] clause 8.2 | |
| max-red | "0" | No redundancy will be used | RFC 4867 [59] clause 8.2 | |
| media attribute | | a= line attribute =ptime | | |
| ptime | any allowed value | packet time | | |
| media attribute | | a= line attribute =maxptime | | |
| maxptime | any allowed value | maximum packet time | | |
| media attribute | optional | a= line attribute =sendrecv Indicates send and receive mode being activated | | |
| sendrecv | | Parameter has no value | | |
| media attribute | | a= line attribute = key-mgmt | | PRIVATE- CALL |
| key-mgmt | | | TS 24.281 [86] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A | Use condition MCVIDEO | RFC 4567 [44] | |

| Information Element | Value/remark | Comment | Reference | Conditio |
|---------------------|----------------------|--|-----------------------|-----------|
| media description | | m= line | | |
| • | | media = video | | |
| | | | | |
| | | SDP media-level | | |
| | | section for a media- | | |
| | | transmission control | | |
| | | entity | | |
| media | "video" | T | | |
| port | any allowed value | The port for the media- | | |
| | | transmission control | | |
| | | entity | | |
| proto | "udp" | User Datagram | | |
| | | Protocol. With UDP, | | |
| | | computer applications can send messages to | | |
| | | other hosts on | | |
| | | an Internet Protocol | | |
| | | (IP) network. Time- | | |
| | | sensitive applications | | |
| | | often use UDP because | | |
| | | dropping packets is | | |
| | | preferable to waiting for | | |
| | | packets delayed due | | |
| | | to retransmission, | | |
| | | which may not be an | | |
| | | option in a real-time | | |
| | | system. | | |
| fmt | "MCVideo" | | | |
| Connection Data | present if session | c= line | | |
| | description does not | | | |
| | contain a c=line; | | | |
| | optional otherwise | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" | | | |
| | depending on IP | | | |
| | address" | | | |
| connection-address | IP address of the UE | 1 12 | | |
| Bandwidth | " | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | TO 00 44 4 [04] | |
| bandwidth | any allowed value | | TS 26.114 [64] | |
| h.v.d.m.a | "DC" | | Table K.6 RFC 3556 | |
| bwtype | "RS" | | | |
| bandwidth | any value if present | | [113] | |
| bwtype | "RR" | | RFC 3556 | |
| DWIPE | IXIX | | [113] | |
| bandwidth | any value if present | | [110] | |
| media attribute | any value ii present | a= line | | |
| | | attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | "" | | | |
| encoding name | "H.264" | | | |
| clock rate | | | RFC 4867 [59] | |
| | | | clause 8.3 | |
| encoding parameter | "" if present | Channel number | | |
| media attribute | , | a= line | | PRIVATE |
| | | attribute = key-mgmt | | CALL |
| | | attitude neg ingine | | - |
| key-mgmt | | | TS 24.281 [86] | |
| , , | | | clause 6.2.1 | |
| mikey | MIKEY-SAKKE | Use condition | RFC 4567 [44] | |
| , | I_MESSAGE as | MCVIDEO | | |
| | specified in Table | | | |
| | 5.5.9.1-2A | | Ī | |

| Derivation Path: RFC 4566 [27] | | | T | 1 |
|--------------------------------|---|--|---|---|
| Information Element | Value/remark | Comment | Reference | Condition |
| media description | | m= line media = application | | |
| | | SDP media-level | | |
| | | section for a media- | | |
| | | floor control entity | | |
| media | "application" | | 3GPP | |
| | | | TS 24.581 [88] clause 12 | |
| port | any allowed value | The port for the media- floor control entity | ciause 12 | |
| proto | "udp" | User Datagram Protocol. With UDP, computer applications can send messages to | | |
| | | other hosts on an Internet Protocol (IP) network. Time- | | |
| | | sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due | | |
| | | to retransmission, which may not be an option in a real-time system. | | |
| fmt | "MCVideo" | | | |
| Connection Data | present if session description does not contain a c=line; optional otherwise | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address" | | | |
| connection-address | IP address of the UE | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | | | 3GPP TS 24.581 [88] clause 12, clause 14 | |
| format | "MCVideo" | | | |
| format specific parameters | | | | SDP_OFF ER, INITIAL_S DP_OFFE R |
| mc_queueing | optional | Parameter has no value. Shall include the "mc_queueing" fmtp attribute in SDP offers when queueing of Transmission request is | 3GPP TS 24.581 [88] clause 12, clause 14 | |
| | | attribute in SDP offers | | |

| erivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|---|----------------------|--------------------------|---------------------------|-----------|
| mc_priority | | Any integer value in the | 3GPP | Condition |
| тіс_рпопіту | not present or | range of 1255 | TS 24.581 [88] clause 12, | |
| | any allowed value | Shall include the | clause 12, | |
| | | "mc_priority" fmtp | Clause 14 | |
| | | attribute when a | | |
| | | transmission priority | | |
| | | different than the | | |
| | | default priority is | | |
| | | required. | | |
| mc_reception_priority | not present | Any integer value in the | 3GPP | |
| <u>-</u> | or any allowed value | range of 0255 | TS 24.581 [88] clause 12, | |
| | any anowed value | Shall include the | clause 14 | |
| | | "mc_reception_priority" | Clause 14 | |
| | | fmtp attribute when a | | |
| | | reception priority | | |
| | | different than the | | |
| | | default reception | | |
| | | priority is required. | | |
| mc_granted | not present | priority to required. | | |
| mo_grantou | present | Parameter has no | 3GPP | INITIAL_S |
| | present | value | TS 24.581 [88] | DP_OFFE |
| | | value | clause 12, | R |
| | | | clause 14 | 10 |
| mc_implicit_request | not present | | Clause 14 | |
| mc_implicit_request | present | Parameter has no | 3GPP | IMPLICIT |
| | procent | value | TS 24.581 [88] | GRANT_F |
| | | value | clause 12, | EQUESTE |
| | | | clause 14 | D |
| format specific parameters | | | Jiaaco I I | SDP_ANS |
| | | | | WER |
| mc_queueing | optional | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_priority | same value as in the | | 3GPP | |
| | offer | | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_reception_priority | not present | Any integer value in the | 3GPP | |
| | or | range of 0255 | TS 24.581 [88] | |
| | any allowed value | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_reception_priority" | | |
| | | fmtp attribute when a | | |
| | | reception priority | | |
| | | different than the | | |
| | | default reception | | |
| | | priority is required. | | |
| mc_granted | not present | | 3GPP | |
| - | • | | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_implicit_request | not present | | 3GPP | |
| • | • | | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |

- MCData

Table 5.5.3.1.1-3: SDP Message from the UE for MCData

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|---------------------------------|-----------|
| Session description: | value/remark | Comment | Reference | Condition |
| Protocol Version | "0" | v- line | | |
| Origin | 0 | v= line o= line | | |
| username | px_MCDATA_ID_User | Username of client | | |
| usemame | _A | Osemanie of chem | | |
| sess-id | any allowed value | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | any allowed value | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" | | | |
| | depending on IP address" | | | |
| unicast-address | IP address of the UE | IP address assigned at | | |
| | | initial registration | | |
| Session Name | at least one UTF-8- encoded character, or if no name is given, a single empty space | s= line | | |
| Session Information | any allowed value | i= <session description=""></session> | | |
| | | The "i=" field is intended to provide a free-form human-readable description of the session or the purpose of a media stream. It is not suitable for parsing by automata. | | |
| Connection Data | not required if included | c= line | | |
| John Jaka | in all media | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address" | | | |
| connection-address | IP address of the UE | | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | TS 26.114 [64] Table K.6 | |
| Time description | | | | |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line media = message | RFC 4867 [59] TS 24.282 [31] | |
| media | "message" | | | |
| port | any allowed value | The transport port to which the media stream is sent | | |
| proto | "TCP/MSRP " | | | |
| fmt | (***) | | | |
| media title | "message" | i= line | | |
| Connection Data | present if session description does not contain a c=line; optional otherwise | c= line | | |
| nettype | "IN" | | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---|----------------------------|-----------|
| Addrtype | "IP4" or "IP6" depending on IP | | | |
| | address" | | | |
| connection-address | IP address of the UE | | | |
| media attribute | | a= line attribute = sendonly | | |
| sendonly | | No parameters associated with this line | | |
| media attribute | | a= line attribute = path | | |
| path | px_MSRP_URI_A_ID | attribute containing its own MSRP URI. | TS 24.282 [31] | |
| | | An example: msrp://mcdata.example .com:7654/abcde1; tcp | | |
| media attribute | | a= line | | |
| media attribute | | attribute = accept-types | | |
| accept-types | "application/vnd.3gpp. mcdata-signalling application/vnd.3gpp.m cdata-payload" | | | |
| media attribute | | a= line attribute = setup | | |
| role | "actpass" | | | |
| media attribute | | a= line attribute = key-mgmt | | MCD_1to1 |
| key-mgmt | | | TS 24.379 [9] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A | Use condition MCDATA | RFC 4567 [44] | |

5.5.3.1.2 SDP Message from the SS

- MCPTT

Table 5.5.3.1.2-1: SDP Message from the SS for MCPTT

| Derivation Path: RFC 4566 [27] | Valua/namanla | Commont | Deference | Conditio- |
|---------------------------------------|---|---|-----------------------------|---------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Session description: Protocol Version | "0" | v. line | | |
| | Same o=line as in the | v= line o= line | | |
| Origin | previous SDP message sent by the SS except that sess-version is | o= line | | |
| | incremented by one | | | |
| Origin | moremented by one | o= line | | FIRST_SD P_FROM_ SS |
| username | "_" | "-" indicating the concept of user IDs not being supported | | |
| sess-id | "12345678" | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | "12345678" | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address" | This depends on the unicast address of the UE | | |
| unicast-address | IP address of the SS | | | |
| Session Name | 11 11 | s= line single empty space indicating no session name | | |
| Bandwidth | | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | | |
| bandwidth | "38" | kilobits per second; Maximum AMR-WB at 23.85 kbps but limit to 12.65 kbps plus overhead | TS 26.114 [64] Table K.6 | |
| Time description | | overnead | | |
| Timing | | t= line | | |
| start-time | "0" | t- mio | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line media = audio | RFC 4867 [59] | |
| media | "audio" | | | |
| Port | port number assigned by the SS (even integer) | The transport port to which the media stream is sent | RFC 6335 [63] clause 6 | |
| proto | "RTP/SAVP" | | | |
| fmt | "99" | RTP/SAVP payload type for AMR-WB is dynamic | | INITIAL_S DP_OFFE R |
| | value for AMR-WB as used in initial offer | | | |
| media title | "speech" | i= line | | |
| Connection Data | | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address" | This depends on the connection address | | |
| connection-address | IP address of the SS | | | |
| Bandwidth | | b= line | | |
| bwtype | "AS" | bwtype:bandwidth | | |

| Derivation Path: RFC 4566 [27] | | | | |
|--------------------------------|---|---|---------------------------------|---------------------------|
| Information Element bandwidth | Value/remark | Comment | Reference TS 26.114 [64] | Condition |
| bandwidth | 38 | | Table K.6 | |
| bwtype | "RS" | | RFC 3556 | |
| | | | [113] | |
| bandwidth | 0 | | DE0 0550 | |
| bwtype | "RR" | | RFC 3556 [113] | |
| bandwidth | 2000 | | [113] | |
| media attribute | | a= line | | |
| | | attribute = rtpmap | | |
| rtpmap | "rtpmap" "99" | | | INITIAL |
| payload type | 1.99 | | | INITIAL_S DP_OFFE R |
| | value for AMR-WB as used in initial offer | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "1" | Channel number | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | "99" | | | INITIAL |
| format | -99* | | | INITIAL_S DP_OFFE R |
| | value for AMR-WB as used in initial offer | | | |
| format specific parameters | | Parameters of WB- AMR codec | | |
| mode-change-capability | "2" | To be able to interoperate fully with gateways to circuit switched networks | RFC 4867 [59] clause 8.2 | |
| max-red | "0" | No redundancy will be used | RFC 4867 [59] clause 8.2 | |
| media attribute | | a= line attribute =ptime | olduse o.z | |
| ptime | "20" | packet time | | |
| media attribute | | a= line | | |
| maxptime | "240" | attribute =maxptime maximum packet time | | |
| media attribute | 240 | a= line | | PRIVATE- |
| | | attribute = key-mgmt | | CALL |
| key-mgmt | | | TS 24.379 [9] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2 | | RFC 4567 [44] | |
| media description | | m= line media = application | | |
| | | SDP media-level section for a media-floor control entity | | |
| media | "application" | or control oriting | | |
| Port | port number assigned by the SS being different than the port number of the audio channel (RTP) and its associated control channel (RTCP)" | The port for the media- floor control entity | | |
| proto | "udp" | | | |

| Derivation Path: RFC 4566 [27] | | | | |
|--------------------------------|---|--|--|--------------------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| fmt | "MCPTT" | | | |
| Connection Data | | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | This depends on the connection address | | |
| connection-address | IP address of the SS | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | | | | |
| format | "MCPTT" | | | |
| format specific parameters | | | TO 04 000 (40) | SDP_OFF ER |
| mc_queueing | Present | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_priority | "3" | "3" is the value of the <user-priority> element for user A in the MCPTT Group Configuration (Table 5.5.7.1-1)</user-priority> | TS 24.380 [10] cl. 12.1.2.3 and cl. 143.3 | |
| mc_granted | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_implicit_request | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_ssrc | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| format specific parameters | | | | SDP_ANS WER |
| mc_queueing | present if included in the offer | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | |
| mc_priority | if a value is provided in the offer: "3" or the value provided in the offer, whichever is the lower value; otherwise not present | "3" is the value of the <user-priority> element for user A in the MCPTT Group Configuration (Table 5.5.7.1-1) NOTE: <num-levels-priority-hierarchy> has a value of 10 for onnetwork i.e. it is greater than 3</num-levels-priority-hierarchy></user-priority> | TS 24.380 [10] cl. 12.1.2.3 and cl. 14.3.3 | |
| mc_granted | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| | present | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | IMPLICIT_ FLOOR_G RANTED |
| mc_implicit_request | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| | present | Parameter has no value | TS 24.380 [10] cl. 12.1.2.3 | IMPLICIT_ GRANT_R EQUESTE D |
| mc_ssrc | not present | | TS 24.380 [10] cl. 12.1.2.3 | |
| | same value as in the offer if provided in the offer and there is no collision with the value used by the SS; otherwise value assigned by the SS | | TS 24.380 [10] cl. 12.1.2.3 | IMPLICIT_ GRANT_R EQUESTE D |

MCVideo

Table 5.5.3.1.2-2: SDP Message from the SS for MCVideo

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|-----------------------------|---------------------------|
| Session description: | - Sidon online | | | 22.14.110.1 |
| Protocol Version | "0" | v= line | | |
| Origin | Same o=line as in the previous SDP message sent by the SS except that sess-version is incremented by one | o= line | | |
| Origin | , | o= line | | FIRST_SD P_FROM_ SS |
| username | px_MCVideo_ID_User_ B | Username of client sending message | | |
| sess-id | "12345678" | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | "12345678" | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | This depends on the unicast address of the UE | | |
| unicast-address | IP address of the SS | | | |
| Session Name | "_" | s= line | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | "38" | kilobits per second; Maximum AMR-WB at 23.85 kbps but limit to 12.65 kbps plus overhead | TS 26.114 [64] Table K.6 | |
| Time description | | | | |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line media = audio | RFC 4867 [59] | |
| media | "audio" | | | |
| Port | port number assigned by the SS (even integer) | The transport port to which the media stream is sent | RFC 6335 [63] clause 6 | |
| proto | "RTP/AVP" | | | |
| fmt | "99" | RTP/AVP payload type for AMR-WB is dynamic | | |
| media title | "speech" | i= line | | |
| Connection Data | | c= line | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | This depends on the connection address | | |
| connection-address | IP address of the SS | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--|---|-----------|
| payload type | "99" | Comment | Reference | Condition |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | 1001 | | | |
| format | "99" | | | |
| format specific parameters | HO!! | Parameters of WB- AMR codec | DEO 4007 (50) | |
| mode-change-capability | "2" | To be able to interoperate fully with gateways to circuit switched networks | RFC 4867 [59] clause 8.2 | |
| max-red | "0" | No redundancy will be used | RFC 4867 [59] clause 8.2 | |
| media attribute | | a= line attribute =ptime | | |
| ptime | "20" | packet time | | |
| media attribute | | a= line attribute =maxptime | | |
| maxptime | "240" | maximum packet time | | |
| media attribute | | a= line | | PRIVATE- |
| | | attribute = key-mgmt | ======================================= | CALL |
| key-mgmt | | | TS 24.281 [86] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2 | Use condition MCVIDEO | RFC 4567 [44] | |
| media description | | m= line media = video | | |
| | | SDP media-level section for a media-transmission control entity | | |
| media | "video" | | | |
| Port | port number of the audio stream incremented by 2 (resulting in even integer) | The port for the media- transmission control entity | | |
| proto | "udp" | User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system. | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|---|------------------|
| Connection Data | | c= line Included if the media plane control channel uses a different IP address than other media described in the SDP | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | | | |
| connection-address | IP address of the SS | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | 1111 | | | |
| encoding name | "H.264" | | | |
| clock rate | | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "" if present | Channel number | | |
| media attribute | | a= line attribute = key-mgmt | | PRIVATE- CALL |
| key-mgmt | | | TS 24.281 [86] clause 6.2.1 | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2 | Use condition MCVIDEO | RFC 4567 [44] | |
| media description | | m= line media = application | | |
| | | SDP media-level section for a media-floor control entity | | |
| media | "application" | | | |
| Port | port number assigned by the SS being different than the port number of the audio and video channels (RTP) and their associated control channels (RTCP)" | The port for the media- floor control entity | | |
| proto | "udp" | | | |
| fmt Connection Date | "MCVideo" | a line | | |
| Connection Data | "IN" | c= line | | |
| nettype Addrtype | "IP4" or "IP6" | This depends on the | | |
| | depending on IP address | connection address | | |
| connection-address | IP address of the SS | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | WA 40 \ (' '' | | | |
| format | "MCVideo" | | | 055 55 |
| format specific parameters | | | | SDP_OFF ER |
| mc_queueing | Present | Parameter has no value | 3GPP TS 24.581 [88] clause 12, clause 14 | |

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------------|--------------|--------------------------|----------------|-----------|
| mc_priority | "5" | Any integer value in the | 3GPP | |
| • | | range of 1255 | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_granted | not present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_implicit_request | Present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_reception_priority" | not present | | 3GPP | |
| | | | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| format specific parameters | | | | SDP_AN |
| | | | | WER |
| mc_queueing | Present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_priority | "5" | Any integer value in the | 3GPP | |
| | | range of 1255 | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| mc_granted | not present | | | |
| | present | Parameter has no | 3GPP | IMPLICI |
| | | value | TS 24.581 [88] | FLOOR_ |
| | | | clause 12, | RANTE |
| | | | clause 14 | |
| mc_implicit_request | Present | Parameter has no | | |
| | | value | | |
| | | | 3GPP | IMPLICI |
| | | | TS 24.581 [88] | GRANT_ |
| | | | clause 12, | EQUES |
| | | | clause 14 | D |
| mc_reception_priority" | not present | No present if not | 3GPP | |
| | or | present in the SDP | TS 24.581 [88] | |
| | "10" | offer. If present in the | clause 12, | |
| | | SDP offer, then the | clause 14 | |
| | | arbitrarily chosen value | | |
| | | of "10 should be used | | |

- MCData

Table 5.5.3.1.2-3: SDP Message from the SS for MCData

| Derivation Path: RFC 4566 [27] | Valua/namanl: | Commont | Deference | Canditia |
|--------------------------------|--|---|---------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Session description: | | | | |
| Protocol Version | "0" | v= line | | |
| Origin | | o= line | | |
| username | px_MCDATA_ID_User _B | Username of client | | |
| sess-id | "12345678" | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | "12345678" | | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP | | | |
| | address | | | |
| unicast-address | IP address of the SS | | | |
| Session Name | "_" | s= line | | |
| Session Information | "message" | i= <session description=""> The "i=" field is intended to provide a</session> | | |
| | | free-form human- readable description of the session or the purpose of a media stream. It is not suitable for parsing by automata. | | |
| Connection Data | not required if included in all media | c= line Included if the media plane control channel uses a different IP address than other media described in the SDP | | |
| nettype | "IN" | | | |
| Addrtype | "IP4" or "IP6" depending on IP address | | | |
| connection-address | IP address of the SS | | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | "38" | kilobits per second; Maximum AMR-WB at 23.85 kbps but limit to 12.65 kbps plus overhead | TS 26.114 [64] Table K.6 | |
| Time description | | | | · |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | - | | | |
| media description | | m= line media = message | RFC 4867 [59] TS 24.282 [31] | |
| media | "message" | | [] | |
| port | "49152" | The transport port to which the media stream is sent | | |
| proto | "TCP/MSRP " | | | |
| fmt | £**** | | | |
| media title | "message" | i= line | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------------|---------------------------|-----------------|-----------|
| Connection Data | | c= line | | |
| | | Included if the media | | |
| | | plane for audio uses a | | |
| | | different IP address | | |
| | | than other media | | |
| | | described in the SDP | | |
| nettype | "IN" | decombed in the CD1 | | |
| Addrtype | "IP4" or "IP6" | | | |
| ridditypo | depending on IP | | | |
| | address | | | |
| connection-address | IP address of the SS | | | |
| media attribute | ii address of the ee | a= line | | |
| oaia attiibato | | attribute = recvonly | | |
| recvonly | | No parameters | | |
| Toovorny | | associated with this line | | |
| media attribute | | a= line | | |
| modia attributo | | attribute = path | | |
| path | px_MSRP_URI_SS_ID | attribute containing its | TS 24.282 [31] | |
| pati | px_werki _erki_ee_ib | own MSRP URI. | 10 2 1.202 [01] | |
| | | An example: | | |
| | | msrp://mcdata.example | | |
| | | .com:7654/abcde1; tcp | | |
| media attribute | | a= line | | |
| | | attribute = accept-types | | |
| accept-types | "application/vnd.3gpp. | | | |
| | mcdata-signalling | | | |
| | application/vnd.3gpp.m | | | |
| | cdata-payload" | | | |
| media attribute | | a= line | | |
| | | attribute = setup | | |
| role | "actpass" | | | |
| media attribute | | a= line | | MCD_1to1 |
| | | attribute = key-mgmt | | |
| key-mgmt | | | TS 24.379 [9] | · |
| | | | clause 6.2.1 | |
| mikey | MIKEY-SAKKE | Use condition MCDATA | RFC 4567 [44] | |
| | I_MESSAGE as | | | |
| | specified in Table | | | |
| | 5.5.9.1-2A | | | |

5.5.3.1.3 SDP Message from the UE - Off-network

- MCPTT

Table 5.5.3.1.3-1: SDP Message from the UE - Off-network for MCPTT

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|--|-----------|-----------|
| Session description: | Value/Terriark | Comment | Reference | Condition |
| Protocol Version | "0" | Ba | | |
| | 0 | v= line | | |
| Origin | 11_11 | o= line | | |
| username | | | | |
| sess-id | any allowed value | A numeric string such that the tuple of | | |
| | | <username>, <sess-< td=""><td></td><td></td></sess-<></username> | | |
| | | id>, <nettype>,</nettype> | | |
| | | <addrtype>, and</addrtype> | | |
| | | <unicast-address></unicast-address> | | |
| | | forms a globally unique | | |
| | | identifier for the | | |
| | | session. | | |
| sess-version | any allowed value | | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | "IP4" or "IP6" | | |
| unicast-address | px_MCPTT_IP_Connec | | | |
| | tionAddressAll | | | |
| Session Name | "_" | s= line | | |
| Connection Data | | c= line | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | "IP4" or "IP6" | | |
| connection-address | px_MCPTT_IP_Connec | Set to the multicast IP | | |
| | tionAddressAll | address of the MCPTT | | |
| | | group | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | | |
| Time description | | | | |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line | | |
| | | media = audio | | |
| media | "audio" | | | |
| port | any allowed value | Set to a port number for | | |
| r | , | MCPTT speech of the | | |
| | | MCPTT group | | |
| proto | "RTP/AVP" | 3 - 1 | | |
| fmt | any allowed value(s) | Indicating RTP payload | | |
| | , | type numbers | | |
| media title | "speech" | i= line | | |
| media attribute | ' | a= line | | |
| | | attribute = rtpmap | | |
| rtpmap | "rtpmap" | 1 -7 | | |
| payload type | "99" | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | | a= line | | |
| | | attribute = fmtp | | |
| fmtp | "fmtp" | | | |
| format | the value given in fmt in | | | |
| | the audio media description | | | |
| format specific parameters | | Parameters of WB- AMR codec | | |
| mode-change-capability | "2" | To be able to | | |
| go dapazinty | - | interoperate fully with | | |
| | | gateways to circuit | | |
| | 1 | | | 1 |
| | | switched networks | | |
| max-red | "0" | switched networks No redundancy will be | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------------|--------------------|--------------------------|-----------|-----------|
| media attribute | | a= line | | |
| | | attribute =ptime | | |
| ptime | any allowed value | packet time | | |
| media attribute | | a= line | | |
| | | attribute =maxptime | | |
| maxptime | any allowed value | maximum packet time | | |
| media description | | m= line | | |
| • | | media = application | | |
| media | "application" | 1. | | |
| port | any allowed value | Set to a port number for | | |
| • | | media-floor control | | |
| | | entity of the MCPTT | | |
| | | group | | |
| proto | "udp" | | | |
| fmt | "MCPTT" | | | |
| media attribute | | a= line | | |
| | | attribute = fmtp | | |
| fmtp | | | | |
| format | "MCPTT" | | | |
| format specific parameters | | | | |
| mc_queueing | optional | Parameter has no | | |
| | • | value | | |
| mc_priority | not present | Any integer value in the | | |
| | or | range of 1255 | | |
| | any allowed value | | | |
| mc_granted | present | Parameter has no | | |
| | | value | | |
| mc_implicit_request | present | Parameter has no | | |
| | | value | | |
| media attribute | | a= line | | |
| | | attribute = key-mgmt | | |
| key-mgmt | | | | |
| mikey | MIKEY-SAKKE | | | |
| • | I_MESSAGE as | | | |
| | specified in Table | | | |
| | 5.5.9.1-2 | | | |

- MCVideo

Table 5.5.3.1.3-2: SDP Message from the UE - Off-network for MCVideo

| Derivation Path: RFC 4566 [27] | | | | | |
|--------------------------------|--|---|-----------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| Session description: | | | | | |
| Protocol Version | "0" | v= line | | | |
| Origin | | o= line | | | |
| username | "-" | | | | |
| sess-id | any allowed value | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | | |
| sess-version | any allowed value | | | | |
| nettype | "IN" | | | | |
| addrtype | "IP4" | "IP4" or "IP6" | <u> </u> | | |
| unicast-address | px_MCVideo_IP_Conn ectionAddressAll | | | | |
| Session Name | "_" | s= line | | | |
| Connection Data | | c= line | | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|--|-------------|-----------|
| nettype | "IN" | Comment | 11010101100 | Condition |
| addrtype | "IP4" | "IP4" or "IP6" | | |
| connection-address | px_MCVideo_IP_Conn | Set to the multicast IP | | |
| connection address | ectionAddressAll | address of the | | |
| | 00.00.00.000000000000000000000000000000 | MCVideo group | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | any allowed value | a my panamamam | | |
| Time description | | | | |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line media = audio | | |
| media | "audio" | | | |
| port | any allowed value | Set to a port number for MCVideo speech of the MCVideo group | | |
| proto | "RTP/AVP" | | | |
| fmt | any allowed value(s) | Indicating RTP payload type numbers | | |
| media title | "speech" | i= line | | |
| media attribute | | a= line | | |
| | | attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | "99" | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | "fmtp" | | | |
| format | the value given in fmt in the audio media description | | | |
| format specific parameters | | Parameters of WB- AMR codec | | |
| mode-change-capability | "2" | To be able to interoperate fully with gateways to circuit switched networks | | |
| max-red | "0" | No redundancy will be used | | |
| media attribute | | a= line attribute =ptime | | |
| ptime | any allowed value | packet time | | |
| media attribute | | a= line attribute =maxptime | | |
| maxptime | any allowed value | maximum packet time | | |
| media description | | m= line | | |
| | | media = video SDP media-level section for a media-transmission control entity | | |
| media | "video" | | | |
| port | any allowed value | The port for the media- transmission control entity | | |

| Derivation Path: RFC 4566 [27] | | | | |
|--------------------------------|--------------------|-------------------------------|-----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| proto | "udp" | User Datagram | | |
| | | Protocol. With UDP, | | |
| | | computer applications | | |
| | | can send messages to | | |
| | | other hosts on | | |
| | | an Internet Protocol | | |
| | | (IP) network. Time- | | |
| | | sensitive applications | | |
| | | often use UDP because | | |
| | | dropping packets is | | |
| | | preferable to waiting for | | |
| | | packets delayed due | | |
| | | to retransmission, | | |
| | | which may not be an | | |
| | | option in a real-time | | |
| fmt | "MC\/;d" | system. | | |
| fmt Connection Data | "MCVideo" | c= line | | |
| Joiniection Data | | Included if the media | | |
| | | plane control channel | | |
| | | uses a different IP | | |
| | | address than other | | |
| | | media described in the | | |
| | | SDP | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | | | |
| connection-address | px_MCVideo_IP_Conn | | | |
| | ectionAddressApp | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | "" | | | |
| encoding name | "H.264" | | 5=0 (50= 5=0) | |
| clock rate | | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "" if present | Channel number | | |
| media attribute | | a= line | | |
| | | attribute = fmtp | | |
| | | attribute – intp | | |
| fmtp | | | 3GPP | |
| | | | TS 24.581 [88] | |
| | | | clause 12, | |
| | | | clause 14 | |
| format | "MCVideo" | | | |
| format specific parameters | | | | |
| ioimai speciiic parameters | | | | |
| mc_queueing | optional | Parameter has no | 3GPP | |
| | | value. | TS 24.581 [88] | |
| | | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_queueing" fmtp | | |
| | | attribute in SDP offers | | |
| | | when queueing of | | |
| | | Transmission request is | | |
| | | supported. | | |

| rivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Conditio |
|--|---|----------------------------|----------------|----------|
| mc_priority | not present | Any integer value in the | 3GPP | |
| _, , | or | range of 1255 | TS 24.581 [88] | |
| | any allowed value | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_priority" fmtp | | |
| | | attribute when a | | |
| | | transmission priority | | |
| | | different than the | | |
| | | default priority is | | |
| | | required. | | |
| mc_reception_priority | not present | Any integer value in the | 3GPP | |
| _ ' _, , | or | range of 0255 | TS 24.581 [88] | |
| | any allowed value | 9 | clause 12, | |
| | , | Shall include the | clause 14 | |
| | | "mc_reception_priority" | | |
| | | fmtp attribute when a | | |
| | | reception priority | | |
| | | different than the | | |
| | | default reception | | |
| | | | | |
| me arented | nranari | priority is required. | 2000 | |
| mc_granted | present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | Shall include the | clause 12, | |
| | | | clause 14 | |
| | | "mc_granted" fmtp | | |
| | | attribute in the SDP | | |
| | | offer of an initial SIP | | |
| | | INVITE request when it | | |
| | | is acceptable for the | | |
| | | MCVideo client to | | |
| | | receive a granted | | |
| | | indication in the SIP | | |
| | | 200 (OK) response to | | |
| | | an initial INVITE | | |
| | | request. | | |
| mc_implicit_request | present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute when a | | |
| | | SIP request shall be | | |
| | | interpreted as an | | |
| | | implicit Transmission | | |
| | | request. If not explicitly | | |
| | | stated in procedures in | | |
| | | the present document | | |
| | | or in procedures in | | |
| | | 3GPP TS 24.281 [2] | | |
| | | that the | | |
| | | | | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute shall be | | |
| | | included, the decision | | |
| | | to include the | | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute or not, is | | |
| | | an implementation | | |
| | | option. | | |
| edia attribute | | a= line | | PRIVATE |
| | | attribute = key-mgmt | | CALL |
| key-mgmt | | Key Management | TS 24.281 [86] | |
| - | | attribute field in the | clause 6.2.1 | |
| | | | | |
| | | media and session | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|---|----------------------------|---------------|-----------|
| mikey | MIKEY-SAKKE | MIKEY carries the | RFC 4567 [44] | Condition |
| тикоу | I_MESSAGE as | security parameters | 10 4307 [44] | |
| | specified in Table | needed for | | |
| | 6.1.1.1.3.3-3 | setting up the security | | |
| | 0.1.1.1.0.0 0 | protocol. It is a protocol | | |
| | | designed for | | |
| | | government and | | |
| | | relevant enterprises to | | |
| | | enable secure, cross- | | |
| | | platform multimedia | | |
| | | communications. | | |
| media description | | m= line | | |
| | | media = application | | |
| media | "application" | | | |
| port | any allowed value | Set to a port number for | | |
| | , | media-floor control | | |
| | | entity of the MCVideo | | |
| | | group | | |
| proto | "udp" | | | |
| fmt | "MCVideo" | | | |
| media attribute | | a= line | | |
| | | attribute = fmtp | | |
| fmtp | | | | |
| format | "MCVideo" | | | |
| format specific parameters | | | | |
| mc_queueing | optional | Parameter has no | | |
| | | value | | |
| mc_priority | not present | Any integer value in the | | |
| | or | range of 1255 | | |
| | any allowed value | | | |
| mc_granted | present | Parameter has no | | |
| | | value | | |
| mc_implicit_request | present | Parameter has no | | |
| | | value | | |
| media attribute | | a= line | | |
| | | attribute = key-mgmt | | |
| key-mgmt | | | | |
| mikey | MIKEY-SAKKE | | | |
| | I_MESSAGE as | | | |
| | specified in Table | | | |
| | 5.5.9.1-2A | | | |

- MCData

Table 5.5.3.1.3-3: SDP Message from the UE - Off-network for MCData

FFS

5.5.3.1.4 SDP Message from the SS - Off-network

- MCPTT

Table 5.5.3.1.4-1: SDP Message from the SS - Off-network for MCPTT

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------------|--|---------------------------------------|------------|
| Session description: | value/i ciliai K | Comment | 1/616161166 | Solidition |
| Protocol Version | "0" | v= line | | |
| Origin | 0 | o= line | | |
| | 11_11 | 0= line | | |
| username sess-id | "12345678" | A numeric string such | | |
| Sess-iu | 12345076 | A numeric string such | | |
| | | that the tuple of | | |
| | | <username>, <sess-< td=""><td></td><td></td></sess-<></username> | | |
| | | id>, <nettype>,</nettype> | | |
| | | <addrtype>, and</addrtype> | | |
| | | <unicast-address></unicast-address> | | |
| | | forms a globally unique | | |
| | | identifier for the | | |
| | #4004F070# | session. | | |
| sess-version | "12345678" | | | |
| nettype | "IN" | | | |
| addrtype | | | | |
| unicast-address | px_MCPTT_IP_Connec | | | |
| Cassian Name | tionAddressAll | a line | | |
| Session Name | - " | s= line | | |
| Connection Data | HINTH. | c= line | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | "IP4" or "IP6" | | <u> </u> |
| connection-address | px_MCPTT_IP_Connec | Set to the multicast IP | | |
| | tionAddressAll | address of the MCPTT | | |
| | | group | | |
| Bandwidth | | b= line | | |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | any allowed value | | | |
| Time description | | | | |
| Timing | | t= line | | |
| start-time | "0" | | | |
| stop-time | "0" | | | |
| Media descriptions | | | | |
| media description | | m= line | | |
| | | media = audio | | |
| media | "audio" | | | |
| port | "49152" | Set to a port number for | | |
| | | MCPTT speech of the | | |
| | | MCPTT group | | |
| proto | "RTP/AVP" | | | |
| fmt | "99" | Indicating RTP payload | | |
| | | type numbers | | |
| media title | "speech" | i= line | | |
| media attribute | | a= line | | |
| <u></u> | | attribute = rtpmap | | |
| rtpmap | "rtpmap" | | · · · · · · · · · · · · · · · · · · · | |
| payload type | "99" | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | | |
| encoding parameter | "1" if present | Channel number | | |
| media attribute | · | a= line | | |
| | | attribute = fmtp | | |
| fmtp | "fmtp" | · | | |
| format | "99" | | | |
| format specific parameters | | Parameters of WB- | | |
| | | AMR codec | | <u>L</u> |
| mode-change-capability | "2" | To be able to | | |
| <u> </u> | | interoperate fully with | | |
| | | gateways to circuit | | |
| | | switched networks | | |
| max-red | "0" | No redundancy will be | | |
| | | used | | |
| media attribute | | a= line | | |
| | i | attribute =ptime | | 1 |

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------------|---|---|-----------|-----------|
| ptime | "20" | packet time | | |
| media attribute | | a= line attribute =maxptime | | |
| maxptime | "240" | maximum packet time | | |
| media description | | m= line media = application | | |
| media | "application" | | | |
| port | "49153" | Set to a port number for media-floor control entity of the MCPTT group | | |
| proto | "udp" | | | |
| fmt | "MCPTT" | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | | | | |
| format | "MCPTT" | | | |
| format specific parameters | | | | |
| mc_queueing | Present | Parameter has no value | | |
| mc_priority | "5" | Any integer value in the range of 1255 | | |
| mc_granted | Present | Parameter has no value | | |
| mc_implicit_request | Present | Parameter has no value | | |
| media attribute | | a= line attribute = key-mgmt | | |
| key-mgmt | | | | |
| mikey | MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2 | | | |

- MCVideo

Table 5.5.3.1.4-2: SDP Message from the SS - Off-network for MCVideo

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------|--|---|-----------|-----------|
| Session description: | | | | |
| Protocol Version | "0" | v= line | | |
| Origin | | o= line | | |
| username | "_" | | | |
| sess-id | "12345678" | A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username> | | |
| sess-version | "12345678" | | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | | | |
| unicast-address | px_MCVideo_IP_Conn ectionAddressAll | | | |
| Session Name | "-" | s= line | | |
| Connection Data | | c= line | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | "IP4" or "IP6" | • | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------------|-----------------------------|-------------|-----------|
| connection-address | px_MCVideo_IP_Conn | Set to the multicast IP | I/EIEIEIICE | Condition |
| connection-address | ectionAddressAll | address of the | | |
| | Collotti (dal'eco) (ii | MCVideo group | | |
| Bandwidth | | b= line | | + |
| bwtype | "AS:" | bwtype:bandwidth | | |
| bandwidth | any allowed value | 5wtypo.banawiati1 | | |
| Time description | any anowed value | | | |
| Timing | | t= line | | |
| start-time | "0" | t- iiile | | |
| stop-time | "0" | | | |
| Media descriptions | 0 | | | |
| media description | | m= line | | |
| media description | | media = audio | | |
| media | "audio" | | | |
| port | "49152" | Set to a port number for | | |
| F | 10.10= | MCVideo speech of the | | |
| | | MCVideo group | | |
| proto | "RTP/AVP" | | | |
| fmt | "99" | Indicating RTP payload | | |
| | | type numbers | | |
| media title | "speech" | i= line | | |
| media attribute | 5555611 | a= line | | |
| modia attributo | | attribute = rtpmap | | |
| rtpmap | "rtpmap" | attribute - remap | | 1 |
| payload type | "99" | | | |
| encoding name | "AMR-WB" | | | |
| clock rate | 16000 | | | |
| | "1" if present | Channel number | | + |
| encoding parameter media attribute | i ii present | | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | "fmtp" | - | | |
| format | "99" | | | |
| format specific parameters | | Parameters of WB- | | |
| romat oposmo parametere | | AMR codec | | |
| mode-change-capability | "2" | To be able to | | 1 |
| mode change capability | - | interoperate fully with | | |
| | | gateways to circuit | | |
| | | switched networks | | |
| max-red | "0" | No redundancy will be | | |
| | | used | | |
| media attribute | | a= line | | |
| | | attribute =ptime | | |
| ptime | "20" | packet time | | |
| media attribute | - | a= line | | 1 |
| | | attribute =maxptime | | |
| maxptime | "240" | maximum packet time | | |
| media description | | m= line | | 1 |
| : | | media = video | | |
| | | 1113414 | | |
| | | SDP media-level | | |
| | | section for a media- | | |
| | | transmission control | | |
| | | entity | | |
| media | "video" | | | |
| port | any allowed value | The port for the media- | | |
| • | | transmission control | | |
| | 1 | entity | | 1 |

| Derivation Path: RFC 4566 [27] | | | | |
|--------------------------------|--|--|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| proto | "udp" | User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system. | | |
| fmt | "MCVideo" | | | |
| Connection Data | | c= line Included if the media plane control channel uses a different IP address than other media described in the SDP | | |
| nettype | "IN" | | | |
| addrtype | "IP4" | | | |
| connection-address | px_MCVideo_IP_Conn ectionAddressApp | | | |
| media attribute | | a= line attribute = rtpmap | | |
| rtpmap | "rtpmap" | | | |
| payload type | "H.264" | | | |
| encoding name clock rate | П.204 | | RFC 4867 [59] clause 8.3 | |
| encoding parameter | "" if present | Channel number | 0.00000.0 | |
| media attribute | | a= line attribute = fmtp | | |
| fmtp | | | 3GPP TS 24.581 [88] clause 12, clause 14 | |
| format | "MCVideo" | | | |
| format specific parameters | | | | |
| mc_queueing | optional | Parameter has no value. Shall include the "mc_queueing" fmtp attribute in SDP offers when queueing of Transmission request is supported. | 3GPP TS 24.581 [88] clause 12, clause 14 | |

| rivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Conditio |
|--|---|----------------------------|----------------|----------|
| mc_priority | not present | Any integer value in the | 3GPP | |
| _, , | or | range of 1255 | TS 24.581 [88] | |
| | any allowed value | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_priority" fmtp | | |
| | | attribute when a | | |
| | | transmission priority | | |
| | | different than the | | |
| | | default priority is | | |
| | | required. | | |
| mc_reception_priority | not present | Any integer value in the | 3GPP | |
| _ ' _, , | or | range of 0255 | TS 24.581 [88] | |
| | any allowed value | 9 | clause 12, | |
| | , | Shall include the | clause 14 | |
| | | "mc_reception_priority" | | |
| | | fmtp attribute when a | | |
| | | reception priority | | |
| | | different than the | | |
| | | default reception | | |
| | | | | |
| me arented | nranari | priority is required. | 2000 | |
| mc_granted | present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | Shall include the | clause 12, | |
| | | | clause 14 | |
| | | "mc_granted" fmtp | | |
| | | attribute in the SDP | | |
| | | offer of an initial SIP | | |
| | | INVITE request when it | | |
| | | is acceptable for the | | |
| | | MCVideo client to | | |
| | | receive a granted | | |
| | | indication in the SIP | | |
| | | 200 (OK) response to | | |
| | | an initial INVITE | | |
| | | request. | | |
| mc_implicit_request | present | Parameter has no | 3GPP | |
| | | value | TS 24.581 [88] | |
| | | | clause 12, | |
| | | Shall include the | clause 14 | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute when a | | |
| | | SIP request shall be | | |
| | | interpreted as an | | |
| | | implicit Transmission | | |
| | | request. If not explicitly | | |
| | | stated in procedures in | | |
| | | the present document | | |
| | | or in procedures in | | |
| | | 3GPP TS 24.281 [2] | | |
| | | that the | | |
| | | | | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute shall be | | |
| | | included, the decision | | |
| | | to include the | | |
| | | "mc_implicit_request" | | |
| | | fmtp attribute or not, is | | |
| | | an implementation | | |
| | | option. | | |
| edia attribute | | a= line | | PRIVATE |
| | | attribute = key-mgmt | | CALL |
| key-mgmt | | Key Management | TS 24.281 [86] | |
| - | | attribute field in the | clause 6.2.1 | |
| | | | | |
| | | media and session | | |

| Derivation Path: RFC 4566 [27] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|-----------------------------|---------------|-----------|
| mikey | MIKEY-SAKKE | MIKEY carries the | RFC 4567 [44] | Condition |
| Tilkey | I_MESSAGE as | security parameters | 10 4307 [44] | |
| | specified in Table | needed for | | |
| | 6.1.1.1.3.3-3 | setting up the security | | |
| | 0.1.1.1.0.0 | protocol. It is a protocol | | |
| | | designed for | | |
| | | government and | | |
| | | relevant enterprises to | | |
| | | enable secure, cross- | | |
| | | platform multimedia | | |
| | | communications. | | |
| media description | | m= line | | |
| | | media = application | | |
| media | "application" | | | - |
| port | "49153" | Set to a port number for | | |
| | | media-floor control | | |
| | | entity of the MCVideo | | |
| | | group | | |
| proto | "udp" | | | |
| fmt | "MCVideo" | 1. | | |
| media attribute | | a= line attribute = fmtp | | |
| fmtn | | attribute = imtp | | |
| fmtp format | "MCVideo" | | | |
| | MCVIdeo | | | |
| format specific parameters | Drocent | Parameter has no | | |
| mc_queueing | Present | value | | |
| mc_priority | "5" | Any integer value in the | | |
| | | range of 1255 | | |
| mc_granted | Present | Parameter has no | | |
| | - | value | | |
| mc_implicit_request | Present | Parameter has no value | | |
| media attribute | | a= line | | |
| | | attribute = key-mgmt | | |
| key-mgmt | | | | |
| mikey | MIKEY-SAKKE | | | |
| | I_MESSAGE as | | | |
| | specified in Table | | | |
| | 5.5.9.1-2 | | | |

- MCData

Table 5.5.3.1.4-3: SDP Message from the SS - Off-network for MCData

FFS

5.5.3.2 MCS Info Lists

5.5.3.2.1 MCS Info Lists from the UE

Table 5.5.3.2.1-1: MCPTT-Info from the UE

| Derivation Path: TS 24.379 [9] of Information Element | Value/remark | Comment | Reference | Condition |
|---|---|--|---|---|
| mcpttinfo | | | | |
| mcptt-Params | | | | |
| mcptt-access-token | not present | | | |
| | Encrypted (NOTE 2) <mcpt+access-token> with mcpttString set to access token as assigned to the UE in the Token Response</mcpt+access-token> | The access token is opaque to the MCPTT client | TS 33.180 [94] , clause B.4 RFC 6749 [77] | CONFIG, GROUPC ONFIG |
| session-type | not present | | | |
| Session type | "prearranged" | | | GROUP- CALL |
| | "private" | | | PRIVATE- CALL |
| | "chat" | | | CHAT- GROUP- CALL |
| mcptt-request-uri | not present | | | |
| | Encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_Group_A_I D</mcptt-request-uri> | The URI of the group | | GROUP- CALL AND INVITE_R EFER |
| | encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_Client_B_I D</mcptt-request-uri> | The URI of the invited MCPTT Client | | PRIVATE- CALL AND INVITE_R EFER |
| | encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_ID_User_A</mcptt-request-uri> | | | POC- SETTINGS -EVENT |
| mcptt-calling-user-id | not present or encrypted (NOTE 2) <mcptt-calling-user-id> with mcpttURI set to px_MCPTT_ID_User_A</mcptt-calling-user-id> | | | |
| | not present | | | CONFIG, GROUPC ONFIG, POC- SETTINGS -EVENT |
| mcptt-called-party-id | not present or encrypted (NOTE 2) <mcptt-called-party-id> with mcpttURI set to px_MCPTT_ID_User_B</mcptt-called-party-id> | | | |
| | not present | | | CONFIG, GROUPC ONFIG, POC- SETTINGS -EVENT |
| mcptt-calling-group-id | not present | | 1 | |
| required emergency-ind | not present not present or encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "false"</emergency-ind> | | | |

| Derivation Path: TS 24.379 [9] of | lause F.1.2 | | | |
|-----------------------------------|--|--|----------------------------|--|
| Information Element | Value/remark | Comment | Reference | Condition |
| | Encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "true"</emergency-ind> | | | EMERGEN CY-CALL AND INVITE_R EFER |
| alert-ind | not present or encrypted (NOTE 2) <alert-ind> with mcpttBoolean set to "false"</alert-ind> | | | |
| | not present or encrypted <alert-ind> with mcpttBoolean set to "false" or "true" (NOTE 3)</alert-ind> | | | EMERGEN CY-CALL AND INVITE_R EFER |
| | Encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "true"</emergency-ind> | | | EMERGEN CY-ALERT AND INVITE_R EFER |
| imminentperil-ind | not present or encrypted (NOTE 2) <imminentperil-ind> with mcpttBoolean set to "false"</imminentperil-ind> | | | |
| | Encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "true"</emergency-ind> | | | IMMPERIL -CALL AND INVITE_R EFER |
| broadcast-ind | not present | | | |
| | "true" | | | BROADCA ST- GROUP- CALL |
| mc-org" | not present | | | |
| associated-group-id | not present px_MCPTT_Group_A_I D if mcptt-request-uri contains a temporary group identity; otherwise, not present | if the <mcptt-request- uri=""> element contains a group identity then this element can include an MCPTT group ID associated with the group identity in the <mcptt-request-uri> element. E.g. if the <mcptt-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCPTT</associated-group-id></mcptt-request-uri></mcptt-request-uri></mcptt-request-> | TS 24.379 [9] clause F.1.3 | GROUP- CALL |
| | not present | group ID | | PRIVATE- CALL |
| originated-by | not present | | | |
| MKFC-GKTPs | not present | | | |
| mcptt-client-id | not present | | | |

| Derivation Path: TS 24.379 [9] clause F.1.2 | | | | | |
|---|---|--|---|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| | encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to px_MCPTT_Client_A_I D</mcptt-client-id> | The URI of the MCPTT Client | | (PRIVATE- CALL OR GROUP- CALL OR EMERGEN CY-CALL OR IMMPERIL -CALL OR EMERGEN CY- ALERT) AND INVITE_R EFER | |
| | encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1) if present</mcptt-client-id> | in general mcptt-client- id is not mandatory (e.g. for SIP SUBSCRIBE) | RFC 4122 [106] TS 24.379 [9] clause 4.10 | CONFIG, GROUPC ONFIG | |
| | encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id> | mcptt-client-id is mandatory in the SIP REGISTER or SIP PUBLISH for service authorisation according to TS 24.379 [9] clauses 7.2.1 and 7.2.2 | RFC 4122 [106] TS 24.379 [9] clause 4.10 | CONFIG AND REGISTE R_PUBLIS H | |
| | encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id> | mcptt-client-id is mandatory in SIP PUBLISH for MCPTT service settings only, according to TS 24.379 [9] clause 7.2.3 | RFC 4122 [106] TS 24.379 [9] clause 4.10 | POC- SETTINGS -EVENT | |
| alert-ind-rcvd | not present | | | | |
| anyExt | not present or any allowed value | | TS 24.379 [9], clause F.1.3 | | |

NOTE 1: The SS shall check the mcptt-client-id

at the first time being sent by the UE to be a valid UUID URN with a format like
 "urn:uuid:XXXXXXXX-YYYY-ZZZZ-yyyy-zzzzzzzzzzzz" according to RFC 4122 [106]
 to be all the same UUID URN in subsequent messages.

NOTE 2: Encrypted element as described in Table 5.5.3.2.1-1A

NOTE 3: Depending on the UE implementation the UE may not be able to request emergency without alert indication

| Condition | Explanation |
|--|---|
| REGISTER_PUBLISH | MCPTT-Info in SIP REGISTER or SIP PUBLISH request for service |
| | authorisation |
| INVITE_REFER | MCPTT-Info in SIP INVITE or SIP REFER request for call |
| | establishment |
| For further conditions see table 5.5.1-1 | |

Table 5.5.3.2.1-1A: Encrypted MCPTT info parameter sent by the UE

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---------|-----------|-----------|
| type attribute | "Encrypted" | | | |
| EncryptedData | EncryptedData as described in Table 5.5.13.2-1 containing encrypted element content of the mcptt parameter | | | |

MCVideo

Table 5.5.3.2.1-2: MCVideo-Info from the UE

| Derivation Path: TS 24.281 [86] | | | D-C | 0 |
|---------------------------------|--|--|--|----------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcvideoinfo mcvideo-Params | | | | |
| | not present | | | |
| mcvideo-access-token | not present "eyJhbGciOiJSUzI1NiJ9 .eyJtY3B0dF9pZCI6ImF saWNIQG9yZy5jb20iLC JIeHAiOjE0NTM1MDYx MjEsInNjb3BIljpbIm9wZ W5pZCIsIjNncHA6bWN wdHQ6cHR0X3NIcnZIci JdLCJjbGIlbnRfaWQiOi JtY3B0dF9jbGIlbnQifQ. XYIqai4YKSZCKRNMLi pGC_5nV4BE79IJpvjex WjIqqcqiEx6AmHHIR00 mhcxeCESrXei9krom9e 8Goxr_hgF3szvgbwl8J RbFuv97XgepDLjEq4jL 3Cbu41Q9b0WdXAdFm eEbiB8wo_xggiGwv6ID R1b3TgAAsdjkRxSK4ct IKPaOJSRmM7MKMcK hlug3BEkSC9- aXBTSIv5fAGN- ShDbPvHycBpjzKWXBv MIR5PaCg- 9fwjELXZXdRwz8C6Jb RM8aqzhdt4CVhQ3- Arip-S9CKd0tu- qhHfF2rvJDRlg8ZBiihd PH8mJs-qpTFep_1- kON3mL0_g54xVmIMw N0XQA" | The access token is opaque to the MCVideo client | TS 33.180 [94], clause B.4 RFC 6749 [77] | CONFIG |
| session-type | "prearranged" "private" | | | GROUP- CALL PRIVATE- |
| | F | | | CALL |
| mcvideo-request-uri | px_MCVideo_Group_A _ID | The URI of the group | | GROUP- CALL |
| | px_MCVideo_Client_B_ ID | The URI of the invited MCVideo Client | | PRIVATE- CALL |
| mcvideo-calling-user-id | not present or px_MCVideo_ID_User_ A | | | |
| mcvideo-called-party-id | not present or px_MCVideo_ID_User_ B | | | |
| mcvideo-calling-group-id | not present | | | |
| required | not present | | | |
| emergency-ind | not present or if present then="false" "true" | | | EMERGEN CY-CALL |
| alert-ind | not present or if present then="false" "true" | | | EMERGEN CY-ALERT |
| imminentperil-ind | not present or if present then="false" "true" | | | IMMPERIL- CALL |

| broadcast-ind | not present | | | |
|--|---|--|--|--|
| mc-org" | not present | | | |
| mc-org" transmission-state associated-group-id | not present not present px_MCVideo_Group_A _ID if mcvideo-request- uri contains a temporary group identity; otherwise, not present | if the <mcvideo- request-uri=""> element contains a group identity then this element can include an MCVideo group ID associated with the group identity in the <mcvideo-request-uri> element. E.g. if the <mcvideo-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain</associated-group-id></mcvideo-request-uri></mcvideo-request-uri></mcvideo-> | TS 24.281 [86] clause F.1.3 | GROUP- CALL |
| | | the constituent MCVideo group ID | | |
| | not present | , | | PRIVATE- CALL |
| originated-by | not present | | | |
| MKFC-GKTPs | not present px_MCVideo_Client_A_ | The URI of the | | PRIVATE- |
| | ID | MCVideo Client | | CALL GROUP- CALL EMERGEN CY-CALL IMMPERIL- CALL EMERGEN CY-ALERT |
| | "eyJhbGciOiJSUzl1NiJ9 .eyJzdWliOilxMjM0NTY 3ODkwliwiYXVkljoibWN wdHRfY2xpZW50liwiaX NzljoiSWRNUy5zZXJ2Z XluY29tOjkwMzEiLCJp YXQiOjE0NTM0OTgxN TgsImV4cCl6MTQ1Mz Q5ODQ1OCwibWNwd HRfaWQiOiJhbGljZUBv cmcuY29tln0.Dpn7Ahl MaqMEgg12NYUUfJGS FJMPG8M2li9FLtPotDl HvwU2emBws8z5JLw8 1SXQnoLqZ8ZF8tlhZ1 W7uuMbufF4Wsr7PAad Zixz3CnV2wxFV9qR_V A1- 0ccDTPukUsRHsic0Sg Z3albcYKd6VsehFe_G DwfqysYzD7yPwCfPZo " | The MCVideo client may validate the user with the ID token and configure itself for the user | TS 33.180 [94], clause B.4 RFC 6749 [77] | CONFIG |
| alert-ind-rcvd | not present | | | |
| anyExt | not present or any allowed value | | TS 24.281 [86] clause F.1.3 | |

Table 5.5.3.2.1-3: MCData-Info from the UE

| Derivation Path: TS 24.282 [87] | Derivation Path: TS 24.282 [87], Clause D.1 | | | | |
|---------------------------------|---|---------|-----------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| mcdata-info | | | | | |
| mcdata-Params | | | | | |
| mcdata-access-token | not present | | | | |
| request-type | "one-to-one-sds" | | | MCD_1to1 | |
| request-type | "group-sds" | | | MCD_grp | |
| mcdata-request-uri | px_MCData_Group_A | | | MCD_grp | |
| mcdata-calling-user-id | not present | | | | |
| mcdata-called-party-id | not present | | | | |
| mcdata-calling-group-id | not present | | | | |
| alert-ind | not present | | | | |
| originated-by | not present | | | | |
| mcdata-client-id | px_MCData_Client_A_I D | | | MCD_grp | |
| mcdata-controller-psi | not present | | | | |

| Condition | Explanation |
|--|--------------------------|
| MCD_1to1 | A one-to-one MCData call |
| MCD_grp | A goup MCData call |
| For further conditions see table 5.5.1-1 | |

5.5.3.2.2 MCPTT-Info from the SS

- MCPTT

Table 5.5.3.2.2-1: MCPTT-Info from the SS

| Derivation Path: TS 24.379 [9] Information Element | Value/remark | Comment | Reference | Condition |
|--|-------------------------|-----------------------------|-----------------------------|----------------------------------|
| mcpttinfo | | | | |
| mcptt-Params | | | | |
| mcptt-access-token | not present | | | |
| session-type | not present | | | |
| ,, ,, | "prearranged" | | | GROUP- CALL |
| | "private" | | | PRIVATE- CALL |
| | "chat" | | | CHAT- GROUP- CALL |
| mcptt-request-uri | px_MCPTT_ID_User_A | The URI of the called user | | |
| mcptt-calling-user-id | px_MCPTT_ID_User_B | The URI of the calling user | | |
| mcptt-called-party-id | not present | | | |
| mcptt-calling-group-id | not present | | | |
| | px_MCPTT_Group_A_I D | The URI of the group | | GROUP- CALL |
| required | not present | | | |
| emergency-ind | not present | | | |
| | "true" | | | EMERGEN CY-CALL |
| alert-ind | not present | | | |
| | "true" | | | EMERGEN CY-ALERT |
| imminentperil-ind | not present | | | |
| | "true" | | | IMMPERIL -CALL |
| broadcast-ind | not present | | | |
| | "true" | | | BROADCA ST- GROUP- CALL |
| mc-org" | not present | | | |
| floor-state | not present | | | |
| associated-group-id | not present | | | |
| originated-by | not present | | | |
| MKFC-GKTPs | not present | | | |
| mcptt-client-id | not present | | | |
| alert-ind-rcvd | not present | | | |
| anyExt | not present | | TS 24.379 [9], clause F.1.3 | |

- MCVideo

Table 5.5.3.2.2-2: MCVideo-Info from the SS

| Derivation Path: TS 24.281 [86] C | lause F.1.2 | | | |
|-----------------------------------|--------------|---------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcvideoinfo | | | | |
| mcvideo-Params | | | | |
| mcvideo-access-token | not present | | | |

| Derivation Path: TS 24.281 [86] Clause F.1.2 | | | | |
|--|---|--|---|--------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Information Element | "eyJhbGciOiJSUzI1NiJ 9.eyJtY3B0dF9pZCI6I mFsaWNIQG9yZy5jb20 iLCJIeHAiOjE0NTM1M DYxMjEsInNjb3BIIjpbI m9wZW5pZCIsIjNncHA 6bWNwdHQ6cHR0X3N IcnZIciJdLCJjbGIIbnRfa WQiOiJtY3B0dF9jbGIIb nQifQ.XYIqai4YKSZCK RNMLipGC_5nV4BE79 IJpvjexWjIqqcqiEx6Am HHIR00mhcxeCESrXei 9krom9e8Goxr_hgF3sz vgbwl8JRbFuv97Xgep DLjEq4jL3Cbu41Q9b0 WdXAdFmeEbiB8wo_x ggiGwv6IDR1b3TgAAs djkRxSK4ctIKPaOJSR mM7MKMcKhlug3BEk SC9-aXBTSIv5fAGN- ShDbPvHycBpjzKWXB vMIR5PaCg- 9fwjELXZXdRwz8C6Jb RM8aqzhdt4CVhQ3- Arip-S9CKd0tu- qhHfF2rvJDRIg8ZBiihd PH8mJs-qpTFep_1- kON3mL0_g54xVmIMw N0XQA" | The access token is opaque to the MCVideo client | TS 33.180 [94] clause B.4 RFC 6749 [77] | CONFIG |
| session-type | "prearranged" | | | GROUP- |
| | "private" | | | CALL PRIVATE- CALL |
| mcvideo-request-uri | px_MCVideo_Group_A _ID | The URI of the group | | GROUP- CALL |
| | px_MCVideo_Client_B _ID | The URI of the invited MCVideo Client | | PRIVATE- CALL |
| mcvideo-calling-user-id | not present or px_MCVideo_ID_User_ A | | | |
| mcvideo-called-party-id | not present or px_MCVideo_ID_User_ B | | | |
| mcvideo-calling-group-id | not present | | | |
| required | not present | | | |
| emergency-ind | not present or if present then="false" | | | EMEDOEN |
| | "true" | | | EMERGEN CY-CALL |
| alert-ind | not present or if present then="false" | | | ENTEROS |
| | "true" | | | EMERGEN CY-ALERT |
| imminentperil-ind | not present or if present then="false" | | | |
| | "true" | | | IMMPERIL -CALL |
| broadcast-ind | not present | | | |
| mc-org" | not present | | | |
| floor-state | not present | | | |

| Derivation Path: TS 24.281 [86] C | lause F.1.2 | | | |
|-----------------------------------|---|---|---|---|
| Information Element | Value/remark | Comment | Reference | Condition |
| associated-group-id | px_MCVideo_Group_A _ID if mcvideo-request- uri contains a temporary group identity; otherwise, not present | if the <mcvideo- request-uri=""> element contains a group identity then this element can include an MCVideo group ID associated with the group identity in the <mcvideo-request-uri> element. E.g. if the <mcvideo-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCVideo group ID</associated-group-id></mcvideo-request-uri></mcvideo-request-uri></mcvideo-> | TS 24.281 [86] clause F.1.3 | GROUP- CALL |
| | not present | | | PRIVATE- CALL |
| originated-by | not present | | | |
| MKFC-GKTPs | not present | | | |
| mcvideo-client-id | px_MCVideo_Client_A _ID | The URI of the MCVideo Client | | PRIVATE- CALL GROUP- CALL EMERGEN CY-CALL IMMPERIL -CALL EMERGEN CY-CALE |
| | "eyJhbGciOiJSUzI1NiJ 9.eyJzdWliOilxMjM0NT Y3ODkwliwiYXVkljoib WNwdHRfY2xpZW50li wiaXNzljoiSWRNUy5z ZXJ2ZXluY29tOjkwMz EiLCJpYXQiOjE0NTM0 OTgxNTgslmV4cCl6M TQ1MzQ5ODQ1OCwib WNwdHRfaWQiOiJhbG ljZUBvcmcuY29tln0.Dp n7AhlMaqMEgg12NYU UfJGSFJMPG8M2li9FL tPotDIHvwU2emBws8z 5JLw81SXQnoLqZ8ZF 8tlhZ1W7uuMbufF4Ws r7PAadZixz3CnV2wxF V9qR_VA1- 0ccDTPukUsRHsic0Sg Z3albcYKd6VsehFe_G DwfqysYzD7yPwCfPZo " | The MCVideo client may validate the user with the ID token and configure itself for the user | TS 33.180 [94] clause B.4 RFC 6749 [77] | CONFIG |
| alert-ind-rcvd | not present | | | |
| anyExt | not present or any allowed value | | TS 24.281 [86] clause F.1.3 | |

Table 5.5.3.2.2-3: MCData-Info from the SS

| Derivation Path: TS 24.282 [87] | , Clause D.1 | | | |
|---------------------------------|---------------------------|---------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcdata-info | | | | |
| mcdata-Params | | | | |
| mcdata-access-token | not present | | | |
| request-type | "one-to-one-sds" | | | MCD_1to1 |
| request-type | "group-sds" | | | MCD_grp |
| mcdata-request-uri | px_MCData_Group_A | | | MCD_grp |
| mcdata-calling-user-id | px_MCData_ID_User_ B | | | |
| mcdata-called-party-id | px_MCData_ID_User_ A | | | |
| mcdata-calling-group-id | not present | | | |
| alert-ind | not present | | | |
| originated-by | not present | | | |
| mcdata-client-id | px_MCData_Client_B_I D | | | |
| mcdata-controller-psi | not present | | | |

| Condition | Explanation |
|--|--------------------------|
| MCD_1to1 | A one-to-one MCData call |
| MCD_grp | A goup MCData call |
| For further conditions see table 5.5.1-1 | |

5.5.3.3 Resource-lists

5.5.3.3.1 Resource-lists from the UE

Table 5.5.3.3.1-1: Resource-lists from the UE for MCPTT

| Derivation Path: RFC 5366 [35] / I | RFC 4826 [83] | | | |
|------------------------------------|----------------------|--|----------------|------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| resource-lists | | 2 2222 | | PRIVATE- |
| | | | | CALL |
| | | | | GROUP- |
| | | | | CALL |
| | | | | EMERGEN |
| | | | | CY-CALL |
| | | | | IMMPERIL |
| | | | | -CALL |
| | | | | EMERGEN |
| | | | | CY-ALERT |
| list[1] | N | | | |
| name attribute | Not present | | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | The MODIT ID of the | | |
| uri attribute | px_MCPTT_ID_User_B | The MCPTT ID of the | | |
| dianlay nama | Not propert | invited user | | |
| display-name resource-lists | Not present | | TS 24.379 cl | PRE- |
| resource-lists | | | 10.1.1.2.2.1, | ESTABLIS |
| | | | 10.1.1.2.2.1, | HED- |
| | | | 10.1.2.2.2.1 | SESSION |
| list[1] | | | | 3230101 1 |
| name attribute | Not present | | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | | | |
| uri attribute | px_MCPTT_Group_A_I | prearranged MCPTT | | |
| | D | group identit or | | |
| | | chat group identity | | |
| display-name | Not present | | | |
| resource-lists | encrypted (NOTE 4) | | TS 24.481 [11] | CONFIG |
| | | | TS 24.484 [14] | OR |
| | | | | GROUPC |
| | | | | ONFIG |
| list[1] | encrypted (NOTE 4) | | | |
| name attribute | not present | | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID1 & "/users/" & | UE Configuration | | |
| | XUID & "/" & MCSUEID | document | | |
| | & "/" | (NOTE 1a, 2, 3) | | |
| | "AUID1 & "/users/" & | Editor's note: It is not | | |
| | XUID & "/" | clear in the core specs whether both options | | |
| | | are allowed or only one | | |
| | | of both; if the UE is | | |
| | | allowed not to include | | |
| | | the MCSUEID, it is not | | |
| | | clear where the MC | | |
| | | server gets it from | | |
| display-name | Not present | | | |
| entry[2] | NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID2 & "/users/" & | UE User Profile | | |
| | XUID & "/" | document | | |
| | | (NOTE 1b, 2) | | |
| display-name | Not present | | | |
| entry[3] | NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID3 & | UE Service | | |
| | "/global/service- | Configuration | | |
| | config.xml" | document | | |
| | | (NOTE 1c) | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | | TS 24.484 [14] | GROUPC |
| | 1 | | 1 | ONFIG |

| uri attribute | "org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D | UE Group Configuration document | | |
|---------------|--|---------------------------------------|----------------|-----------------|
| display-name | Not present | | | |
| entry[2] | optional, NOTE 5 | | TS 24.481 [11] | GROUPC ONFIG |
| uri attribute | Doc-Sel & "~~" & Node- Sel | MCPTT-GKTP document (NOTE 6, 7) | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | | TS 24.481 [11] | GROUPKE Y |
| uri attribute | Doc-Sel & "~~" & Node- Sel | MCPTT-GKTP document (NOTE 6, 7) | | |
| display-name | Not present | | | |

NOTE 1a: AUID1 = "org.3gpp.mcptt.ue-config"

NOTE 1b: AUID2 = "org.3gpp.mcptt.user-profile"

NOTE 1c: AUID3 = "org.3gpp.mcptt.service-config"

NOTE 2: XUID = "sip:" & px_MCPTT_ID_User_A

NOTE 3: MCSUEID = Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8)

NOTE 4: XML encryption may be done by

- element content encryption of the root element <resource-lists> as described in Table 5.5.13.2-1

- element content encryption of (each) < list> element as described in Table 5.5.13.2-1

Editor's note: Attribute URI Encryption on the entry's uri attributes may need to be considered too (FFS)

NOTE 5: When a resource-lists document contains more than one entry, the entries may be in any order NOTE 6: Doc-Sel = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_A_ID & "/" NOTE 7: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

| Condition | Explanation |
|--|---|
| PRE-ESTABLISHED-SESSION | Prearranged group call or a Chat group call using a pre-established |
| | session |
| For further conditions see table 5.5.1-1 | |

· MCVideo

Table 5.5.3.3.1-2: Resource-lists from the UE for MCVideo

| Derivation Path: RFC 5366 [35] | RFC 4826 [83] | | | |
|--------------------------------|--|------------------------------------|----------------------------------|---|
| Information Element | Value/remark | Comment | Reference | Condition |
| resource-lists | | | | PRIVATE- CALL GROUP- CALL EMERGEN CY-CALL IMMPERIL -CALL EMERGEN CY-ALERT |
| list[1] | | | | |
| name attribute | Not present | | | |
| display-name | Not present | | | |
| entry[1] | NOTE 5 | | | |
| uri attribute | px_MCVideo_ID_User_ B | The MCVideo ID of the invited user | | |
| display-name | Not present | | | |
| resource-lists | encrypted (NOTE 4) | | TS 24.481 [11] TS 24.484 [14] | CONFIG OR GROUPC ONFIG |
| list[1] | encrypted (NOTE 4) | | | |
| name attribute | "uri: mcvideo- op.gov:resource-lists" | Editor's note: to be removed | | CONFIG |

| display-name | Not present | | | |
|--------------------------|--|---|----------------|-----------------|
| entry[1] | NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID1 & "/users/" & XUID & "/" & MCSUEID & "/" | UE Configuration document (NOTE 1a, 2, 3) | | |
| | "AUID1 & "/users/" & | Editor's note: It is not | | |
| | XUID & "/" | clear in the core specs | | |
| | | whether both options are allowed or only one | | |
| | | of both; if the UE is | | |
| | | allowed not to include | | |
| | | the MCSUEID, it is not | | |
| | | clear where the MC | | |
| dia alamana | Netsperset | server gets it from | | |
| display-name entry[2] | Not present NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID2 & "/users/" & | UE User Profile | 15 24.464 [14] | CONFIG |
| un attribute | XUID & "/" | document | | |
| | χοι2 α γ | (NOTE 1b, 2) | | |
| display-name | Not present | | | |
| entry[3] | NOTE 5 | | TS 24.484 [14] | CONFIG |
| uri attribute | AUID3 & | UE Service | | |
| | "/global/service- | Configuration | | |
| | config.xml" | document (NOTE 1c) | | |
| display-name | Not present | (NOTE 10) | | |
| entry[1] | NOTE 5 | | TS 24.481 [11] | GROUPC ONFIG |
| uri attribute | "org.openmobileallianc | UE Group | | |
| | e.groups/global/byGrou | Configuration | | |
| | pID/" & | document | | |
| | px_MCVideo_Group_A ID | | | |
| display-name | Not present | | | |
| entry[2] | optional | | TS 24.481 [11] | GROUPC |
| | NOTE 5 | | | ONFIG |
| uri attribute | Doc-Sel & "~~" & Node- | MCPTT-GKTP | | |
| P 1 | Sel | document (NOTE 6, 7) | | |
| display-name | Not present | | TC 04 404 [44] | CDOLIDICE |
| entry[1] | NOTE 5 | | TS 24.481 [11] | GROUPKE Y |
| uri attribute | Doc-Sel & "~~" & Node- | MCPTT-GKTP | | |
| | Sel | document (NOTE 6, 7) | | |
| display-name | Not present | | | |

NOTE 1a: AUID1 = "org.3gpp.mcvideo.ue-config" NOTE 1b: AUID2 = "org.3gpp.mcvideo.user-profile" NOTE 1c: AUID3 = "org.3gpp.mcvideo.service-config"

NOTE 2: XUID = "sip:" & px_MCVideo_ID_User_A
NOTE 3: MCSUEID = Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8)

NOTE 4: XML encryption may be done by

element content encryption of the root element <resource-lists> as described in Table 5.5.13.2-1

element content encryption of (each) < list> element as described in Table 5.5.13.2-1

Editor's note: Attribute URI Encryption on the entry's uri attributes may need to be considered too (FFS)

NOTE 5: When a resource-lists document contains more than one entry, the entries may be in any order NOTE 6: Doc-Sel = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCVideo_Group_A_ID & "/"

NOTE 7: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

Table 5.5.3.3.1-3: Resource-lists from the UE for MCData

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---|-----------|-----------|
| resource-lists | Editor's note: XML element content encryption to be added | | | |
| list | | | | |
| entry | px_MCData_ID_User_ B | The MCData ID of the target MCData user | | |

5.5.3.3.2 Resource-lists from the SS

- MCPTT

Table 5.5.3.3.2-1: Resource-lists from the SS for MCPTT

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|----------------------------------|-----------|-----------|
| resource-lists | Editor's note: XML element content encryption to be added | | | |
| name attribute | Not present | | | |
| display-name | Not present | | | |
| list | | | | |
| entry[1] | | | | |
| uri attribute | px_MCPTT_ID_User_A | The MCPTT ID of the invited user | | |
| display-name | Not present | | | |

- MCVideo

Table 5.5.3.3.2-2: Resource-lists from the SS for MCVideo

| Derivation Path: RFC 5366 [35] / RFC 4826 [83] | | | | |
|--|---|------------------------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| resource-lists | Editor's note: XML element content encryption to be added | | | |
| list | | | | |
| entry | px_MCVideo_ID_User_ A | The MCVideo ID of the invited user | | |

- MCData

Table 5.5.3.3.2-3: Resource-lists from the SS for MCData

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|-----------------------------------|-----------|-----------|
| resource-lists | Editor's note: XML element content encryption to be added | | | |
| list | | | | |
| entry | px_MCData_ID_User_ A | The MCData ID of the invited user | | |

5.5.3.4 Location-info

5.5.3.4.1 Location-info (Report from the UE)

Table 5.5.3.4.1-1: Location-info (Report from the UE) for MCPTT

| Derivation Path: TS 24.379 [9] (Information Element | Value/remark | Comment | Reference | Condition |
|--|---|--|-----------|--|
| location-info | - 2000000000000000000000000000000000000 | | | 23 |
| Report | | | | |
| TriggerID | not present | An element which can occur multiple times. Contains the value of the <triggerid> attribute associated</triggerid> | | |
| | | with a trigger that has fired. Only present if a trigger is the cause of the Location-info Report. | | |
| CurrentLocation | | A mandatory element that contains the location information | | |
| CurrentServingEcgi | any value if present | This is optional depending on the configuration sent by the SS | | |
| NeighbouringEcgi | any value if present | This is optional depending on the configuration sent by the SS | | |
| MbmsSald | any value if present | This is optional depending on the configuration sent by the SS | | |
| MbsfnArea | any value if present | This is optional depending on the configuration sent by the SS | | |
| CurrentCoordinate | any value if present | This is optional depending on the configuration sent by the SS | | |
| ReportID | not present | Attribute is used to return the value in the <requestld> attribute in the <requests> element. Only present in response to a Location-Info Request.</requests></requestld> | | |
| ReportType | "Emergency" | Required The <reporttype> attribute has two values "Emergency" and "NonEmergency" used to inform whether the client is sending the report in an emergency situation or not.</reporttype> | | |
| EmergencyEventType | "GroupCallEmergency" | Editor's note: tEmergencyEventType is not part of location- info; it needs to be clarify whether or how it shall be included | | GROUP- CALL and EMERGEN CY-CALL |
| | "GroupCallImminentPer il" | Editor's note: tEmergencyEventType is not part of location- info; it needs to be clarify whether or how it shall be included | | GROUP- CALL and IMMPERIL -CALL |

| Derivation Path: TS 24.379 [9] clause F.3 | | | | |
|---|-------------------------|---|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition |
| | "PrivateCallEmergency" | Editor's note: tEmergencyEventType is not part of location- info; it needs to be clarify whether or how it shall be included | | PRIVATE- CALL and EMERGEN CY-CALL |
| | "InitiateEmergencyAlert | Editor's note: tEmergencyEventType is not part of location- info; it needs to be clarify whether or how it shall be included | | IMMPERIL -CALL |

- MCVideo

Table 5.5.3.4.1-2: Location-info (Report from the UE) for MCVideo

| Derivation Path: TS 24.281 [86] clause F.3 | | | | | |
|--|-------------------------|--|-----------|----------------------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| location-info | | | | | |
| Report | | | | | |
| TriggerID | not present | An element which can | | | |
| | | occur multiple times. | | | |
| | | Contains the value of | | | |
| | | the <triggerid> attribute associated</triggerid> | | | |
| | | with a trigger that has | | | |
| | | fired. Only present if a | | | |
| | | trigger is the cause of | | | |
| | | the Location-info | | | |
| | | Report. | | | |
| CurrentLocation | | A mandatory element | | | |
| | | that contains the | | | |
| 0 10 1 5 1 | | location information | | | |
| CurrentServingEcgi | optional | This is optional | | | |
| | | depending on the configuration sent by | | | |
| | | the SS | | | |
| NeighbouringEcgi | optional | This is optional | | | |
| 140.g.i.souring_ogi | Spaina | depending on the | | | |
| | | configuration sent by | | | |
| | | the SS | | | |
| MbmsSald | optional | This is optional | | | |
| | | depending on the | | | |
| | | configuration sent by | | | |
| | | the SS | | | |
| MbsfnArea | optional | This is optional | | | |
| | | depending on the configuration sent by | | | |
| | | the SS | | | |
| CurrentCoordinate | optional | This is optional | | | |
| | op noa. | depending on the | | | |
| | | configuration sent by | | | |
| | | the SS | | | |
| ReportID | not present | Attribute is used to | | | |
| | | return the value in the | | | |
| | | <requestid> attribute</requestid> | | | |
| | | in the <request> element. Only present</request> | | | |
| | | in response to a | | | |
| | | Location-Info Request. | | | |
| ReportType | "Emergency" | Required | | | |
| 71. | 3, | The <reporttype></reporttype> | | | |
| | | attribute has two values | | | |
| | | "Emergency" and | | | |
| | | "NonEmergency" used | | | |
| | | to inform whether the | | | |
| | | client is sending the report in an emergency | | | |
| | | situation or not. | | | |
| EmergencyEventType | "GroupCallEmergency" | olludion of not. | | GROUP- | |
| | 2.54p Juni Emorgonoy | | | CALL and | |
| | | | | EMERGEN | |
| | | | | CY-CALL | |
| | "GroupCallImminentPer | | | GROUP- | |
| | il" | | | CALL and | |
| | | | | IMMPERIL | |
| | "Deix set a C = U.C ::- | | | -CALL | |
| | "PrivateCallEmergency" | | | PRIVATE- CALL and | |
| | | | | EMERGEN | |
| | | | | CY-CALL | |
| | "InitiateEmergencyAlert | | | IMMPERIL | |
| | " | | | -CALL | |

5.5.3.4.2 Location-info (Configuration sent by the SS)

Table 5.5.3.4.2-1: Location-info (Configuration sent by the SS) for MCPTT

| Derivation Path: TS 24.379 [9] cla | Value/remark | Comment | Reference | Condition |
|---|-------------------|---|-------------|-----------|
| location-info | v aiue/i eiliai K | Comment | izelelelice | Condition |
| Configuration | | | | |
| ConfigScope | "Full" | The MCPTT Client | | |
| | | shall replace any | | |
| | | previous configuration. | | |
| NonEmergencyLocationInformat ion | | | | |
| ServingEcgi | present | An optional element | | |
| | | specifying that the | | |
| | | serving E-UTRAN Cell | | |
| | | Global Identity (ECGI) needs to be reported | | |
| NeighbouringEcgi | present | An optional element | | + |
| rveignboaringLegi | prosont | that can occur multiple | | |
| | | times, specifying that | | |
| | | neighbouring ECGIs | | |
| | | need to be reported | | |
| MbmsSald | present | An optional element | | |
| | | specifying that the | | |
| | | serving MBMS Service | | |
| | | Area Id needs to be | | |
| MbsfnArea | present | reported; An optional element | | |
| MIDSHIAICA | present | specifying that the | | |
| | | MBSFN area Id needs | | |
| | | to be reported; | | |
| GeographicalCoordinate | present | An optional element | | |
| | | specifying that the | | |
| | | geographical | | |
| | | coordinate specified in | | |
| | | clause 6.1 in 3GPP | | |
| | | TS 23.032 [65] needs to be reported | | |
| minimumIntervalLength | "10" | A mandatory element | | |
| Timinital Times val Estigati | | specifying the minimum | | |
| | | time the MCPTT client | | |
| | | needs to wait between | | |
| | | sending location | | |
| | | reports. The value is | | |
| | | given in seconds | | |
| EmergencyLocationInformation" | | | | |
| ServingEcgi | present | An optional element | | |
| | | specifying that the serving E-UTRAN Cell | | |
| | | Global Identity (ECGI) | | |
| | | needs to be reported | | |
| NeighbouringEcgi | present | An optional element | | 1 |
| - 3 · · · · · · · · · · · · · · · · · · | | that can occur multiple | | |
| | | times, specifying that | | |
| | | neighbouring ECGIs | | |
| | | need to be reported | | |
| MbmsSald | present | An optional element | | |
| | | specifying that the | | |
| | | serving MBMS Service Area Id needs to be | | |
| | | reported; | | |
| MbsfnArea | present | An optional element | | |
| | F. 55551.1 | specifying that the | | |
| | | MBSFN area Id needs | | |
| | | to be reported; | | 1 |

| Information Element | Value/remark | Comment | Reference | Condition |
|------------------------|--------------|--|-----------|-----------|
| GeographicalCoordinate | present | An optional element specifying that the geographical coordinate specified in clause 6.1 in 3GPP TS 23.032 [65] needs to be reported | | |
| minimumIntervalLength | "5" | A mandatory element specifying the minimum time the MCPTT client needs to wait between sending location reports. The value is given in seconds | | |
| TriggeringCriteria | | | | |
| CellChange | not present | | | |
| TrackingAreaChange | not present | | | |
| PlmnChange | not present | | | |
| MbmsSaChange | not present | | | |
| MbsfnAreaChange | not present | | | |
| PeriodicReport | not present | | | |
| TravelledDistance | not present | | | |
| McpttSignallingEvent | not present | | | |
| GeographicalAreaChange | | | | |
| AnyAreaChange | not present | | | |
| EnterSpecificAreaType | not present | | | |
| ExitSpecificAreaType | not present | | | |

- MCVideo

Table 5.5.3.4.2-2: Location-info (Configuration sent by the SS) for MCVideo

| Derivation Path: TS 24.281 [86] c | lause F.3 | | | |
|-----------------------------------|--------------|--|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| location-info | | | | |
| Configuration | | | | |
| ConfigScope | "Full" | The MCVideo Client | | |
| | | shall replace any previous configuration. | | |
| | | previous coringulation. | | |
| NonEmergencyLocationInformat ion | | | | |
| ServingEcgi | present | An optional element | | |
| | | specifying that the | | |
| | | serving E-UTRAN Cell Global Identity (ECGI) | | |
| | | needs to be reported | | |
| NeighbouringEcgi | present | An optional element | | |
| i to g g = sg. | p. coo | that can occur multiple | | |
| | | times, specifying that | | |
| | | neighbouring ECGIs | | |
| | | need to be reported | | |
| MbmsSald | present | An optional element | | |
| | | specifying that the serving MBMS Service | | |
| | | Area Id needs to be | | |
| | | reported; | | |
| MbsfnArea | present | An optional element | | |
| | F | specifying that the | | |
| | | MBSFN area ld needs | | |
| | | to be reported; | | |
| GeographicalCoordinate | present | An optional element | | |
| | | specifying that the | | |
| | | geographical coordinate specified in | | |
| | | clause 6.1 in 3GPP | | |
| | | TS 23.032 [65] needs | | |
| | | to be reported | | |
| minimumIntervalLength | "10" | A mandatory element | | |
| | | specifying the minimum | | |
| | | time the MCVIdeo | | |
| | | client needs to wait | | |
| | | between sending location reports. The | | |
| | | value is given in | | |
| | | seconds | | |
| | | | | |
| EmergencyLocationInformation" | | <u> </u> | | |
| ServingEcgi | present | An optional element | | |
| | | specifying that the serving E-UTRAN Cell | | |
| | | Global Identity (ECGI) | | |
| | | needs to be reported | | |
| NeighbouringEcgi | present | An optional element | | |
| | | that can occur multiple | | |
| | | times, specifying that | | |
| | | neighbouring ECGIs | | |
| MbmsSald | propert | need to be reported An optional element | | |
| IVIDITISORIU | present | specifying that the | | |
| | | serving MBMS Service | | |
| | | Area Id needs to be | | |
| | | reported; | | |
| MbsfnArea | present | An optional element | | |
| | | specifying that the | | |
| | | MBSFN area Id needs | | |
| | | to be reported; | | |

| Derivation Path: TS 24.281 [86] clause F.3 | | | | | |
|--|--------------|--|-----------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| GeographicalCoordinate | present | An optional element specifying that the geographical coordinate specified in clause 6.1 in 3GPP TS 23.032 [65] needs to be reported | | | |
| minimumIntervalLength | "5" | A mandatory element specifying the minimum time the MCVideo client needs to wait between sending location reports. The value is given in seconds | | | |
| TriggeringCriteria | | | | | |
| CellChange | not present | | | | |
| TrackingAreaChange | not present | | | | |
| PlmnChange | not present | | | | |
| MbmsSaChange | not present | | <u>-</u> | | |
| MbsfnAreaChange | not present | | | | |
| PeriodicReport | not present | | | | |
| TravelledDistance | not present | | | | |
| McvideoSignallingEvent | not present | | | | |
| GeographicalAreaChange | not present | | | | |

5.5.3.4.3 Location-info (Request sent by the SS)

- MCPTT

Table 5.5.3.4.3-1: Location-info (Request sent by the SS) for MCPTT

| Derivation Path: TS 24.379 [9] clause F.3 | | | | |
|---|--------------|-------------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| location-info | | | | |
| Request | | | | |
| RequestID | "1" | The RequestID that the | | |
| | | MCPTT Client will | | |
| | | reference in the Report | | |

MCVideo

Table 5.5.3.4.3-2: Location-info (Request sent by the SS) for MCVideo

| Derivation Path: TS 24.281 [96] clause F.3 | | | | | |
|--|--------------|--|-----------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| location-info | | | | | |
| Request | | | | | |
| RequestID | "1" | The RequestID that the MCVideo Client will reference in the Report | | | |

5.5.3.5 PIDF

Table 5.5.3.5-1: PIDF for MCPTT

| Derivation Path: TS 24.379 [9] of Information Element | Value/remark | Comment | Reference | Condition |
|---|--|--|-----------|-----------|
| presence | | | | |
| entity attribute | Encrypted URI (NOTE 1) with value set to px_MCPTT_ID_User_A | | | |
| tuple | | | | |
| id attribute | Encrypted URI (NOTE 1) with value set to px_MCPTT_Client_A_I D | | | |
| status | | | | |
| affiliation | | | | |
| group | Encrypted URI (NOTE 1) with value set to px_MCPTT_Group_A_I D | | | |
| client | not present | | | |
| status | "affiliating" | | | |
| expires | not present | | | |
| contact | not present | | | |
| note | not present | | | |
| timestamp | not present | | | |
| note | not present | | | |
| p-id | any allowed value when sent by the UE or same value as sent in SIP PUBLISH otherwise | set to an identifier of a SIP PUBLISH request | | |

- MCVideo

Table 5.5.3.5-2: PIDF for MCVideo

| Derivation Path: TS 24.281 [86] | clause 8.3.1 | | | |
|---------------------------------|--|---|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| presence entity | Encrypted URI (NOTE 1) with value set to px_MCVideo_ID_User_ A | | | |
| tuple id | Encrypted URI (NOTE 1) with value set to px_MCVideo_Client_A _ID | | | |
| status | | | | |
| affiliation | | | | |
| group | Encrypted URI (NOTE 1) with value set to px_MCVideo_Group_A _ID | | | |
| client | not present | | | |
| status | | | | |
| affiliating | | | | |
| affiliated | not present | | | |
| deaffiliating | not present | | | |
| expires | not present | | | |
| p-id | any allowed value or same value as sent in SIP PUBLISH | set to an identifier of a SIP PUBLISH request | | |
| NOTE 1: Encrypted attribute as | described in Table 5.5.3.13 | 3.3-1 | | |

- MCData

Table 5.5.3.5-3: PIDF for MCData

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---|-----------|-----------|
| presence entity | Encrypted URI (NOTE 1) with value set to px_MCData_ID_User_ A | | | |
| tuple id | Encrypted URI (NOTE 1) with value set to px_MCDATA_Client_A _ID | | | |
| status | | | | |
| affiliation | | | | |
| group | Encrypted URI (NOTE 1) with value set to px_MCDATA_Group_A _ID | | | |
| client | not present | | | |
| status | | | | |
| affiliating | | | | |
| affiliated | not present | | | |
| deaffiliating | not present | | | |
| expires | not present | | | |
| p-id | any allowed value or same value as sent in SIP PUBLISH | set to an identifier of a SIP PUBLISH request | | |

5.5.3.6 SIMPLE-FILTER

Table 5.5.3.6-1: SIMPLE-FILTER for MCPTT

| Value/remark | Comment | Reference | Condition |
|--|---|--|--|
| | | RFC 4661 [48] | |
| | TS 24.379 [9] clause 9.3.2.2 requires two separate ns- binding elements | RFC 4661 [48] | |
| | | RFC 4661 [48] | |
| пн | Editor's note: according to RFC 4661 the prefix is required nevertheless TS 24.379 says 'does not contain a "prefix" attribute' | | |
| "urn:ietf:params:xml:ns: pidf" | · | | |
| | | RFC 4661 [48] | |
| "mcpttPI10" | | | |
| "urn:3gpp:ns:mcpttPres Info:1.0" | | | |
| | | RFC 4661 [48] | |
| Any value | The value of the 'id' attribute has to be unique within the <filter- set=""> element</filter-> | | |
| Not present | According to TS 24.379 | | |
| Not present | According to TS 24.379 | | |
| Not present | 'false' per default | | |
| Not present | 'true' per default | | |
| | | | |
| "//presence/tuple[@id=" & px_MCPTT_Client_A_I D & "]" | contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCPTT client ID, and the '"]' string | RFC 4661 [48] | |
| | "urn:ietf:params:xml:ns: pidf" "mcpttPI10" "urn:3gpp:ns:mcpttPres Info:1.0" Any value Not present Not present Not present Not present Not present "//presence/tuple[@id=" & px_MCPTT_Client_A_I | TS 24.379 [9] clause 9.3.2.2 requires two separate ns- binding elements Editor's note: according to RFC 4661 the prefix is required nevertheless TS 24.379 says 'does not contain a "prefix" attribute' "urn:ietf:params:xml:ns: pidf" "mcpttPl10" "urn:3gpp:ns:mcpttPres Info:1.0" Any value The value of the 'id' attribute has to be unique within the <filter- set=""> element Not present According to TS 24.379 Not present Not present Not present Not present Virue' per default "//presence/tuple[@id=" & px_MCPTT_Client_A_I D & "]" "resence/tuple[@id=" string, the MCPTT client ID, and the "]' string</filter-> | TS 24.379 [9] clause 9.3.2.2 requires two separate ns- binding elements "" Editor's note: according to RFC 4661 [48] "experiment RFC 4661 [48] "urn:ietf:params:xml:ns: pidf" RFC 4661 [48] "mcpttPl10" RFC 4661 [48] "mcpttPl10" RFC 4661 [48] "mcpttPl10" RFC 4661 [48] "mcpttPl10" RFC 4661 [48] Any value The value of the 'id' attribute has to be unique within the <filter- set=""> element Not present According to TS 24.379 Not present RFC 4661 [48] "//presence/tuple[@id=" & according to IETF RFC 4661 [48] "//presence/tuple[@id=" string, the MCPTT client ID, and the "]' string</filter-> |

MCVideo

Table 5.5.3.6-2: SIMPLE-FILTER for MCVideo

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---|---------------|-----------|
| filter-set | px_MCVideo_Client_A _ID | | RFC 4661 [48] | |
| nc-bindings | px_MCVideo_Client_A _ID | | RFC 4661 [48] | |
| ns-binding urn | "urn:ietf:params:xml:ns: pidf" | | RFC 4661 [48] | |
| ns-binding urn | "urn:3gpp:ns:mcvideoP resInfo:1.0" | TS 24.281 [86] clause 8.3.2.2 requires two separate nsbinding elements | RFC 4661 [48] | |
| filter id | "123" | The value of the 'id' attribute has to be unique within the <filter-set> element. Does not contain the 'uri' element. Does not contain the 'domain' element.</filter-set> | RFC 4661 [48] | |
| what | | | RFC 4661 [48] | |
| include | //presence/tuple[@id= px_MCVideo_Client_A _ID] | contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCVideo client ID, and the '"]' string | RFC 4661 [48] | |

Table 5.5.3.6-3: SIMPLE-FILTER for MCData

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|--|---------------|-----------|
| filter-set | px_MCData_Client_A_I D | | RFC 4661 [48] | |
| nc-bindings | px_MCData_Client_A_I D | | RFC 4661 [48] | |
| ns-binding urn | "urn:ietf:params:xml:ns: pidf" | | RFC 4661 [48] | |
| ns-binding urn | "urn:3gpp:ns:mcdataPr esInfo:1.0" | TS 24.282 [87] clause 8.4.2.2 requires two separate nsbinding elements | RFC 4661 [48] | |
| filter id | "123" | The value of the 'id' attribute has to be unique within the <filter-set> element. Does not contain the 'uri' element. Does not contain the 'domain' element.</filter-set> | RFC 4661 [48] | |
| what | | | RFC 4661 [48] | |
| include | //presence/tuple[@id= px_MCData_Client_A_I D] | contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCData client ID, and the "']' string | RFC 4661 [48] | |

5.5.3.7 AFFILIATION-COMMAND

- MCPTT

Table 5.5.3.7-1: MCPTT-AFFILIATION-COMMAND for MCPTT

| Derivation Path: TS 24.379 [9] clause F.4 | | | | |
|---|-------------------------|------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| command-list | | | | |
| affiliate | | | | |
| de-affiliate | not present | | | |
| group | px_MCPTT_Group_A_I D | MCPTT group name | | |

MCVideo

Table 5.5.3.7-2: MCVideo-AFFILIATION-COMMAND for MCVideo

| Derivation Path: TS 24.281 [86] clause F.4 | | | | |
|--|---------------------------|--------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| command-list | | | | |
| affiliate | | | | |
| de-affiliate | not present | | | |
| group | px_MCVideo_Group_A _ID | MCVideo group name | | |

Table 5.5.3.7-3: MCData-AFFILIATION-COMMAND for MCData

| Derivation Path: TS 24.282 [87] clause D.3 | | | | |
|--|--------------------------|-------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| command-list | | | | |
| affiliate | | | | |
| de-affiliate | not present | | | |
| group | px_MCData_Group_A_ ID | MCData group name | | |

5.5.3.8 SDS Signaling Payload

5.5.3.8.1 SDS Signaling Payload from the UE

Table 5.5.3.8.1-1: SDS Signaling Payload from the UE

| Derivation Path: TS 24.282 [87] | | | | |
|---------------------------------|----------------------|----------------------------------|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| SDS signalling payload | "01000001" | SDS Signalling Payload | TS 24.282 [87] | |
| message identity | | | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | <u> </u> | seconds). | TO 04 000 1071 | |
| Conversation ID | Any allowed value | The Conversation ID | TS 24.282 [87] | |
| | | contains a number | clause 15.2.9 | |
| | | uniquely identifying the | | |
| | | conversation. The | | |
| | | value is a universally | | |
| Massaga ID | Any allowed value | unique identifier. | TC 24 202 [07] | |
| Message ID | Arry allowed value | The Message ID contains a number | TS 24.282 [87] | |
| | | uniquely identifying a | ciause 13.2.10 | |
| | | message. The value is | | |
| | | a universally unique | | |
| | | identifier | | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| -, , | | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.7 | |
| SDS disposition request type | "0001" | DELIVERY | TS 24.282 [87] | |
| | | | clause 15.2.3 | |

5.5.3.8.2 SDS Signaling Payload from the SS

Table 5.5.3.8.2-1: SDS Signaling Payload from the SS

| Information Element | Value/remark | Comment | Reference | Condition |
|------------------------------|----------------------|--------------------------|----------------|-----------|
| SDS signalling payload | "01000001" | SDS Signalling Payload | TS 24.282 [87] | |
| message identity | | | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | | seconds). | | |
| Conversation ID | "0000001000000100 | The Conversation ID | TS 24.282 [87] | |
| | 0000010000000100000 | contains a number | clause 15.2.9 | |
| | 0010000000100000001 | uniquely identifying the | | |
| | 0000000100000001000 | conversation. The | | |
| | 0000100000001000000 | value is a universally | | |
| | 0100000001000000010 | unique identifier. | | |
| | 000000100000001" | | | |
| Message ID | "000000010000000100 | The Message ID | TS 24.282 [87] | |
| | 0000010000000100000 | contains a number | clause 15.2.10 | |
| | 0010000000100000001 | uniquely identifying a | | |
| | 00000010000001000 | message. The value is | | |
| | 0000100000001000000 | a universally unique | | |
| | 010000001000000010 | identifier | | |
| | 000000100000001" | | | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.7 | |
| SDS disposition request type | "0001" | DELIVERY | TS 24.282 [87] | |
| | | | clause 15.2.3 | |

5.5.3.9 MCData Data Payload

Table 5.5.3.9-1: MCData Data Payload from the UE

| Derivation Path: TS 24.282 [87] of | Derivation Path: TS 24.282 [87] clause 15.1.4 | | | | | |
|------------------------------------|---|---------------------|----------------|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| Data payload message identity | "01000011" | Data payload | TS 24.282 [87] | | | |
| | | | clause 15.2.2 | | | |
| Number of payloads | "1" | 1 payload | TS 24.282 [87] | | | |
| | | | clause 15.2.12 | | | |
| Security parameters and | As described in Table | MCData Protected | TS 33.180 [94] | MCD_1to1 | | |
| Payload | 5.5.3.10-1 | Payload Message | | | | |
| Payload | | | TS 24.282 [87] | MCD_grp | | |
| | | | clause 15.2.13 | | | |
| Payload content type | "00000001" | TEXT | | | | |
| Payload data | any allowed value | The data payload | | | | |
| | | Example: "abcdEFGH" | | | | |

| Condition | Explanation |
|--|--------------------------|
| MCD_1to1 | A one-to-one MCData call |
| MCD_grp | A goup MCData call |
| For further conditions see table 5.5.1-1 | |

Table 5.5.3.9-2: MCData Data Payload from the SS

| Derivation Path: TS 24.282 [87] clause 15.1.4 | | | | | |
|---|-----------------------|------------------|----------------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| Data payload message identity | "01000011" | Data payload | TS 24.282 [87] | | |
| | | | clause 15.2.2 | | |
| Number of payloads | "1" | 1 payload | TS 24.282 [87] | | |
| · | | | clause 15.2.12 | | |
| Security parameters and | As described in Table | MCData Protected | TS 33.180 [94] | MCD_1to1 | |
| Payload | 5.5.3.10-2 | Payload Message | | | |
| Payload | | | TS 24.282 [87] | MCD_grp | |
| | | | clause 15.2.13 | | |
| Payload content type | "00000001" | TEXT | | | |
| Payload data | "Test" | The data payload | | | |

| Condition | Explanation |
|--|--------------------------|
| MCD_1to1 | A one-to-one MCData call |
| MCD_grp | A goup MCData call |
| For further conditions see table 5.5.1-1 | |

5.5.3.10 MCData Protected Payload Message

Table 5.5.3.10-1: MCData Protected Payload Message from the UE

| Derivation Path: TS 33.180 [94] Information Element | Value/remark | Comment | Reference | Condition |
|---|----------------------|---------------------------|-----------|-----------|
| | | | Reference | Condition |
| Message Type | "01000011" | Message type – Data | | |
| Data and Time | The comment data and | Payload | | |
| Date and Time | The current date and | Date and Time of | | |
| | time | creation of protected | | |
| | | payload message | | |
| Payload ID | "1" | The identifier for the | | |
| | 4.19 | payload. | | |
| Payload sequence number | "1" | The sequence number | | |
| | | of the protected | | |
| | | payload. | | |
| Algorithm | "DP_AES_128_GCM" | Protection of payloads | | |
| | | shall support the | | |
| | | following algorithms | | |
| | | (cipher suites): | | |
| | | DP_AES_128_GCM | | |
| | | and | | |
| | | DP_AES_256_GCM | | |
| IV | "11011100 10111001 | Initialisation vector (or | | |
| | 00001000 01010001 | nonce) for message. | | |
| | 01010000 10110011 | Length depends on the | | |
| | 11001111 00100001 | algorithm and key | | |
| | 11100010 11110111 | used. | | |
| | 11011111 01011011 | 128 bits or 256 bits | | |
| | 01010100 00101100 | depending on the | | |
| | 00100101 10100010" | algorithm. | | |
| DPPK-ID | PCK-ID | Key identifier | | |
| | 1 61(18 | 128 bits or 256 bits | | |
| | | depending on the | | |
| | | algorithm | | |
| | | For one-to-one | | |
| | | communications, | | |
| | | DPPK-ID shall be the | | |
| | | PCK-ID. For group | | |
| | | communications, the | | |
| | | DPPK ID shall be the | | |
| | | GMK-ID | | |
| Daylood | | | | + |
| Payload | | Protected Payload | | |
| | ((0000004)) | (Ciphertext) | | + |
| Payload content type | "0000001" | TEXT | | <u> </u> |
| Payload contents | Any allowed value | Example: "abcdEFGH" | | |

Table 5.5.3.10-2: MCData Protected Payload Message from the SS

| Derivation Path: TS 33.180 [94] |] clause 8.5.4 | | | |
|---------------------------------|---|--|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Message Type | "01000011" | Message type – Data Payload | | |
| Date and Time | The current date and time | Date and Time of creation of protected payload message | | |
| Payload ID | "1" | The identifier for the payload. | | |
| Payload sequence number | "1" | The sequence number of the protected payload. | | |
| Algorithm | "DP_AES_128_GCM" | Protection of payloads shall support the following algorithms (cipher suites): DP_AES_128_GCM and DP_AES_256_GCM | | |
| IV | "11011100 10111001 00001000 01010001 01010000 10110011 11001111 00100001 11100010 11110111 11011111 01011011 01010100 00101100 00100101 10100010" | Initialisation vector (or nonce) for message. Length depends on the algorithm and key used. 128 bits or 256 bits depending on the algorithm. | | |
| DPPK-ID | PCK-ID | Key identifier 128 bits or 256 bits depending on the algorithm For one-to-one communications, DPPK-ID shall be the PCK-ID. For group communications, the DPPK ID shall be the GMK-ID | | |
| Payload | | Protected Payload (Ciphertext) | | |
| Payload content type | "0000001" | TEXT | | |
| Payload contents | "abcdEFGH" | | | |

5.5.3.11 PoC Settings

Table 5.5.3.11-1: PoC Settings

| Derivation Path: TS 33.180 [94] | clause 8.5.4 | | | |
|---------------------------------|---|---|----------------------------|---------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| poc-settings | | | | |
| entity [1] | | | | |
| id | any value | unique identifier of the EPA (Event Publication Agent) Editor's note: to be clarified whether there are requirements for the id | RFC 4354 [103] | |
| am-settings | | | RFC 4354 [103] | |
| answer-mode | "automatic" or "manual" | | | |
| | "manual" | | | MANUAL |
| | "automatic" | | | AUTOMAT IC |
| selected-user-profile-index | | | TS 24.379 [9] clause 7.4.1 | |
| user-profile-index | same value the user- profile-index in the user profile in Table 5.5.8.3- 1 | | | |

| Condition | Explanation |
|-----------|-----------------------|
| MANUAL | Manual answer mode |
| AUTOMATIC | Automatic answer mode |

5.5.3.12 Xcap-diff documents

Table 5.5.3.12-1: xcap-diff document for MCX configuration

| Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|---------------|-----------|
| xcap-diff | encrypted (NOTE 5) | | | |
| xcap-root attribute | tsc_MCX_CMSXCAPR ootURI | same URI as <cms- XCAP-root-URI> element of the initial UE configuration</cms- | | |
| document[1] | | | | |
| sel | AUID1 & "/users/" & XUID & "/" & MCSUEID & "/mcptt-ue-configuration.xml" | NOTE 1a, 2, 3 | | |
| new-etag | arbitrary value | | | |
| previous-etag | same as new-etag | | | |
| document[2] | | | | |
| sel | AUID2 & "/users/" & XUID & "/mcptt-user- profile-" & profile-index & ".xml" | NOTE 1b, 2, 4 | | |
| new-etag | arbitrary value (different than for document[1]) | | | |
| previous-etag | same as new-etag | | | |
| document[3] | | | | |
| sel | AUID3 & "/global/service- config.xml" | NOTE 1c | | |
| new-etag | arbitrary value (different than for document[1] and [2]) | | | |
| previous-etag | same as new-etag | | | |
| AUID1 = "org.3gpp. AUID1 = "org.3gpp. NOTE 1b: AUID2 = "org.3gpp. AUID2 = "org.3gpp. AUID2 = "org.3gpp. NOTE 1c: AUID3 = "org.3gpp. AUID3 = "org.3gpp. AUID3 = "org.3gpp. AUID3 = "org.3gpp. XUID = "sip:" & px XUID = "sip:" & px | e as in the user-profile-inde | dition MCVideo dition MCData dition MCPTT condition MCVideo ndition MCData condition MCPTT Condition MCPTT Condition MCVideo Condition MCData condition MCPTT Condition MCPTT Condition MCPTT Condition MCVideo condition MCData dee IMEI according to 23.003 | ding document | |

Table 5.5.3.12-2: xcap-diff document for MCX group configuration

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|--|-----------|-----------------|
| xcap-diff | encrypted (NOTE 1) | | | |
| xcap-root | tsc_MCX_GMSXCAPR ootURI | same URI as <gms- XCAP-root-URI> element of the initial UE configuration</gms- | | |
| document[1] | | | | GROUPC ONFIG |
| sel | "org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D | | | |
| new-etag | arbitrary value | | | |
| previous-etag | same as new-etag | | | |
| element[1] | group key transport payloads (GKTP) document as described in Table 5.5.3.14-1 | | | GROUPKE Y |
| sel | Doc-Sel-PTT & "~~" & Node-Sel | NOTE 2a, 3 | | MCPTT |
| sel | Doc-Sel-Video & "~~" & Node-Sel | NOTE 2b, 3 | | MCVIDEO |

NOTE 1: The content of the root element <xcap-diff> (not including the xcap-root attribute) is encrypted as described in Table 5.5.13.2-2

NOTE 2a: Doc-Sel-PTT = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_A_ID & "/" NOTE 2b: Doc-Sel-Video = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCVideo_Group_A_ID & "/" NOTE 3: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

5.5.3.13 MCDATA FD SIGNALLING PAYLOAD FROM THE UE

5.5.3.13.1 FD SIGNALLING PAYLOAD FROM THE UE

Table 5.5.3.13.1-1: FD Signalling Payload from the UE

| Derivation Path: TS 24.282 [87], Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------------|--------------------------|----------------|-----------|
| FD signalling payload message | "00000010" | FD SIGNALLING | TS 24.282 [87] | Condition |
| identity | 00000010 | PAYLOAD | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | | seconds). | | |
| Conversation ID | Any allowed value | The Conversation ID | TS 24.282 [87] | |
| | | contains a number | clause 15.2.9 | |
| | | uniquely identifying the | | |
| | | conversation. The | | |
| | | value is a universally | | |
| | | unique identifier. | | |
| Message ID | Any allowed value | The Message ID | TS 24.282 [87] | |
| | | contains a number | clause 15.2.10 | |
| | | uniquely identifying a | | |
| | | message. The value is | | |
| | | a universally unique | | |
| | | identifier | | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| | 1 | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] | |
| ED 1: 10: 11 | "0004" | FILE BOYANII OAB | clause 15.2.7 | |
| FD disposition request type | "0001" | FILE DOWNLOAD | TS 24.282 [87] | |
| Manadatam dayuri | Network | COMPLETED UPDATE | clause 15.2.4 | |
| Mandatory download | Not present | Not present indicates a | TS 24.282 [87] | |
| | | Non-Mandatory download | clause 15.2.16 | |
| Payload | | | TS 24.282 [87] | |
| | | | clause 15.2.13 | |
| Length of Payload contents | Length of the payload | | | |
| | contents | | | |
| Payload content type | "00000100" | FILEURL | | |
| Payload contents | px_MCDATA_FD_FILE _LOC | | | |
| Metadata | Any allowed value | Metadata is optional | TS 24.282 [87] | |
| | | | clause 15.2.17 | |
| file-selector | Any allowed value | | | |
| file-date | Any allowed value | | | |
| file-availability | Any allowed value | | | |

5.5.3.13.2 FD SIGNALLING PAYLOAD FROM THE SS

Table 5.5.3.13.2-1: FD Signalling Payload from the SS

| Information Element | Value/remark | Comment | Reference | Condition |
|---|--|-----------------------------|----------------|-----------|
| FD signalling payload message | "0000010" | FD SIGNALLING | TS 24.282 [87] | |
| identity | | PAYLOAD | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | | seconds). | | |
| Conversation ID | "0000001000000100 | The Conversation ID | TS 24.282 [87] | |
| | 0000010000000100000 | contains a number | clause 15.2.9 | |
| | 0010000000100000001 | uniquely identifying the | | |
| | 000000010000001000 | conversation. The | | |
| | 0000100000001000000 | value is a universally | | |
| | 01000000100000010 00000100000001" | unique identifier. | | |
| Message ID | "00000010000001 "000000100000001 | The Message ID | TS 24.282 [87] | |
| cccago ib | 000000010000000100 | contains a number | clause 15.2.10 | |
| | 001000000010000001 | uniquely identifying a | 3.0000 10.2.10 | |
| | 00000010000001000 | message. The value is | | |
| | 0000100000001000000 | a universally unique | | |
| | 0100000001000000010 | identifier | | |
| | 00000100000001" | | | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.7 | |
| FD disposition request type | "0001" | FILE DOWNLOAD | TS 24.282 [87] | |
| | 1 | COMPLETED UPDATE | clause 15.2.4 | |
| Mandatory download | Not present | Not present indicates a | TS 24.282 [87] | |
| | | Non-Mandatory download | clause 15.2.16 | |
| Payload | | download | TS 24.282 [87] | |
| r ayload | | | clause 15.2.13 | |
| Length of Payload contents | Length of the payload | | 0.0000 10.2.10 | |
| 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | contents | | | |
| Payload content type | "00000100" | FILEURL | | |
| Payload contents | px_MCDATA_FD_FILE | | | |
| •••• | _LOC | | TO 0 : 222 | |
| Metadata | Not present | | TS 24.282 [87] | |
| file-selector | "file- | a concatenation of | clause 15.2.17 | |
| 111G-2GIGCIOI | selector:name:" <name< td=""><td>filename, filesize,</td><td></td><td></td></name<> | filename, filesize, | | |
| | of file>":size:" <size of<="" td=""><td>filetype and hash.</td><td></td><td></td></size> | filetype and hash. | | |
| | file>":type:" <type of<="" td=""><td>The filesize value is an</td><td></td><td></td></type> | The filesize value is an | | |
| | file>":hash:sha- | integer as defined RFC | | |
| | 1:58:23:1F:E8:65:3B:B | 4566 [27] | | |
| | C:F3:71:36:2F:86:D4:7 | .500 [2.] | | |
| | 1:91:3E:E4:B1:DF:2F" | | | |
| file-date | "file- | | | |
| | date:creation:" <dquot< td=""><td></td><td></td><td></td></dquot<> | | | |
| | E date-time the file was | | | |
| | created DQUOTE> | | | |
| file-availability | "file-availability:" <date-< td=""><td>date-time is set to a</td><td></td><td></td></date-<> | date-time is set to a | | |
| | time> | date and time that the | | |
| | | file is available until and | | |
| | | is defined in RFC | | |
| | | 5322 [109] | | |

5.5.3.13.3 FD SIGNALLING PAYLOAD USING THE MEDIA PLANE FROM THE UE

Table 5.5.3.13.3-1: FD Signalling Payload Using the Media Plane from the UE

| Derivation Path: TS 24.282 [87], | | 1 0 | D. (| 0 1141 |
|----------------------------------|----------------------|----------------------------|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| FD signalling payload message | "0000010" | FD SIGNALLING | TS 24.282 [87] | |
| identity | | PAYLOAD | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | | seconds). | | |
| Conversation ID | Any allowed value | The Conversation ID | TS 24.282 [87] | |
| | | contains a number | clause 15.2.9 | |
| | | uniquely identifying the | | |
| | | conversation. The | | |
| | | value is a universally | | |
| | 1 | unique identifier. | TO 04 000 1071 | |
| Message ID | Any allowed value | The Message ID | TS 24.282 [87] | |
| | | contains a number | clause 15.2.10 | |
| | | uniquely identifying a | | |
| | | message. The value is | | |
| | | a universally unique | | |
| InDonk/To magaza ID | Not propert | identifier | TC 04 000 [07] | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| Application ID | Not propert | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] clause 15.2.7 | |
| ED disposition request type | "0001" | FILE DOWNLOAD | | |
| FD disposition request type | 0001 | | TS 24.282 [87] | |
| Mandatany dayunlaad | "0001" | COMPLETED UPDATE MANDATORY | clause 15.2.4 | |
| Mandatory download | 0001 | | TS 24.282 [87] | |
| Dayload | Not propert | DOWNLOAD | clause 15.2.16 | |
| Payload | Not present | | TS 24.282 [87] | |
| Matadata | Not propert | | clause 15.2.13 | |
| Metadata | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.17 | |

5.5.3.13.4 FD SIGNALLING PAYLOAD USING THE MEDIA PLANE FROM THE SS

Table 5.5.3.13.4-1: FD Signalling Payload Using the Media Plane from the SS

| Derivation Path: TS 24.282 [87], | Table 15.1.3.1-1 | | | |
|----------------------------------|----------------------|--------------------------|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| FD signalling payload message | "0000010" | FD SIGNALLING | TS 24.282 [87] | |
| identity | | PAYLOAD | clause 15.2.2 | |
| Date and time | The current date and | The Date and time | TS 24.282 [87] | |
| | time | value is an unsigned | clause 15.2.8 | |
| | | integer containing UTC | | |
| | | time of the time when a | | |
| | | message was sent, in | | |
| | | seconds since midnight | | |
| | | UTC of January 1, | | |
| | | 1970 (not counting leap | | |
| | | seconds). | | |
| Conversation ID | "0000001000000100 | The Conversation ID | TS 24.282 [87] | |
| | 000001000000100000 | contains a number | clause 15.2.9 | |
| | 0010000000100000001 | uniquely identifying the | | |
| | 0000000100000001000 | conversation. The | | |
| | 0000100000001000000 | value is a universally | | |
| | 010000001000000010 | unique identifier. | | |
| | 000000100000001" | | | |
| Message ID | "0000001000000100 | The Message ID | TS 24.282 [87] | |
| | 000001000000100000 | contains a number | clause 15.2.10 | |
| | 0010000000100000001 | uniquely identifying a | | |
| | 00000010000001000 | message. The value is | | |
| | 0000100000001000000 | a universally unique | | |
| | 0100000001000000010 | identifier | | |
| | 000000100000001" | | | |
| InReplyTo message ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.11 | |
| Application ID | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.7 | |
| FD disposition request type | "0001" | FILE DOWNLOAD | TS 24.282 [87] | |
| | | COMPLETED UPDATE | clause 15.2.4 | |
| Mandatory download | "0001" | MANDATORY | TS 24.282 [87] | |
| | | DOWNLOAD | clause 15.2.16 | |
| Payload | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.13 | |
| Metadata | Not present | | TS 24.282 [87] | |
| | | | clause 15.2.17 | |

5.5.3.14 MCS group key transport payloads (GKTP) document

Table 5.5.3.14-1: group key transport payloads (GKTP) document

| Derivation Path: TS 24.481 [11] clause 7.7 | | | | |
|--|---|-----------------------------------|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| GKTP s | | | | |
| GMK-GKTPs | | | | |
| GKTP | MIKEY message as described in Table 5.5.9.1-3 | MIKEY message, containing the GMK | TS 33.180 [94] | |
| id | arbitrary value | | | |

5.5.4 Default HTTP message and other information elements

5.5.4.1 General

The HTTP Messages are specified in RFC 2616 [26]. Wherever another reference apply to their content it is explicitly indicated.

The following conditions apply throughout clause 5.5:

Table 5.5.4-1: Conditions

| Condition | Explanation |
|-----------------|--|
| AUTH | Message/IE sent only as part of an MCPTT UE authentication |
| UEINITIALCONFIG | Message/IE sent only as part of an MCPTT UE initial configuration |
| USERAUTH | Message/IE sent only as part of an MCPTT UE user authentication |
| UECONFIG | Message/IE sent only as part of an MCPTT UE configuration |
| UEUSERPROF | Message/IE sent only as part of an MCPTT UE User profile configuration |
| UESERVCONFIG | Message/IE sent only as part of an MCPTT UE service configuration |
| GROUPCONFIG | Message/IE sent only as part of an MCPTT group configuration |
| TOKEN | Message/IE sent only as part of an MCPTT token exchange |
| KMSINIT | Message/IE sent only as part of an MCPTT KMS initialisation |
| KMSKEY | Message/IE sent only as part of an MCPTT KMS key exchange |

5.5.4.2 GET

Table 5.5.4.2-1: HTTP GET

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Commont | Doforces | Condition |
|--|--|---|-------------------|---|
| Request-Line | value/remark | Comment | Reference | Condition |
| Method | "GET" | | | |
| Request-URI | GET | | | |
| uri | tsc_MCX_IdMS_auth_ UriPath | points to the Authorisation endpoint of the IdM Server | TS 33.180 [94] | AUTH |
| | px_MCX_InitialConfigS erver_UriPath | points to initial UE Configuration document | TS 24.484 [14] | UEINITIAL CONFIG |
| | "/" & tsc_MCX_CMSXCAPR ootURI & "/" & AUID1 & "/users/" & XUID & "/" & MCSUEID & "/mcptt- ue-configuration.xml" | points to UE Configuration document (NOTE 1a, 2, 3) | TS 24.484 [14] | UECONFI G |
| | "/" & tsc_MCX_CMSXCAPR ootURI & "/" & AUID2 & "/users/" & XUID & "/mcptt-user-profile-" & profile-index & ".xml" | points to UE User Profile document (NOTE 1b, 2, 4) | TS 24.484 [14] | UEUSERP ROF |
| | "/" & tsc_MCX_CMSXCAPR ootURI & "/" & AUID3 & "/global/service- config.xml" | points to UE Service Configuration document (NOTE 1c, 2) | TS 24.484 [14] | UESERVC ONFIG |
| | "/" & tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D | points to group configuration document | TS 24.481 [11] | GROUPC ONFIG |
| query | As described in Table 5.5.4.10.1-1 | | TS 33.180 [94] | AUTH |
| HTTP-Version | "HTTP/1.1" | | | |
| Cache-Control | | | RFC 2616 [26] | |
| cache-directive Authorization | "no-cache" | | RFC 2617 [72] | UECONFI G |
| | | | | UEUSERP ROF UESERVC ONFIG GROUPC ONFIG |
| authentication-scheme | "Bearer" | | RFC 6750 [104] | |
| b64token | Access token as assigned to the UE by Token Response | | RFC 6750 [104] | |
| Authorization | not present | | | |
| Content-Type | | | | AUTH |
| media-type | "application/x-www- form-urlencoded" | | | |
| Content-Type | Not present | | | |
| Message-body | Not present | | | |

| NOTE 1a: AU | D1 = "org.3gpp.mcptt.ue-config" for Condition MCPTT |
|-------------|--|
| AU | D1 = "org.3gpp.mcvideo.ue-config" for Condition MCVideo |
| AU | orgregiph medicates sering for container medicates |
| NOTE 1b: AU | |
| AU | |
| AU | - orgrogppouarararar |
| NOTE 1c: AU | |
| AU | |
| AU | |
| NOTE 2: XU | aller at letterman a telegraphe transfer a stranger transfer at the str |
| XU | D = "sip:" & px_MCVideo_ID_User_A for Condition MCVideo |
| XU | D = "sip:" & px_MCData_ID_User_A for Condition MCData |
| | SUEID = Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8) |
| NOTE 4: pro | le-index is the same as in the <user-profile-index> attribute of the corresponding document</user-profile-index> |

5.5.4.3 POST

Table 5.5.4.3-1: HTTP POST

| Derivation Path: RFC 2616 [26] | | | | |
|--------------------------------|--|---|---|------------------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Status-Line | "DOCT" | | | |
| Method Poguest LIPI | "POST" | | | |
| Request-URI uri | tsc_MCX_IdMS_auth_ UriPath | points to the Authorisation endpoint of the IdM Server | TS 33.180 [94] | AUTH, USERAUT H |
| | tsc_MCX_IdMS_userau th_UriPath | points to the endpoint verifying the user authentication; same URI as provided to the UE in the action attribute of the HTML login form | TS 33.180 [94] HTML 4.01 Specification [105] | USERAUT H |
| | tsc_MCX_IdMS_token_ UriPath | points to the Token endpoint of the IdM Server | TS 33.180 [94] | TOKEN |
| | tsc_MCX_KMS_init_Uri Path | "KMS Initialize" request according to TS 33.180 [94] D.2.3 | TS 33.180 [94] | KMSINIT |
| | tsc_MCX_KMS_keypro v_UriPath | "KMS KeyProvision" request according to TS 33.180 [94] D.2.4 | TS 33.180 [94] | KMSKEY |
| HTTP-Version | "HTTP/1.1" | | DEC 2040 (20) | |
| Cache-Control | "no cacha" | | RFC 2616 [26] | |
| cache-directive Authorization | "no-cache" | | RFC 2617 [72] | KMSINIT, |
| Addionization | | | [10 2017 [72] | KMSKEY |
| authentication-scheme | "Bearer" | | RFC 6750 [104] | |
| b64token | Access token as assigned to the UE by Token Response | | RFC 6750 [104] | |
| Content-Type | | | | AUTH, USERAUT H, TOKEN |
| media-type | "application/x-www- form-urlencoded" | | | |
| Content-Type | if present | present in case of KMS request security Editor's note: it is not clear in which case a UE shall apply KMS request security | | KMSINIT, KMSKEY |
| media-type | "application/xml" | | RFC 7303 [112] | |
| Message-body | A | | | AUTH |
| Authentication Request | As described in Table 5.5.4.10.1-1 | | LITA | |
| Message-body | | | HTML 4.01 Specification [105] | USERAUT H |
| user | px_MCX_User_A_user name | | | |
| password | px_MCX_User_A_pass word | | | |
| Message-body | | | | TOKEN |
| Token request | As described in Table 5.5.4.10.3-1 | | | |
| Message-body | If present | | | KMSINIT, KMSKEY |
| Signed KMS Request | As described in Table 5.5.4.10.9-1 | | | |

5.5.4.4 PUT

Table 5.5.4.4-1: HTTP PUT

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------------------|---------------------------|----------------|-----------|
| Request-line | | | | |
| Method | "PUT" | | | |
| Request-URI | px_MCPTT_GroupConf | Points to the group | TS 24.481 [11] | GROUPC |
| • | igDoc_URI | configuration document | | ONFIG |
| Content-Type | | | | |
| media-type | application/vnd.oma.po | | | |
| 71 | c.groups+xml | | | |
| Message-body | | | | |
| group | | | | |
| xmlns:rl | "urn:ietf:params:xml:ns: | resource-lists xml | TS 24.481 [11] | |
| | resource-lists" | namespace identifier | | |
| xmlns:cp | "urn:ietf:params:xml:ns: | common-policy xml | TS 24.481 [11] | |
| | common-policy" | namespace identifier | | |
| xmlns:ocp | "urn:oma:xml:xdm:com | common-policy xml | TS 24.481 [11] | |
| | mon-policy" | namespace identifier | | |
| xmlns:oxe | "urn:oma:xml:xdm:exte | extensions xml | TS 24.481 [11] | |
| | nsions" | namespace identifier | | |
| xmlns:rmcpttgi | "urn:3gpp:ns:mcpttGrou | MCPTT group info | TS 24.481 [11] | |
| | pInfo:1.0" | namespace identifier | | |
| list-service | | | | |
| uri | px_MCPTT_Group_B_I | uri of the MCPTT group | TS 24.481 [11] | |
| | D | - | | |
| display-name | px_MCPTT_Group_B_ | group display name | TS 24.481 [11] | |
| | name | | | |
| list | | | | |
| entry | | | | |
| uri | px_MCPTT_Client_A_I | User ID allowed to | TS 24.481 [11] | |
| | D | participate in this group | | |
| display-name | px_MCPTT_User_A_Pr | User display name | TS 24.481 [11] | |
| | ofile_Name | | | |
| user-priority | 1 | User priority | TS 24.481 [11] | |
| entry | | | | |
| uri | px_MCPTT_Client_B_I | User ID allowed to | TS 24.481 [11] | |
| | D | participate in this group | | |
| display-name | px_MCPTT_User_B_Pr | User display name | TS 24.481 [11] | |
| | ofile_Name | | | |
| user-priority | 2 | User priority | TS 24.481 [11] | |
| entry | | | | |
| uri | px_MCPTT_Client_C_I | User ID allowed to | TS 24.481 [11] | |
| | D | participate in this group | | |
| display-name | px_MCPTT_User_C_Pr | User display name | TS 24.481 [11] | |
| | ofile_Name | | | |
| user-priority | 3 | User priority | TS 24.481 [11] | |
| invite-members | "true" | Allow users to invite | TS 24.481 [11] | |
| | | members to this group | | |
| max-participant-count | "3" | Maximum number of | TS 24.481 [11] | |
| | | users in the group | | |
| ruleset | | | | |
| rule id | "a7c" | | TS 24.481 [11] | |
| actions | | | | |
| allow-initiate-conf | "true" | All conference calls | TS 24.481 [11] | |
| join-handling | "true" | Allow group join | TS 24.481 [11] | |
| emergency-call | "true" | Allow emergency call | TS 24.481 [11] | |
| imminent-peril-call | "true" | Allow imminent peril | TS 24.481 [11] | |
| | | call | | <u></u> |
| emergency-alert | "true" | All emergency alert | TS 24.481 [11] | |
| supported-services | | | | |
| service-enabler | "urn:urn-7:3gpp- | | TS 24.481 [11] | |
| | service.ims.icsi.mcptt" | | | |
| group-priority | "5" | New group priority | TS 24.481 [11] | |

5.5.4.5 DELETE

Table 5.5.4.5-1: HTTP DELETE

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--|----------------|-----------------|
| Request-line | Value/Terriar K | Comment | Reference | Condition |
| Method | "DELETE" | | | |
| | | Deinte to the group | TC 04 404 [44] | CDOUDC |
| Request-URI | px_MCPTT_GroupConf igDoc_URI | Points to the group configuration document | TS 24.481 [11] | GROUPC ONFIG |
| Content-Type | | | | |
| media-type | application/vnd.3gpp.G MOP+xml; charset="utf-8 | | | |
| Message-body | | | | |
| gmop:document | | | | |
| xmlns | "urn:oma:xml:poc:list- | list-service xml | TS 24.481 [11] | |
| | service" | namespace identifier | | |
| xmlns:rl | "urn:ietf:params:xml:ns: | resource-lists xml | TS 24.481 [11] | |
| | resource-lists" | namespace identifier | | |
| xmlns:cp | "urn:ietf:params:xml:ns: | common-policy xml | TS 24.481 [11] | |
| | common-policy" | namespace identifier | | |
| xmlns:ocp | "urn:oma:xml:xdm:com | common-policy xml | TS 24.481 [11] | |
| | mon-policy" | namespace identifier | | |
| xmlns:oxe | "urn:oma:xml:xdm:exte | extensions xml | TS 24.481 [11] | |
| | nsions" | namespace identifier | | |
| xmlns:rmcpttgi | "urn:3gpp:ns:mcpttGrou | MCPTT group info | TS 24.481 [11] | |
| | pInfo:1.0" | namespace identifier | | |
| xmlns:gmop | "urn:3gpp:ns:mcpttGM OP:1.0" | | | |
| gmop:request | | | | |
| group | | | | |
| list-service | | | | |
| uri | "sip:mcptt-group- T@mcptt-op.gov" | Group identifier | TS 24.481 [11] | |

5.5.4.6 HTTP 200 (OK)

Table 5.5.4.6-1: HTTP 200 (OK)

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Commont | Poforonoo | Condition |
|--|---|---|----------------|---------------------|
| Status-Line | value/remark | Comment | Reference | Condition |
| HTTP-Version | "HTTP/1.1" | | | |
| Status-Code | "200" | | | |
| Reason-Phrase | "OK" | | | |
| Cache-Control | | | RFC 2616 [26] | |
| cache-directive | "no-store" | | | |
| Pragma | | | RFC 2616 [26] | |
| pragma-directive | "no-cache" | | | |
| Content-Length value | length of message- | | | |
| value | body | | | |
| Content-Type | body | | | |
| media-type | "application/json;charse t=UTF-8" | | TS 33.180 [94] | TOKEN |
| media-type | "application/xml" | Editor's note: Message-Body contains an XML document but there is no media-type specific for "urn:3gpp:ns:mcsecKM SInterface:1.0" > "application/xml" to be confirmed | TS 33.180 [94] | KMSINIT |
| media-type | "application/xml" | Editor's note: Message-Body contains an XML document but there is no media-type specific for "urn:3gpp:ns:mcsecKM SInterface:1.0" > "application/xml" to be confirmed | TS 33.180 [94] | KMSKEY |
| media-type | "application/vnd.3gpp. mcptt-ue-init- config+xml" | be committee | TS 24.484 [14] | UEINITIAL CONFIG |
| media-type | "application/vnd.3gpp. mcptt-ue-config+xml" | | TS 24.484 [14] | UECONFI G |
| media-type | "application/vnd.3gpp. mcptt-user-profile+xml" | | TS 24.484 [14] | UEUSERP ROF |
| media-type | "application/vnd.3gpp. mcptt-service- config+xml" | | TS 24.484 [14] | UESERVC ONFIG |
| media-type | "application/vnd.oma.p oc.groups+xml" | | TS 24.481 [11] | GROUPC ONFIG |
| Message-body | | | | TOKEN |
| Token response | As described in Table 5.5.4.10.4-1 | | | |
| Message-body | | | | KMSINIT |
| KMS Certificate | As described in Table 5.5.4.10.6-1 | | | |
| Message-body | | | | KMSKEY |
| KMS Key Set | As described in Table 5.5.4.10.8-1 | | | |
| Message-body | | | | UEINITIAL CONFIG |
| mcptt-initial-UE-configuration | As described in Table 5.5.8.1-1 | Initial UE Configuration document returned | | _ |
| Message-body | 3.5.5 | | | UECONFI G |
| mcptt-UE-configuration | As described in Table 5.5.8.2-1 | UE Configuration document returned | | |
| Message-body | 0.0.0.2-1 | addunient returned | | UEUSERP ROF |

| mcptt-user-profile | As described in Table | UE User Profile | |
|----------------------------|---------------------------------|--|------------------|
| | 5.5.8.3-1 | document returned | |
| Message-body | | | UESERVC ONFIG |
| service-configuration-info | As described in Table 5.5.8.4-1 | UE Service Configuration document returned | |
| Message-body | | | GROUPC ONFIG |
| ue-group-configuration | As described in Table 5.5.7.1-1 | Group Configuration document returned | |

5.5.4.7 HTTP 201 (Created)

Table 5.5.4.7-1: HTTP 201 (Created)

| Information Element | Value/remark | Comment | Reference | Condition |
|------------------------|------------------------------------|---------------------------------------|----------------|-----------------|
| Status-Line | | | | |
| HTTP-Version | "HTTP/1.1" | | | |
| Status-Code | "20" | | | |
| Reason-Phrase | "Created" | | | |
| Cache-Control | | | RFC 2616 [26] | |
| cache-directive | "no-store" | | | |
| Pragma | | | RFC 2616 [26] | |
| pragma-directive | "no-cache" | | | |
| Content-Length | | | | |
| value | length of message- body | | | |
| Content-Type | | | | GROUPC ONFIG |
| media-type | application/resource- lists+xml | | TS 24.483 [13] | |
| Message-body | | | | GROUPC ONFIG |
| ue-group-configuration | As described in Table 5.5.7.1-1 | Group Configuration document returned | | |

5.5.4.8 HTTP 302 (Found)

Table 5.5.4.8-1: HTTP 302 (Found)

| Derivation Path: RFC 2616 [26] | | | | |
|--------------------------------|------------------------------------|---|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Status-Line | | | | |
| HTTP-Version | "HTTP/1.1" | | | |
| Status-Code | "302" | | | |
| Reason-Phrase | "Found" | | | |
| Location | | | | AUTH |
| Location-URI | | | | |
| uri | px_MCX_OAuth_Redir ectURI_A | Identifier of the MCPTT client making the API request | TS 33.180 [94] | |
| query | As described in Table 5.5.4.10.2-1 | | | |

5.5.4.9 HTTP 409 (Conflict)

Table 5.5.4.9-1: HTTP 409 (Conflict)

| Derivation Path: RFC 2616 [26] Information Element | Value/remark | Comment | Reference | Condition |
|--|---------------------------|-----------------|----------------|-----------|
| Status-Line | | | | |
| HTTP-Version | "HTTP/1.1" | | | |
| Status-Code | "409" | | | |
| Reason-Phrase | "URI constraint violated" | Conflict reason | TS 24.484 [14] | |

5.5.4.10 HTTP Message Bodies

5.5.4.10.1 Authentication Request

Table 5.5.4.10.1-1: Authentication Request

| Derivation Path: TS 33.180 [9 | | | | |
|-------------------------------|--|---|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| response-type | "code" | For native MCPTT clients the value shall be set to "code" | OpenID Connect 1.0 [95] | |
| client_id | px_MCX_OAuth_ClientId_ A | Identifier of the MCPTT client making the API request | OpenID Connect 1.0 [95] | |
| Scope | "openid" | Scope values are expressed as a list of space-delimited, case-sensitive strings which indicate which MCS resource servers the client is requesting access to. "openid" is defined by the OpenID Connect standard and is mandatory | TS 33.180 [94] OpenID Connect 1.0 [95] | |
| | "3gpp:mc:ptt_service" "3gpp:mc:ptt_key_manage ment_service" "3gpp:mc:ptt_config_mana gement_service" "3gpp:mc:ptt_group_manag ement_service" NOTE: The list may contain further scope values which are not checked | Additional authorization scopes when the UE supports MCPTT | | MCPTT |
| | "3gpp:mc:video_service" "3gpp:mc:video_key_mana gement_service" "3gpp:mc:video_config_ma nagement_service" "3gpp:mc:video_group_ma nagement_service" NOTE: The list may contain further scope values which are not checked | Additional authorization scopes when the UE supports MCVideo | | MCVIDEO |
| | "3gpp:mc:data_service" "3gpp:mc:data_key_manag ement_service" "3gpp:mc:data_config_man agement_service" "3gpp:mc:data_group_man agement_service" NOTE: The list may contain further scope values which are not checked | Additional authorization scopes when the UE supports MCData | | MCDATA |
| redirect_uri | px_MCX_OAuth_RedirectU RI_A | The URI of the MCPTT client to which the IdM server will redirect the MCPTT client's user agent in order to return the authorization code | OpenID Connect 1.0 [95] | |
| state | any value as selected by the UE | An opaque value used by the MCPTT client to maintain state between the authentication request and authentication response | OpenID Connect 1.0 [95] | |

| acr-values | "3gpp:acr:password" | Space-separated string that specifies the acr values that the IdM server is being requested to use for processing this authentication request | TS 33.180 [94] |
|----------------------|---------------------|---|----------------------------------|
| code-challenge | any value | base64url-encoded SHA-256 challenge: hash of the code_verifier selected by the UE | TS 33.180 [94] RFC 7636 [100] |
| codechallenge-method | "S256" | The hash method used to transform the code verifier to produce the code challenge | TS 33.180 [94] RFC 7636 [100] |

5.5.4.10.2 Authentication Response

Table 5.5.4.10.2-1: Authentication Response

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|---|----------------|-----------|
| code | "SpixIOBeZQQYbYS6 WxSbIA" | The authorization code generated by the authorization endpoint and returned to the MCPTT client via the authentication response | TS 33.180 [94] | |
| state | same value as in the Authentication Request | The value shall match the exact value used in the authorization request | TS 33.180 [94] | |

5.5.4.10.3 Token Request

Table 5.5.4.10.3-1: Token Request

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---|-------------------------------------|-----------|
| grant-type | "authorization_code" | | RFC 2616 [26] | |
| code | same value as assigned by the SS in the Authentication Response | The authorization code generated by the authorization endpoint and returned to the MCPTT client via the authentication response | TS 33.180 [94] | |
| client_id | px_MCX_OAuth_Client Id_A | Identifier of the MCPTT client making the API request | TS 33.180 [94] | |
| redirect_uri | px_MCX_OAuth_Redir ectURI_A | The URI of the MCPTT client to which the IdM server will redirect the MCPTT client's user agent | TS 33.180 [94] | |
| code_verifier | Value selected by the UE: The SS shall check that the code-challenge in the Authentication Request is the base64url-encoded SHA-256 hash of the code-verifier | A cryptographically random string that is used to correlate the authorization request to the token request; the minimum length is 43 characters, the maximum length of 128 characters | TS 33.180 [94] RFC 7636 [100] | |

5.5.4.10.4 Token Response

Table 5.5.4.10.4-1: Token Response

| Derivation Path: TS 33.180 [9 | | | | T _ |
|-------------------------------|--|---|----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| access_token | | The access token. The | RFC 6749 [77] | |
| | | access token is opaque | TS 33.180 [94] | |
| 1 | | to the MCPTT client | | |
| { | | Header Algorithm | | |
| "kid" | "jws-rsa" | hint indicating which | RFC 7515 [102] | |
| | , | key was used to secure | | |
| | | the JWS: name of the | | |
| | | RSA public key in case | | |
| | | of RS256 Editor's note: | | |
| | | value to be confirmed | | |
| "alg" | "RS256" | identifies the | RFC 7515 [102] | |
| 9 | | cryptographic algorithm | | |
| | | used to secure the | | |
| | | JWS: RSASSA- | | |
| | | PKCS1-v1_5 SHA-256 | | |
| | | digital signature Editor's note: | | |
| | | value to be confirmed | | |
| } | | . saud to be definition | | |
| { | | Payload Data | RFC 7519 [101] | |
| "mcptt_id" | px_MCPTT_ID_User_A | URI of the MCPTT | TS 24.380 | |
| | | client User this is a | TS 24.483 | |
| | | globally unique identifier within the | | |
| | | MCPTT service that | | |
| | | represents the MCPTT | | |
| | | user | | |
| "scope" | "openid" | list of space-delimited, | RFC 6749 [77] | |
| | | case-sensitive strings | TS 33.180 [94] | |
| | | to inform the client of | B.2.2.2 | |
| | | the scope of the access token issued and is | OpenID Connect 1.0 [95] | |
| | | OPTIONAL, if identical | 1.0 [95] | |
| | | to the scope requested | | |
| | | by the client otherwise | | |
| | | REQUIRED | | |
| | | "openid" is defined by | | |
| | | the OpenID Connect | | |
| | | standard and is mandatory regardless | | |
| | | from the MCS context | | |
| | | in which the message | | |
| | | is used | | |
| | "3gpp:mc:ptt_service" | | | MCPTT |
| | "3gpp:mc:ptt_key_manag | | | |
| | ement_service" "3gpp:mc:ptt_config_man | | | |
| | agement_service" | | | |
| | "3gpp:mc:ptt_group_man | | | |
| | agement_service" | | | |
| | "3gpp:mc:video_service" | | | MCVIDEO |
| | "3gpp:mc:video_key_ma | | | |
| | nagement_service" "3gpp:mc:video_config_ | | | |
| | management_service" | | | |
| | "3gpp:mc:video_group_m | | | |
| | anagement_service" | | | |
| | "3gpp:mc:data_service" | | | MCDATA |
| | "3gpp:mc:data_key_man | | | |
| | agement_service" | | | |
| | "3gpp:mc:data_config_m | | | |
| | anagement_service" "3gpp:mc:data_group_m | | | |
| | anagement_service" | | | |
| | | 1 | L | <u> </u> |

| "exp" | Current system time + 7199 seconds; the system time is the number of seconds since 00:00:00 UTC on 1 January 1970 | Number containing a NumericData value identifies the expiration time on or after which the JWT MUST NOT be accepted for processing Editor's note: value to be confirmed | RFC 7519 [101] TS 33.180 [94] |
|---------------|---|---|------------------------------------|
| "client_id" | Same value as received in the token request | Identifier of the MCPTT client making the API request | TS 33.180 [94] |
| Signature | HASH [base64UrlEncode(heade r) + "." + base64UrlEncode(payloa d)) | Created by the hash algorithm corresponding to the algorithm provided in the header | RFC 7515 [102] |
| refresh_token | "Y7NSzUJuS0Jp7G4SKp BKSOJVHIZxFbxqsqCIZ hOEk9" | Arbitrarily selected string: The refresh token that can be used to refresh the access token and avoid having to prompt the user for authentication again | RFC 6749 [77] |
| id_token | | The MCPTT client may validate the user with the ID token and configure itself for the user | RFC 6749 [77] TS 33.180 [94] |
| { | | | |
| { | | Header Algorithm | RFC 7515 [102] |
| "kid" | "jws-rsa" | hint indicating which key was used to secure the JWS Editor's note: value to be confirmed | |
| "alg" | "RS256" | identifies the cryptographic algorithm used to secure the JWS Editor's note: value to be confirmed | |
| } | | Payload Data | DEC 7510 [404] |
| "mcptt_id" | px_MCPTT_ID_User_A | Payload Data URI of the MCPTT client User this is a globally unique identifier within the MCPTT service that represents the MCPTT user | RFC 7519 [101] TS 24.380 TS 24.483 |
| "sub" | "1234567890" | Arbitrarily selected string: case-sensitive string containing a StringOrURI value which identifies the principal that is the subject of the JWT, and is optional | RFC 7519 [101] |
| "aud" | client_id as received in token request | Audience: identifies the recipients that the JWT is intended for and is optional | RFC 7519 [101] |

| "iss" | px_MCPTT_IdM_Server_ URI | Issuer: case-sensitive string containing a StringOrURI value which identifies the principal that issued the JWT and is optional | RFC 7519 [101] |
|------------|---|--|----------------------------------|
| "exp" | Current system time + 7199 seconds; the system time is the number of seconds since 00:00:00 UTC on 1 January 1970 | Number containing a NumericData value identifies the expiration time on or after which the JWT MUST NOT be accepted for processing | RFC 7519 [101] TS 33.180 [94] |
| "iat" | Current system time Epoch time: number of seconds since 00:00:00 UTC on 1 January 1970 | Numeric value which identifies the time at which the JWT was issued and is optional | RFC 7519 [101] TS 33.180 [94] |
| Signature | HASH (base64UrlEncode(heade r) + "." + base64UrlEncode(payloa d)) | Created by the hash algorithm corresponding to the algorithm provided in the header | RFC 7515 [102] |
| } | | | |
| token-type | "Bearer" | The token type for access | RFC 6749 [77] |
| expires-in | "7199" | Token expiry time | RFC 6749 [77] |

Editor's note: It is to be clarified whether the identifiers for mcdata and mcvideo are to be added in the table above or whether explicit tables are to be defined.

5.5.4.10.5 Void

5.5.4.10.6 KMS Certificate

Table 5.5.4.10.6-1: KMS Certificate

| Derivation Path: TS 33.180 [94] Information Element | Value/remark | Comment | Reference | Condition |
|---|-------------------------------|------------------------------|-----------|-----------|
| SignedKmsResponse | - alasti silai k | | | 23 |
| Id | "kmsResponse" | arbitrarily selected id | | |
| | | which the Signature's | | |
| | | Reference URI refers to | | |
| KmsUri | tsc_MCX_KMS_Hostna | The URI of the KMS | | |
| | me | which issued the key | | |
| | | set | | |
| UserUri | tsc_MCX_MC_ID_User | The MC ID with which | | |
| | _A | the user has used for | | |
| | Editor's note: to be | authentication | | |
| | clarified whether the | | | |
| | MC ID can be used in | | | |
| | this context or whether | | | |
| | there are restrictions | | | |
| Time | how to set the UserUri | Time stown of KMC | | |
| Time | Current system time of the SS | Time stamp of KMS | | |
| ClientReqUrl | tsc_MCX_KMS_Client | message URL of the client | | + |
| ClientRedOn | ReqUrl_init | making the key request | | |
| KmsMessage | TOGOT_IIII | making the key request | | † |
| Kmslnit | | | | † |
| Version | "1.0.0" | | | 1 |
| KmsCertificate | 1.0.0 | | | † |
| Version | "1.1.0" | The version number of | | † |
| VCISION | 1.1.0 | the certificate type | | |
| Role | "Root" | This shall indicate | | |
| . 10.0 | 11001 | whether the certificate | | |
| | | is a "Root" or "External" | | |
| | | certificate | | |
| CertUri | tsc_MCX_KMS_CertUri | The URI of the | | |
| | | Certificate (this object) | | |
| KmsUri | tsc_MCX_KMS_Hostna | The URI of the KMS | | |
| | me | which issued the | | |
| | | Certificate | | |
| Issuer | Not present | (Optional) String | | |
| | | describing the issuing | | |
| | | entity | | |
| ValidFrom | Not present | (Optional) Date from | | |
| | | which the Certificate | | |
| \/-!:-! T - | Netsesses | may be used | | |
| ValidTo | Not present | (Optional) Date at | | |
| | | which the Certificate | | |
| Revoked | false | expires (Optional) A Boolean | | + |
| IZEVOKEU | laise | value defining whether | | 1 |
| | | a Certificate has been | | 1 |
| | | revoked | | 1 |
| UserIDFormat | "2" | Shall contain the value | | 1 |
| | _ | '2' | | 1 |
| UserKeyPeriod | "2592000" | The number of seconds | | 1 |
| , | | that each user key | | |
| | | issued by this KMS | | 1 |
| | | should be used | | |
| | | (2592000 seconds are | | 1 |
| | | 30 days) | | |
| UserKeyOffset | CurrentTimestamp | UserKeyOffset so that | | |
| | MODULO | KeyPeriod starts at | | |
| | UserKeyPeriod | current system time; | | 1 |
| | | CurrentTimestamp is | | 1 |
| | | the current system time | | 1 |
| | | in seconds since 0h on | | 1 |
| | | 1 st Jan 1900 | | 1 |

| Dub Enal/au | CAKKE Dublic Kov 7 T | The SAKKE Public | DEC 0500 [00] |
|---------------------------|--|-------------------------------------|---------------|
| PubEncKey | SAKKE Public Key Z_T derived from master | Key, "Z_T". This is an | RFC 6508 [99] |
| | secret z_T according to | OCTET STRING | |
| | RFC 6508 | encoding of an elliptic | |
| | RFC 0500 | | |
| Duk Auth Kau | FCCCI Dublic Kov | curve point | DEC 0507 [00] |
| PubAuthKey | ECCSI Public Key | The ECCSI Public Key, | RFC 6507 [98] |
| | KPAK derived from | "KPAK". This is an | |
| | private key KSAK | OCTET STRING | |
| | according to RFC 6507 | encoding of an elliptic | |
| | N | curve point | |
| ParameterSet | Not present | (Optional) The choice | |
| | | of parameter set used | |
| | | for SAKKE and ECCSI | |
| KmsDomainList | Not present | (Optional) List of | |
| | | domains associated | |
| | | with the certificate | |
| SignedInfo | | | |
| CanonicalizationAlgorithm | "xml-c14n" | XML Signature | |
| | | processing | |
| SignatureAlgorithm | "HMAC-SHA-256" | Hashing algorithm to be | |
| | | applied to sign the | |
| | | SignedInfo with the key | |
| | | given in the KeyInfo | |
| Reference | | | |
| URI | "#kmsResponse" | referring to the data | |
| | | object for which the | |
| | | hash is generatet (KMS | |
| | | response element in | |
| | | this case) | |
| DigestAlgorithm | "SHA-256" | Hashing algorithm to be | |
| | | applied to sign the data | |
| | | object | |
| DigestValue | Hash signing the data | | |
| • | object (referred to by | | |
| | the URI) | | |
| SignatureValue | Hash signing the | The signing key is | |
| · · | SignedInfo | derived from the InK | |
| | | (px_MCX_lnK) | |
| | | according to TS 33.180 | |
| | | [94] Annex F.1.4 with | |
| | | FC = 0x52 | |
| | | XPK-ID = InK-ID | |
| | | (px_MCX_InK_ID) | |
| KeyInfo | | \p\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | |
| KeyName | base64 encoded InK-ID | | |
| | (px_MCX_InK_ID) | | |
| | _ ' | 1 | 1 |

5.5.4.10.7 Void

5.5.4.10.8 KMS Key Set

Table 5.5.4.10.8-1: KMS Key Set

| Derivation Path: TS 33.180 [94] Information Element | Value/remark | Comment | Reference | Condition |
|---|---|--|----------------|------------|
| Signed KmsResponse | Varacyternativ | Commone | Reference | Contantion |
| Id | "kmsResponse" | arbitrarily selected id which the Signature's Reference URI refers to | | |
| KmsUri | tsc_MCX_KMS_Hostna me | The URI of the KMS which issued the key set | | |
| UserUri | tsc_MCX_MC_ID_User _A Editor's note: to be clarified whether the MC ID can be used in this context or whether there are restrictions how to set the UserUri | The MC ID with which the user has used for authentication | | |
| Time | Current system time of the SS | Time stamp of KMS message | | |
| ClientReqUrl | tsc_MCX_KMS_Client ReqUrl_keyprov | URL of the client making the key request | | |
| KmsMessage | | 3 27 2 12 332 | | |
| KmsKeyProv | | | | |
| Version | "1.0.0" | The version number of the key provision XML | | |
| KmsKeySet[1] | | | | |
| Version | "1.1.0" | The version number of the key set XML | | |
| KmsUri | tsc_MCX_KMS_Hostna me | The URI of the KMS which issued the key set | | |
| CertUri | Not present | (Optional) The URI of the Certificate which may be used to validate the key set | | |
| Issuer | Not present | (Optional) String describing the issuing entity | | |
| UserUri | px_MCPTT_ID_User_A px_MCVideo_ID_User_ A | The user's MCPTT ID The user's MCVideo ID | | MCVIDEO |
| | px_MCData_ID_User_ A | The user's MCData ID | | MCDATA |
| UserID | UID generated according to annex F.2.1 of TS 33.180 [94] with MCPTT-Id as identifier Editor's note: to be clarified how to convert the UID into charstring (e.g. hexstring representation or base64 encoding) | UID corresponding to the key set | TS 33.180 [94] | |
| ValidFrom | Not present | (Optional) Date and time from which the key set may be used | | |
| ValidTo | Not present | (Optional) Date and time at which the key set expires | | |

| Derivation Path: TS 33.180 [94], Information Element | Value/remark | Comment | Reference | Condition |
|--|--|---|----------------|-----------|
| Signed KmsResponse | | | | |
| KeyPeriodNo | FLOOR((CurrentTimest amp - UserKeyOffset) / UserKeyPeriod) | Current Key Period: CurrentTimestamp is the current system time in seconds since 0h on 1st Jan 1900; UserKeyOffset and UserKeyPeriod are given in the KMS Certificate (Table 5.5.4.10.6-1) in seconds | TS 33.180 [94] | |
| Revoked | "false" | (Optional) A Boolean value defining whether the key set has been revoked | | |
| UserDecryptKey | | The SAKKE "Receiver Secret Key" (RSK). This is an OCTET STRING encoding of an elliptic curve point | RFC 6508 [99] | |
| EncryptionAlgorithm | "AES256" | Encryption algorithm to use | | |
| KeyInfo | | | | |
| KeyName | base64 encoded TrK- ID (px_MCX_TrK_ID) | | | |
| CipherData | | | | |
| CipherValue | encrypted RSK | The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID) | | |
| UserSigningKeySSK EncryptionAlgorithm | "AES256" | The ECCSI private Key, "SSK". This is an OCTET STRING encoding of an integer; the PVT is generated using the UID as contained in the UserID of the KSM message Encryption algorithm to | RFC 6507 [98] | |
| | 71.0200 | use | | |
| KeyInfo | | | | |
| KeyName | base64 encoded TrK- ID (px_MCX_TrK_ID) | | | |
| CipherData | anonymtad CCI/ | The enemination lives: | | |
| CipherValue | encrypted SSK | The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID) | | |

| Derivation Path: TS 33.180 [94], | | _ | | |
|--------------------------------------|---|---|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Signed KmsResponse | | | | |
| UserPubTokenPVT EncryptionAlgorithm | "AES256" | The ECCSI public validation token, "PVT". This is an OCTET STRING encoding of an elliptic curve point; the PVT is generated using the UID as contained in the UserID of the KSM message | RFC 6507 [98] | |
| | | use | | |
| KeyInfo | 1 01 1 7 1 | | | |
| KeyName | base64 encoded TrK- ID (px_MCX_TrK_ID) | | | |
| CipherData | | | | |
| CipherValue | Encrypted PVT | The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID) | | |
| Signature | | | | |
| SignedInfo | | | | |
| CanonicalizationAlgorithm | "xml-c14n" | XML Signature processing | | |
| SignatureAlgorithm | "HMAC-SHA-256" | Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo | | |
| Reference | | | | |
| URI | "#kmsResponse" | referring to the data object for which the hash is generatet (KMS response element in this case) | | |
| DigestAlgorithm | "SHA-256" | Hashing algorithm to be applied to sign the data object | | |
| DigestValue | Hash signing the data object (referred to by the URI) | | | |
| SignatureValue | Hash signing the SignedInfo | The signing key is derived from the InK (px_MCX_InK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = InK-ID (px_MCX_InK_ID) | | |
| KeyInfo | | / | | |
| KeyName | base64 encoded InK-ID (px_MCX_InK_ID) | | | |

5.5.4.10.9 Signed KMS Request

Table 5.5.4.10.9-1: Signed KMS Request

| Derivation Path: TS 33.180 [94], Information Element | Value/remark | Comment | Reference | Condition |
|---|---|----------------------------------|--------------|-----------|
| SignedKmsRequest | value/Telliai K | Comment | I/CICI CIICE | Condition |
| KmsRequest | | | | |
| Id attribute | any value | value as used as | | |
| id attribute | any value | reference in the | | |
| | | signature | | |
| Version attribute | "1.1.0" | eignature | | |
| UserUri | px_MCPTT_ID_User_A | The user's MCPTT ID | | |
| 000.011 | px_MCVideo_ID_User_ | The user's MCVideo ID | | MCVIDEO |
| | A | | | |
| | px_MCData_ID_User_ A | The user's MCData ID | | MCDATA |
| KmsUri | tsc_MCX_KMS_Hostna | The URI of the KMS to | | |
| | me | which the request is | | |
| | | sent | | |
| Time | any value | Date/time that the | | |
| | - | request is made by the | | |
| | | client | | |
| ClientId | any value if present | A string representing the client | | |
| DeviceId | any value if present | A string representing | | |
| | | the device | | |
| ClientReqUrl | URI with same path as | The resource URI to | | |
| | in the request URI of | which the HTTP POST | | |
| | the HTTP request | request is sent | | |
| KrrList | not present | | | |
| ClientError | not present | | | |
| Signature | | | | |
| SignedInfo | W // 0 /TD/ | V441 0: | | |
| CanonicalizationAlgorithm | "http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315" | XML Signature processing | | |
| SignatureAlgorithm | "http://www.w3.org/200 | Hashing algorithm to be | | |
| | 1/04/xmldsig- | applied to sign the | | |
| | more#hmac-sha256" | SignedInfo with the key | | |
| | | given in the KeyInfo | | |
| Reference | | | | |
| URI | URI referring to the Id | same value as the ld | | |
| | of the request | attribute of the request | | |
| | | with leading "#" | | |
| DigestAlgorithm | "http://www.w3.org/200 | Hashing algorithm | | |
| | 1/04/xmlenc#sha256" | applied to sign the data | | |
| Digost\/oluo | Hook signing the data | object | | + |
| DigestValue | Hash signing the data | | | |
| | object (referred to by the URI) | | | |
| SignatureValue | Hash signing the | The signing key is | | |
| Oigilatule value | SignedInfo; | derived from the InK | | |
| | shall be validated by | (px_MCX_InK) | | |
| | the SS | according to TS 33.180 | | |
| | | [94] Annex F.1.4 with | | |
| | | FC = 0x52 | | |
| | | XPK-ID = InK-ID | | |
| | | (px_MCX_InK_ID) | | |
| KeyInfo | | | | |
| KeyName | base64 encoded InK-ID | | | |
| | (px_MCX_InK_ID) | | | |

5.5.5 Default MCPTT call control Off-network messages and other information elements

5.5.5.1 GROUP CALL PROBE

Table 5.5.5.1-1: GROUP CALL PROBE

| Derivation Path: TS 24.379 [9] Table 15.1.2.1-1 | | | |
|---|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |

5.5.5.2 GROUP CALL ANNOUNCEMENT

5.5.5.2.1 GROUP CALL ANNOUNCEMENT from the UE

Table 5.5.5.2.1-1: GROUP CALL ANNOUNCEMENT from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.3.1-1 | | | |
|---|---|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65535) generated at the beginning of a call establishment | | |
| Call type | "00000001" | Basic Group Call | |
| Refresh interval | 10000 | The Refresh interval contains a number denoting the minimum time interval (milliseconds) between two successive periodic announcements. NOTE: In release 13.7 of TS 24.379 [9], the refresh interval of the call is fixed to 10 seconds. | |
| Call start time | The Call start time value is an unsigned integer containing UTC time of the time when a call was started, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| Last call type change time | The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.3-1 | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | pre-set MCPTT user ID | |
| Last user to change call type | The ID of the last user to change contents | | |
| Confirm mode indication | Present | | |
| Probe response | Not Present | | |

GROUP CALL ANNOUNCEMENT from the SS 5.5.5.2.2

Table 5.5.5.2.2-1: GROUP CALL ANNOUNCEMENT from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.3.1-1 | | | |
|---|---|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65535) generated at the beginning of a call establishment | | |
| Call type | "00000001" | Basic Group Call | |
| Refresh interval | 10000 | The Refresh interval contains a number denoting the minimum time interval (milliseconds) between two successive periodic announcements. NOTE: In release 13.7 of TS 24.379 [9], the refresh interval of the call is fixed to 10 seconds. | |
| Call start time | The Call start time value is an unsigned integer containing UTC time of the time when a call was started, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| Last call type change time | The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.4-1 | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | pre-set MCPTT user ID | |
| Last user to change call type | The ID of the last user to change contents | | |
| Confirm mode indication | Present | | |
| Probe response | Not Present | | |

5.5.5.3 GROUP CALL ACCEPT

5.5.5.3.1 GROUP CALL ACCEPT from the UE

Table 5.5.5.3.1-1: GROUP CALL ACCEPT from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.4.1-1 | | | |
|---|--|------------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Call type | "0000001" | Basic Group Call | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.3.2 GROUP CALL ACCEPT from the SS

Table 5.5.5.3.2-1: GROUP CALL ACCEPT from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.4.1-1 | | | |
|---|--|------------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Call type | "0000001" | Basic Group Call | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.5.4 GROUP CALL EMERGENCY END

5.5.5.4.1 GROUP CALL EMERGENCY END from the UE

Table 5.5.5.4.1-1: GROUP CALL EMERGENCY END from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.15.1-1 | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Last call type change time | The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| Last user to change call type | The ID of the last user to change contents | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.4.2 GROUP CALL EMERGENCY END from the SS

Table 5.5.5.4.2-1: GROUP CALL EMERGENCY END from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.15.1-1 | | | |
|--|----------------------------|----------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number | | |
| | uniformly distributed | | |
| | between (0, 65536) | | |
| | generated at the | | |
| | beginning of a call | | |
| | establishment | | |
| Last call type change time | The Last call type | | |
| | change time value is an | | |
| | unsigned integer | | |
| | containing UTC time of | | |
| | the time when a call | | |
| | priority was changed, in | | |
| | seconds since midnight | | |
| | UTC of January 1, 1970 | | |
| | (not counting leap | | |
| | seconds). | | |
| Last user to change call type | The ID of the last user to | | |
| | change contents | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | <u> </u> | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.5.5 GROUP CALL IMMINENT PERIL END

5.5.5.5.1 GROUP CALL IMMINENT PERIL END from the UE

Table 5.5.5.5.1-1: GROUP CALL IMMINENT PERIL END from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.14.1-1 | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Last call type change time | The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| Last user to change call type | The ID of the last user to change contents | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.5.2 GROUP CALL IMMINENT PERIL END from the SS

Table 5.5.5.5.2-1: GROUP CALL IMMINENT PERIL END from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.14.1- | 1 | | |
|---|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Last call type change time | The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds). | | |
| Last user to change call type | The ID of the last user to change contents | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.5.6 GROUP CALL BROADCAST

5.5.5.6.1 GROUP CALL BROADCAST from the UE

Table 5.5.5.6.1-1: GROUP CALL BROADCAST from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.20.1-1 | | | |
|--|--|-------------------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Call type | "00000010" | Broadcast Group Call | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.3-1 | | |

5.5.5.6.2 GROUP CALL BROADCAST from the SS

Table 5.5.5.6.2-1: GROUP CALL BROADCAST from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.20.1-1 | | | |
|--|--|-------------------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Call type | "00000010" | Broadcast Group Call | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.4-1 | | |

5.5.5.7 GROUP CALL BROADCAST END

5.5.5.7.1 GROUP CALL BROADCAST END from the UE

Table 5.5.5.7.1-1: GROUP CALL BROADCAST END from the UE

| Information Element | Value/remark | Comment | Condition |
|---------------------|---|---------|-----------|
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.3-1 | | |

5.5.5.7.2 GROUP CALL BROADCAST END from the SS

Table 5.5.5.7.2-1: GROUP CALL BROADCAST END from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.21.1- Information Element | Value/remark | Comment | Condition |
|--|---|---------|-----------|
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| SDP | As described in Table 5.5.3.1.4-1 | | |

5.5.5.8 PRIVATE CALL SETUP REQUEST

5.5.5.8.1 PRIVATE CALL SETUP REQUEST from the UE

Table 5.5.5.8.1-1: PRIVATE CALL SETUP REQUEST from the UE

| Derivation Path: 24.379 [9], Table 15.1.5.1-1. | | | |
|--|---|-----------------------------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Commencement mode | "0000000" | Automatic Commencement Mode | |
| Call type | "00000101" | Private Call | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_A | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_B | | |
| SDP offer | As described in Table 5.5.3.1.3-1 | | |
| User location | Not Present | | |

5.5.5.8.2 PRIVATE CALL SETUP REQUEST from the SS

Table 5.5.5.8.2-1: PRIVATE CALL SETUP REQUEST from the SS

| Information Element | Value/remark | Comment | Condition |
|-----------------------------|---|-----------------------------------|-----------|
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| Commencement mode | "00000000" | Automatic Commencement Mode | |
| Call type | "00000101" | Private Call | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_B | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_A | | |
| SDP offer | As described in Table 5.5.3.1.4-1 | | |
| User location | Not Present | | |

5.5.5.9 PRIVATE CALL RINGING

Table 5.5.5.9-1: PRIVATE CALL RINGING

| Derivation Path: 24.379 [9], Table 15.1.6.1-1. | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |

5.5.5.10 PRIVATE CALL ACCEPT

Table 5.5.5.10-1: PRIVATE CALL ACCEPT

| Derivation Path: 24.379 [9], Table 15.1.7.1-1. | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| SDP answer | Same as the one in PRIVATE CALL SETUP REQUEST | | |

5.5.5.11 PRIVATE CALL REJECT

5.5.5.11.1 PRIVATE CALL REJECT from the UE

Table 5.5.5.11.1-1: PRIVATE CALL REJECT from the UE

| Derivation Path: 24.379 [9], Table 15.1.8.1-1. | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| Reason | Any allowed value | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| SDP answer | As described in Table 5.5.3.1.3-1 | | |

5.5.5.11.2 PRIVATE CALL REJECT from the SS

Table 5.5.5.11.2-1: PRIVATE CALL REJECT from the SS

| Derivation Path: 24.379 [9], Table 15.1.8.1-1. | | | |
|--|---|-----------------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| Reason | "0000000" | Reason = REJECT | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| SDP answer | As described in Table 5.5.3.1.4-1 | | |

5.5.5.12 PRIVATE CALL RELEASE

Table 5.5.5.12-1: PRIVATE CALL RELEASE

| Derivation Path: 24.379 [9], Table 15.1.9.1-1. | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |

5.5.5.13 PRIVATE CALL RELEASE ACK

Table 5.5.5.13-1: PRIVATE CALL RELEASE ACK

| Derivation Path: 24.379 [9], Table 15.1.10.1-1. | | | |
|---|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |

5.5.5.14 PRIVATE CALL ACCEPT ACK

Table 5.5.5.14-1: PRIVATE CALL ACCEPT ACK

| Derivation Path: 24.379 [9], Table 15.1.11.1-1. Information Element | Value/remark | Comment | Condition |
|--|---|---------|-----------|
| Call identifier | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the caller | Same as the one in PRIVATE CALL SETUP REQUEST | | |
| MCPTT user ID of the callee | Same as the one in PRIVATE CALL SETUP REQUEST | | |

5.5.5.15 PRIVATE CALL EMERGENCY CANCEL

5.5.5.15.1 PRIVATE CALL EMERGENCY CANCEL from the UE

Table 5.5.5.15.1-1: PRIVATE CALL EMERGENCY CANCEL from the UE

| Derivation Path: 24.379 [9], Table 15.1.12.1-1. | | | |
|---|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_A | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_B | | |

5.5.5.15.2 PRIVATE CALL EMERGENCY CANCEL from the SS

Table 5.5.5.15.2-1: PRIVATE CALL EMERGENCY CANCEL from the SS

| Derivation Path: 24.379 [9], Table 15.1.12.1-1. | | | |
|---|--|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment | | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_B | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_A | | |

5.5.5.16 PRIVATE CALL EMERGENCY CANCEL ACK

5.5.5.16.1 PRIVATE CALL EMERGENCY CANCEL ACK from the UE

Table 5.5.5.16.1-1: PRIVATE CALL EMERGENCY CANCEL ACK from the UE

| Derivation Path: 24.379 [9], Table 15.1.13.1-1. | | | |
|---|--|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL EMERGENCY CANCEL | | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_A | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_B | | |

5.5.5.16.2 PRIVATE CALL EMERGENCY CANCEL ACK from the SS

Table 5.5.5.16.2-1: PRIVATE CALL EMERGENCY CANCEL ACK from the SS

| Derivation Path: 24.379 [9], Table 15.1.13.1-1. | | | |
|---|--|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| Call identifier | Same as the one in PRIVATE CALL EMERGENCY CANCEL | | |
| MCPTT user ID of the caller | px_MCPTT_ID_User_B | | |
| MCPTT user ID of the callee | px_MCPTT_ID_User_A | | |

5.5.5.17 GROUP EMERGENCY ALERT

5.5.5.17.1 GROUP EMERGENCY ALERT from the UE

Table 5.5.5.17.1-1: GROUP EMERGENCY ALERT from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.16.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |
| Organization name | Any allowed value | | |
| User location | Not Present | | |

5.5.5.17.2 GROUP EMERGENCY ALERT from the SS

Table 5.5.5.17.2-1: GROUP EMERGENCY ALERT from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.16.1-1 | | | |
|--|---|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |
| Organization name | px_MCPTT_Group_A_O wner_Organization | | |
| User location | Not Present | | |

5.5.5.18 GROUP EMERGENCY ALERT ACK

5.5.5.18.1 GROUP EMERGENC ALERT ACK from the UE

Table 5.5.5.18.1-1: GROUP EMERGENCY ALERT ACK from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.17.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.18.2 GROUP EMERGENC ALERT ACK from the SS

Table 5.5.5.18.2-1: GROUP EMERGENCY ALERT ACK from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.17.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.5.19 GROUP EMERGENCY ALERT CANCEL

5.5.5.19.1 GROUP EMERGENCY ALERT CANCEL from the UE

Table 5.5.5.19.1-1: GROUP EMERGENCY ALERT CANCEL from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.18.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.19.2 GROUP EMERGENCY ALERT CANCEL from the SS

Table 5.5.5.19.2-1: GROUP EMERGENCY ALERT CANCEL from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.18.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.5.20 GROUP EMERGENCY ALERT CANCEL ACK

5.5.5.20.1 GROUP EMERGENCY ALERT CANCEL ACK from the UE

Table 5.5.5.20.1-1: GROUP EMERGENCY ALERT CANCEL ACK from the UE

| Derivation Path: TS 24.379 [9] Table 15.1.19.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_B | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_A | | |

5.5.5.20.2 GROUP EMERGENCY ALERT CANCEL ACK from the SS

Table 5.5.5.20.2-1: GROUP EMERGENCY ALERT CANCEL ACK from the SS

| Derivation Path: TS 24.379 [9] Table 15.1.19.1-1 | | | |
|--|---------------------|---------|-----------|
| Information Element | Value/remark | Comment | Condition |
| MCPTT group ID | px_MCPTT_Group_A_ID | | |
| Originating MCPTT user ID | px_MCPTT_ID_User_A | | |
| Sending MCPTT user ID | px_MCPTT_ID_User_B | | |

5.5.6 Default MCPTT media plane control messages and other information elements

5.5.6.1 General

The media plane control protocols messages specified in the present document are based on those specified in TS 24.380 [10] which in term are based on the RTCP Application Packets (RTCP: APP), as defined in IETF RFC 3550 [76].

Depending on the TC scenario, the same MCPTT media plane control message can be sent by the SS or by the UE. Throughout the default content specified in below a particular value has been chosen to satisfy one or the other scenario. It is expected that when a message is used in a TC in a particular context then the relevant for the usage in the TC values will be defined in the TC.

The following conditions apply throughout clause 5.5.6:

Table 5.5.6.1-1: Conditions

| Condition | Explanation |
|--------------|--|
| ON-NETWORK | Message sent in on-network scenario. |
| OFF-NETWORK | Message sent in off-network scenario. |
| PRIVATE-CALL | Message sent as part of a Private call handling. |
| GROUP-CALL | Message sent as part of a Group call handling. |
| FA | IE for when an active Functional Alias is used |
| Multi-Talker | IE for when a Multi Talker call is active |

Considerations in regard to describing specific values:

- SSRC

- Synchronization SouRCe (SSRC) values are used in most of the messages specified in clause 5.5.6. The SSRC value is randomly chosen by the participant in, and globally unique within, an RTP session as specified in IETF RFC 3550 [76]. Because the value chosen by the UE (MCPTT client) cannot be controlled, specifying a "hard coded" value to be used by the SS (MCPTT server) or the SS-UE (MCPTT Client) is prone to triggering a collision by choosing a value which may be the same as the one chosen by the UE. How to resolve SSRC collisions is described in IETF RFC 3550 [76] however, resolving them as part of the MCPTT test case definitions e.g. in TS 36.579-2 [2] is not foreseen and is left to the test implementation.
- For the purposes of default and specific messages definition throughout the present specification, as well as, throughout the rest of the MCPTT conformance test specifications e.g. the TS 36.579-2 [2] no explicit SSRC values are defined and instead the following notation is used to clarify the messages origin/destination:
- When there is no danger for misunderstanding the notation 'The SSRC of the message sender' and the 'The SSRC of the intended recipient of the message' are used whereas the "sender" and the "recipient" are to be understood in the context of the test i.e. the test entities being involved to exchange messages.
- When in doubt, the notations 'UE (MCPTT client) SSRC', SS (MCPTT server) SSRC', 'SS-UE1 (MCPTT Client) SSRC' or 'SS-UE2 (MCPTT Client) SSRC' are used.

5.5.6.2 Floor Request

Table 5.5.6.2-1: Floor Request

| Derivation Path: 24.380 [10], Table 8.2.4-1. | Malara Inc | 0 | Co |
|--|--------------------|--------------------------------|----------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the | |
| | message sender | floor participant | |
| | | sending the | |
| | | message. Notation in | |
| | | accordance with | |
| | | clause 5.5.6.1. | |
| Floor priority | Not present or Any | If present, a value | |
| 1 loor priority | allowed value | between '0' and | |
| | anowed value | '255' where '0' is | |
| | | the lowest priority | |
| | | and lowest priority | |
| | | If the Floor Priority | |
| | | field is not | |
| | | included in the | |
| | | message the | |
| | | default priority | |
| | | (='0') is used as | |
| | | the Floor Priority | |
| | | value | |
| | | | |
| | | The max floor | |
| | | priority that can be | |
| | | requested in a | |
| | | Floor Request | |
| | | message is | |
| | | negotiated | |
| | | between the | |
| | | MCPTT client and | |
| | | the controlling | |
| | | MCPTT function | |
| | | using the | |
| | | "mc_priority" fmtp | |
| | | parameter e.g. at | |
| User ID | Not propert | call setup | ON |
| User ID | Not present | | ON- NETWORK |
| User ID | | | OFF- |
| | | | NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT User | |
| | | ID of the floor | |
| | | participant | |
| | | requesting the | |
| Treatriate | Not my = = = = t | floor. | |
| Track Info | Not present | The MCPTT call | |
| | | does not involve a | |
| | | non-controlling MCPTT function | |
| Floor Indicator | | WICH THUNCHON | |
| Floor Indicator | Any allowed value | | |
| Functional Alias | Not present | | |
| | px_MCPTT_ID_FA_A | Functional Alias = | FA |
| | F | URI | |
| Location | optional | | |
| Location Type | Any allowed value | See TS 24.380 | |
| | | [10] Table | |
| | | 8.2.3.21-3 | |
| Location Value | Not present or Any | See TS 24.380 | |
| | allowed value | [10] Table | |
| | | 8.2.3.21-3. | |
| | | Not present if | |
| | | Location Type is | |
| | | set to "Not | |
| | | provided" | |
| Location | | | REL-15 |

| Derivation Path: 24.380 [10], Table 8.2.4-1. | | | |
|--|----------------------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| Location Type | Any allowed value | See TS 24.380 | |
| | | [10] Table 8.2.3.21-3 | |
| Location Value | Not present or Any allowed value | See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided" | |

| Condition | Explanation |
|-----------|---|
| REL-15 | In effect when PICS "PICS FFS" is in effect |

5.5.6.3 Floor Granted

Table 5.5.6.3-1: Floor Granted

| Derivation Path: 24.380 [10], Table 8.2.5-1. | Value/sems=!- | Commont | Canadit! |
|--|---------------------------|-------------------------------------|-----------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the | |
| | message sender | floor control | |
| | | server for on- | |
| | | network and floor | |
| | | arbitrator for off- | |
| | | network. | |
| | | Notation in accordance with | |
| | | | |
| | | clause 5.5.6.1. | |
| | | Coded as | |
| | | specified in IETF RFC 3550 [76]. | |
| name | MCPT | KFC 3330 [70]. | |
| Duration | IVICI I | | |
| Duration | "00000000 10000000" | 128 sec (an | |
| | | arbitrary value) | |
| SSRC of granted floor participant | The SSRC of the | Notation in | |
| | intended recipient of the | accordance with | |
| | message | clause 5.5.6.1. | |
| | | Coded as | |
| | | specified in IETF | |
| | | RFC 3550 [76]. | |
| Floor priority | Not present | If the Floor Priority | |
| | | field is not | |
| | | included in the | |
| | | message the | |
| | | default priority | |
| | | (='0') is used as | |
| | | the Floor Priority | |
| | | value | |
| User ID | Not present | | ON- NETWORK |
| User ID | | | OFF- NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT User | |
| | _ | ID of the floor | |
| | | participant | |
| | | granted the floor. | |
| Queue Size | Not present | | ON- |
| | | | NETWORK |

| Derivation Path: 24.380 [10], Table 8.2.5-1. | | | |
|--|-------------------|--|-----------------|
| Information Element | Value/remark | Comment | Condition |
| Queue Size | "0" | the number of queued MCPTT clients in the MCPTT call | OFF- NETWORK |
| SSRC of queued floor participant | Not present | | |
| Queued User ID | Not present | | |
| Queue Info | Not present | | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | | |

5.5.6.4 Floor Deny

Table 5.5.6.4-1: Floor Deny

| Derivation Path: 24.380 [10], Table 8.2.6-1. Information Element | Value/remark | Commont | Condition |
|---|-----------------------|---------------------|------------|
| | | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the | |
| | message sender | floor control | |
| | | server for on- | |
| | | network and floor | |
| | | arbitrator for off- | |
| | | network. | |
| | | Notation in | |
| | | accordance with | |
| | | clause 5.5.6.1. | |
| | | Coded as | |
| | | specified in IETF | |
| | MCPT | RFC 3550 [76]. | |
| name | MCPT | | |
| Reject Cause Reject Cause | "1" | Cause #1 - | |
| Reject Gause | 1 | Another MCPTT | |
| | | client has | |
| | | permission | |
| Reject Phrase | "Another MCPTT client | An additional text | |
| Reject Filiase | has permission" | string explaining | |
| | nas permission | the reason for | |
| | | rejecting the floor | |
| | | | |
| User ID | Not present | request. | ON- |
| USEI ID | Not present | | NETWORK |
| User ID | | | OFF- |
| OSEI ID | | | NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT User | INLIVVOICE |
| Osel ID | px_worling_oser_A | ID of the floor | |
| | | participant being | |
| | | denied floor | |
| | | request. | |
| Track Info | Not present | The MCPTT call | |
| HACK IIIIO | Not present | does not involve a | |
| | | non-controlling | |
| | | MCPTT function | |
| Floor Indicator | | or i i idilolioli | |
| Floor Indicator | Any allowed value | 1 | |

5.5.6.5 Floor Release

Table 5.5.6.5-1: Floor Release

| Derivation Path: 24.380 [10], Table 8.2.7-1. | | | |
|--|--------------------------------|---|-----------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the floor participant sending the message. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76] | |
| name | MCPT | | |
| User ID | Not present | | ON- NETWORK |
| User ID | | | OFF- NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT User ID of the floor participant releasing the floor. | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | | |

5.5.6.6 Floor Idle

Table 5.5.6.6-1: Floor Idle

| Derivation Path: 24.380 [10], Table 8.2.8-1. Information Element | Value/remark | Comment | Condition |
|---|---|--|-----------|
| SSRC | The SSRC of the message sender | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. | |
| | | Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCPT | | |
| Message Sequence Number | | | |
| Message Sequence Number | The value sent in the previous Floor Idle message, if any, increased with 1 | Any value between '0' and '65535' When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again</message> | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | | |

5.5.6.7 Floor Taken

Table 5.5.6.7-1: Floor Taken

| Derivation Path: 24.380 [10], Table 8.2.9-1. | | | |
|--|--|--|----------------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the | |
| | message sender | floor control | |
| | | server for on- | |
| | | network and floor | |
| | | arbitrator for off- | |
| | | network. | |
| | | | |
| | | Notation in | |
| | | accordance with | |
| | | clause 5.5.6.1. | |
| | | Coded as | |
| | | specified in IETF | |
| | N | RFC 3550 [76]. | 8.4 to T II |
| nama | Not present MCPT | | Multi-Talker |
| name | | | ON |
| User ID | Not present | | ON- |
| User ID | | | NETWORK OFF- |
| USEI ID | | | NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT user | INCINONN |
| 5001 ID | PV_INIOI I ID_036I_A | ID of the floor | |
| | | participant | |
| | | sending the Floor | |
| | | Taken message | |
| Granted Party's Identity | | rakon moodago | |
| Granted Party's Identity | px_MCPTT_ID_User_B | The MCPTT User | |
| Granica Fairy & Identity | px | ID of the floor | |
| | | participant being | |
| | | granted the floor. | |
| Granted Party's Identity | Not Present | gramea are neen | Multi-Talker |
| Permission to Request the Floor | | | |
| Permission to Request the Floor | "1" | The receiver is | |
| | | permitted to | |
| | | request floor | |
| Message Sequence Number | | | |
| Message Sequence Number | The value sent in the | Any value | |
| | previous Floor Taken | between '0' and | |
| | message, if any, | '65535' | |
| | increased with 1 | When the '65535' | |
| | | value is reached, | |
| | | the <message< td=""><td></td></message<> | |
| | | Sequence | |
| | | Number> value | |
| | | starts from '0' | |
| | | again | |
| Track Info | Not present | The MCPTT call | |
| | | does not involve a | |
| | | non-controlling | |
| | | | |
| | | MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | MCPTT function | |
| | SS-UE1 (MCPTT Client) | MCPTT function The SSRC of the | |
| Floor Indicator | | The SSRC of the granted floor | |
| Floor Indicator SSRC of granted floor participant | SS-UE1 (MCPTT Client) SSRC | MCPTT function The SSRC of the | |
| Floor Indicator | SS-UE1 (MCPTT Client) SSRC Not present | The SSRC of the granted floor participant. | EA AND |
| Floor Indicator SSRC of granted floor participant | SS-UE1 (MCPTT Client) SSRC | The SSRC of the granted floor participant. Functional Alias = | FA AND |
| Floor Indicator SSRC of granted floor participant | SS-UE1 (MCPTT Client) SSRC Not present | The SSRC of the granted floor participant. | NOT Multi- |
| Floor Indicator SSRC of granted floor participant Functional Alias | SS-UE1 (MCPTT Client) SSRC Not present px_MCPTT_ID_FA_B | The SSRC of the granted floor participant. Functional Alias = | |
| Floor Indicator SSRC of granted floor participant Functional Alias List of Granted Users | SS-UE1 (MCPTT Client) SSRC Not present | The SSRC of the granted floor participant. Functional Alias = | NOT Multi- Talker |
| Floor Indicator SSRC of granted floor participant Functional Alias List of Granted Users List of Granted Users | SS-UE1 (MCPTT Client) SSRC Not present px_MCPTT_ID_FA_B Not present | The SSRC of the granted floor participant. Functional Alias = | NOT Multi- |
| Floor Indicator SSRC of granted floor participant Functional Alias List of Granted Users List of Granted Users No of users | SS-UE1 (MCPTT Client) SSRC Not present px_MCPTT_ID_FA_B Not present | The SSRC of the granted floor participant. Functional Alias = | NOT Multi- Talker |
| Floor Indicator SSRC of granted floor participant Functional Alias List of Granted Users List of Granted Users No of users User ID | SS-UE1 (MCPTT Client) SSRC Not present px_MCPTT_ID_FA_B Not present '10' px_MCPTT_ID_User_B | The SSRC of the granted floor participant. Functional Alias = | NOT Multi- Talker |
| Floor Indicator SSRC of granted floor participant Functional Alias List of Granted Users List of Granted Users No of users | SS-UE1 (MCPTT Client) SSRC Not present px_MCPTT_ID_FA_B Not present | The SSRC of the granted floor participant. Functional Alias = | NOT Multi- Talker |

| Derivation Path: 24.380 [10], Table 8.2.9-1. Information Element | Value/remark | Comment | Condition |
|---|--------------------|---|------------------------|
| Number of SSRCs | '10' | | |
| SSRC | The SSRC of User B | | |
| SSRC | The SSRC of User C | | |
| List of Functional Aliases | Not present | | |
| List of Functional Aliases | | | FA AND Multi-Talker |
| No of FAs | '10' | | |
| Functional Alias | px_MCPTT_ID_FA_B | | |
| Functional Alias | px_MCPTT_ID_FA_C | | |
| Location | | | NOT Multi- Talker |
| Location Type | '00000000' | Not provided See TS 24.380 [10] Table 8.2.3.21-3 | |
| Location Value | Not present | See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided" | |
| Location | Not present | | Multi-Talker |
| List of Locations | Not present | | NOT Multi- Talker |
| List of Locations | | The location information shall be maintained in the same order as the users in the List of Granted Users to allow location information to be matched to the correct user. | Multi-Talker |
| Number of Locations | '10' | | |
| Location Type | '00000000' | Not provided See TS 24.380 [10] Table 8.2.3.21-3 | |
| Location Value | Not present | See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided" | |
| Location Type | '00000000' | Not provided See TS 24.380 [10] Table 8.2.3.21-3 | |
| Location Value | Not present | See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided" | |

5.5.6.8 Floor Revoke

Table 5.5.6.8-1: Floor Revoke

| Derivation Path: 24.380 [10], Table 8.2.10.1-1. | | | |
|---|--------------------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. | |
| | | Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCPT | | |
| Reject Cause | | | |
| Reject Cause | "4" | Cause#4 - Media Burst pre-empted | |
| Reject Phrase | "Media Burst pre- empted" | a text string encoded the text string in the SDES item CNAME as specified in IETF RFC 3550 [76], clause 6.5.1. | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | | |

5.5.6.9 Floor Queue Position Request

Table 5.5.6.9-1: Floor Queue Position Request

| Derivation Path: 24.380 [10], Table 8.2.11-1. | | | |
|---|--------------------------------|--|-----------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the floor participant sending the message. | |
| | | Notation in accordance with clause 5.5.6.1. Codedas specified in IETF RFC 3550 [76] | |
| name | MCPT | | |
| User ID | Not present | | ON- NETWORK |
| User ID | | | OFF- NETWORK |
| User ID | px_MCPTT_ID_User_A | The MCPTT ID of the floor participant requesting the information. | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |

5.5.6.10 Floor Queue Position Info

Table 5.5.6.10-1: Floor Queue Position Info

| Derivation Path: 24.380 [10], Table 8.2.12-1. | | | |
|---|-----------------------------------|--|-----------------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. | |
| | | Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCPT | | 011 |
| User ID | Not present | | ON- NETWORK |
| User ID | | | OFF- NETWORK |
| User ID | px_MCPTT_ID_User_B | the MCPTT ID of the floor participant sending the Floor Queue Position Info message | |
| SSRC of queued floor participant | Not present | | ON- NETWORK |
| | The SSRC of the message recepient | The SSRC field carries the SSRC of the queued floor participant | OFF- NETWORK |
| Queued User ID | Not present | | ON- NETWORK |
| Queued User ID | | | OFF- NETWORK |
| Queued User ID | px_MCPTT_ID_User_A | the MCPTT ID of the queued floor participant | |
| Queue Info | | | |
| Queue Position Info | "1" | | |
| Queue Priority Level | "0" | | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |
| Floor Indicator | | | |
| Floor Indicator | Any allowed value | | |

5.5.6.11 Floor Ack

Table 5.5.6.11-1: Floor Ack

| Derivation Path: 24.380 [10], Table 8.2.13-1. | | | |
|---|--------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the SS | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. | DOWNLINK |
| | | Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| | The SSRC of the UE | Notation in accordance with subclause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | UPLINK |
| name | MCPT | | |
| Source | | | |
| Source | "2" | The controlling MCPTT function is the sender of the message see TS 24.380[10] cl 4.2.1 and cl. 8.2.3.12 | DOWNLINK |
| Source | "0" | The Floor participant is the sender of the message see TS 24.380[10] cl 6.2 and cl. 8.2.3.12 | UPLINK |
| Message Type | | | |
| Message Type | "1xxxx" | Floor Ack message for the Floor COntrol message which requested the acknowledgment | |
| Track Info | Not present | The MCPTT call does not involve a non-controlling MCPTT function | |

| Condition | Explanation |
|--|---------------------------------|
| UPLINK | The message is sent from the UE |
| DOWNLINK | The message is sent from the SS |
| For further conditions see table 5.5.6.1-1 | |

5.5.6.12 Connect

Table 5.5.6.12-1: Connect

| Derivation Path: 24.380 [10], Table 8.3.4-1. | Value/remark | Commont | Condition |
|---|------------------------------------|--|------------------|
| Information Element SSRC | Value/remark The SSRC of the MCPC | Comment The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | Condition |
| MCPTT Session Identity field | | | |
| Session Type MCPTT Session Identity | "00000011" tsc_MCX_SessionID_B | prearranged SIP URI, which identifies the MCPTT session between the MCPTT client and the controlling MCPTT function | |
| MCPTT Group Identity field | Not Present | | PRIVATE- CALL |
| MCPTT Group Identity field | | | GROUP- CALL |
| MCPTT Group Identity | px_MCPTT_Group_A_ID | a URI, which identifies the MCPTT group | |
| Media Streams | | e g. ep | |
| Media Stream field | "1" | 8 bit parameter giving the number of the" m=audio" m-line negotiated in the pre- established session | |
| Control Channel | "2" | 8 bit parameter giving the number of the "m=application" m-line negotiated in the preestablished session | |
| Warning Text field | Not Present | | |
| Answer State field | 11411 | r. | |
| Answer State Inviting MCPTT User Identity field | "1" | confirmed | |
| Inviting MCPTT User Identity | px_MCPTT_ID_User_A | URI, which identifies the inviting MCPTT user | |
| PCK I_MESSAGE field | Not Present | | |

5.5.6.13 Disconnect

Table 5.5.6.13-1: Disconnect

| Derivation Path: 24.380 [10], Table 8.3.5-1. | | | |
|--|---------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. | |
| | | Coded as specified in IETF RFC 3550 [76]. | |
| name | MCPC | | |
| MCPTT Session Identity field | | | |
| Session Type | "0000011" | prearranged | |
| MCPTT Session Identity | tsc_MCX_SessionID_B | | |

5.5.6.14 Acknowledgement

Table 5.5.6.14-1: Acknowledgement

| Derivation Path: 24.380 [10], Table 8.3.6-1. | | | |
|--|-----------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in | |
| | | accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCPC | | |
| Reason Code | | | |
| Reason Code | "0" | Accepted | |

5.5.6.15 Map Group To Bearer

Table 5.5.6.15-1: Map Group To Bearer

| Derivation Path: 24.380 [10], Table 8.4.4-1. | | | _ |
|--|------------------------|---|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the | The SSRC of the | |
| | message sender | floor control | |
| | | server for on- | |
| | | network and floor | |
| | | arbitrator for off- | |
| | | network. | |
| | | Notation in | |
| | | accordance with | |
| | | clause 5.5.6.1. | |
| | | Coded as | |
| | | specified in IETF | |
| | | RFC 3550 [76]. | |
| name | MCMC | 14 6 6666 [76]. | |
| MCPTT Group ID | px_MCPTT_Group_A_ID | The group ID of | |
| mor in Group is | px_inio: 11_oloup_/_ib | the call | |
| TMGI | | | |
| MBMS Service ID | "0F0F0F" | The selected | |
| | | value is randomly | |
| | | chosen - a 6 digit | |
| | | hexadecimal | |
| | | number between | |
| | | 000000 and | |
| | | FFFFFF (see | |
| | | TS 23.003 [69] | |
| | | clause 15.2. | |
| | | The coding of the | |
| | | MBMS Service ID | |
| | | is the | |
| | | responsibility of | |
| | | each | |
| | | administration | |
| MCC | The same value as for | Mobile Country | |
| | PLMN1 specified in | Code | |
| | Table 5.5.8.1-x | | |
| MNC | The same value as for | Mobile Network | |
| | PLMN1 specified in | Code | |
| | Table 5.5.8.1-x | | |
| MBMS Subchannel | | | |
| Audio m-line Number | "1" | The number of the | |
| | | "m=audio" m-line | |
| | | in the SIP | |
| | | MESSAGE | |
| | | request | |
| | | announcing the | |
| Flore as Rea Niver | 101 | MBMS bearer | |
| Floor m-line Number | "2" | The number of the | |
| | | "m=application" | |
| | | m-line in the SIP | |
| | | MESSAGE | |
| | | request | |
| | | announcing the | |
| | | MBMS bearer. | |
| | | The <floor m-line<="" td=""><td></td></floor> | |
| | | Number> value is set to "0" when | |
| | | | |
| | | the same subchannel is | |
| | | used for media | |
| | | and for floor | |
| | | | |
| ID version | "0" | control. | |
| IP version | U | '0' = IP version 4 | |
| | | '1' = IP version 6 All other values | |
| | | | |
| | | are reserved for | |
| | | future use | |

| Derivation Path: 24.380 [10], Table 8.4.4-1. | | | |
|--|--------------|---|-----------|
| Information Element | Value/remark | Comment | Condition |
| Floor control Port Number | "9" | The port to be used if the <floor m-line="" number=""> value is greater than '0'. If the <floor m-line="" number=""> value is equal to '0', the <floor control="" number="" port=""> value is not included in the MBMS Subchannel field</floor></floor></floor> | |
| Media Port Number | "9" | | |
| IP Address | "0.0.0.0" | | |

5.5.6.16 Unmap Group To Bearer

Table 5.5.6.16-1: Unmap Group To Bearer

| Derivation Path: 24.380 [10], Table 8.4.5-1. | | | |
|--|--------------------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. | |
| | | Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCMC | | |
| MCPTT Group ID | px_MCPTT_Group_A_ID | The group ID of the call | |

5.5.6.17 Application Paging

Table 5.5.6.17-1: Application Paging

| Derivation Path: 24.380 [10], Table 8.4.6-1. | | | |
|--|--------------------------------|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| SSRC | The SSRC of the message sender | The SSRC of the participating MCPTT function. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | |
| name | MCMC | | |
| MCPTT Group ID | px_MCPTT_Group_A_ID | The group ID of the call | |

5.5.6.18 Bearer Announcement

Table 5.5.6.18-1: Bearer Announcement

| Derivation Path: 24.380 [10], Table 8.4.7-1. | | | |
|--|--|--|-----------|
| Information Element | Value/remark | Comment | Condition |
| name | MCMC | | |
| TMGI | | | |
| MBMS Service ID | "0F0F0F" | The selected value is randomly chosen - a 6 digit hexadecimal number between 000000 and FFFFFF (see TS 23.003 [69] clause 15.2. The coding of the MBMS Service ID is the responsibility of each administration | |
| MCC | The same value as for PLMN1 specified in Table 5.5.8.1-x | Mobile Country Code | |
| MNC | The same value as for PLMN1 specified in Table 5.5.8.1-x | Mobile Network Code | |
| Alternative TMGI | Not present | | |
| Monitoring State | '1' | The <monitoring state=""> value is a binary value where the following values are defined: '0' Monitoring is inactive '1' Monitoring is active</monitoring> | |

5.5.7 Default MCPTT group management messages and other information elements

5.5.7.1 MCPTT Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 6.3.

The structure of the configuration document is based on several XML schemas. To distinguish the schemas the prefixes of their corresponding name spaces are used in the the 'Information Element' column as according to table 7.2.2-2 of TS 24.481 [11].

Table 5.5.7.1-1: MCPTT Group Configuration Defaults

| Derivation Path: TS 24.481 [11] cl | | Commont | Doforonce | Condition |
|---|-------------------------------------|---|---------------------------------|-----------|
| Information Element | Value/remark | Comment 4 | Reference | Condition |
| list-service[1] | MODIT | Group 1 | TO 04 400 5401 | |
| uri attribute | px_MCPTT_Group_A_I D | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 | TS 24.483 [13] clause 6.2.7 | |
| display-name | px_MCPTT_Group_A_ Name | Value is a <display- name> element specified in OMA OMA- TS-XDM_Group-V1_1</display- | TS 24.483 [13] clause 6.2.8 | |
| list | | | | |
| entry[1] | | group member 1 | | |
| uri attribute | px_MCPTT_ID_User_A | Indicates an MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "3" | Indicates the user priority of the MCPTT group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCPTT_User_A_P articipantType | Participant type of the MCPTT group | TS 24.483 [13] clause 6.2.13 | |
| entry[2] | | group member 2 | | |
| uri attribute | px_MCPTT_ID_User_B | Indicates an MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "2" | Indicates the user priority of the MCPTT group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCPTT_User_B_P articipantType | Participant type of the MCPTT group | TS 24.483 [13] clause 6.2.13 | |
| entry[3] | | group member 3 | | |
| uri attribute | px_MCPTT_ID_User_C | Indicates an MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "1" | Indicates the user priority of the MCPTT group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCPTT_User_C_P articipantType | Participant type of the MCPTT group | TS 24.483 [13] clause 6.2.13 | |
| cp:ruleset | | | | |
| cp:rule | | | | |
| cp:id attribute | "rule1" | | | |
| cp:actions cp:on-network-allow- getting-member-list | "true" | Indicates that the identity is allowed to get the MCS group member list of the MCS group in on-network procedures | | |
| cp:allow-initiate-conference | "true" | | | |
| | | i | | |

| Information Element | ause 7.2.2 Value/remark | Comment | Reference | Condition |
|---|----------------------------|--|----------------|-----------|
| cp:allow-MCPTT- | "true" | Indicates whether an | TS 24.483 [13] | |
| emergency-call | | MCPTT emergency | clause 6.2.19 | |
| | | group call is permitted | | |
| and the section of a settle at | 114 | on the MCPTT group | TO 04 400 [40] | |
| cp:allow-imminent-peril-call | "true" | Indicates whether an | TS 24.483 [13] | |
| | | MCPTT imminent peril | clause 6.2.20 | |
| | | group call is permitted | | |
| cp:allow-MCPTT- | "true" | on the MCPTT group Indicates whether an | TS 24.483 [13] | |
| emergency-alert | liue | | clause 6.2.21 | |
| emergency-alen | | MCPTT emergency alert is possible on the | Clause 6.2.21 | |
| | | MCPTT group | | |
| cp:on-network-allow- | "true" | Indicates that the | | |
| getting-affiliation-list | lide | identity is allowed to | | |
| getting-aniliation-list | | get the list of MCPTT | | |
| | | users affiliated to the | | |
| | | MCPTT group in on- | | |
| | | network MCPTT | | |
| | | procedures | | |
| cp:on-network-allow- | "true" | indicates that the | | |
| cp:on-network-allow- conference-state | i i de | | | |
| comerence-state | | identity is allowed to subscribe to the | | |
| | | conference event | | |
| | | package of an MCPTT | | |
| | | | | |
| | | group session of the | | |
| | | MCPTT group in on- | | |
| | | network MCPTT | | |
| ma a matter la construction | THE MCDTT CHAIR A | procedures (Mississ | TC 04 400 [40] | |
| mcpttgi:owner | px_MCPTT_Group_A_ | Group's owner (Mission | TS 24.483 [13] | |
| monttolinusformed value | Owner_Organization | Critical Organisation). | clause 6.2.15 | |
| mcpttgi:preferred-voice- | | | | |
| encodings | | | | |
| mcpttgi:encoding- | A MODEL OFFICE | Duete me decise and a | DEO 4500 [07] | |
| mcpttgi:name[1] | px_MCPTT_Group_A_ | Preferred voice codec | RFC 4566 [27] | |
| | preferred_VCodec | is a RTP payload. | TS 26.171 [66] | |
| | | MCPTT clients shall | TS 24.483 [13] | |
| | | support the AMR-WB | clause 6.2.16 | |
| mcpttgi:level-within-group- | "0" | codec. Indicates the level | TC 04 400 [40] | |
| | 0 | | TS 24.483 [13] | |
| hierarchy | | within a group | clause 6.2.17 | |
| | | hierarchy (only | | |
| | | applicable for group- | | |
| monttaidoval within war | "0" | broadcast group). Indicates the level | TS 24.483 [13] | |
| mcpttgi:level-within-user- | U | | | |
| hierarchy | | within user hierarchy | clause 6.2.18 | |
| | | (only applicable for | | |
| monttai:protost modic | "truo" | user-broadcast group). | TC 24 402 [40] | |
| mcpttgi:protect-media | "true" | Indicates whether | TS 24.483 [13] | |
| | | confidentiality and | clause 6.2.22 | |
| | | integrity of media is | | |
| | | required on the MCPTT | | |
| monttolingsteet flagge grant | "4m 10" | group | TC 04 400 (40) | |
| mcpttgi:protect-floor-control- | "true" | Indicates whether | TS 24.483 [13] | |
| signalling | | confidentiality and | clause 6.2.23 | |
| | | integrity of floor control | | |
| | | signalling is required on | | |
| month six off and to a six and the six of | too MODIT O | the MCPTT group | TO 00 000 1001 | |
| mcpttgi:off-network-ProSe- | tsc_MCPTT_Group_A_ | Indicates the Prose | TS 23.303 [68] | |
| layer-2-group-id | ProSeLayer2GroupID | layer-2 group ID | TS 24.483 [13] | |
| | #2 2 2 2 F | | clause 6.2.27 | |
| mcpttgi:off-network-IP- | "0.0.0.0" | Indicates the ProSe | TS 23.303 [68] | |
| multicast-address | | group IP multicast | TS 24.483 [13] | |
| | | address;the IP version | clause 6.2.28 | |
| | | is implicitly given by the | | |
| | | notation of the IP | | |
| | | | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------------------|---------------|--------------------------|----------------|-----------|
| mcpttgi:off-network-ProSe- | "123456" | Indicates the | TS 23.303 [68] | |
| relay-service-code | | connectivity service | TS 24.483 [13] | |
| | | that the ProSe UE-to- | clause 6.2.29 | |
| | | network relay provides | | |
| | | to public safety | | |
| | | applications | | |
| mcpttgi:off-network-in- | "PT18H12M15S" | Indicates the timeout | TS 24.483 [13] | |
| progress-emergency-state- | | value for the | clause 6.2.31 | |
| cancellation-timeout | | cancellation of an in | | |
| | | progress emergency for | | |
| | | an MCPTT group call. | | |
| | | "PT18H12M15S" | | |
| | | corresponds to 65535 | | |
| | | seconds what is | | |
| | | maximum allowed | | |
| | | value according to | | |
| | | TS 24.483 [13] | | |
| mcpttgi:off-network-in- | "PT18H12M15S" | Indicates the timeout | TS 24.483 [13] | |
| progress-imminent-peril-state- | | value for the | clause 6.2.32 | |
| cancellation-timeout | | cancellation of an in | | |
| | | progress imminent peril | | |
| | | for an MCPTT group | | |
| | | call. "PT18H12M15S" | | |
| | | corresponds to 65535 | | |
| | | seconds what is | | |
| | | maximum allowed | | |
| | | value according to | | |
| | | TS 24.483 [13] | | |
| mcpttgi:off-network-hang- | "PT5S" | Indicates the group call | TS 24.483 [13] | |
| timer | | hang timer. "PT5S" | clause 6.2.33 | |
| | | corresponds to 5 | | |
| | | seconds | | |
| mcpttgi:off-network- | "PT1M" | Indicates the max | TS 24.483 [13] | |
| maximum-duration | | duration of group calls. | clause 6.2.34 | |
| | | "PT1M" corresponds to | | |
| | | 1 minute | | |
| mcpttgi:off-network-queue- | "true" | Indicates if queuing is | TS 24.483 [13] | |
| usage | | enabled or not | clause 6.2.34A | |
| mcpttgi:off-network-ProSe- | "1" | Indicates the default | TS 24.483 [13] | |
| signalling-PPPP | | ProSe Per-Packet | clause 6.2.36 | |
| | | Priority (PPPP) value | | |
| mcpttgi:off-network-ProSe- | "1" | Indicates the default | TS 24.483 [13] | |
| media-PPPP | | ProSe Per-Packet | clause 6.2.37 | |
| | | Priority (PPPP) value | | |
| mcpttgi:off-network-ProSe- | "8" | Indicates the default | TS 24.483 [13] | |
| emergency-call-signalling- | | ProSe Per-Packet | clause 6.2.38 | |
| PPPP | | Priority (PPPP) value | | |
| mcpttgi:off-network-ProSe- | "8" | Indicates the default | TS 24.483 [13] | |
| emergency-call-media-PPPP | | ProSe Per-Packet | clause 6.2.39 | |
| | | Priority (PPPP) value | | |
| mcpttgi:off-network-ProSe- | "7" | Indicates the default | TS 24.483 [13] | |
| imminent-peril-call-signalling- | | ProSe Per-Packet | clause 6.2.40 | |
| PPPP | | Priority (PPPP) value | | |
| mcpttgi:off-network-ProSe- | "7" | Indicates the default | TS 24.483 [13] | |
| imminent-peril-call-media- | | ProSe Per-Packet | clause 6.2.41 | |
| PPPP | | Priority (PPPP) value | | |

5.5.7.2 MCVideo Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7, single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 6.

Table 5.5.7.1-1: MCVideo Group Configuration Defaults

| Derivation Path: TS 24.481 [11] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|---------------------------------|-----------|
| list-service[1] | | Group 1 | | |
| uri attribute | px_MCVideo_Group_A _ID | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 | TS 24.483 [13] clause 6.2.7 | |
| display-name | px_MCVideo_Group_A _Name | Value is a <display- name> element specified in OMA OMA- TS-XDM_Group-V1_1</display- | TS 24.483 [13] clause 6.2.8 | |
| list | | · | | |
| entry[1] | | group member 1 | | |
| uri attribute | px_MCVideo_ID_User_ A | Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "3" | Indicates the user priority of the MCVideo group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCVideo_User_A_ ParticipantType | Participant type of the MCVideo group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcvideo-mcvideo-id | | | | |
| uri attribute | px_MCVideo_ID_User_ A | | | |
| entry[2] | px_MCVideo_ID_User_ | Group member 2 Indicates an MCVideo | TS 24.483 [13] | |
| | В | user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user | clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "2" | Indicates the user priority of the MCVideo group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCVideo_User_B_ ParticipantType | Participant type of the MCVideo group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcvideo-mcvideo-id | | | | |
| uri attribute | px_MCVideo_ID_User_ B | | | |
| entry[3] | | Group member 3 | | |
| uri attribute | px_MCVideo_ID_User_ C | Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user | TS 24.483 [13] clause 6.2.11 | |
| | | 1010 01000 0001 | | |
| display-name | Not present | | | |
| display-name mcpttgi:user-priority | Not present | Indicates the user priority of the MCVideo group member | TS 24.483 [13] clause 6.2.12 | |
| | | Indicates the user priority of the MCVideo | | |
| mcpttgi:user-priority | px_MCVideo_User_C_ ParticipantType | Indicates the user priority of the MCVideo group member Participant type of the | clause 6.2.12 TS 24.483 [13] | |
| mcpttgi:user-priority mcpttgi:participant-type | "1" px_MCVideo_User_C_ | Indicates the user priority of the MCVideo group member Participant type of the | clause 6.2.12 TS 24.483 [13] | |
| mcpttgi:user-priority mcpttgi:participant-type rl:mcvideo-mcvideo-id | px_MCVideo_User_C_ ParticipantType px_MCVideo_ID_User_ | Indicates the user priority of the MCVideo group member Participant type of the | clause 6.2.12 TS 24.483 [13] | |
| mcpttgi:user-priority mcpttgi:participant-type rl:mcvideo-mcvideo-id uri attribute | px_MCVideo_User_C_ ParticipantType px_MCVideo_ID_User_ | Indicates the user priority of the MCVideo group member Participant type of the | clause 6.2.12 TS 24.483 [13] | |

| Derivation Path: TS 24.481 [11] c | lause 7.2.2 | | | |
|--|---|---|---------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcpttgi:on-network-allow- getting-member-list | "true" | Indicates that the identity is allowed to | | |
| | | get the MCS group | | |
| | | member list of the MCS | | |
| | | group in on-network | | |
| mcpttgi:mcvideo-allow- | "true" | procedures. Indicates that the | | |
| emergency-call | liuo | identity is allowed to | | |
| 3 | | request an MCVideo- | | |
| | | emergency call on the | | |
| and the base of the second | 114 II | MCVideo group. | | |
| mcpttgi:mcvideo-allow- emergency-alert | "true" | Indicates that the identity is allowed to | | |
| emergency diere | | request an MCVideo- | | |
| | | emergency alert on the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-allow- | "true" | Indicates that the | | |
| imminent-peril-call | | identity is allowed to | | |
| | | request an MCVideo imminent peril call on | | |
| | | the MCVideo group. | | |
| mcpttgi:mcvideo-on- | "true" | Indicates that the | | |
| network-allow-conference-state | | identity is allowed to | | |
| | | subscribe to the | | |
| | | conference event | | |
| | | package of an MCVideo group | | |
| | | session of the MCVideo | | |
| | | group in on-network | | |
| | | MCVideo procedures. | | |
| mcpttgi:mcvideo-on- | "true" | Indicates that the | | |
| network-allow-getting-affiliation- | | identity is allowed to | | |
| list | | get the list of MCVideo users affiliated to the | | |
| | | MCVideo group in on- | | |
| | | network MCVideo | | |
| | | procedures. | | |
| oxe:supported-services | | | | |
| oxe:service oxe:enabler | "urn:urn-7:3gpp- | String defining an | | |
| oxe.enablei | service.ims.icsi.mcvide | enabler | | |
| | 0" | onabioi | | |
| oxe:group-media | | | | |
| oxe:mcvideo-video-media | | | | |
| mcpttgi:off-network-ProSe- | tsc_MCPTT_Group_A_ | Indicates the Prose | TS 23.303 [68] | |
| layer-2-group-id | ProSeLayer2GroupID | layer-2 group ID | TS 24.483 [13] clause 6.2.27 | |
| mcpttgi:off-network-IP- | "0.0.0.0" | Indicates the ProSe | TS 23.303 [68] | |
| multicast-address | 3.0.0.0 | group IP multicast | TS 24.483 [13] | |
| | | address;the IP version | clause 6.2.28 | |
| | | is implicitly given by the | | |
| | | notation of the IP | | |
| mcpttgi:off-network-ProSe- | "123456" | address Indicates the | TS 23.303 [68] | |
| relay-service-code | 120400 | connectivity service | TS 24.483 [13] | |
| , | | that the ProSe UE-to- | clause 6.2.29 | |
| | | network relay provides | | |
| | | to public safety | | |
| monttoi.ov. | my MOVERT - C | applications | TO 04 400 [46] | |
| mcpttgi:owner | px_MCVideo_Group_A _Owner_Organization | Group's owner (Mission Critical Organisation). | TS 24.483 [13] | |
| mcpttgi:level-within-group- | _Owner_Organization | Indicates the level | clause 6.2.15 TS 24.483 [13] | |
| hierarchy | | within a group | clause 6.2.17 | |
| , | | hierarchy (only | | |
| | | applicable for group- | | |
| | | broadcast group). | | |

| Information Element mcpttgi:level-within-user- nierarchy mcpttgi:mcvideo-on- network-invite-members mcpttgi:mcvideo-on- network-maximum-duration | Value/remark "0" "true" | Indicates the level within user hierarchy (only applicable for | Reference TS 24.483 [13] clause 6.2.18 | Condition |
|--|-------------------------|---|--|-----------|
| mcpttgi:mcvideo-on- network-invite-members mcpttgi:mcvideo-on- | | within user hierarchy (only applicable for | | |
| mcpttgi:mcvideo-on- network-invite-members mcpttgi:mcvideo-on- | "true" | (only applicable for | 0.0000 0.2.10 | |
| network-invite-members mcpttgi:mcvideo-on- | "true" | | | |
| network-invite-members mcpttgi:mcvideo-on- | "true" | user-broadcast group). | | |
| mcpttgi:mcvideo-on- | | | | |
| | | | | |
| network-maximum-duration | "1800" | Indicates the max | TS 24.483 [13] | |
| | | duration of MCVideo | clause 6.2.56 | |
| | | group calls. | | |
| mcpttgi:mcvideo-urgent-real- | "true" | Indicates that urgent | | |
| ime-video-mode | | real-time video mode is | | |
| | | allowed for the MCVideo group. | | |
| mcpttgi:mcvideo-non-urgent- | "true" | indicates that non | | |
| eal-time-video-mode | แนธ | urgent real-time video | | |
| | | mode is allowed for the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-non-real- | "true" | indicates that non real- | | |
| ime-video-mode | | time video mode is | | |
| | | allowed for the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-active-real- | "non-urgent-real-time" | Indicates the the active | | |
| ime-video-mode | | real time video mode of | | |
| | | the current group | | |
| | | session | | |
| mcpttgi:mcvideo-maximum- simultaneous-mcvideo- | "1" | Indicates the allowed | | |
| ransmitting-group-members | | maximum number of simultaneous | | |
| ransmitting-group-members | | transmitting MCVideo | | |
| | | Group Members. | | |
| mcpttgi:mcvideo-on- | "1" | Indicates the minimum | | |
| network-minimum-number-to- | | number of affiliated | | |
| start | | group members | | |
| | | acknowledging before | | |
| | | start of video | | |
| | | transmission specified | | |
| | | in 3GPP TS 23.281 [24] | | |
| | | in on-network MCVideo | | |
| mcpttgi: mcvideo-on- | "1" | procedures. Indicates the priority | | |
| | | 1 | | |
| network-group-priority | | level of the group in on- network MCVideo | | |
| | | procedures. Higher | | |
| | | value indicates higher | | |
| | | priority. Absence of the | | |
| | | <mcvideo-on-network-< td=""><td></td><td></td></mcvideo-on-network-<> | | |
| | | group-priority> element | | |
| | | of the <list-service></list-service> | | |
| | | element of the | | |
| | | MCVideo group | | |
| | | document indicates the | | |
| mcpttgi:mcvideo-off- | "self" | Iowest possible priority. This leaf node indicates | TS 24.483 [13] | |
| network-arbitration-approach | 3511 | the arbitration approach | clause 6.2.47 | |
| .o.work arbitration-approach | | used for off-network | 514450 0.2.77 | |
| | | video tranmissions on | | |
| | | the group. | | |
| mcpttgi:mcvideo-off- | "1" | indicates maximum | TS 24.483 [13] | |
| network-maximum- | | number of | clause 6.2.48 | |
| simultaneous-transmissions | | simultaneous | | |
| | | transmissions for off- | | |
| | | network MCVideo | | |
| | 11411 | procedures. | TO 04 400 1101 | |
| mcpttgi:mcvideo-off- | "1" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-signalling- PPPP | | ProSe Per-Packet Priority (PPPP) value | clause 6.2.50 | |

| Derivation Path: TS 24.481 [11] o | lause 7.2.2 Value/remark | Comment | Reference | Condition |
|---|-----------------------------|--|------------------------------|-----------|
| mcpttgi:mcvideo-off- | "8" | Indicates the default | TS 24.483 [13] | Condition |
| network-ProSe-emergency- | | ProSe Per-Packet | clause 6.2.52 | |
| call-signalling-PPPP | | Priority (PPPP) value | | |
| | | (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | emerency group call | | |
| manttali mavidas off | "7" | signalling. Indicates the default | TC 04 400 [40] | |
| mcpttgi:mcvideo-off- network-ProSe-imminent- | / | ProSe Per-Packet | TS 24.483 [13] clause 6.2.54 | |
| peril-call-signalling-PPPP | | Priority (PPPP) value | Clause 0.2.54 | |
| pom oun orginaming i i i i | | (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | imminent peril group | | |
| | | call signalling. | | |
| mcpttgi:mcvideo-off- | "1" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-media-PPPP | | ProSe Per-Packet | clause 6.2.51 | |
| mcpttgi:mcvideo-off- | "8" | Priority (PPPP) value | TS 24.483 [13] | |
| network-ProSe-emergency- | o o | | clause 6.2.53 | |
| call-media-PPPP | | | 0.2.00 | |
| mcpttgi:mcvideo-off- | "7" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-imminent- | | ProSe Per-Packet | clause 6.2.55 | |
| peril-call-media-PPPP | | Priority (PPPP) value | | |
| | | (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | imminent peril group call media. | | |
| mcpttgi:mcvideo-off- | "60 | Indicates the maximum | | |
| network-maximum-duration | 30 | duration of group calls | | |
| mcpttgi:mcvideo-off- | "65535" | Indicates the timeout | | |
| network-in-progress- | | value for the | | |
| emergency-state-cancellation- | | cancellation of an in | | |
| timeout | | progress emergency in | | |
| | | off-network MCVideo | | |
| mcpttgi:mcvideo-off- | "65535" | procedures Indicates the timeout | | |
| network-in-progress- | 00000 | value for the | | |
| imminent-peril-state- | | cancellation of an in | | |
| cancellation-timeout | | progress imminent-peril | | |
| | | group call in off- | | |
| | | network MCVideo | | |
| | | procedures | | |
| list-service[2] | | Group 2 | | |
| uri attribute | px_MCVideo_Group_D | Value is a "uri" attribute | TS 24.483 [13] | |
| | _ID | specified in OMA OMA- | clause 6.2.7 | |
| display-name | px_MCVideo_Group_D | TS-XDM_Group-V1_1 Value is a <display-< td=""><td>TS 24.483 [13]</td><td></td></display-<> | TS 24.483 [13] | |
| alopidy Hullie | _Name | name> element | clause 6.2.8 | |
| | | specified in OMA OMA- | 3.2200 0.2.0 | |
| | | TS-XDM_Group-V1_1 | | |
| list | | | | |
| entry[1] | | group member 1 | | |
| uri attribute | px_MCVideo_ID_User_ | Indicates an MCVideo | TS 24.483 [13] | |
| | A | user identity (MCVideo | clause 6.2.11 | |
| | | ID) which is a globally | | |
| | | unique identifier within the MCVideo service | | |
| | | that represents the | | |
| | | MCVideo user | | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "3" | Indicates the user | TS 24.483 [13] | |
| | • | | | |
| mopagacor phoney | | priority of the MCVideo group member | clause 6.2.12 | |

| Derivation Path: TS 24.481 [11] o | Value/remark | Comment | Reference | Condition |
|---|---------------------|--|----------------|-----------|
| mcpttgi:participant-type | px_MCVideo_User_A_ | Participant type of the | TS 24.483 [13] | Condition |
| moptigi.participant-type | ParticipantType | MCVideo group | clause 6.2.13 | |
| rl:mcvideo-mcvideo-id | 1 amorpanii ype | ine ridee greap | 0.0000 0.2.10 | |
| uri attribute | px_MCVideo_ID_User_ | | | |
| | A | | | |
| entry[2] | | Group member 2 | | |
| uri attribute | px_MCVideo_ID_User_ | Indicates an MCVideo | TS 24.483 [13] | |
| | В | user identity (MCVideo | clause 6.2.11 | |
| | | ID) which is a globally | | |
| | | unique identifier within | | |
| | | the MCVideo service | | |
| | | that represents the | | |
| dianlay nama | Not propert | MCVideo user | | |
| display-name mcpttgi:user-priority | Not present | Indicates the user | TS 24.483 [13] | |
| moptigi.user-priority | 2 | priority of the MCVideo | clause 6.2.12 | |
| | | group member | Clause 0.2.12 | |
| mcpttgi:participant-type | px_MCVideo_User_B_ | Participant type of the | TS 24.483 [13] | |
| mopaga.paraoipana typo | ParticipantType | MCVideo group | clause 6.2.13 | |
| rl:mcvideo-mcvideo-id | | 3 | | |
| uri attribute | px_MCVideo_ID_User_ | | | |
| | B = = = = | | | |
| cp:ruleset | | | | |
| cp:rule | | | | |
| cp:id attribute | "rule2" | | | |
| cp:actions | | | | |
| mcpttgi:on-network-allow- | "true" | Indicates that the | | |
| getting-member-list | | identity is allowed to | | |
| | | get the MCS group | | |
| | | member list of the MCS | | |
| | | group in on-network procedures. | | |
| mcpttgi:mcvideo-allow- | "false" | Indicates that the | | |
| emergency-call | laise | identity is not allowed | | |
| omergency can | | to request an MCVideo- | | |
| | | emergency call on the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-allow- | "false" | Indicates that the | | |
| emergency-alert | | identity is not allowed | | |
| | | to request an MCVideo- | | |
| | | emergency alert on the | | |
| and and the state of the state | | MCVideo group. | | |
| mcpttgi:mcvideo-allow- | "false" | Indicates that the | | |
| imminent-peril-call | | identity is not allowed | | |
| | | to request an MCVideo imminent peril call on | | |
| | | the MCVideo group. | | |
| mcpttgi:mcvideo-on- | "false" | Indicates that the | | |
| network-allow-conference-state | | identity is not allowed | | |
| 2 | | to subscribe to the | | |
| | | conference event | | |
| | | package of an | | |
| | | MCVideo group | | |
| | | session of the MCVideo | | |
| | | group in on-network | | |
| m onttolers suide s | "foloo" | MCVideo procedures. | | |
| mcpttgi:mcvideo-on- | "false" | Indicates that the | | |
| network-allow-getting-affiliation- list | | identity is not allowed to get the list of | | |
| not | | MCVideo users | | |
| | | affiliated to the | | |
| | | MCVideo group in on- | | |
| | | network MCVideo | | |
| | | procedures. | | |
| | | | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---|---|--|---------------------------------|-----------|
| oxe:service | | | | |
| oxe:enabler | "urn:urn-7:3gpp- service.ims.icsi.mcvide o" | String defining an enabler | | |
| oxe:group-media | | | | |
| oxe:mcvideo-video-media | | | | |
| mcpttgi:off-network-ProSe- | tsc_MCPTT_Group_D_ | Indicates the Prose | TS 23.303 [68] | |
| layer-2-group-id | ProSeLayer2GroupID | layer-2 group ID | TS 24.483 [13] | |
| mcpttgi:off-network-IP- | "0.0.0.0" | Indicates the ProSe | clause 6.2.27 TS 23.303 [68] | |
| multicast-address | 0.0.0.0 | | | |
| municasi-address | | group IP multicast address;the IP version is implicitly given by the notation of the IP | TS 24.483 [13] clause 6.2.28 | |
| | " | address | | |
| mcpttgi:off-network-ProSe- | "123456" | Indicates the | TS 23.303 [68] | |
| relay-service-code | | connectivity service | TS 24.483 [13] | |
| | | that the ProSe UE-to- | clause 6.2.29 | |
| | | network relay provides | | |
| | | to public safety | | |
| monttailoures | ny MOVidee O | applications | TC 04 400 [40] | |
| mcpttgi:owner | px_MCVideo_Group_D Owner_Organization | Group's owner (Mission Critical Organisation). | TS 24.483 [13] clause 6.2.15 | |
| manttaileval within aroun | "0" | Indicates the level | TS 24.483 [13] | |
| mcpttgi:level-within-group- | 0 | | clause 6.2.17 | |
| hierarchy | | within a group | clause 6.2.17 | |
| | | hierarchy (only | | |
| | | applicable for group- | | |
| manttairleval within user | "0" | broadcast group). | TC 04 400 [40] | |
| mcpttgi:level-within-user- | "0" | Indicates the level | TS 24.483 [13] | |
| hierarchy | | within user hierarchy | clause 6.2.18 | |
| | | (only applicable for user-broadcast group). | | |
| mcpttgi:mcvideo-on- | "true" | user-broadcast group). | | |
| network-invite-members | lide | | | |
| mcpttgi:mcvideo-on- | "1800" | Indicates the max | TS 24.483 [13] | |
| network-maximum-duration | 1000 | duration of MCVideo | clause 6.2.56 | |
| network maximum duration | | group calls. | Clause 0.2.50 | |
| mcpttgi:mcvideo-urgent-real- | "true" | Indicates that urgent | | |
| time-video-mode | ildo | real-time video mode is | | |
| Tidde filodo | | allowed for the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-non-urgent- | "true" | indicates that non | | |
| real-time-video-mode | | urgent real-time video | | |
| | | mode is allowed for the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-non-real- | "true" | indicates that non real- | | |
| time-video-mode | | time video mode is | | |
| | | allowed for the | | |
| | | MCVideo group. | | |
| mcpttgi:mcvideo-active-real- | "non-urgent-real-time" | Indicates the the active | | |
| time-video-mode | | real time video mode of | | |
| | | the current group | | |
| | | session | | |
| | "1" | Indicates the allowed | | |
| mcnttgi:mcvideo-maximum- | | aioatoo tiio allowed | I | İ |
| mcpttgi:mcvideo-maximum- simultaneous-mcvideo- | | maximum number of | | |
| simultaneous-mcvideo- | | maximum number of simultaneous | | |
| | | maximum number of simultaneous transmitting MCVideo | | |

| Derivation Path: TS 24.481 [11] o | | 0.5 | Defe | 0 1141 |
|--|--------------|---|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcpttgi:mcvideo-on- | "1" | Indicates the minimum | | |
| network-minimum-number-to- start | | number of affiliated | | |
| Start | | group members | | |
| | | acknowledging before start of video | | |
| | | transmission specified | | |
| | | in 3GPP TS 23.281 [24] | | |
| | | in on-network MCVideo | | |
| | | procedures. | | |
| mcpttgi:mcpttgi: mcvideo- | "1" | Indicates the priority | | |
| on-network-group-priority | ' | level of the group in on- | | |
| on notino in group priority | | network MCVideo | | |
| | | procedures. Higher | | |
| | | value indicates higher | | |
| | | priority. Absence of the | | |
| | | <mcvideo-on-network-< td=""><td></td><td></td></mcvideo-on-network-<> | | |
| | | group-priority> element | | |
| | | of the <list-service></list-service> | | |
| | | element of the | | |
| | | MCVideo group | | |
| | | document indicates the | | |
| | | lowest possible priority. | | |
| mcpttgi:mcvideo-off- | "self" | This leaf node indicates | TS 24.483 [13] | |
| network-arbitration-approach | | the arbitration approach | clause 6.2.47 | |
| | | used for off-network | | |
| | | video tranmissions on | | |
| | | the group. | | |
| mcpttgi:mcvideo-off- | "1" | indicates maximum | TS 24.483 [13] | |
| network-maximum- | | number of | clause 6.2.48 | |
| simultaneous-transmissions | | simultaneous | | |
| | | transmissions for off- | | |
| | | network MCVideo | | |
| | | procedures. | | |
| mcpttgi:mcvideo-off- | "1" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-signalling- | | ProSe Per-Packet | clause 6.2.50 | |
| PPPP | 101 | Priority (PPPP) value | TO 0.4.400 [40] | |
| mcpttgi:mcvideo-off- network-ProSe-emergency- | "8" | Indicates the default | TS 24.483 [13] clause 6.2.52 | |
| call-signalling-PPPP | | ProSe Per-Packet | clause 6.2.52 | |
| call-signalling-PPP | | Priority (PPPP) value (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | emerency group call | | |
| | | signalling. | | |
| mcpttgi:mcvideo-off- | "7" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-imminent- | ' | ProSe Per-Packet | clause 6.2.54 | |
| peril-call-signalling-PPP | | Priority (PPPP) value | 514436 U.Z.J4 | |
| porn our orginaling i i i i | | (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | imminent peril group | | |
| | | call signalling. | | |
| mcpttgi:mcvideo-off- | "1" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-media-PPPP | | ProSe Per-Packet | clause 6.2.51 | |
| | | Priority (PPPP) value | | |
| mcpttgi:mcvideo-off- | "8" | | TS 24.483 [13] | |
| network-ProSe-emergency- | | | clause 6.2.53 | |
| call-media-PPPP | | | | |
| mcpttgi:mcvideo-off- | "7" | Indicates the default | TS 24.483 [13] | |
| network-ProSe-imminent- | | ProSe Per-Packet | clause 6.2.55 | |
| peril-call-media-PPPP | | Priority (PPPP) value | | |
| | | (as specified in | | |
| | | 3GPP TS 23.303 [6]) | | |
| | | for the MCVideo | | |
| | | imminent peril group | | |
| | | call media. | | |

| Derivation Path: TS 24.481 [11] cl | Derivation Path: TS 24.481 [11] clause 7.2.2 | | | | | |
|---|--|---|-----------|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| mcpttgi:mcvideo-off- network-maximum-duration | "60 | Indicates the maximum duration of group calls | | | | |
| mcpttgi:mcvideo-off- network-in-progress- emergency-state-cancellation- timeout | "65535" | Indicates the timeout value for the cancellation of an in progress emergency in off-network MCVideo procedures | | | | |
| mcpttgi:mcvideo-off- network-in-progress- imminent-peril-state- cancellation-timeout | "65535" | Indicates the timeout value for the cancellation of an in progress imminent-peril group call in offnetwork MCVideo procedures | | | | |

5.5.7.3 MCDATA Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7.

Single MCDATA group configuration parameters are defined in TS 24.483 [13] clause 6.3.

Table 5.5.7.3-1: MCDATA Group Configuration Defaults

| Information Element | Value/remark | Comment | Reference | Condition |
|--------------------------|---|---|---------------------------------|-----------|
| list-service[1] | | Group 1 | | |
| uri attribute | px_MCDATA_Group_A _ID | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 | TS 24.483 [13] clause 6.2.7 | |
| display-name | px_MCData _Group_A_Name | Value is a <display- name> element specified in OMA OMA- TS-XDM_Group-V1_1</display- | TS 24.483 [13] clause 6.2.8 | |
| list | | | | |
| entry[1] | | group member 1 | | |
| uri attribute | px_MCData_ID_User_ A | Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "3" | Indicates the user priority of the MCData group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCData _User_A_ParticipantTy pe | Participant type of the MCData group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcdata-mcdata-id | | | | |
| uri attribute | px_MCData_ID_User_ A | | | |
| entry[2] | | Group member 2 | | |
| uri attribute | px_MCData_ID_User_ B | Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | | |
| mcpttgi:user-priority | "2" | Indicates the user priority of the MCData group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCData _User_B_ParticipantTy pe | Participant type of the MCData group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcdata-mcdata-id | <u> </u> | | | |
| uri attribute | px_MCData_ID_User_ B | | TS 24.483 [13] clause 6.2.11 | |
| entry[3] | | Group member 3 | | |
| uri attribute | px_MCData_ID_User_ C | Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | I P (d | TO 0 4 400 7:10 | |
| mcpttgi:user-priority | "1" | Indicates the user priority of the MCData group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCData _User_C_ParticipantTy _pe | Participant type of the MCData group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcdata-mcdata-id | | | | |
| uri attribute | px_MCData_ID_User_ C | | TS 24.483 [13] clause 6.2.11 | |
| cp:ruleset | | | | |

| Derivation Path: TS 24.481 [11] c | | | | |
|---|--|---|---------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| cp:id attribute | "rule1" | | | |
| cp:actions | | | | |
| mcpttgi:on-network-allow- | "true" | Indicates that the | | |
| getting-member-list | | identity is allowed to | | |
| | | get the MCS group | | |
| | | member list of the MCS | | |
| | | group in on-network | | |
| | | procedures. | | |
| mcpttgi:mcdata-on- | "true" | Indicates that the | | |
| network-allow-getting-affiliation- | | identity is allowed to | | |
| list | | get the list of MCData | | |
| | | users affiliated to the | | |
| | | MCData group in on- | | |
| | | network MCData | | |
| <i>u</i> : 1 | | procedures | | |
| mcpttgi:mcdata-allow- | "true" | Indicates that the | | |
| transmit-data-in-this-group | | identity is allowed to | | |
| | | transmit data in this | | |
| eversupported consists | | group | | |
| oxe:supported-services | | | | |
| oxe:service | " | Ctring defining | | |
| oxe:enabler | "urn:urn-7:3gpp- service.ims.icsi.mcdata. | String defining an | | |
| | | enabler | | |
| mcpttgi:off-network-ProSe- | sds" tsc_MCPTT_Group_A_ | Indicates the Prose | TC 22 202 [C0] | |
| | | | TS 23.303 [68] | |
| layer-2-group-id | ProSeLayer2GroupID | layer-2 group ID | TS 24.483 [13] | |
| mcpttgi:off-network-IP- | "0.0.0.0" | Indicates the ProSe | clause 6.2.27 TS 23.303 [68] | |
| multicast-address | 0.0.0.0 | group IP multicast | TS 24.483 [13] | |
| manicasi-audicss | | address;the IP version | clause 6.2.28 | |
| | | is implicitly given by the | Clause 0.2.20 | |
| | | notation of the IP | | |
| | | address | | |
| mcpttgi:off-network-ProSe- | "123456" | Indicates the | TS 23.303 [68] | |
| relay-service-code | 1 - 3 - 3 - 3 | connectivity service | TS 24.483 [13] | |
| | | that the ProSe UE-to- | clause 6.2.29 | |
| | | network relay provides | | |
| | | to public safety | | |
| | | applications | | |
| mcpttgi:owner | px_MCData_Group_A_ | Group's owner (Mission | TS 24.483 [13] | |
| | Owner_Organization | Critical Organisation). | clause 6.2.15 | |
| mcpttgi:level-within-group- | "0" | Indicates the level | TS 24.483 [13] | |
| hierarchy | | within a group | clause 6.2.17 | |
| | | hierarchy (only | | |
| | | applicable for group- | | |
| | | broadcast group). | | |
| mcpttgi:level-within-user- | "0" | Indicates the level | TS 24.483 [13] | |
| hierarchy | | within user hierarchy | clause 6.2.18 | |
| | | (only applicable for | | |
| and and the state of the state | 11411 | user-broadcast group). | | |
| mcpttgi:mcpttgi:mcdata-on- | "1" | Indicates the priority | | |
| network-group-priority | | level of the group in on- | | |
| | | network MCData | | |
| | | procedures. Higher | | |
| | | value indicates higher | | |
| monttairmodata an natura-l- | "10000" | priority Indicates the maximum | | |
| mcpttgi:mcdata-on-network- | 10000 | | | |
| max-data-size-for-SDS | | size of data (in bytes) | | |
| | | that the originating | | |
| | | MCData client is allowed to send to the | | |
| | | MCData server for on- | | |
| | | network SDS | | |
| | | communications | | |
| | l . | Communications | <u> </u> | |

| Derivation Path: TS 24.481 [11] o | | C | Deference | Condition |
|--|-----------------------|--|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcpttgi:mcdata-on-network- | "10000" | Indicates the maximum | | |
| max-data-size-for-FD | | size of data (in bytes) | | |
| | | that the originating | | |
| | | MCData client is | | |
| | | allowed to send to the | | |
| | | MCData server for on- | | |
| | | network FD | | |
| | 100001 | communications | | |
| mcpttgi:mcdata-on-network- | "2000" | Indicates the maximum | | |
| max-data-size-auto-recv | | size of data (in bytes) | | |
| | | which the MCData | | |
| | | server always requests | | |
| | | the terminating MCData | | |
| | | client to automatically | | |
| | | download for on- | | |
| | | network FD | | |
| | | communications using | | |
| manufathan state of | | HTTP | | |
| mcpttgi:mcdata-off-network- | "1" | Indicates the ProSe | | |
| ProSe-signalling-PPPP | | Per-Packet Priority | | |
| | | value to be used when | | |
| | | transmitting IP packets | | |
| | | carrying signalling for a | | |
| | | call on the MCData | | |
| | | group in off-network | | |
| | "1" | MCData procedures | | |
| mcpttgi:mcdata-off-network- ProSe-media-PPPP | "1" | Indicates the ProSe | | |
| Prose-media-PPPP | | Per-Packet Priority | | |
| | | value to be used when | | |
| | | transmitting IP packets | | |
| | | carrying media for a call on the MCData | | |
| | | | | |
| | | group in off-network | | |
| liet convice[2] | | MCData procedures | | |
| list-service[2] uri attribute | THE MCDATA Crown D | Group 2 Value is a "uri" attribute | TC 04 400 [40] | |
| uri attribute | px_MCDATA_Group_D | | TS 24.483 [13] clause 6.2.7 | |
| | _ID | specified in OMA OMA- | clause 6.2.7 | |
| diamin, name | MOD-t- | TS-XDM_Group-V1_1 | TO 04 400 [40] | |
| display-name | px_MCData | Value is a <display-< td=""><td>TS 24.483 [13]</td><td></td></display-<> | TS 24.483 [13] | |
| | _Group_D_Name | name> element | clause 6.2.8 | |
| | | specified in OMA OMA- TS-XDM_Group-V1_1 | | |
| liet | + | 13-VDINI_GLOUD-A I_1 | | |
| list entry[1] | | group member 4 | | |
| entry[1] uri attribute | ny MCDate ID Has : | group member 1 Indicates an MCData | TC 04 400 [40] | |
| un สแทยน เ ย | px_MCData_ID_User_ | | TS 24.483 [13] clause 6.2.11 | |
| | A | user identity (MCData | ciause 6.2.11 | |
| | | ID) which is a globally unique identifier within | | |
| | | the MCData service | | |
| | | | | |
| | | that represents the MCData user | | |
| dieplay nama | Not procept | IVICDAIA USEI | | |
| display-name | Not present | Indicator the user | TC 04 400 [40] | |
| mcpttgi:user-priority | ٥ | Indicates the user | TS 24.483 [13] | |
| | | priority of the MCData | clause 6.2.12 | |
| monttainartisinart tura | ny MCData | group member | TC 04 400 [40] | |
| mcpttgi:participant-type | px_MCData | Participant type of the | TS 24.483 [13] | |
| | _User_A_ParticipantTy | MCData group | clause 6.2.13 | |
| whose selection and all the selections are selected as the selection and the selection and the selection and the selection are selected as the selection and the selection are selected as the selection and the selection are selected as the selected are selected are selected as the selected are selected are selected are selected are selec | pe | | | |
| rl:mcdata-mcdata-id | MOD : ID !! | | | |
| uri attribute | px_MCData_ID_User_ | | | |
| | A | I | | |
| entry[2] | | Group member 2 | | |

| Derivation Path: TS 24.481 [11] c | Value/remark | Comment | Reference | Condition |
|--|--|---|---|-----------|
| uri attribute | px_MCData_ID_User_ B | Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user | TS 24.483 [13] clause 6.2.11 | |
| display-name | Not present | | TO 04 400 [40] | |
| mcpttgi:user-priority | _ | Indicates the user priority of the MCData group member | TS 24.483 [13] clause 6.2.12 | |
| mcpttgi:participant-type | px_MCData _User_B_ParticipantTy pe | Participant type of the MCData group | TS 24.483 [13] clause 6.2.13 | |
| rl:mcdata-mcdata-id | | | | |
| uri attribute | px_MCData_ID_User_ B | | TS 24.483 [13] clause 6.2.11 | |
| cp:ruleset | | | | |
| cp:rule | | | | |
| cp:id attribute | "rule2" | | | |
| cp:actions | | | | |
| mcpttgi:on-network-allow- getting-member-list | "true" | Indicates that the identity is allowed to get the MCS group member list of the MCS group in on-network procedures. | | |
| mcpttgi:mcdata-on- network-allow-getting-affiliation- list | "false" | Indicates that the identity is allowed to get the list of MCData users affiliated to the MCData group in onnetwork MCData procedures | | |
| mcpttgi:mcdata-allow- transmit-data-in-this-group | "true" | Indicates that the identity is allowed to transmit data in this group | | |
| oxe:supported-services | | | | |
| oxe:service | | | | |
| oxe:enabler | "urn:urn-7:3gpp- service.ims.icsi.mcdata. sds" | String defining an enabler | | |
| mcpttgi:off-network-ProSe- layer-2-group-id | tsc_MCPTT_Group_D_ ProSeLayer2GroupID | Indicates the Prose layer-2 group ID | TS 23.303 [68] TS 24.483 [13] clause 6.2.27 | |
| mcpttgi:off-network-IP- multicast-address | "0.0.0.0" | Indicates the ProSe group IP multicast address;the IP version is implicitly given by the notation of the IP address | TS 23.303 [68] TS 24.483 [13] clause 6.2.28 | |
| mcpttgi:off-network-ProSe- relay-service-code | "123456" | Indicates the connectivity service that the ProSe UE-to-network relay provides to public safety applications | TS 23.303 [68] TS 24.483 [13] clause 6.2.29 | |
| mcpttgi:owner | px_MCVideo_Group_D _Owner_Organization | Group's owner (Mission Critical Organisation). | TS 24.483 [13] clause 6.2.15 | |
| mcpttgi:level-within-group- | "0" | Indicates the level | TS 24.483 [13] | |
| hierarchy | | within a group hierarchy (only applicable for group- broadcast group). | clause 6.2.17 | |

| Derivation Path: TS 24.481 [11] c Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------|--|----------------|-----------|
| mcpttgi:level-within-user- | "O" | Indicates the level | TS 24.483 [13] | 20 |
| hierarchy | | within user hierarchy | clause 6.2.18 | |
| , | | (only applicable for | | |
| | | user-broadcast group). | | |
| mcpttgi:mcdata-on-network- | "1" | Indicates the priority | | |
| group-priority | | level of the group in on- | | |
| | | network MCData | | |
| | | procedures. Higher | | |
| | | value indicates higher | | |
| | | priority | | |
| mcpttgi:mcdata-on-network- | "10000" | Indicates the maximum | | |
| max-data-size-for-SDS | | size of data (in bytes) | | |
| | | that the originating | | |
| | | MCData client is | | |
| | | allowed to send to the | | |
| | | MCData server for on- | | |
| | | network SDS | | |
| | | communications | | |
| mcpttgi:mcdata-on-network- | "10000" | Indicates the maximum | | |
| max-data-size-for-FD | | size of data (in bytes) | | |
| | | that the originating | | |
| | | MCData client is | | |
| | | allowed to send to the | | |
| | | MCData server for on- | | |
| | | network FD | | |
| | | communications | | |
| mcpttgi:mcdata-on-network- | "2000" | Indicates the maximum | | |
| max-data-size-auto-recv | | size of data (in bytes) | | |
| | | which the MCData | | |
| | | server always requests | | |
| | | the terminating MCData | | |
| | | client to automatically | | |
| | | download for on- | | |
| | | network FD | | |
| | | communications using | | |
| | "1" | HTTP | | |
| mcpttgi:mcdata-off-network- | "T" | Indicates the ProSe | | |
| ProSe-signalling-PPPP | | Per-Packet Priority | | |
| | | value to be used when | | |
| | | transmitting IP packets | | |
| | | carrying signalling for a call on the MCData | | |
| | | | | |
| | | group in off-network | | |
| mcpttgi:mcdata-off-network- | "1" | MCData procedures Indicates the ProSe | | |
| ProSe-media-PPPP | 1 | Per-Packet Priority | | |
| 1 1006-Illeula-i FFF | | value to be used when | | |
| | | transmitting IP packets | | |
| | | carrying media for a | | |
| | | call on the MCData | | |
| | | group in off-network | | |
| | | MCData procedures | | |
| | Į. | Modala procedures | 1 | L |

5.5.8 Default MCS configuration management messages and other information elements

5.5.8.1 MCPTT Initial UE Configuration

The structure of a initial UE configuration document is specified in TS 24.484 [14] clause 7.2, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 8.2.

Table 5.5.8.1-1: MCPTT Initial UE Configuration Defaults

| Derivation Path: TS 24.484 [13], | | | | |
|----------------------------------|--------------------------------------|---|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcptt-UE-initial-configuration | 1107 5 | | | |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| Default-user-profile | not present | <u> </u> | | |
| on-network | | | | |
| Timers | | | | |
| T100 | "2" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.11 | |
| T101 | "2" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.12 | |
| T103 | "5" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.13 | |
| T104 | "2" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] | |
| T132 | "3" | Values 0-255 sec | Clause 8.2.14 TS 24.380 [10] TS 24.483 [13] clause 8.2.15 | |
| HPLMN | | | | |
| PLMN attribute | PLMN1 | the PLMN on which the UE is allowed for MCPTT services. Public Land Mobile | TS 23.003 [69] TS 24.483 [13] clause 8.2.16 | |
| | | Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the operator. | | |
| | | NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing. | | |
| service | | MCPTT related services on a per HPLMN basis | | |
| MCPTT-to-con-ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MCPTT service | TS 24.483 [13] clause 8.2.21 | |
| MC-common-core-to-con- ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MC common core service | TS 24.483 [13] clause 8.2.24 | |
| MC-ID-to-con-ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MC identity management service | TS 24.483 [13] clause 8.2.27 | |
| VPLM[1] | | | | |

| Derivation Path: TS 24.484 [13], o | | | | T - |
|------------------------------------|---|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| PLMN attribute | PLMN2 | VPLMN configuration for another PLMN which can be used by the UE to access MCPTT service | | |
| | | NOTE: PLMN2 shall be a different PLMN to PLMN1 of a Cell to which the UE will move during testing when specified in a test case. | | |
| service | | | | |
| MCPTT-to-con-ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MCPTT service | TS 24.483 [13] clause 8.2.33 | |
| MC-common-core-to-con- ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MC common core service | TS 24.483 [13] clause 8.2.36 | |
| MC-ID-to-con-ref | px_MCPTT_ALL_APN | configuration parameter for establishment of the PDN connection for the MC identity management service | TS 24.483 [13] clause 8.2.39 | |
| App-Server-Info | | | | |
| idms-auth-endpoint | "https://" & px_MCX_IdMS_auth_I PAddress & ":" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath | Identity management server authorisation endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41 | IPv4 |
| | "https://[" & px_MCX_IdMS_auth_I PAddress & "]:" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath | Identity management server authorisation endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41 | IPv6 |
| idms-token-endpoint | "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv4 |
| | "https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv6 |
| http-proxy | "https://" & px_MCX_HTTP_Proxy _IPAddress & ":" & px_MCX_HTTP_Proxy _Port | IP address and port used by the UE for the HTTP TCP connection | TS 23.003 [69] TS 24.483 [13] clause 8.2.41B | IPv4 |
| | "https://[" & px_MCX_HTTP_Proxy _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port | IP address and port used by the UE for the HTTP TCP connection | TS 23.003 [69] TS 24.483 [13] clause 8.2.41B | IPv6 |

| Derivation Path: TS 24.484 [13], of | | | | |
|-------------------------------------|--------------------|--|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| gms | tsc_MCX_GMS_Hostn | Indicates the group | TS 23.003 [69] | |
| | ame | management server | TS 24.483 [13] | |
| | | identity information | clause 8.2.42 | |
| cms | tsc_MCX_CMS_Hostna | Indicates the | TS 23.003 [69] | |
| | me | configuration | TS 24.483 [13] | |
| | | management server | clause 8.2.43 | |
| Luca | too MOV KMO Hooks | identity information | TO 00 000 [00] | |
| kms | tsc_MCX_KMS_Hostna | Indicates the key | TS 23.003 [69] | |
| | me | management server | TS 24.483 [13] | |
| the transplantate and the al | | identity information | clause 8.2.44 | |
| tls-tunnel-auth-method | | la dia atau a da athau | TO 04 400 [40] | |
| mutual-authentication | "false" | Indicates whether | TS 24.483 [13] | |
| | | mutual authentication is | clause 8.2.44B | |
| | | used for the TLS tunnel authentication | | |
| | | | | |
| | | false=one-way authentication based | | |
| | | on the server certificate | | |
| | | | | |
| x509 | Not present | is used the X.509 certificate for | TS 24.483 [13] | |
| x509 | Not present | mutual authentication | clause 8.2.44C | |
| | | for the TLS tunnel | Clause 6.2.44C | |
| | | authentication | | |
| key | Not present | pre-shared key for | TS 24.483 [13] | |
| Key | Not present | mutual authentication | clause 8.2.44D | |
| | | for the TLS tunnel | Clause 6.2.44D | |
| | | authentication | | |
| GMS-URI | tsc_MCX_GMSURI | The group | TS 23.003 [69] | |
| GIVIS-OKI | ISC_IVICX_GIVISORI | management service | TS 24.483 [13] | |
| | | URI information which | clause 8.2.9 | |
| | | contains the public | ciause o.z.s | |
| | | service identity for | | |
| | | performing subscription | | |
| | | proxy function of the | | |
| | | GMS | | |
| group-creation-XUI | px_MCPTT_GroupCrea | Indicates the group | TS 23.003 [69] | |
| group ordanom rec | tionXUI | creation XUI | TS 24.483 [13] | |
| | | information for creation | clause 8.2.9A | |
| | | of groups | 0.0000 0.2.07 | |
| GMS-XCAP-root-URI | tsc_MCX_GMSXCAPR | Indicates the group | TS 23.003 [69] | |
| | ootURI | management server | TS 24.483 [13] | |
| | | XCAP Root URI | clause 8.2.9B | |
| | | information | | |
| CMS-XCAP-root-URI | tsc_MCX_CMSXCAPR | Indicates the | TS 23.003 [69] | |
| _ | ootURI | configuration | TS 24.483 [13] | |
| | | management server | clause 8.2.9C | |
| | | XCAP Root URI | | |
| | | information | | |
| integrity-protection-enabled | "true" | Indicates whether | TS 24.483 [13] | · |
| | | integrity protection is | clause 8.2.44E | |
| | | enabled | | |
| confidentiality-protection- | "true" | Indicates whether | TS 24.483 [13] | |
| enabled | | integrity protection is | clause 8.2.44F | |
| | | enabled | | |
| off-network | | | | |
| Timers | | | | |
| TFG1 | "150" | Indicates the timer for | TS 24.379 [9] | |
| | | wait for call | TS 24.483 [13] | |
| | | announcement; Values: | clause 8.2.47 | |
| | | 0-65535 ms | | |
| TFG2 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| 1 | | call announcement; | TS 24.483 [13] | |
| | | can announcement, | 10 27.700 [10] | |

| erivation Path: TS 24.484 [13] Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------|--|---------------------------------|-----------|
| TFG3 | "40" | Indicates the timer for | TS 24.379 [9] | Oonanion |
| | | call probe | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.49 | |
| | | 0-65535 ms | | |
| TFG4 | "20" | Indicates the timer for | TS 24.379 [9] | |
| | | waiting for the MCPTT | TS 24.483 [13] | |
| TFG5 | "2" | user; Values: 0-60 s Indicates the timer for | clause 8.2.50 TS 24.379 [9] | |
| 11-05 | 2 | not present incoming | TS 24.483 [13] | |
| | | call announcements; | clause 8.2.51 | |
| | | Values: 0-255 s | 0.0000 0.2.01 | |
| TFG11 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCPTT emergency | TS 24.483 [13] | |
| | | end retransmission; | clause 8.2.52 | |
| | | Values: 0-65535 ms | | |
| TFG12 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCPTT imminent peril | TS 24.483 [13] | |
| | | end retransmission; | clause 8.2.53 | |
| TFG13 | "1" | Values: 0-65535 ms Indicates the timer for | TS 24.379 [9] | |
| 11 913 | ' | implicit priority | TS 24.379 [9] | |
| | | downgrade; Values: 0- | clause 8.2.54 | |
| | | 255 s | | |
| TFG14 | "1" | Indicates the MCPTT | TS 24.379 [9] | |
| | | timer for implicit priority | TS 24.483 [13] | |
| | | downgrade (imminent | clause 8.2.54A | |
| | | peril); Values: 0-255 s | =0.01.0=0.00 | |
| TFP1 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| | | private call request retransmission; Values: | TS 24.483 [13] clause 8.2.55 | |
| | | 0-65535 ms | ciause 6.2.55 | |
| TFP2 | "50" | Indicates the timer for | TS 24.379 [9] | |
| 2 | | waiting for call | TS 24.483 [13] | |
| | | response message; | clause 8.2.56 | |
| | | Values: 0-60 s | | |
| TFP3 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| | | private call release | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.57 | |
| TFP4 | "5000" | 0-65535 ms | TC 24 270 [0] | |
| 1F C4 | "5000" | Indicates the timer for private call release | TS 24.379 [9] TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.58 | |
| | | 0-65535 ms | 3.2.2.2.2.2.00 | |
| TFP5 | "30" | Indicates the timer for | TS 24.379 [9] | |
| | | call release; Values: 0- | TS 24.483 [13] | |
| | | 600 s | clause 8.2.59 | |
| TFP6 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCPTT emergency | TS 24.483 [13] clause 8.2.60 | |
| | | private call cancel retransmission; Values: | ciause 8.2.60 | |
| | | 0-65535 ms | | |
| TFP7 | "6" | Indicates the timer for | TS 24.379 [9] | |
| | | waiting for any | TS 24.483 [13] | |
| | | message with same | clause 8.2.61 | |
| | | call identifier; Values: | | |
| | | 0-255 s | | |
| TFB1 | "300" | Indicates the timer for | TS 24.379 [9] | |
| | | max duration; Values: | TS 24.483 [13] | |
| TEDO | "40" | 0-600 s | clause 8.2.62 | |
| TFB2 | "10" | Indicates the timer for | TS 24.379 [9] | |
| | | max duration; Values: 0-10 s | TS 24.483 [13] | |
| TFB3 | "20" | Indicates the timer for | clause 8.2.63 TS 24.379 [9] | |
| נט וו | 20 | waiting for the MCPTT | TS 24.379 [9] | |
| | | user; Values: 0-60 s | clause 8.2.64 | |

| Derivation Path: TS 24.484 [13] | | | | |
|---------------------------------|--------------|--|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| T201 | "1000" | Indicates the timer for | TS 24.380 [10] | |
| | | floor request; Values: | TS 24.483 [13] | |
| | | 0-65535 ms | clause 8.2.65 | |
| T203 | "5" | Indicates the timer for | TS 24.380 [10] | |
| | | end of RTP media; | TS 24.483 [13] | |
| T004 | u.c.u | Values: 0-255 s | clause 8.2.66 | |
| T204 | "5" | Indicates the timer for | TS 24.380 [10] | |
| | | floor queue position | TS 24.483 [13] | |
| | | request; Values: 0-255 | clause 8.2.67 | |
| T205 | "1" | Indicates the timer for | TS 24.380 [10] | |
| 1205 | ' | floor granted request; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.68 | |
| T230 | "10" | Indicates the timer for | TS 24.380 [10] | |
| 1230 | 10 | inactivity; Values: 0-255 | 10 24.000 [10] | |
| | | s | | |
| T233 | "10" | Indicates the timer for | TS 24.380 [10] | |
| | | pending user action; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.70 | |
| TFE1 | "30" | Indicates the timer for | TS 24.379 [9] | |
| | | MCPTT emergency | TS 24.483 [13] | |
| | | alert; Values: 0-65535 s | clause 8.2.71 | |
| TFE2 | "10" | Indicates the timer for | TS 24.379 [9] | |
| | | MCPTT emergency | TS 24.483 [13] | |
| | | alert re-transmission; | clause 8.2.72 | |
| | | Values: 0-10 s | | |
| Counters | | | | |
| CFP1 | "3" | Indicates the counter | TS 24.379 [9] | |
| | | for private call request | TS 24.483 [13] | |
| | | retransmission | clause 8.2.74 | |
| CFP3 | "5" | Indicates the counter | TS 24.379 [9] | |
| | | for private call release | TS 24.483 [13] | |
| 0504 | lion. | retransmission | clause 8.2.75 | |
| CFP4 | "2" | Indicates the counter | TS 24.379 [9] | |
| | | for private call accept | TS 24.483 [13] | |
| OFDO | "2" | retransmission | clause 8.2.76 | |
| CFP6 | "2" | Indicates the counter | TS 24.379 [9] | |
| | | for private call accept | TS 24.483 [13] | |
| CFP11 | "2" | retransmission | clause 8.2.77 | |
| CFFII | 4 | Indicates the counter for MCPTT group call | TS 24.379 [9] | |
| | | emergency end | TS 24.483 [13] clause 8.2.78 | |
| | | retransmission | GIAUSE 0.2.10 | |
| CFP12 | "2" | Indicates the counter | TS 24.379 [9] | |
| 311 12 | _ | for MCPTT imminent | TS 24.483 [13] | |
| | | peril call emergency | clause 8.2.79 | |
| | | end retransmission | 5.4400 5.2.70 | |
| C201 | "3" | Indicates the counter | TS 24.379 [9] | |
| | | for floor request | TS 24.483 [13] | |
| | | 1 | clause 8.2.80 | |
| C204 | "2" | Indicates the counter | TS 24.379 [9] | |
| | _ | for floor queue position | TS 24.483 [13] | |
| | | request | clause 8.2.81 | |
| C205 | "4" | Indicates the counter | TS 24.379 [9] | |
| | · | for floor granted | TS 24.483 [13] | |
| | | request | clause 8.2.82 | |

| Condition | Explanation | |
|-----------|----------------------------|--|
| IPv4 | IP address is IPv4 address | |
| IPv6 | IP address is IPv6 address | |

5.5.8.2 MCPTT UE Configuration

The structure of a group configuration document is specified in TS 24.484 [14] clause 8.2, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 4.2.

Table 5.5.8.2-1: MCPTT UE Configuration Defaults

| Information Element | Value/remark | Comment | Reference | Condition |
|--------------------------|--------------------------------------|---|---|-----------|
| mcptt-UE-configuration | | | | |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical | | |
| | | organization | | |
| common | | | | |
| private-call | | | | |
| Max-Simul-Call-N10 | "2" | Indicates the maximum number of private calls | TS 24.483 [13] clause 4.2.7 | |
| MCPTT-Group-Call | | | | |
| Max-Simul-Call-N4 | "3" | Indicates the maximum number of simultaneous group calls | TS 24.483 [13] clause 4.2.9 | |
| Max-Simul-Trans-N5 | "5" | Indicates the maximum number of transmissions in a group | TS 24.483 [13] clause 4.2.10 | |
| Prioritized-MCPTT-Group | | | | |
| MCPTT-Group-Priority[1] | | | | |
| MCPTT-Group-ID | px_MCPTT_Group_A_I D | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 that indicates the group id. | TS 24.483 [13] clause 4.2.13 | |
| group-priority-hierarchy | "7" | Indicates the requested presentation priority of group call; Values: 0-7 "7"=the top priority among groups | TS 24.483 [13] clause 4.2.14 | |
| on-network | | | | |
| IPv6Preferred | "false" | Indicates whether IPv6 is preferred over IPv4 for on-network operation when the MCPTT UE has both IPv4 and IPv6 host configuration. | TS 24.483 [13] clause 4.2.17 | |
| Relay-Service | "true" | Indicates the authorisation to use a relay service | TS 24.483 [13] clause 4.2.16 | |
| Relayed-MCPTT-Group[1] | | | | |
| MCPTT-Group-ID | px_MCPTT_Group_A_I D | One allowed relayed MCPTT group | TS 24.483 [13] clause 4.2.20 | |
| Relay-Service-Code | "123456" | Identifies a connectivity service the ProSe UE- to-Network Relay provides to Public Safety applications; 24- bit value | TS 23.303 [68] TS 24.483 [13] clause 4.2.21 | |

5.5.8.3 MCPTT User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 8.3, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 5.2.

The structure of the configuration document is based on the XML Schema in clause 8.3.2.3 of TS 24.484 [14] and XML "ruleset" schema according to IETF RFC 4745 [103]. To distinguish the schemas the prefix "cp" ("common policy") is used for the ruleset.

Table 5.5.8.3-1: MCPTT User Profile Defaults

| Derivation Path: TS 24.484 [14] Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------------|--|--|-----------|
| mcptt-user-profile | | | | |
| XUI-URI attribute | px_MCPTT_User_XUI_ URI | | | |
| user-profile-index attribute | "49" | value arbitrarily selected | | |
| Status | true | MCPTT user profile is enabled | | |
| ProfileName | px_MCPTT_User_A_Pr ofile_Name | Profile name for the MCPTT user | TS 24.483 [13] clause 5.2.7B | |
| Common | | | | |
| index attribute | "0" | Index for the particular MCPTT user profile | | |
| MCPTTUserID | | | | |
| index attribute | "O" | | | |
| uri-entry | px_MCPTT_ID_User_A | MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user | TS 24.483 [13] clause 5.2.7 | |
| UserAlias | px_MCPTT_User_A_Al ias | Alphanumeric aliases of MCPTT user | TS 24.483 [13] clause 5.2.8 | |
| ParticipantType | px_MCPTT_User_A_P articipantType | Participant type of the MCPTT user | TS 24.483 [13] clause 5.2.10 | |
| MissionCriticalOrganization | px_MCX_DomainName _Organization_A | Indicates the organization an MCPTT user belongs to | TS 24.483 [13] clause 5.2.11 | |
| PrivateCall | | 3 | | |
| PrivateCallList | | | | |
| PrivateCallURI[1] | | | | |
| index attribute | "0" | | | |
| uri-entry | px_MCPTT_ID_User_B | MCPTT user(s) who can be called in a MCPTT private call | TS 24.483 [13] clause 5.2.17 | |
| display-name | "User B Name" | a human readable name for this User | TS 24.483 [13] clause 5.2.18 | |
| PrivateCallURI[2] | | | | |
| index attribute | "1" | | | |
| uri-entry | px_MCPTT_ID_User_C | MCPTT user(s) who can be called in a MCPTT private call | TS 24.483 [13] clause 5.2.17 | |
| display-name | "User C Name" | a human readable name for this User | TS 24.483 [13] clause 5.2.18 | |
| PrivateCallProSeUser[1] | | | | |
| index attribute | "0" | | | |
| DiscoveryGroupID | "1234" | Discovery group ID in the ProSe discovery procedures | TS 23.303 [68] TS 24.483 [13] clause 5.2.19 | |
| User-Info-ID | "5555" | Prose user Info ID in the ProSe discovery procedures | TS 23.303 [68] TS 24.483 [13] clause 5.2.19A | |
| PrivateCallProSeUser[2] | | | | |
| index attribute DiscoveryGroupID | "1" "1234" | Discovery group ID in the ProSe discovery | TS 23.303 [68] TS 24.483 [13] | |
| User-Info-ID | "6666" | Procedures Prose user Info ID in the ProSe discovery procedures | TS 23.303 [68] TS 24.483 [13] clause 5.2.19A | |
| EmergencyCall | | | | |
| MCPTTPrivateRecipient | | | | |
| entry | | | | |

| rivation Path: TS 24.484 [14] of Information Element | Value/remark | Comment | Reference | Conditio |
|--|------------------------------|--|-------------------------------|----------|
| entry-info attribute | "UsePreConfigured" | Indicates the criteria to determine when | TS 24.483 [13] clause 5.2.29F | - Julian |
| | | initiation of an MCPTT | | |
| | | emergency private call uses the MCPTT | | |
| | | private recipient ID. | | |
| index attribute | "0" | p.irato rooipiont ib. | | |
| uri-entry | px_MCPTT_ID_User_B | The MCPTT private | TS 24.483 [13] | |
| | | recipient for an MCPTT | clause 5.2.29B | |
| | | emergency private call | | |
| display-name | "User B Name" | a human readable | TS 24.483 [13] | |
| ProSeUserID-entry | | name for this User | clause 5.2.29E | |
| index attribute | "0" | | | |
| DiscoveryGroupID | "1234" | Discovery group ID in | TS 24.483 [13] | |
| Blocovery Group IB | 1201 | the ProSe discovery | clause 5.2.29C | |
| | | procedures | | <u></u> |
| User-Info-ID | "5555" | ProSe user Info ID in | TS 24.483 [13] | |
| | | the ProSe discovery | clause 5.2.29D | |
| MODIT masses and | | procedures | | |
| MCPTT-group-call MaxSimultaneousCallsN6 | "3" | Indicator the maximum | TC 24 402 [42] | |
| waxomulaneousCallSIN6 | ٥ | Indicates the maximum number of | TS 24.483 [13] clause 5.2.31 | |
| | | simultaneously | 514436 J.Z.J1 | |
| | | received MCPTT group | | |
| | | calls | | |
| EmergencyCall | | | | |
| MCPTTGroupInitiation | | | | |
| entry info attribute | III loo CumanthuC-lt | Lloo ourrendu a -14- 1 | TC 04 400 [40] | |
| entry-info attribute | "UseCurrentlySelected Group" | Use currently selected MCPTT group for an | TS 24.483 [13] clause 5.2.34D | |
| | Sioup | on-network MCPTT | 514436 J.Z.34D | |
| | | emergency group call | | |
| index attribute | "0" | | | |
| uri-entry | px_MCPTT_Group_A_I | The group used upon | TS 24.483 [13] | |
| | D | certain criteria on | clause 5.2.34B | |
| | | initiation of an MCPTT | | |
| display-name | px_MCPTT_Group_A_ | emergency group call The display name for | TS 24.483 [13] | |
| alopiay-Haitie | Name | group used for | clause 5.2.34C | |
| | | emergency | 3.2.200 0.2.010 | |
| ImminentPerilCall | | , , , , , , , , , , , , , , , , , , , | | |
| MCPTTGroupInitiation | | | | |
| entry | | | | |
| entry-info attribute | "UseCurrentlySelected | Use currently selected | TS 24.483 [13] | |
| | Group" | MCPTT group for an on-network MCPTT | clause 5.2.39D | |
| | | imminent peril group | | |
| | | call | | |
| index attribute | "0" | | | |
| uri-entry | px_MCPTT_Group_A_I | the group used on | TS 24.483 [13] | - |
| | D | initiation of an MCPTT | clause 5.2.39B | |
| | | imminent peril group | | |
| dienlay nama | DV MCDTT Crows A | call. | TC 24 402 [42] | |
| display-name | px_MCPTT_Group_A_ Name | display name for group used for the imminent | TS 24.483 [13] clause 5.2.39C | |
| | Name | peril call | 514436 0.2.030 | |
| EmergencyAlert | | F 2111 4811 | | |
| MCPTTGroupInitiation | | | | |
| entry | | | | |
| index attribute | "0" | | | |
| entry-info attribute | "UseCurrentlySelected | Use currently selected | TS 24.483 [13] | |
| | Group" | MCPTT group for | clause 5.2.43E | |

| Derivation Path: TS 24.484 [14] cl Information Element | Value/remark | Comment | Reference | Condition |
|---|-----------------------------|---|----------------|-----------|
| uri-entry | px_MCPTT_Group_A_I | Indicates the MCPTT | TS 24.483 [13] | |
| , , , | D = | group used upon | clause 5.2.43B | |
| | | certain criteria on | | |
| | | initiation of an MCPTT | | |
| | | emergency alert. | | |
| diaplay nama | px_MCPTT_Group_A_ | | TC 24 402 [42] | |
| display-name | | Optional; name of | TS 24.483 [13] | |
| | Name | emergency alert group | clause 5.2.43D | |
| Priority | "10" | Indicates the priority of | TS 24.483 [13] | |
| | | the MCPTT group calls, | clause 5.2.43F | |
| | | 0-255 | | |
| OffNetwork | | | | |
| index attribute | "0" | | | |
| | 0 | | | |
| MCPTTGroupInfo | | | | |
| entry[1] | | | | |
| index attribute | "0" | | | |
| uri-entry | px_MCPTT_Group_A_I | Indicates an off- | TS 24.483 [13] | |
| • | D | network MCPTT group | clause 5.2.53 | |
| | | for use by an MCPTT | 0.00000.2.00 | |
| | | user | | |
| dianlass acres | ny MCDTT Craim A | | TC 04 400 [40] | |
| display-name | px_MCPTT_Group_A_ | The display name | TS 24.483 [13] | |
| | Name | corresponding to off- | clause 5.2.53A | |
| | | network group id | | |
| User-Info-ID | "5555" | ProSe user info ID | TS 23.303 [68] | |
| | | | TS 24.483 [13] | |
| | | | clause 5.2.58 | |
| OnNetwork | | | 014400 0.2.00 | |
| | "0" | | | |
| index attribute | "0" | | | |
| MCPTTGroupInfo | | | | |
| entry[1] | | Group 1 the MCPTT | | |
| | | user is allowed to | | |
| | | affiliate to | | |
| index attribute | "0" | | | |
| uri-entry | px_MCPTT_Group_A_I | The MCPTT group ID | TS 24.483 [13] | |
| un-entry | 1 - | | | |
| | D | for the on-network | clause 5.2.48B | |
| | | MCPTT group that the | 4 | |
| | | MCPTT user is allowed | | |
| | | to affiliate to. | | |
| display-name | px_MCPTT_Group_A_ | The display name for | TS 24.483 [13] | |
| and pray manne | Name | the group | clause 5.2.48B | |
| | ramo | l no group | 5 | |
| MayAffiliationaND | 20 | | 3 | |
| MaxAffiliationsN2 | 20 | | | |
| | 20 | | | |
| MaxSimultaneousTransmissions | | | | |
| N7 | | | | |
| ImplicitAffiliations | | Group 1 the MCPTT | | |
| - | | user is implicitly | | |
| | | affiliated to | | |
| entry | | annatod to | | |
| entry | "0" | | | |
| index attribute | • | | | |
| uri-entry | px_MCPTT_Group_A_I | indicates a MCPTT | TS 24.483 [13] | |
| | D | group ID to which the | clause 5.2.48C | |
| | | MCPTT user is | 4 | |
| | | implicitly affiliated to | | |
| display-name | px_MCPTT_Group_A_ | display name for | TS 24.483 [13] | |
| uispiay-name | px_wcerr_group_A_ Name | implicitly affiliated | clause 5.2.48C | |
| | Name | | | |
| | | group | 5 | |
| PrivateEmergencyAlert | | | | |
| entry | | | | |
| | "UsePreConfigured" | Indicates the criteria to | TS 24.483 [13] | |
| entry-info attribute | | determine when | clause 5.2.48 | |
| entry-info attribute | | | JUGGOO OLLITO | |
| entry-info attribute | | | 0 | |
| entry-info attribute | | initiation of an MCPTT | 0 | |
| entry-info attribute | | initiation of an MCPTT emergency private call | 0 | |
| entry-info attribute | | initiation of an MCPTT | 0 | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---|------------------------|--|--------------------------------|-----------|
| uri-entry | px_MCPTT_ID_User_B | Indicates the default MCPTT user ID to be used upon certain criteria on initiation of an MCPTT private emergency alert for onnetwork | TS 24.483 [13] clause 5.2.48 M | |
| display-name | px_MCPTT_User_A_AI ias | The display name corresponding to private emergency call id | TS 24.483 [13] clause 5.2.48N | |
| cp:ruleset | | | | |
| cp:rule | | | | |
| cp:id attribute | "rule1" | | | |
| cp:actions | | | | |
| allow-create-delete-user- alias | "false" | Indicates authorisation to create and delete aliases of other MCPTT users | TS 24.483 [13] clause 5.2.9 | |
| allow-private-call | "true" | Indicates the authorisation to make a MCPTT private call | TS 24.483 [13] clause 5.2.13 | |
| allow-private-call-to-any- user | "true" | indicates the authorisation to make a MCPTT private call to any MCPTT user | TS 24.483 [13] clause 5.2.14 | |
| allow-manual- commencement | "true" | Indicates the authorisation to make a MCPTT private call with manual commencement | TS 24.483 [13] clause 5.2.20 | |
| allow-automatic- commencement | "true" | Indicates the authorisation to make a MCPTT private call with automatic commencement | TS 24.483 [13] clause 5.2.21 | |
| allow-force-auto-answer | "true" | Indicates the authorisation of MCPTT user to force automatic answer for a MCPTT private call | TS 24.483 [13] clause 5.2.22 | |
| allow-failure-restriction | "false" | Indicates the authorisation to restrict the provision of a notification of call failure reason for a MCPTT private call | TS 24.483 [13] clause 5.2.23 | |
| allow-private-call-media- protection | "true" | Indicates authorisation to protect confidentiality and integrity of media for MCPTT private calls | TS 24.483 [13] clause 5.2.24 | |
| allow-private-call-floor- control-protection | "true" | Indicates authorisation to protect confidentiality and integrity of floor control signalling for MCPTT private calls. | TS 24.483 [13] clause 5.2.25 | |
| allow-emergency-private- call | "true" | Indicates the authorisation to make an MCPTT emergency private call. | TS 24.483 [13] clause 5.2.27 | |

| Derivation Path: TS 24.484 [14] clause 8.3 | | | | | |
|--|--------------|--|------------------------------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| allow-cancel-private- emergency-call | "true" | Indicates the authorisation to cancel emergency priority in an MCPTT emergency private call by an authorised MCPTT | TS 24.483 [13] clause 5.2.28 | | |
| allow-emergency-group-call | "true" | user Indicates the authorisation to make an MCPTT emergency group call functionality enabled for MCPTT user | TS 24.483 [13] clause 5.2.33 | | |
| allow-cancel-group- emergency | "true" | Indicates the authorisation to cancel an in progress MCPTT emergency call associated with a group. | TS 24.483 [13] clause 5.2.35 | | |
| allow-imminent-peril-call | "true" | Indicates the authorisation to make an Imminent Peril group call | TS 24.483 [13] clause 5.2.37 | | |
| allow-cancel-imminent-peril | "true" | Indicates the authorisation for in-progress MCPTT imminent peril cancelation | TS 24.483 [13] clause 5.2.38 | | |
| allow-activate-emergency- alert | "true" | Indicates the authorisation to activate an MCPTT emergency alert | TS 24.483 [13] clause 5.2.41 | | |
| allow-cancel-emergency- alert | "true" | Indicates the authorisation to cancel an MCPTT emergency alert | TS 24.483 [13] clause 5.2.42 | | |
| allow-create-group- broadcast-group | "true" | Indicates the authorisation to create a group-broadcast group. | TS 24.483 [13] clause 5.2.46 | | |
| allow-create-user- broadcast-group | "true" | Indicates the authorisation to create a user-broadcast group | TS 24.483 [13] clause 5.2.48 | | |
| allow-offnetwork | "true" | Indicates the authorisation for off-network services | TS 24.483 [13] clause 5.2.50 | | |
| allow-listen-both-overriding- and-overridden | "false" | Indicates whether the MCPTT user is allowed to listen both overriding and override | TS 24.483 [13] clause 5.2.54 | | |
| allow-transmit-during- override | "false" | Indicates whether the MCPTT user is allowed to transmit in case of override (overriding and/or overridden) | TS 24.483 [13] clause 5.2.55 | | |
| allow-off-network-group- call-change-to-emergency | "true" | Indicates the authorisation for a participant to change an off-network group call in-progress to an off-network MCPTT emergency group call | TS 24.483 [13] clause 5.2.56 | | |

| Derivation Path: TS 24.484 [14] of Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------|--|----------------------------------|-----------|
| allow-imminent-peril- change | "true" | Indicates the authorisation for a participant to change an off-network group call in-progress to an off-network MCPTT imminent peril group call | TS 24.483 [13] clause 5.2.57 | |
| allow-regroup | "true" | Indicates whether the MCPTT user is authorised to perform dynamic regrouping operations | TS 24.483 [13] clause 5.2.48D | |
| allow-presence-status | "true" | Indicates the presence status on the network of this MCPTT user is available | TS 24.483 [13] clause 5.2.48E | |
| allow-request-presence | "true" | Indicates whether the MCPTT user is authorised to obtain whether a particular MCPTT User is present on the network | TS 24.483 [13] clause 5.2.48F | |
| allow-private-call- participation | "true" | Indicates whether the MCPTT user is allowed to participate in MCPTT private calls that they are invited to | TS 24.483 [13] clause 5.2.48 G | |
| allow-override-of- transmission | "true" | Indicates whether the MCPTT user is authorised to override transmission in a MCPTT private call | TS 24.483 [13] clause 5.2.48H | |
| allow-manual-off-network- switch | "true" | Indicates whether the MCPTT user is authorised to manually switch to off-network operation while in onnetwork operation | TS 24.483 [13] clause 5.2.48l | |
| anyExt allow-location-info-when- talking | "false" | When set to "true" the MCPTT user is authorised to send its location information when it is requesting the floor. When set to "false" the MCPTT user is not authorised to send its location information when it is requesting the floor. | TS 24.483 [13] clause 5.2.48 W10 | |

5.5.8.4 MCPTT Service Configuration

The structure of a user profile document is specified in TS 24.484 [14] clause 8.4, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 7.2.

Table 5.5.8.4-1: MCPTT Service Configuration Defaults

| Derivation Path: TS 24.484 [14], o | | | - | |
|--|--------------------------------------|---|-----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| service configuration | | | | |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| common | | Indianta 111 | TO 04 400 5405 | |
| min-length-alias | "2" | Indicates minimum length of an alphanumeric identifier (i.e., alias) | TS 24.483 [13] clause 7.2.9 | |
| broadcast-group | | | | |
| num-levels-group-hierarchy | "1" | Indicates the number of levels of group hierarchy for group-broadcast groups | TS 24.483 [13] clause 7.2.7 | |
| num-levels-user-hierarchy | "1" | Indicates the number of levels of user hierarchy for user-broadcast groups | TS 24.483 [13] clause 7.2.8 | |
| on-network | | | | |
| emergency-call | | | | |
| private-cancel-timeout | "PT30M" | 30 minutes | | |
| group-time-limit | "PT20M" | 20 minutes | | |
| private-call | | | | |
| hang-time | "PT30S" | 30 seconds | | |
| max-duration-with-floor- | "PT30S" | 30 seconds | | |
| control | | | | |
| max-duration-without-floor- control | "PT20M" | 20 minutes | | |
| num-levels-priority-hierarchy | 10 | | | |
| transmit-time | | | | |
| time-limit | "PT30S" | 30 seconds | | |
| time-warning | "PT20M" | 20 minutes | | |
| hang-time-warning | "PT20M" | 20 minutes | | |
| floor-control-queue | | | | |
| depth | 5 | | | |
| max-user-request-time | "PT20M" | 20 minutes | | |
| fc-timers-counters | | | | |
| T1-end-of-rtp-media | "PT4S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T3-stop-talking-grace | "PT3S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T7-floor-idle | "PT2S" | Depends on the characteristic of the radio access network | TS 24.380 [10] clause 11 | |
| T8-floor-revoke | "PT1S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T11-end-of-RTP-dual | "PT4S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T12-stop-talking-dual | "PT30S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T15-conversation | "PT30S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T16-map-group-to-bearer | "PT0.5S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T17-unmap-group-to-bearer | "PT0.2S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T20-floor-granted | "PT1S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T55-connect | "PT2S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| T56-disconnect | "PT2S" | Default value Value in seconds | TS 24.380 [10] clause 11 | |
| C7-floor-idle | 10 | Default value | TS 24.380 [10] clause 11 | |

| Derivation Path: TS 24.484 [14], o | Value/remark | Comment | Reference | Condition |
|-------------------------------------|--------------|--|------------------------------|---|
| C17-unmap-group-to-bearer | 3 | Default value | TS 24.380 [10] | Condition |
| C17-unmap-group-to-bearer | 3 | Delauit value | clause 11 | |
| C20-floor-granted | 3 | Default value | TS 24.380 [10] | |
| 020 noor granted | | Deladit value | clause 11 | |
| C55-connect | 3 | Default value | TS 24.380 [10] | |
| 000 001111001 | | Doradit value | clause 11 | |
| C56-disconnect | 3 | Default value | TS 24.380 [10] | |
| | | | clause 11 | |
| signalling-protection | | | | |
| confidentiality-protection | true | | | |
| integrity-protection | true | | | |
| protection-between-mcptt- | | | | |
| servers | | | | |
| allow-signalling-protection | true | | | |
| allow-floor-control-protection | true | | | |
| emergency-resource-priority | | | | |
| resource-priority-namespace | "mcpttp" | | RFC 8101 | |
| resource-priority-priority | "8" | | RFC 8101 | |
| imminent-peril-resource- | | | | |
| priority | | | | <u> </u> |
| resource-priority-namespace | "mcpttp" | | RFC 8101 | |
| resource-priority-priority | "5" | | RFC 8101 | |
| normal-resource-priority | | | | |
| resource-priority-namespace | "mcpttp" | | RFC 8101 | |
| resource-priority-priority | "1" | | RFC 8101 | |
| off-network | | | | |
| emergency-call | | | | |
| private-cancel-timeout | "PT5S" | 5 seconds; | TS 24.483 [13] | |
| | | Indicates timeout value for the cancellation of an in progress emergency for an MCPTT private call. Values: : 0-65535 s | clause 7.2.14 | |
| group-time-limit | "PT5S" | 5 seconds; Indicates time limit for an in progress MCPTT emergency call related to an MCPTT group. Values: 0-65535 s | TS 24.483 [13] clause 7.2.16 | |
| private-call | | | | |
| hang-time | "PT5S" | 5 seconds; | TS 24.483 [13] | |
| | | Indicates hang timer for private calls (with floor control). Values: 0-65535 s | clause 7.2.13 | |
| max-duration-with-floor- control | "PT60S" | 60 seconds; Indicates max private | TS 24.483 [13] clause 7.2.12 | |
| Control | | call (with floor control) duration. Values: 0- 65535 s | Clause 7.2.12 | |
| num-levels-priority-hierarchy | "4" | Indicates the number of | TS 24.483 [13] | |
| | | levels of hierarchy for floor control override in off-network. Values: 4- 256 | clause 7.2.17 | |
| transmit-time | | | | |
| time-limit | "PT60S" | 60 seconds; Indicates transmit time limit from a single request to transmit in a group or private call. Values: 0-65535 s | TS 24.483 [13] clause 7.2.18 | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------|---|---|-----------|
| time-warning | "PT50S" | 50 seconds; Indicates configuration of warning time before time limit of transmission is reached (off-network). Values: 0-255 s | TS 24.483 [13] clause 7.2.19 | |
| hang-time-warning | "PT4S" | 4 seconds; Indicates configuration of warning time before hang time is reached (off-network). Values: Values: 0-255 s | TS 24.483 [13] clause 7.2.20 | |
| default-prose-per-packet- priority | | | | |
| mcptt-private-call-signalling | "1" | Indicates the default ProSe Per-Packet Priority (PPPP) value | TS 23.303 [68] TS 24.483 [13] clause 7.2.22 | |
| mcptt-private-call-media | "1" | Indicates the default ProSe Per-Packet Priority (PPPP) value | TS 23.303 [68] TS 24.483 [13] clause 7.2.23 | |
| mcptt-emergency-private- call-signalling | "8" | Indicates the default ProSe Per-Packet Priority (PPPP) value | TS 23.303 [68] TS 24.483 [13] clause 7.2.24 | |
| mcptt-emergency-private- call-media | "8" | Indicates the default ProSe Per-Packet Priority (PPPP) value | TS 23.303 [68] TS 24.483 [13] clause 7.2.25 | |
| allow-log-metadata | "true" | Indicates whether an MCPTT emergency group call is permitted on the MCPTT group | TS 24.483 [13] clause 7.2.26 | |

5.5.8.5 MCVideo Initial UE Configuration

Table 5.5.8.5-1: MCVideo Initial UE Configuration Defaults

| Derivation Path: TS 24.484 [14], o | Value/remark | Commont | Poforonoo | Condition |
|--|--------------------------------------|--|---|-----------|
| Information Element mcptt-UE-initial-configuration | value/remark | Comment | Reference | Condition |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| Default-user-profile | | organization | | |
| User-ID attribute | px_MCVideo_ID_User_ A | Default User Identity | TS 24.483 [13] clause 8.2.6 | |
| user-profile-index attribute | "0" | Values 0-255. Indicates selected user profile | TS 24.483 [13] clause 8.2.7 | |
| on-network | | | | |
| Timers | | | | |
| T100 | "2" | Values 0-255 sec | TS 24.581 [88] TS 24.483 [13] clause 8.2.11 | |
| T101 | "2" | Values 0-255 sec | TS 24.581 [88] TS 24.483 [13] clause 8.2.12 | |
| T103 | "5" | Values 0-255 sec | TS 24.581 [88] TS 24.483 [13] clause 8.2.13 | |
| T104 | "2" | Values 0-255 sec | TS 24.581 [88] TS 24.483 [13] clause 8.2.14 | |
| T132 | "3" | Values 0-255 sec | TS 24.581 [88] TS 24.483 [13] clause 8.2.15 | |
| HPLMN | | | | |
| PLMN attribute | PLMN1 | the PLMN on which the UE is allowed for MCVideo services. | TS 23.003 [69] TS 24.483 [13] clause 8.2.16 | |
| | | Public Land Mobile Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the operator. | | |
| | | NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing. | | |
| service | | MCVideo related services on a per HPLMN basis | | |
| MCPTT-to-con-ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MCVideo service | TS 24.483 [13] clause 8.2.21 | |
| MC-common-core-to-con- ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MC common core service | TS 24.483 [13] clause 8.2.24 | |
| MC-ID-to-con-ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MC identity management service | TS 24.483 [13] clause 8.2.27 | |

| Derivation Path: TS 24.484 [14], o | | | | |
|------------------------------------|---|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| VPLM[1] PLMN attribute | PLMN2 | VPLMN configuration | | |
| | | for another PLMN which can be used by the UE to access | | |
| | | MCVideo service | | |
| | | NOTE: PLMN2 shall be a different PLMN to PLMN1 of a Cell to which the UE will move | | |
| | | during testing when specified in a test case. | | |
| service | | | | |
| MCPTT-to-con-ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MCVideo service | TS 24.483 [13] clause 8.2.33 | |
| MC-common-core-to-con- ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MC common core service | TS 24.483 [13] clause 8.2.36 | |
| MC-ID-to-con-ref | px_MCVideo_ALL_AP N | configuration parameter for establishment of the PDN connection for the MC identity management service | TS 24.483 [13] clause 8.2.39 | |
| App-Server-Info | | | | |
| idms-auth-endpoint | "https://" & px_MCX_IdMS_auth_I PAddress & ":" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath | Identity management server authorisation endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41 | IPv4 |
| | "https://[" & px_MCX_IdMS_auth_I PAddress & "]:" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath | Identity management server authorisation endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41 | IPv6 |
| idms-token-endpoint | "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv4 |
| | "https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv6 |
| http-proxy | "https://" & px_MCX_HTTP_Proxy _IPAddress & ":" & px_MCX_HTTP_Proxy _Port | IP address and port used by the UE for the HTTP TCP connection | TS 23.003 [69] TS 24.483 [13] clause 8.2.41B | IPv4 |

| Derivation Path: TS 24.484 [14], o | Value/remark | Comment | Reference | Condition |
|--|---|--|---|-----------|
| imorniauon Element | "https://[" & px_MCX_HTTP_Proxy | IP address and port used by the UE for the | TS 23.003 [69] TS 24.483 [13] | IPv6 |
| | _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port | HTTP TCP connection | clause 8.2.41B | |
| gms | tsc_MCX_GMS_Hostn ame | Indicates the group management server identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.42 | |
| cms | tsc_MCX_CMS_Hostna me | Indicates the configuration management server identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.43 | |
| kms | tsc_MCX_KMS_Hostna me | Indicates the key management server identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.44 | |
| tls-tunnel-auth-method | | | | |
| mutual-authentication | "false" | Indicates whether mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate is used | TS 24.483 [13] clause 8.2.44B | |
| x509 | Not present | the X.509 certificate for mutual authentication for the TLS tunnel authentication | TS 24.483 [13] clause 8.2.44C | |
| key | Not present | pre-shared key for mutual authentication for the TLS tunnel authentication | TS 24.483 [13] clause 8.2.44D | |
| GMS-URI | tsc_MCX_GMSURI | The group management service URI information which contains the public service identity for performing subscription proxy function of the GMS | TS 23.003 [69] TS 24.483 [13] clause 8.2.9 | |
| group-creation-XUI | px_MCVideo_GroupCr eationXUI | Indicates the group creation XUI information for creation of groups | TS 23.003 [69] TS 24.483 [13] clause 8.2.9A | |
| GMS-XCAP-root-URI | tsc_MCX_GMSXCAPR ootURI | Indicates the group management server XCAP Root URI information | TS 23.003 [69] TS 24.483 [13] clause 8.2.9B | |
| CMS-XCAP-root-URI | tsc_MCX_CMSXCAPR ootURI | Indicates the configuration management server XCAP Root URI information | TS 23.003 [69] TS 24.483 [13] clause 8.2.9C | |
| integrity-protection-enabled | "true" | Indicates whether integrity protection is enabled | TS 24.483 [13] clause 8.2.44E | |
| confidentiality-protection- enabled | "true" | Indicates whether integrity protection is enabled | TS 24.483 [13] clause 8.2.44F | |
| off-network | | | | |
| Timers TFG1 | "150" | Indicatos the times for | TC 24 204 [00] | |
| IFGI | 150 | Indicates the timer for wait for call announcement; Values: 0-65535 ms | TS 24.281 [86] TS 24.483 [13] clause 8.2.47 | |

| Information Element | clause 7.2 Value/remark | Comment | Reference | Condition |
|---------------------|----------------------------|--|------------------------------|-----------|
| TFG2 | "2000" | Indicates the timer for | TS 24.281 [86] | |
| | | call announcement; | TS 24.483 [13] | |
| | | Values: 0-65535 ms | clause 8.2.48 | |
| TFG3 | "40" | Indicates the timer for | TS 24.281 [86] | |
| | | call probe | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.49 | |
| | | 0-65535 ms | | |
| TFG4 | "20" | Indicates the timer for | TS 24.281 [86] | |
| | | waiting for the | TS 24.483 [13] | |
| | | MCVideo user; Values: | clause 8.2.50 | |
| | | 0-60 s | | |
| TFG5 | "2" | Indicates the timer for | TS 24.281 [86] | |
| | | not present incoming | TS 24.483 [13] | |
| | | call announcements; | clause 8.2.51 | |
| | | Values: 0-255 s | | |
| TFG11 | "3000" | Indicates the timer for | TS 24.281 [86] | |
| | | MCVideo emergency | TS 24.483 [13] | |
| | | end retransmission; | clause 8.2.52 | |
| | | Values: 0-65535 ms | | |
| TFG12 | "3000" | Indicates the timer for | TS 24.281 [86] | |
| | | MCVideo imminent | TS 24.483 [13] | |
| | | peril end | clause 8.2.53 | |
| | | retransmission; Values: | | |
| ==== | | 0-65535 ms | | |
| TFG13 | "1" | Indicates the timer for | TS 24.281 [86] | |
| | | implicit priority | TS 24.483 [13] | |
| | | downgrade; Values: 0- | clause 8.2.54 | |
| | | 255 s | | |
| TFG14 | "1" | Indicates the MCVideo | TS 24.281 [86] | |
| | | timer for implicit priority | TS 24.483 [13] | |
| | | downgrade (imminent | clause 8.2.54A | |
| | | peril); Values: 0-255 s | | |
| TFP1 | "2000" | Indicates the timer for | TS 24.281 [86] | |
| | | private call request | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.55 | |
| | | 0-65535 ms | | |
| TFP2 | "50" | Indicates the timer for | TS 24.281 [86] | |
| | | waiting for call | TS 24.483 [13] | |
| | | response message; | clause 8.2.56 | |
| TEDO | "0000" | Values: 0-60 s | TO 04 004 [00] | |
| TFP3 | "2000" | Indicates the timer for | TS 24.281 [86] | |
| | | private call release | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.57 | |
| TFP4 | "5000" | 0-65535 ms | TC 24 204 [00] | |
| 1774 | 5000 | Indicates the timer for private call release | TS 24.281 [86] | |
| | | | TS 24.483 [13] clause 8.2.58 | |
| | | retransmission; Values: 0-65535 ms | Clause 0.2.30 | |
| TFP5 | "30" | Indicates the timer for | TS 24.281 [86] | |
| IFFU | 30 | call release; Values: 0- | TS 24.281 [86] | |
| | | 600 s | clause 8.2.59 | |
| TFP6 | "3000" | Indicates the timer for | TS 24.281 [86] | |
| 1110 | 3000 | MCVideo emergency | TS 24.483 [13] | |
| | | private call cancel | clause 8.2.60 | |
| | | retransmission; Values: | 514436 0.2.00 | |
| | | 0-65535 ms | | |
| TFP7 | "6" | Indicates the timer for | TS 24.281 [86] | |
| 1117 | " | waiting for any | TS 24.483 [13] | |
| | | message with same | clause 8.2.61 | |
| | | call identifier; Values: | Claust 0.2.01 | |
| | | 0-255 s | | |
| TFB1 | "300" | Indicates the timer for | TS 24.281 [86] | |
| IFDI | 300 | max duration; Values: | TS 24.281 [86] | |
| | | 0-600 s | clause 8.2.62 | |

| Derivation Path: TS 24.484 [14] | | 0 | Deferre | 0 |
|---------------------------------|--------------|--------------------------------|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| TFB2 | "10" | Indicates the timer for | TS 24.281 [86] | |
| | | max duration; Values: 0-10 s | TS 24.483 [13] clause 8.2.63 | |
| TFB3 | "20" | Indicates the timer for | TS 24.281 [86] | |
| IFB3 | 20 | | | |
| | | waiting for the | TS 24.483 [13] | |
| | | MCVideo user; Values: | clause 8.2.64 | |
| T201 | "1000" | 0-60 s Indicates the timer for | TC 04 F04 [00] | |
| 1201 | 1000 | | TS 24.581 [88] | |
| | | floor request; Values: | TS 24.483 [13] | |
| T000 | "5" | 0-65535 ms | clause 8.2.65 | |
| T203 | "5" | Indicates the timer for | TS 24.581 [88] | |
| | | end of RTP media; | TS 24.483 [13] | |
| T004 | "5" | Values: 0-255 s | clause 8.2.66 | |
| T204 | "5" | Indicates the timer for | TS 24.581 [88] | |
| | | floor queue position | TS 24.483 [13] | |
| | | request; Values: 0-255 | clause 8.2.67 | |
| | | S | | |
| T205 | "1" | Indicates the timer for | TS 24.581 [88] | |
| | | floor granted request; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.68 | |
| T230 | "10" | Indicates the timer for | TS 24.581 [88] | |
| | | inactivity; Values: 0- | | |
| | | 255 s | | |
| T233 | "10" | Indicates the timer for | TS 24.581 [88] | |
| | | pending user action; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.70 | |
| TFE1 | "30" | Indicates the timer for | TS 24.281 [86] | |
| | | MCVideo emergency | TS 24.483 [13] | |
| | | alert; Values: 0-65535 | clause 8.2.71 | |
| | | s | | |
| TFE2 | "10" | Indicates the timer for | TS 24.281 [86] | |
| | | MCVideo emergency | TS 24.483 [13] | |
| | | alert re-transmission; | clause 8.2.72 | |
| | | Values: 0-10 s | | |
| Counters | | | | |
| CFP1 | "3" | Indicates the counter | TS 24.281 [86] | |
| | | for private call request | TS 24.483 [13] | |
| | | retransmission | clause 8.2.74 | |
| CFP3 | "5" | Indicates the counter | TS 24.281 [86] | |
| 3113 | o o | for private call release | TS 24.483 [13] | |
| | | retransmission | clause 8.2.75 | |
| CFP4 | "2" | Indicates the counter | TS 24.281 [86] | |
| 0.14 | _ | for private call accept | TS 24.483 [13] | |
| | | retransmission | clause 8.2.76 | |
| CFP6 | "2" | Indicates the counter | TS 24.281 [86] | |
| OFFU | | | | |
| | | for private call accept | TS 24.483 [13] | |
| CED44 | "2" | retransmission | clause 8.2.77 | |
| CFP11 | "Z" | Indicates the counter | TS 24.281 [86] | |
| | | for MCVideo group call | TS 24.483 [13] | |
| | | emergency end | clause 8.2.78 | |
| 05510 | | retransmission | TO 0 / 22 : | |
| CFP12 | "2" | Indicates the counter | TS 24.281 [86] | |
| | | for MCVideo imminent | TS 24.483 [13] | |
| | | peril call emergency | clause 8.2.79 | |
| | | end retransmission | | |
| C201 | "3" | Indicates the counter | TS 24.281 [86] | |
| | | for floor request | TS 24.483 [13] | |
| | | | clause 8.2.80 | |
| C204 | "2" | Indicates the counter | TS 24.281 [86] | |
| | | for floor queue position | TS 24.483 [13] | |
| | | request | clause 8.2.81 | |
| C205 | "4" | Indicates the counter | TS 24.281 [86] | |
| | | for floor granted | TS 24.483 [13] | |
| | i | | [] | i |

| Condition | Explanation | |
|-----------|----------------------------|--|
| IPv4 | IP address is IPv4 address | |
| IPv6 | IP address is IPv6 address | |

5.5.8.6 MCVideo UE Configuration

The structure of a UE configuration document is specified in TS 24.484 [14] clause 9.2. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 12.2.

Table 5.5.8.6-1: MCVideo UE Configuration Defaults

| Derivation Path: TS 24.484 [14] o | Value/remark | Comment | Reference | Condition |
|-----------------------------------|--------------------------------------|---|----------------|-----------|
| mcvideo-UE-configuration | value/lellial K | Comment | I/CICICIICE | Condition |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| common | | | | |
| Mcvideo-private-call | | | | |
| Max-Simul-Call-N10 | "2" | Indicates the maximum number of private calls | | |
| MCVideo-Group-Call | | | | |
| Max-Simul-Call-Nc4 | "3" | Indicates the maximum number of simultaneous group calls | | |
| Max-Simul-Trans-Nc5 | "5" | Indicates the maximum number of transmissions in a group | | |
| Prioritized-MCVideo-Group | | | | |
| MCVideo-Group-Priority[1] | | | | |
| MCVideo-Group-ID | px_MCVideo_Group_A _ID | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 that indicates the group id. | | |
| group-priority-hierarchy | "7" | Indicates the requested presentation priority of group call; Values: 0-7 "7"=the top priority among groups | | |
| on-network | | | | |
| IPv6Preferred | "false" | Indicates whether IPv6 is preferred over IPv4 for on-network operation when the MCPTT UE has both IPv4 and IPv6 host configuration. | | |
| Relay-Service | "true" | Indicates the authorisation to use a relay service | | |
| Relayed-MCVideo-Group[1] | | | | |
| MCVideo-Group-ID | px_MCVideo_Group_A _ID | One allowed relayed MCPTT group | | |
| Relay-Service-Code | "123456" | Identifies a connectivity service the ProSe UE- to-Network Relay provides to Public Safety applications; 24- bit value | TS 23.303 [68] | |

5.5.8.7 MCVideo User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 9.3. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 13.2.

Table 5.5.8.7-1: MCVideo User Profile Defaults

| Derivation Path: TS 24.24.484, c Information Element | lause 9.3 Value/remark | Comment | Reference | Condition |
|--|---|---|--|-----------|
| mcptt-user-profile | value/remark | Comment | Reference | Condition |
| XUI-URI attribute | px_MCVideo_User_XU | | | |
| Act of autibate | I_URI | | | |
| user-profile-index attribute | "0" | | | |
| Status | "true" | MCVideo user profile is enabled | | |
| ProfileName | px_MCVideo_User_A_ Profile_Name | Profile name for the MCVideo user | TS 24.483 [13] clause 13.2.3; | |
| Common | | | | |
| index attribute | "0" | Index for the particular MCVideo user profile | | |
| MCVideoUserID | | Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user | TS 24.483 [13] clause 13.2.7 | |
| index attribute | "0" | | | |
| uri-entry | px_MCVideo_ID_User_ A | MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user | | |
| UserAlias | px_MCVideo_User_A_ | Alphanumeric aliases | TS 24.483 [13] | |
| | Alias | of MCVideo user | clause 13.2.11 | |
| ParticipantType | px_MCVideo_User_A_ ParticipantType | The functional category of the participant (e.g., first responder, second responder, dispatch, dispatch supervisor), typically defined by the MCVideo administrators. | TS 24.483 [13] clause 13.2.15 | |
| MissionCriticalOrganization | px_MCVideo_User_A_ Organization | Indicates the organization an MCVideo user belongs to | TS 24.483 [13] clause 13.2.16 | |
| NotifyList | | | | |
| index attribute | "0" | | | |
| uri-entry | px_MCVideo_ID_User_ B | | | |
| CatList | | | | |
| catentry | "1" | | TS 24.483 [13] clause 13.2.38 | |
| ReceptionPriority | "1" | | | |
| OnNetwork | 1 | | | |
| index | "1" | | | |
| MCVideo Group ID | ny MCVideo Croup A | | | |
| MCVideo-Group-ID | px_MCVideo_Group_A _ID | | | |
| GMS-App-Serv-Id | tsc_MCX_GMS_Hostn ame | | | |
| IdMS-Token-Endpoint | "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv4 |

| Derivation Path: TS 24.24.484, cla Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------|-----------------------|----------------|-----------|
| iniormation Lientent | "https://[" & | Identity management | TS 23.003 [69] | IPv6 |
| | px_MCX_ldMS_token_l | server token endpoint | TS 24.483 [13] | 11 40 |
| | PAddress & "]:" & | identity information | clause 8.2.41A | |
| | px_MCX_ldMS_token_ | lacinity information | 014400 0.2.117 | |
| | Port & | | | |
| | tsc_MCX_IdMS_token_ | | | |
| | UriPath | | | |
| RelativePresentationPriority | "7" | | TS 24.483 [13] | |
| • | | | clause 13.2.51 | |
| MaxAffiliationsNc2 | "10" | | TS 24.483 [13] | |
| | | | clause 13.2.67 | |
| MaxTimeSingleTransmit | "600" | Value in seconds | TS 24.483 [13] | |
| | | | clause 13.2.87 | |
| OffNetwork | "1" | | | |
| index | "1" | | | |
| MCVideoGroupInfo | The Man Violet Control A | | | |
| MCVideo-Group-ID | px_MCVideo_Group_A ID | | | |
| GMS-App-Serv-Id | tsc_MCX_GMS_Hostn | | | |
| Sivio App-Odi V-Id | ame | | | |
| IdMS-Token-Endpoint | "https://" & | Identity management | TS 23.003 [69] | IPv4 |
| Short Erropoliti | px_MCX_ldMS_token_l | server token endpoint | TS 24.483 [13] | |
| | PAddress & ":" & | identity information | clause 8.2.41A | |
| | px_MCX_ldMS_token_ | | | |
| | Port & | | | |
| | tsc_MCX_IdMS_token_ | | | |
| | UriPath | | | |
| | "https://[" & | Identity management | TS 23.003 [69] | IPv6 |
| | px_MCX_IdMS_token_I | server token endpoint | TS 24.483 [13] | |
| | PAddress & "]:" & | identity information | clause 8.2.41A | |
| | px_MCX_IdMS_token_ | | | |
| | Port & | | | |
| | tsc_MCX_IdMS_token_ UriPath | | | |
| RelativePresentationPriority | "7" | | TS 24.483 [13] | |
| relative resemation nonly | , | | clause 13.2.51 | |
| User-Info-Id | px_MCVideo_ID_User_ | | TS 24.483 [13] | |
| | A | | clause 13.2.10 | |
| | | | 2 | |
| cp:ruleset | | | | |
| cp:rule | | | | |
| cp:id attribute | "rule1" | | | |
| cp:actions | | | | |
| allow-create-delete-user- | "true" | | | |
| alias | | | 1 | |
| allow-create-group- | "true" | | | |
| broadcast- group | "truo" | | | |
| allow-create-user- broadcast-group | "true" | | | |
| allow-modify-video | "true" | | | |
| allow-modify-video allow-renegotiate-codec | "true" | | | |
| allow-remegoriate-codec | "true" | | + | |
| allow-remote-control | "true" | | | |
| allow-display-remote-ue | "true" | | | |
| allow-remote-camera | "true" | | | |
| allow-push-video | "true" | | | |
| allow-auto-send-notify | "true" | | | |
| allow-request-affiliated- | "true" | | | |
| groups | | | | |
| allow-request-to-affiliate- | "true" | | | |
| other-users | | | | |
| allow-recommend-to- | "true" | | | |
| affiliate-other-users | | | | |
| allow-regroup | "true" | | | |
| allow-presence-status | "true" | i | 1 | Ī |

| Information Element | Value/remark | Comment | Reference | Condition |
|-----------------------------|--------------|---------|-----------|-----------|
| allow-request-presence | "true" | | | |
| allow-activate-emergency- | "true" | | | |
| alert | | | | |
| allow-cancel-emergency- | "true" | | | |
| alert | | | | |
| allow-cancel-emergency- | "true" | | | |
| alert-any-user | | | | |
| allow-enable-disable-user | "true" | | | |
| allow-enable-disable-UE | "true" | | | |
| allow-off-network-manual- | "true" | | | |
| switch | | | | |
| allow-unlimited-video- | "true" | | | |
| streams | | | | |
| allow-auto-recv | "true" | | | |
| allow-auto-recv-emergency | "true" | | | |
| allow-auto-recv-imminent- | "true" | | | |
| peril | | | | |
| allow-request-override | "true" | | | |
| allow-select-override | "true" | | | |
| allow-override-group-call | "true" | | | |
| allow-off-network | "true" | | | |
| allow-private-call | "true" | | | |
| allow-manual- | "true" | | | |
| commencement | | | | |
| allow-automatic- | "true" | | | |
| commencement | | | | |
| allow-failure-restriction | "true" | | | |
| allow-emergency-group-call | "true" | | | |
| allow-emergency-private- | "true" | | | |
| call | | | | |
| allow-cancel-group- | "true" | | | |
| emergency | | | | |
| allow-imminent-peril-call | "true" | | | |
| allow-cancel-imminent-peril | "true" | | | |
| allow-off-network-group- | "true" | | | |
| call-change-to-emergency | | | | |
| allow-create-delete-user- | "true" | | | |
| alias | | | | |

| Condition | Explanation |
|-----------|----------------------------|
| IPv4 | IP address is IPv4 address |
| IPv6 | IP address is IPv6 address |

5.5.8.8 MCVideo Service Configuration

The structure of a service configuration document is specified in TS 24.484 [14] clause 8.4. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 14.2.

Table 5.5.8.8-1: MCVideo Service Configuration Defaults

| Derivation Path: TS 24.484 [14], of Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------------|---|-------------------------------|-----------|
| service configuration | | | | |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| Common | | | | |
| min-length-alias | "2" | Indicates minimum length of an alphanumeric identifier (i.e., alias) | | |
| broadcast-group | | | | |
| num-levels-group-hierarchy | "1" | Indicates the number of levels of group hierarchy for group-broadcast groups | | |
| num-levels-user-hierarchy | "1" | Indicates the number of levels of user hierarchy for user-broadcast groups | | |
| on-network | | | | |
| signalling-protection | | | | |
| confidentiality-protection | "true" | | | |
| integrity-protection | "true" | | | |
| protection-between-mcvideo- servers | | | | |
| allow-signalling-protection | "true" | | | |
| allow-transmission-control- protection | "true" | | | |
| off-network | | | | |
| private-call | | | | |
| mcvideo-max-duration | "600" | Value in seconds | TS 24.483 [13] clause 14.2.17 | |
| default-prose-per-packet- priority | "1" | Indicates the default ProSe Per-Packet Priority (PPPP) value | | |
| mcvideo-private-call- signalling | "1" | Indicates the default ProSe Per-Packet Priority (PPPP) value | | |
| mcvideo-private-call-media | "1" | Indicates the default ProSe Per-Packet Priority (PPPP) value | | |
| mcvideo-emergency-private- call-signalling | "8" | Indicates the default ProSe Per-Packet Priority (PPPP) value | | |
| mcvideo-emergency-private- call-media | "8" | Indicates the default ProSe Per-Packet Priority (PPPP) value | | |
| num-levels-priority-hierarchy | "4" | | TS 24.483 [13] clause 14.2.18 | |

5.5.8.9 MCDATA Initial UE Configuration

The structure of an initial UE configuration document is specified in TS 24.484 [14] clause 7.2. Single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 8.2.

Table 5.5.8.9-1: MCDATA Initial UE Configuration Defaults

| Derivation Path: TS 24.484 [14], of Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------------|---|---|-----------|
| mcptt-UE-initial-configuration | v aiue/i eiiidi K | Comment | Veletelice | Condition |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical | | |
| Default was modile | | organization | | |
| Default-user-profile | ny MCDete ID Heer | Default Llear Identity | TC 04 400 [40] | |
| User-ID attribute | px_MCData_ID_User_ A "0" | Default User Identity Values 0-255. Indicates | TS 24.483 [13] clause 8.2.6 | |
| user-profile-index attribute | "0" | selected user profile | TS 24.483 [13] clause 8.2.7 | |
| on-network | | | | |
| Timers T100 | "2" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] | |
| T101 | "2" | Values 0-255 sec | Clause 8.2.11 TS 24.380 [10] TS 24.483 [13] clause 8.2.12 | |
| T103 | "5" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.13 | |
| T104 | "2" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.14 | |
| T132 | "3" | Values 0-255 sec | TS 24.380 [10] TS 24.483 [13] clause 8.2.15 | |
| TDU1 | "120" | Value in ms | TS 24.282 [91] clause F.2.3 | |
| TDU2 | "60" | Value in seconds | TS 24.282 [91] clause F.2.3 | |
| HPLMN | | | | |
| PLMN attribute | PLMN1 | the PLMN on which the UE is allowed for MCData services. Public Land Mobile Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the operator. NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing. | TS 23.003 [69] TS 24.483 [13] clause 8.2.16 | |
| service | | MCData related services on a per HPLMN basis | | |
| MCPTT-to-con-ref | px_MCData_ALL_APN | configuration parameter for establishment of the PDN connection for the MCData service | TS 24.483 [13] clause 8.2.21 | |
| MC-common-core-to-con- ref | px_MCData_ALL_APN | configuration parameter for establishment of the PDN connection for the MC common core service | TS 24.483 [13] clause 8.2.24 | |

| Derivation Path: TS 24.484 [14], | | Cammant | Doforon | Condition |
|----------------------------------|----------------------|---|------------------------------|-------------------|
| Information Element | Value/remark | Comment | Reference | Condition |
| MC-ID-to-con-ref | px_MCData_ALL_APN | configuration parameter for | TS 24.483 [13] clause 8.2.27 | |
| | | establishment of the | | |
| | | PDN connection for the | | |
| | | MC identity | | |
| | | management service | | |
| VPLM[1] | DLMNO | VDI MNI configuration | | |
| PLMN attribute | PLMN2 | VPLMN configuration | | |
| | | for another PLMN | | |
| | | which can be used by | | |
| | | the UE to access MCData service | | |
| | | MCData service | | |
| | | NOTE: PLMN2 shall be | | |
| | | a different PLMN to | | |
| | | PLMN1 of a Cell to | | |
| | | which the UE will move | | |
| | | during testing when | | |
| | | specified in a test case. | | |
| service | my MCData ALL ADAL | a and incompation | TC 04 400 [40] | |
| MCPTT-to-con-ref | px_MCData_ALL_APN | configuration parameter for | TS 24.483 [13] clause 8.2.33 | |
| | | | clause 8.2.33 | |
| | | establishment of the PDN connection for the | | |
| | | MCData service | | |
| MC-common-core-to-con- | px_MCData_ALL_APN | configuration | TS 24.483 [13] | |
| ref | | parameter for | clause 8.2.36 | |
| | | establishment of the | | |
| | | PDN connection for the | | |
| | | MC common core | | |
| | | service | | |
| MC-ID-to-con-ref | px_MCData_ALL_APN | configuration | TS 24.483 [13] | |
| | | parameter for | clause 8.2.39 | |
| | | establishment of the | | |
| | | PDN connection for the | | |
| | | MC identity | | |
| App-Server-Info | | management service | | |
| idms-auth-endpoint | "https://" & | Identity management | TS 23.003 [69] | IPv4 |
| · | px_MCX_IdMS_auth_I | server authorisation | TS 24.483 [13] | |
| | PAddress & ":" & | endpoint identity | clause 8.2.41 | |
| | px_MCX_IdMS_auth_P | information | | |
| | ort & | | | |
| | tsc_MCX_ldMS_auth_ | | | |
| | UriPath | | | |
| | "https://[" & | Identity management | TS 23.003 [69] | IPv6 |
| | px_MCX_IdMS_auth_I | server authorisation | TS 24.483 [13] | |
| | PAddress & "]:" & | endpoint identity | clause 8.2.41 | |
| | px_MCX_IdMS_auth_P | information | | |
| | ort & | | | |
| | tsc_MCX_IdMS_auth_ | | | |
| idms-token-endpoint | UriPath "https://" & | Identity management | TS 23.003 [69] | IPv4 |
| idina-token-enupoint | px_MCX_IdMS_token_I | server token endpoint | TS 24.483 [13] | '' V ' |
| | PAddress & ":" & | identity information | clause 8.2.41A | |
| | px_MCX_IdMS_token_ | active information | 514436 U.Z.41A | |
| | Port & | | | |
| | tsc_MCX_IdMS_token_ | | | |
| | UriPath | | | |
| | "https://[" & | Identity management | TS 23.003 [69] | IPv6 |
| | px_MCX_IdMS_token_I | server token endpoint | TS 24.483 [13] | |
| | PAddress & "]:" & | identity information | clause 8.2.41A | |
| | px_MCX_IdMS_token_ | | | |
| | Port & | | | |
| | tsc_MCX_ldMS_token_ | | | |
| | UriPath | | | |

| http-proxy | Derivation Path: TS 24.484 [14], | | | | |
|--|----------------------------------|--|---|-------------------------------|-----------|
| px_MCX_HTTP_Proxy_Port Paddress & 1"-8 px_MCX_HTTP_Proxy_Port | Information Element | Value/remark | Comment | Reference | Condition |
| DX_MCX_HTTP_Proxy Port Proxy Pro | http-proxy | px_MCX_HTTP_Proxy _IPAddress & ":" & px_MCX_HTTP_Proxy _Port | used by the UE for the HTTP TCP connection | TS 24.483 [13] clause 8.2.41B | |
| mme me management server cleasuse 8.2.42 cms tsc_MCX_CMS_Hostna me me management server configuration management server clearity information for the key management server clearity information management server clearity information for the TLS tunnel authentication for the TLS | | px_MCX_HTTP_Proxy _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port | used by the UE for the HTTP TCP connection | TS 24.483 [13] clause 8.2.41B | IPv6 |
| Memory | gms | | management server | TS 24.483 [13] | |
| tls-tunnel-auth-method mutual-authentication "false" Indicates whether untual authentication is used for the TLS tunnel authentication false-one-way authentication false-one-way authentication for the TLS tunnel authentication proxy function of the GMS TS 23.003 [69] TS 24.483 [13] clause 8.2.94 [13] clause 8.2.94 [13] clause 8.2.94 [13] clause 8.2.96 [14] [15] [15] [15] [15] [15] [15] [15] [15 | cms | | configuration management server | TS 24.483 [13] | |
| mutual-authentication "false" Indicates whether mutual authentication is used for the TLS tunnel authentication falses—one-way authentication based on the server certificate is used x509 Not present the X.509 certificate for mutual authentication for the TLS tunnel authentication for the GMS are selected and the proper management service identity for performing subscription proxy function of the GMS are selected for the | | | management server | TS 24.483 [13] | |
| mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate is used x509 Not present Pre-shared key for mutual authentication for the TLS tunnel authentication for the TLS tunnel authentication Responsible to the transport of transport of the transport of transport of the transport of the transport of the transport of the transport of transpo | | | | TO 04 400 [40] | |
| Mutual authentication for the TLS tunnel authentication The group management service URI information which contains the public service identity for performing subscription proxy function of the GMS GMS-VCAP | mutual-authentication | "false" | mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate | | |
| Mutual authentication for the TLS tunnel authentication for the TLS tunnel authentication | x509 | | mutual authentication for the TLS tunnel | clause 8.2.44C | |
| management service URI information which contains the public service identity for performing subscription proxy function of the GMS group-creation-XUI px_MCData_GroupCre ationXUI px_S23.003 [69] px_S24.483 [13] clause 8.2.9B px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S23.003 [| key | Not present | mutual authentication for the TLS tunnel | | |
| px_MCData_GroupCre ationXUI px_MCData_GroupCreation px_MCData_GroupCre ationXUI px_MCData_GroupCreation px_MCData_GroupCre ationXUI px_MCData_GroupCreation px_MCData_GroupCreat | GMS-URI | tsc_MCX_GMSURI | management service URI information which contains the public service identity for performing subscription proxy function of the | TS 24.483 [13] | |
| GMS-XCAP-root-URItsc_MCX_GMSXCAPR ootURIIndicates the group management server XCAP Root URI informationTS 23.003 [69] TS 24.483 [13] clause 8.2.9BCMS-XCAP-root-URItsc_MCX_CMSXCAPR ootURIIndicates the configuration management server XCAP Root URI informationintegrity-protection-enabled"true"Indicates whether integrity protection is enabledTS 24.483 [13] clause 8.2.44Econfidentiality-protection-enabled"true"Indicates whether integrity protection is enabledTS 24.483 [13] clause 8.2.44Eoff-networkIndicates whether integrity protection is enabledTS 24.483 [13] clause 8.2.44F | group-creation-XUI | | Indicates the group creation XUI information for creation | TS 24.483 [13] | |
| ootURI configuration management server XCAP Root URI information integrity-protection-enabled "true" Indicates whether integrity protection is enabled confidentiality-protection-enabled integrity protection is enabled off-network TS 24.483 [13] clause 8.2.44E TS 24.483 [13] clause 8.2.44E TS 24.483 [13] clause 8.2.44E | GMS-XCAP-root-URI | | Indicates the group management server XCAP Root URI | TS 24.483 [13] | |
| integrity protection is enabled confidentiality-protection- enabled "true" Indicates whether integrity protection is enabled off-network integrity protection is enabled clause 8.2.44E TS 24.483 [13] clause 8.2.44F enabled | | | configuration management server XCAP Root URI | TS 24.483 [13] | |
| enabled integrity protection is clause 8.2.44F enabled off-network | integrity-protection-enabled | "true" | integrity protection is | | |
| | | "true" | integrity protection is | | |
| | | | | | |

| Derivation Path: TS 24.484 [14] Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------|--|---------------------------------|-----------|
| TFG1 | "150" | Indicates the timer for | TS 24.379 [9] | Condition |
| 11 61 | 100 | wait for call | TS 24.483 [13] | |
| | | announcement: | clause 8.2.47 | |
| | | Values: 0-65535 ms | 0.0000 0.2 | |
| TFG2 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| | | call announcement; | TS 24.483 [13] | |
| | | Values: 0-65535 ms | clause 8.2.48 | |
| TFG3 | "40" | Indicates the timer for | TS 24.379 [9] | |
| | | call probe | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.49 | |
| | | 0-65535 ms | | |
| TFG4 | "20" | Indicates the timer for | TS 24.379 [9] | |
| | | waiting for the MCData | TS 24.483 [13] | |
| | | user; Values: 0-60 s | clause 8.2.50 | |
| TFG5 | "2" | Indicates the timer for | TS 24.379 [9] | |
| | | not present incoming | TS 24.483 [13] | |
| | | call announcements; | clause 8.2.51 | |
| | | Values: 0-255 s | | |
| TFG11 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCData emergency | TS 24.483 [13] | |
| | | end retransmission; | clause 8.2.52 | |
| | | Values: 0-65535 ms | | |
| TFG12 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCData imminent peril | TS 24.483 [13] | |
| | | end retransmission; | clause 8.2.53 | |
| | | Values: 0-65535 ms | | |
| TFG13 | "1" | Indicates the timer for | TS 24.379 [9] | |
| | | implicit priority | TS 24.483 [13] | |
| | | downgrade; Values: 0- | clause 8.2.54 | |
| TEOAA | "1" | 255 s | TO 04 070 [0] | |
| TFG14 | 1 | Indicates the MCData timer for implicit priority | TS 24.379 [9] TS 24.483 [13] | |
| | | downgrade (imminent | clause 8.2.54A | |
| | | peril); Values: 0-255 s | Clause 6.2.54A | |
| TFP1 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| | 2000 | private call request | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.55 | |
| | | 0-65535 ms | 0.2.00 | |
| TFP2 | "50" | Indicates the timer for | TS 24.379 [9] | |
| | | waiting for call | TS 24.483 [13] | |
| | | response message; | clause 8.2.56 | |
| | | Values: 0-60 s | | |
| TFP3 | "2000" | Indicates the timer for | TS 24.379 [9] | |
| | | private call release | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.57 | |
| | | 0-65535 ms | | |
| TFP4 | "5000" | Indicates the timer for | TS 24.379 [9] | |
| | | private call release | TS 24.483 [13] | |
| | | retransmission; Values: | clause 8.2.58 | |
| | | 0-65535 ms | | |
| TFP5 | "30" | Indicates the timer for | TS 24.379 [9] | |
| | | call release; Values: 0- | TS 24.483 [13] | |
| | | 600 s | clause 8.2.59 | |
| TFP6 | "3000" | Indicates the timer for | TS 24.379 [9] | |
| | | MCData emergency | TS 24.483 [13] | |
| | | private call cancel | clause 8.2.60 | |
| | | retransmission; Values: | | |
| | | 0-65535 ms | TO 0 : 2 = 2 = 2 | |
| TFP7 | "6" | Indicates the timer for | TS 24.379 [9] | |
| | | waiting for any | TS 24.483 [13] | |
| | | message with same | clause 8.2.61 | |
| | | call identifier; Values: | | |
| TEDA | 1100011 | 0-255 s | TO 04 070 101 | |
| TFB1 | "300" | Indicates the timer for | TS 24.379 [9] | |
| | | max duration; Values: 0-600 s | TS 24.483 [13] clause 8.2.62 | 1 |

| erivation Path: TS 24.484 [14] Information Element | Value/remark | Comment | Reference | Conditio |
|--|--------------|--------------------------|--------------------------|----------|
| TFB2 | "10" | Indicates the timer for | TS 24.379 [9] | |
| | | max duration; Values: | TS 24.483 [13] | |
| | | 0-10 s | clause 8.2.63 | |
| TFB3 | "20" | Indicates the timer for | TS 24.379 [9] | |
| 11 20 | 20 | waiting for the MCData | TS 24.483 [13] | |
| | | user; Values: 0-60 s | clause 8.2.64 | |
| T201 | "1000" | Indicates the timer for | TS 24.380 [10] | |
| 1201 | 1000 | | | |
| | | floor request; Values: | TS 24.483 [13] | |
| | | 0-65535 ms | clause 8.2.65 | |
| T203 | "5" | Indicates the timer for | TS 24.380 [10] | |
| | | end of RTP media; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.66 | |
| T204 | "5" | Indicates the timer for | TS 24.380 [10] | |
| | | floor queue position | TS 24.483 [13] | |
| | | request; Values: 0-255 | clause 8.2.67 | |
| | | s ' | | |
| T205 | "1" | Indicates the timer for | TS 24.380 [10] | |
| 00 | · | floor granted request; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.68 | |
| T230 | "10" | Indicates the timer for | TS 24.380 [10] | |
| 1230 | 10 | | 10 24.300 [10] | |
| | | inactivity; Values: 0- | | |
| | | 255 s | | |
| T233 | "10" | Indicates the timer for | TS 24.380 [10] | |
| | | pending user action; | TS 24.483 [13] | |
| | | Values: 0-255 s | clause 8.2.70 | |
| TFE1 | "30" | Indicates the timer for | TS 24.379 [9] | |
| | | MCData emergency | TS 24.483 [13] | |
| | | alert; Values: 0-65535 | clause 8.2.71 | |
| | | s | | |
| TFE2 | "10" | Indicates the timer for | TS 24.379 [9] | |
| 11 62 | 10 | | TS 24.483 [13] | |
| | | MCData emergency | clause 8.2.72 | |
| | | alert re-transmission; | clause 6.2.72 | |
| | | Values: 0-10 s | = 0 0 1 000 fo 12 | |
| TFS1 | "40" | Value in ms | TS 24.282 [91] | |
| | | | clause F.3.1 | |
| TFS2 | "40" | Value in ms | TS 24.282 [91] | |
| | | | clause F.3.1 | |
| TFS3 | "120" | Value in ms | TS 24.282 [91] | |
| | | | clause F.3.1 | |
| Counters | | | | |
| CFP1 | "3" | Indicates the counter | TS 24.379 [9] | |
| | | for private call request | TS 24.483 [13] | |
| | | retransmission | clause 8.2.74 | |
| CED2 | "5" | | TS 24.379 [9] | |
| CFP3 | ٥ | Indicates the counter | | |
| | | for private call release | TS 24.483 [13] | |
| 0554 | 101 | retransmission | clause 8.2.75 | |
| CFP4 | "2" | Indicates the counter | TS 24.379 [9] | |
| | | for private call accept | TS 24.483 [13] | |
| | | retransmission | clause 8.2.76 | |
| CFP6 | "2" | Indicates the counter | TS 24.379 [9] | |
| | | for private call accept | TS 24.483 [13] | |
| | | retransmission | clause 8.2.77 | |
| CFP11 | "2" | Indicates the counter | TS 24.379 [9] | |
| J. 7 1 1 | - | for MCData group call | TS 24.483 [13] | |
| | | | clause 8.2.78 | |
| | | emergency end | ciause 0.2.70 | |
| 05510 | "0" | retransmission | TO 04 070 (0) | |
| CFP12 | "2" | Indicates the counter | TS 24.379 [9] | |
| | | for MCData imminent | TS 24.483 [13] | |
| | | peril call emergency | clause 8.2.79 | |
| | | end retransmission | | |
| C201 | "3" | Indicates the counter | TS 24.379 [9] | |
| | | for floor request | TS 24.483 [13] | |
| | ı | | clause 8.2.80 | l |

| Derivation Path: TS 24.484 [14], | Derivation Path: TS 24.484 [14], clause 7.2 | | | | |
|----------------------------------|---|--------------------------|----------------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| C204 | "2" | Indicates the counter | TS 24.379 [9] | | |
| | | for floor queue position | TS 24.483 [13] | | |
| | | request | clause 8.2.81 | | |
| C205 | "4" | Indicates the counter | TS 24.379 [9] | | |
| | | for floor granted | TS 24.483 [13] | | |
| | | request | clause 8.2.82 | | |
| CFS1 | "5" | | TS 24.282 [91] | | |
| | | | clause G.3.1 | | |
| CFS2 | "5" | | TS 24.282 [91] | | |
| | | | clause G.3.1 | | |

| Condition | Explanation |
|-----------|----------------------------|
| IPv4 | IP address is IPv4 address |
| IPv6 | IP address is IPv6 address |

5.5.8.10 MCDATA UE Configuration

The structure of a UE configuration document is specified in TS 24.484 [14] clause 10.2. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 9.2.

Table 5.5.8.10-1: MCDATA UE Configuration Defaults

| Derivation Path: TS 24.484 [14] of Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------------------------------|---|---|-----------|
| mcdata-UE-configuration | | | | 23 |
| domain attribute | px_MCX_DomainName _Organization_A | Mandatory attribute: domain name of the mission critical organization | | |
| common | | | | |
| short-data-service | | Contains an integer indicating the maximum number of simultaneous SDS transactions (Nc4) allowed for an MCData UE for on-network or off-network group SDS | TS 24.483 clause 9.2.8 | |
| Max-Simul-SDS-Txns-Nc4 | "2" | Indicates the maximum number of SDS Transactions | TS 24.483 [13] clause 10.2 | |
| SDS-Presentation-Priority | | | TS 24.483 clause 9.2.8 | |
| MCDATA -Group-Priority | | | | |
| MCDATA-Group-ID | px_MCData_Group_A_ ID | Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 that indicates the group id. | TS 24.483 [13] clause 10.2 | |
| group-priority-hierarchy | "7" | Indicates the requested presentation priority of group call; Values: 0-7 "7"=the top priority among groups | TS 24.483 [13] clause 9.2.11, 10.2 | |
| File distribution | | 3 3 1 | | |
| Max-Simul-FD-Txns-Nc4 | "4" | Contains an integer indicating the maximum number of simultaneous FD transactions (Nc4) allowed for an MCData UE for on-network or off-network group FD | TS 24.483 clause 9.2.12 | |
| FD-Presentation-Priority | | contains a list of <mcdata-group- priority=""> elements that contains the following elements shown below.</mcdata-group-> | TS 24.483 clause 9.2.13 | |
| MCDATA-Group-Priority | ny MOD-t- O C | Identifies - MOD (| TC 04 400 | |
| MCDATA-Group-ID | px_MCData_Group_A_ | Identifies a MCData | TS 24.483 | |
| group-priority-hierarchy | ID "7" | Group Contains an integer that identifies the relative priority level of that MCData group with 0 being the lowest priority and 255 being the highest priority | clause 9.2.15 TS 24.483 [13] clause 9.2.16, 10.2 | |
| conversation-management | | | | |
| Conversation-Presentation- Priority | | | | |
| MCData-Group-Priority | | | | |
| MCData-Group-ID | px_MCData_Group_A_ ID | Identifies a MCData group | TS 24.483 clause 9.2.15 | |
| group-priority-hierarchy | "7" | Indicates the requested presentation priority of conversation management transactions | TS 24.483 clause 9.2.16 | |

| Derivation Path: TS 24.484 [14] c | | | | |
|-----------------------------------|--------------------------|---|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| transmission-control | | | | |
| Max-Simul-Data- | "3" | Indicates the maximum | TS 24.483 | |
| Transmissions-Nc4 | | number of | clause 9.2.21 | |
| | | simultaneous data | | |
| | | transmissions. | | |
| Max-Data-Transmissions-In- | "3" | Indicates the maximum | TS 24.483 | |
| Group-Nc5 | | number of | clause 9.2.22 | |
| | | simultaneous data | | |
| | | transmissions. | TO 04 400 | |
| Data-Presentation-Priority | | lindicates the | TS 24.483 | |
| | | requested presentation | clause 9.2.23 | |
| | | priority of data | | |
| 1100 / 0 0 0 | | received. | | |
| MCData-Group-Priority | my MCDate O | | | |
| MCData-Group-ID | px_MCData_Group_A_ ID | | | |
| group-priority-hierarchy | "7" | Indicates the requested | TS 24.483 | |
| | | presentation priority of | clause 9.2.26 | |
| | | data received. | | |
| reception-control | | | | |
| Max-Simul-Data_Reception- | "3" | Indicates the maximum | | |
| Nc4 | | number of | | |
| | | simultaneous data | | |
| | | receptions. | | |
| Max-Simul- | "5" | Indicates the maximum | | |
| Data_Receptions-In-Group-Nc5 | | number of data | | |
| | | receptions in a group. | | |
| on-network | | | | |
| IPv6Preferred | "false" | Indicates whether IPv6 | TS 24.483 [13] | |
| | | is preferred over IPv4 | clause 9.2.31, | |
| | | for on-network | 10.2 | |
| | | operation when the | | |
| | | MCDATA UE has both | | |
| | | IPv4 and IPv6 host | | |
| | | configuration. | | |
| Relay-Service | "true" | Indicates the | TS 24.483 [13] | |
| | | authorisation to use a | clause 9.2.32, | |
| | | relay service. | 10.2 | |
| | | NOTE: When the | | |
| | | <relay-service></relay-service> | | |
| | | element is set to "false" | | |
| | | a list of <relayed-< td=""><td></td><td></td></relayed-<> | | |
| | | MCData-Group> | | |
| | | elements is not | | |
| | | needed. | | |

5.5.8.11 MCDATA User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 10.3.2.1. Single MCDATA configuration parameters are defined in TS 24.483 [13] clause 10.2.

Table 5.5.8.11-1: MCDATA User Profile Defaults

| Derivation Path: TS 24.484, clau Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------|---|----------------------------------|-----------|
| mcdata-user-profile | | | | |
| XUI-URI attribute | px_MCData_User_XUI _URI | Contains the XUI of the MCData user for whom this MCData user profile configuration document is intended and does not appear in the user profile configuration managed object specified in 3GPP TS 24.483 [4]. | | |
| user-profile-index attribute | "0" | Indicates the particular MCData user profile configuration document in the collection and corresponds to the "MCDataUserProfileInd ex" element of clause 10.2.8 in 3GPP TS 24.483 [4]. | | |
| Status | "true" | MCData user profile is enabled | | |
| Common | | | | |
| index attribute | "0" | Index for the particular MCDATA user profile | TS 24.483 [13] clause 10.2.6 | |
| UserAlias | | | | |
| alias-entry | px_MCData_User_A_A lias | Alphanumeric aliases of MCDATA user | TS 24.483 [13] clause 10.2.11 | |
| MCDATAUserID | | | | |
| entry | px_MCData_ID_User_ A | | | |
| MissionCriticalOrganization | px_MCData_User_A_O rganization | Indicates the organization an MCData user belongs to | TS 24.483 [13] clause 10.2.16 | |
| FileDistribution | | | | |
| FD-cancel-List-Entry | | | | |
| MCData-ID | px_MCData_ID_User_ A | Contains the MCData user identity (MCData ID) of an MCData user that the configured MCData user is authorised to initiate a one-to-one communication, and corresponds to the "MCDataID" element of clause 10.2.16E in 3GPP TS 24.483 [4]; | TS 24.483 clause 10.2.21 A | |

| Derivation Path: TS 24.484, clau Information Element | vse 10.3.2.1 Value/remark | Common ⁴ | Doforonas | Condition |
|---|------------------------------|---|---------------------------------|-----------|
| | | Comment | Reference | Condition |
| MCData_ID_KMSURI | tsc_MCX_KMS_Hostna me | Contains the KMS URI for the security domain of the MCData user identity (MCData ID) of the MCData user and corresponds to the "MCDataUserIDKMSU RI" element of clause 10.2.9A in 3GPP TS 24.483 [4]. If this parameter is absent, the KMS URI is identified by the <kmssec> element of the <app-server-info> of</app-server-info></kmssec> | TS 24.483 [13] clause 10.2.21 A | Condition |
| | | the MCS UE initial configuration document as specified in clause 7.2.2.1 | | |
| TxRxControl | | | | |
| MaxData1To1 | "65535" | Indicates the maximum amount of data (in megabytes) that an MCData user can transmit in a single request during one-to-one communication. | TS 24.483 [13] clause 10.2.25 | |
| MaxTime1to1 | "65535" | Indicates the maximum amount of time that an MCData user can transmit for in a single request during one-to-one communication. | TS 24.483 [13] clause 10.2.26 | |
| TxReleaseList | px_MCData_ID_User_ A | Indicates an MCData ID of an MCData user that this MCData user is allowed to request release of an ongoing transmission | TS 24.483 [13] clause 10.2.30 | |
| GroupEmergencyAlert | | Indicates the MCData group recipient for an MCData emergency Alert | TS 24.483 [13] clause 10.2.38 | |
| entry | px_MCData_ID_User_ A | | | |
| OnNetwork | | | | |
| index attribute | "0" | Is of type "token" and is included within some elements for uniqueness purposes, and does not appear in the user profile configuration managed object specified in 3GPP TS 24.483 [4]. | | |
| MCDataGroupInfo | 1405 | 1 0 4 3 100 | TO 01 121 | |
| MCData-Group-ID | px_MCData_Group_A_ ID | Indicates the MCData group ID for the on- network MCData group that the MCData user is allowed to use. | TS 24.483 clause 10.2.47 | |
| GMS-App-Serv-ID | | | | |
| entry | tsc_MCX_GMS_Hostn ame | Placeholder for one or more Group Management Server configurations. | | |

| Derivation Path: TS 24.484, claus | e 10.3.2.1 | | | |
|-----------------------------------|--|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| IdMS-Token-Endpoint | "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv4 |
| | "https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv6 |
| Relativepresentation Priority | "7" | | TO 04 405 | |
| MaxAffiliations | "10" | contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users | TS 24.483 clause 10.2.71 | |
| One-To-One-EmergencyAlert | | Indicates the MCData user recipient for an on-network MCData emergency one-to-one alert | TS 24.483 clause 10.2.91 | |
| entry | px_MCData_ID_User_ A | Indicates the name of the MCData user recipient for an on- network MCData emergency one-to-one alert | TS 24.43 clause 10.2.92 | |
| OffNetwork | | | | |
| index attribute | "0" | | | |
| MCDataGroupInfo | | | | |
| MCData-Group-ID | px_MCData_Group_A_ ID | Indicates the MCData group ID for the off-network MCData group that the MCData user is allowed to use. | TS 24.483 [13] clause 10.2.10 | |
| GMS-App-Serv-Id | tsc_MCX_GMS_Hostn | | | |
| IdMS-Token-Endpoint | ame "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv4 |
| | "https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath | Identity management server token endpoint identity information | TS 23.003 [69] TS 24.483 [13] clause 8.2.41A | IPv6 |

| | Derivation Path: TS 24.484, clause 10.3.2.1 | | | | | |
|--|---|--------------|--|-----------|-----------|--|
| the AMCDataGroupInfoselement of the | | Value/remark | Comment | Reference | Condition | |
| the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the on-network group relative to other on-network group relative to other on-network groups and on-network users, and corresponds to the PresentationPriority' element of Clause 10.2.55 indicating the AMCDataGroupInfoselement of AMCDataGroupInfoseleme | | | When it appears in: | | | |
| CoffNetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users, and corresponds to the "Presentation priority" element of clause 10.2.111 in 3GPP TS 24.483 [4]; User-Info-Id | | | When it appears in: the <mcdatagroupinfo> element of the <onnetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the on-network group relative to other on- network groups and on-network users, and corresponds to the "PresentationPriority" element of clause 10.2.55 in 3GPP TS 24.483 [4]; and the <mcdatagroupinfo></mcdatagroupinfo></onnetwork></mcdatagroupinfo> | Reference | Condition | |
| ruleset rule actions allow-create-delete-user- alias allow-create-group- broadcast-group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliate- groups allow-request-to-affiliate- other-users allow-regroup allow-regroup **True** **True** **True** **True** **Itrue** **Itr | | | <offnetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users, and corresponds to the "PresentationPriority" element of clause 10.2.111 in</offnetwork> | | | |
| rule actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-transmit-data "true" allow-request-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-regroup "true" allow-resproup "true" allow-recommend-to- affiliate-other-users allow-resproup "true" allow-request-presence "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user | User-Info-Id | | | | | |
| actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-regroup allow-resproup allow-resproup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-request-presence allow-request-presence allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user | ruleset | | | | | |
| actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-regroup allow-resproup allow-resproup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-request-presence allow-request-presence allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user | | | | | | |
| allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regoup "true" allow-regoup "true" allow-reguest-presence "true" allow-request-presence "true" allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" allow-cancel-emergency- alert-any-user "true" "true" "true" "true" allow-cancel-emergency- alert-any-user | | | | | | |
| broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" | alias | | | | | |
| broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" allow-cancel-emergency- alert-any-user | broadcast- group | | | | | |
| allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-presence-status allow-request-presence allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" | broadcast-group | | | | | |
| groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-presence-status allow-presence-status allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" "true" "true" "true" "true" | | | | | | |
| other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" | groups | | | | | |
| affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency-alert allow-cancel-emergency-alert "true" allow-cancel-emergency-alert "true" | other-users | | | | | |
| allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert "true" allow-cancel-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" | affiliate-other-users | | | | | |
| allow-request-presence "true" | | | | | | |
| allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" | | | | | | |
| allow-activate-emergency- alert "true" allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" | | | | | | |
| allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" | allow-activate-emergency- | | | | | |
| allow-cancel-emergency- alert-any-user "true" | allow-cancel-emergency- | "true" | | | | |
| | allow-cancel-emergency- alert-any-user | | | | | |
| | allow-enable-disable-user | "true" | | | | |

| Derivation Path: TS 24.484, clause 10.3.2.1 | | | | |
|---|--------------|---------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| allow-enable-disable-UE | "true" | | | |
| allow-off-network-manual- | "true" | | | |
| switch | | | | |
| allow-off-network | "true" | | | |
| allow-create-delete-user- | "true" | | | |
| alias | | | | |

| Condition | Explanation | |
|-----------|----------------------------|--|
| IPv4 | IP address is IPv4 address | |
| IPv6 | IP address is IPv6 address | |

5.5.8.12 MCDATA Service Configuration

The structure of a service configuration document is specified in TS 24.484 [14] clause 10.4.2.1. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 11.2.

Table 5.5.8.12-1: MCDATA Service Configuration Defaults

| Derivation Path: TS 24.484 [14], | | Commont | Deference | Conditio- |
|--|--------------------|---|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| service configuration domain attribute | my MOD-t- II A O | Mandate | | 1 |
| domain attribute | px_MCData_User_A_O | Mandatory attribute: domain name of the | | |
| | rganization | | | |
| | | mission critical | | |
| an naturall | | organization | | |
| on-network | | | | |
| tx-and-rx-control | "4000000" | The manifestory date | | |
| max-data-size-sds-bytes | "10000000" | The maximum data | | |
| | | that the originating | | |
| | | client can send in an | | |
| | | SDS message | | |
| max-payload-size-sds- | "1000" | The maximum payload | | |
| cplane-bytes | | data that the originating | | |
| | | client can send in an | | |
| | | SDS message over C- | | |
| | | plane | | |
| max-data-size-fd-bytes | "100000000" | The maximum data | | |
| | | that the originating | | |
| | | client can send in an | | |
| | | FD message | | |
| max-data-size-auto-recv- | "10000000" | The maximum data | | |
| bytes | | that the server can | | |
| | | send to the terminating | | |
| | | client without | | |
| | | requesting the user to | | |
| | | indicate a present need | | |
| | | for the data | | |
| default-file-availability | "10000000" | The default time for | | |
| • | | which a file is available | | |
| | | on the server for | | |
| | | download, if a explicit | | |
| | | time period is not | | |
| | | requested by the | | |
| | | originating client | | |
| max-file-availability | "10000000" | The maximum time for | | |
| • | | which a file can be | | |
| | | made available on the | | |
| | | server for download | | |
| signalling-protection | | | | |
| confidentiality-protection | "true" | Indicating whether | | |
| р | | confidentiality | | |
| | | protection of MCData | | |
| | | signalling is enabled or | | |
| | | disabled between the | | |
| | | MCData client and | | |
| | | MCData server | | |
| integrity-protection | "true" | Indicating whether | | |
| integrity protection | 1140 | integrity protection of | | |
| | | MCData signalling is | | |
| | | enabled or disabled | | |
| | | between the MCData | | |
| | | client and MCData | | 1 |
| | | server | | 1 |
| protection-between-mcdata- | | 301761 | | |
| servers | | | | |
| allow-signalling-protection | :true" | Indicating whether | | |
| anow digitaliting protoction | 40 | protection of MCData | | |
| | | signalling is enabled | | |
| | | between MCData | | |
| | | servers | | |
| off-network | | 3317010 | | |
| default-prose-per-packet- | | | | |
| priority | "1" | | TO 04 400 (40) | |
| mcdata-one-to-one-call- signalling | ^{T"} | | TS 24.483 [13] | 1 |
| SIGNATURO | 1 | 1 | clause 11.2.11 | 1 |

| Derivation Path: TS 24.484 [14], clause 10.4 | | | | |
|--|--------------|---------|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| mcdata-one-to-one-call- | "1" | | TS 24.483 [13] | |
| media | | | clause 11.2.12 | |

- 5.5.9 Default miscellaneous messages and other information elements
- 5.5.9.1 MIKEY-SAKKE I_MESSAGE
- CSK distribution (MIKEY-SAKKE sent by the UE)

Table 5.5.9.1-1: MIKEY-SAKKE I_MESSAGE (CSK distribution by the UE)

| Derivation path: RFC 6509 [23], RFC 6043 [3 | | Cammani | Condition |
|---|-------------------------|------------------------------|-----------|
| Field | Value/remark | Comment | Condition |
| MIKEY Common Header { | Any | | |
| version | '0000001'B | CAKKE man (OC) | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | Identifier for the next | | |
| V | payload (NOTE 1) '0'B | | |
| V PRF func | '000001'B | DDE LIMAC CLIA | |
| | | PRF-HMAC-SHA- 256 | |
| CSB ID | Any value but 4 most | 32 bit CSK-ID: the | |
| | significant bits set to | 4 most significant | |
| | '0010'B | bits indicate the | |
| | | purpose of the | |
| | | key, the other 28- | |
| | | bits shall be | |
| | | randomly | |
| | | generated (TS 33.180 [94] | |
| | | clause 5.2.2 and | |
| | | E.6.11) | |
| #CS | '0000001'B or | Number of crypto | |
| #OO | '00000001B 01 | sessions in the | |
| | 00000000 | CS ID map info: if | |
| | | #CS is 0 the | |
| | | default security | |
| | | policies shall be | |
| | | applied | |
| | | (TS 33.180 [94] | |
| | | E.1.2) | |
| CS ID map type | 2 if #CS > 0 | GENÉRIC-ID | |
| | 1 if #CS == 0 | empty map | |
| CS ID map info { | Present only if #CS > 0 | | |
| CS ID | '00000110'B | CS ID of the | |
| | | crypto session: '6' | |
| | | for CSK use within | |
| | | MCPTT | |
| | | (TS 33.180 [94] E.4.2) | |
| | | Editor's note: | |
| | | value to be | |
| | | confirmed | |
| Prot type | 0 | SRTP | |
| | ľ | the security | |
| | | protocol to be | |
| | | used for the | |
| | | crypto session | |
| S | Any value | S flag to indicate | |
| | , | whether the ROC | |
| | | and SEQ fields | |
| | | are provided ('1') | |
| | | or if they are | |
| | | omitted ('0') | |
| #P | 1 | the number of | |
| | | security policies | |
| | | provided for the | |
| | | crypto session | |
| Ps { | | lists the policies | |
| | | for the crypto | |
| Delieu no 4 | A | session | |
| Policy_no_1 | Any value | a policy_no that | |
| | | corresponds to | |
| | | the policy_no of a | |
| | | SP payload | |
| .] | | | |

| Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3 | 3830 [24] | | |
|--|---|---|-----------|
| Field | Value/remark | Comment | Condition |
| Session Data Length Session Data { | Present if Session Data Length > 0 | 16 bits the length of Session Data (in bytes). For the Prot type SRTP, Session Data MAY be omitted in the initial message (length = 0), but it MUST be provided in the response message. session data for | Condition |
| SSRC | Any value | the crypto session specifies the | |
| ROC | Any value if S flag is set, | SSRC that MUST be used for the crypto session current/initial | |
| | not present otherwise | rollover counter. If the session has not started, this field is set to '0' | |
| SEQ | Any value if S flag is set, not present otherwise | current/initial sequence number | |
| SPI Length | Length of the SPI | SPI MAY be omitted in the initial message (length = 0), but it has to be provided in the response message | |
| SPI | Any value if present | the SPI (or MKI) corresponding to the session key to (initially) be used for the crypto session. Other keys can be used. | |
| } | | | |
| Timestamp Payload (T) { | | Addressed by '00000101'B in the 'Next payload' field of the previous payload | |
| Next payload | Identifier for the next payload (NOTE 1) | | |
| TS Type | (00000000)B | NTP-UTC (0): 64- bits | |
| TS Value | Any value | 64bit UTC value representing the number of seconds since 0h on 1 January 1900 with respect to the Coordinated Universal Time (UTC) | |

| Derivation path: RFC 6509 [23], RFC 6043 [2 | | Commont | Condition |
|---|----------------------------|---|-----------|
| Field | Value/remark | Comment | Condition |
| RAND Payload { | | Addressed by '00001011'B in the | |
| | | | |
| | | 'Next payload' | |
| | | field of the | |
| Next period | Identifier for the next | previous payload | |
| Next payload | | | |
| DAND Ion | payload (NOTE 1) | At least 40 Dutes | |
| RAND len | '00010000'B | At least 16 Bytes | |
| RAND | 128-bit random number | 128-bit random | |
| 1 | | number | |
| } IDD: | | A -l -l l | |
| IDRi payload { | | Addressed by | |
| | | '00001110'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| Maritimental | I don't i on fon the count | previous payload | |
| Next payload | Identifier for the next | | |
| 15.5.1 | payload (NOTE 1) | 1 ''' (100'') | |
| ID Role | 1 | Initiator (IDRi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | px_MCPTT_ID_User_A | MCPTT ID | |
| | | See | |
| | | TS 33.180 [94] | |
| | | clause E.4.1 | |
| | px_MCVideo_ID_User_A | MCVideo ID | MCVIDEO |
| | | See | |
| | | TS 33.180 [94] | |
| | | clause E.4.1 | |
| | px_MCData_ID_User_A | MCData ID | MCDATA |
| | | See | |
| | | TS 33.180 [94] | |
| | | clause E.4.1 | |
| } | | | |
| IDRr payload { | | Addressed by | |
| | | '00001110'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | | |
| | payload (NOTE 1) | | |
| ID Role | 2 | Responder (IDRr) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | Same URI as used as | URI of the server | |
| | request URI of the SIP | to which the | |
| | message containing the | message is sent | |
| | MIKEY-SAKKE | | |
| | I_MESSAGE | | |
| } | | | |
| IDRkmsi payload { | | Addressed by | |
| - 1 - 2 (| | '00001110'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | 1 2 2 2 2 2 2 3 2 3 3 3 3 3 3 3 3 3 3 3 | |
| | payload (NOTE 1) | | |
| ID Role | 6 | Initiator's KMS | |
| | | (IDRkmsi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | J. (. | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| 15 data | e | initiating user (UE) | |
| } | | | |
| J | 1 | 1 | i e |

| Derivation path: RFC 6509 [23], RFC 6043 | [20], KFU 3830 [24] | Commont | Condition |
|--|---------------------------|--------------------|-----------|
| Field | Value/remark | Comment | Condition |
| IDRkmsr payload { | | Addressed by | |
| | | '00001110'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | | |
| | payload (NOTE 1) | | |
| ID Role | 7 | Responder's KMS | |
| | | (IDRkmsr) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| | e | responder (MCX | |
| | | domain) | |
| } | | Addressed by | |
| J | | '00001010'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | | |
| On a suite Dana and | D | previous payload | |
| Security Properties payload { | Present if #CS > 0 | If not present | |
| | | (#CS == 0) then | |
| | | the default | |
| | | security profile | |
| | | defined in Annex | |
| | | E.4.2 of | |
| | | TS 33.180 [94] | |
| | | shall be used | |
| Next payload | Identifier for the next | | |
| . , | payload (NOTE 1) | | |
| Policy no | same as Policy_no_1 in | | |
| . 66)6 | the CS ID map info of the | | |
| | header payload | | |
| Prot type | 0 | SRTP | |
| Policy param length | 0 | SIXTI | |
| | | | |
| Policy param { | | | |
| <u> </u> | <u>_</u> | | |
| Туре | 0 | Encryption | |
| | | Algorithm | |
| length | | | |
| value | 6 | AES-GCM | |
| } | | | |
| { | | | |
| Type | 1 | Session | |
| , | | encryption key | |
| | | length | |
| length | | <u> </u> | |
| value | 16 | 16 octets | |
| } | | .0 00.0.0 | |
| ſ | | | |
| Type | 4 | Coopies self-lies | |
| Туре | 4 | Session salt key | |
| La caretta | | length | |
| length | 1.5 | 40 4 1 | |
| value | 12 | 12 octets | |
| } | | | |
| { | | | |
| Type | 5 | SRTP PRF | |
| length | | | |
| value | 0 | AES-CM | |
| } | | | |
| <u> </u> | | | |
| Type | 6 | Key derivation | |
| Туре | Ö | | |
| longth | | rate | |
| length | | | |
| value | 0 | No session key | |
| | | refresh. | |

| Derivation path: RFC 6509 [23], RFC 6043 [3 | Value/remark | Comment | Condition |
|---|-------------------------|--------------------|-----------|
| rieia | value/remark | Comment | Condition |
| } | | | |
| Type | 42 | DOC transmission | |
| Туре | 13 | ROC transmission | |
| longth | | rate | |
| length | 1 | ROC transmitted | |
| value | 1 | | |
| 1 | | in every packet. | |
| } | | | |
| Tuno | 18 | SRTP | |
| Туре | 16 | Authentication tag | |
| | | length | |
| longth | | lengui | |
| length value | 4 | 4 octets for | |
| value | 4 | transmission of | |
| | | ROC | |
| 1 | | ROC | |
| <u> </u> | | + | |
| Type | 19 | SRTCP | |
| Туре | 19 | Authentication tag | |
| | | length | |
| length | | ICHYUI | |
| value | 0 | ROC need not be | |
| value | 0 | transmitted in | |
| | | SRTCP. | |
| 1 | | SKICE. | |
| } | | | |
| Tuno | 20 | AEAD | |
| Туре | 20 | authentication tag | |
| | | length | |
| length | | lengui | |
| value | 16 | 16 octets | |
| value | 10 | 10 001618 | |
| } | | | |
| } | | | |
| SAKKE payload { | | Addressed by | |
| SAKKE payload (| | '00011010'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | provious payload | |
| Next payload | payload (NOTE 1) | | |
| SAKKE params { | 1 | Parameter Set 1 | |
| or title params (| ' | according to RFC | |
| | | 6509 [23], | |
| | | Appendix A | |
| ID scheme | 2 | '3GPP MCX | |
| | _ | hashed UID' | |
| | | (33.180 [94] | |
| | | E.1.2) | |
| SAKKE data length | Length of SAKKE data | ' | |
| - | (in bytes) | | |
| SAKKE data | Encapsulated CSK | The CSK is | |
| | | encapsulated by | |
| | | using the public | |
| | | key (PubEncKey | |
| | | in KMS | |
| | | Certificate) and | |
| | | the UID generated | |
| | | from the MDSI of | |
| | | the MCX Domain | |
| | | (provided in IDRr) | |
| | | | |

| Field | FC 3830 [24] Value/remark | Comment | Condition |
|------------------------|---|--|-----------|
| SIGN (ECCSI) payload { | value, i cinari | Addressed by '00000100'B in the 'Next payload' field of the previous payload | |
| S type | 2 | ECCSI signature | |
| S len | Length of the signature field (in bytes) | 12 bits | |
| S data | Signature: Shall be validated by the SS | The signature shall be validated according to RFC 3830 [24] clause 5.3 using the algorithm according to RFC 6507 [98] clause 5.2.2 using the UID generated from the MC Service user ID associated with the initiating user (provided in IDRi payload). | |

NOTE 1: MIKEY payloads may occur in any order apart from the header payload which is always the first payload and the signature payload which is always the last payload

Editor's note: A further table may be needed for CSK download by the SS

- Private call (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-2: MIKEY-SAKKE I_MESSAGE (Private call) by the SS

| Derivation path: RFC 6509 [23], RFC 6043 [2 | Value/remark | Comment | Condition |
|---|--------------------------|-----------------------------|-------------|
| MIKEY Common Header { | Taido/ioillain | - Janniont | Contaction |
| version | '0000001'B | | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | '00000101'B | Next payload is | |
| , , | | timestamp | |
| V | '0'B | | |
| PRF func | '000001'B | PRF-HMAC-SHA- | |
| | | 256 | |
| CSB ID | '0001xxxx xxxxxxxxx'B | 32-bit PCK-ID | |
| | | The 4 most | |
| | | significant bits of | |
| | | the PCK-ID | |
| | | indicate the purpose of the | |
| | | PCK is to protect | |
| | | Private call | |
| | | communications, | |
| | | the other 28-bits | |
| | | are randomly | |
| | | generated | |
| #CS | '00000000'B | the number of | |
| | | crypto sessions in | |
| | | the CS ID map | |
| | | info. | |
| CS ID map type | 1 | GENERIC-ID | |
| CS ID map Info | not present | | |
| } Timestame Daylood (T) (| | | |
| Timestamp Payload (T) { Next payload | '00001011'B | Next paylood is | |
| Next payload | 0000101116 | Next payload is RAND | |
| TS Type | '00000000'B | NTP-UTC (0): 64- | |
| ТО Турс | 00000000 B | bits | |
| TS Value | Current system time | 64bit UTC value | |
| . • | Can on System time | representing the | |
| | | number of | |
| | | seconds since 0h | |
| | | on 1 January | |
| | | 1900 with respect | |
| | | to the Coordinated | |
| | | Universal Time | |
| 1 | | (UTC) | |
| } RAND Payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| Next payload | 00001110 В | IDRi | |
| RAND len | '00010000'B | 16 Bytes RAND | |
| RAND | 128-bit random number | 10 Dytes 10 tive | |
| } | 120 St. Idildoll Hallbol | | |
| IDRi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| • • | | IDRi | |
| ID Role | 1 | Initiator (IDRi) | |
| ID Type | 0 | URI | |
| ID len | Length of ID Data | | |
| ID data | px_MCPTT_ID_User_B | MCPTT ID | |
| | | associated with | |
| | | the initiating user | 140: "5 = 5 |
| | px_MCVideo_ID_User_B | MCVideo ID | MCVIDEO |
| | | See | |
| | | TS 33.180 [94] | |
| | px_MCData_ID_User_B | clause E.4.1 MCData ID | MCDATA |
| | px_ivioData_iD_0sei_B | See | IVICUATA |
| | | TS 33.180 [94] | |
| | | clause E.4.1 | |
| | | clause E.4.1 | |

| Derivation path: RFC 6509 [23], RFC 6043 [2 | 25], RFC 3830 [24] Value/remark | Comment | Condition |
|---|------------------------------------|-----------------------|-----------|
| riela \ | value/remark | Comment | Condition |
| } IDRr payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| Next payload | 0000111018 | IDRkmsi | |
| ID Role | 2 | Responder (IDRr) | |
| ID Type | 0 | responder (IDIN) | |
| ID len | Length of ID Data | | |
| ID data | px_MCPTT_ID_User_A | MCPTT ID | |
| ID data | px_ivici i i_ib_osei_A | associated to the | |
| | | receiving user | |
| | px_MCVideo_ID_User_A | MDSI of the | MCVIDEO |
| | px_wovideo_ib_coci_/(| MCVideo Domain | MOVIDEO |
| | px_MCData_ID_User_A | MDSI of the | MCDATA |
| | px_wobata_ib_osci_/t | MCData Domain | MODITIN |
| } | | WODala Domain | |
| IDRkmsi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| rext payload | 0000111018 | IDRkmsr | |
| ID Role | 6 | Initiator's KMS | 1 |
| 10 11010 | Ŭ | (IDRkmsi) | |
| ID Type | 0 | (25) (((1))) | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| ID data | e | initiating user | |
| 1 | | initiating user | |
| IDRkmsr payload { | | | |
| Next payload \(\) | '00001010'B | Next payload is | |
| Next payload | 0000101010 | Security | |
| | | Properties | |
| ID Role | 7 | Responder's KMS | |
| ID Role | ' | (IDRkmsr) | |
| ID Type | 0 | (IDIXKIIISI) | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| ID data | e | responding user | |
| | е | (UE) | |
| 1 | | (OL) | |
| SAKKE payload { | | | |
| Next payload | '00000100'B | Next payload is | |
| Next payload | 00000100 B | SIGN | |
| SAKKE params { | 1 | Parameter Set 1 | |
| SARKE params (| ' | according to RFC | |
| | | 6509 [23], | |
| | | Appendix A | |
| ID Scheme | 2 | '3GPP MCX | |
| ID Scheme | 2 | hashed UID' | |
| | | (33.180 [94] | |
| | | E.1.2) | |
| SAKKE data length | Length of SAKKE data | 16 bits | 1 |
| OAKKE data leligili | (in bytes) | าบ มแอ | |
| SAKKE data | Encapsulated PCK | The PCK is | 1 |
| UNINE Uala | Lilicapsulated FCN | encapsulated by | |
| | | using the public | |
| | | | |
| | | key (PubEncKey in KMS | |
| | | | |
| | | Certificate) and | |
| | | the UID generated | |
| | | from the MC | |
| | | Service user ID of | |
| | | the terminating | 1 |
| 1 | | user | 1 |
| } | | | 1 |
| CICN (ECCSI) payload (| | | |
| SIGN (ECCSI) payload { S type | 2 | ECCSI signature | |

| Derivation path: RFC 6509 [23], RFC 6043 [25], | RFC 3830 [24] | | |
|--|---|--|-----------|
| Field | Value/remark | Comment | Condition |
| S len | Length of the signature field (in bytes) | 12 bits | |
| S data | Signature: In case of UL message the signature shall be validated by the SS | Signature created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the MC Service user ID of the initiating user | |
| } | | | |

Editor's note: Table 5.5.9.1-2 needs to be reviewed

Private call (MIKEY-SAKKE sent by the UE)

Table 5.5.9.1-2A: MIKEY-SAKKE I_MESSAGE (Private call) by the UE

| Derivation path: RFC 6509 [23], RFC 6043 [25], RFC | 3830 [24] | | |
|--|-------------------------|------------------------------------|-----------|
| Field | Value/remark | Comment | Condition |
| MIKEY Common Header { | | | |
| version | '00000001'B | | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | Identifier for the next | | |
| | payload (NOTE 1) | | |
| V | '0'B | 5551111100111 | |
| PRF func | '0000001'B | PRF-HMAC-SHA- | |
| CSB ID | '0001xxxx xxxxxxxx'B | 256 32-bit PCK-ID | |
| COBID | 0001XXXX XXXXXXX B | The 4 most | |
| | | significant bits of | |
| | | the PCK-ID | |
| | | indicate the | |
| | | purpose of the | |
| | | PCK is to protect | |
| | | Private call | |
| | | communications, | |
| | | the other 28-bits | |
| | | are randomly | |
| #00 | (00000001) | generated | |
| #CS | '00000001'B or | Number of crypto | |
| | '00000000'B | sessions in the | |
| | | CS ID map info: if #CS is 0 the | |
| | | default security | |
| | | policies shall be | |
| | | applied (TS | |
| | | 33.180 [94] E.1.2) | |
| CS ID map type | 2 if #CS > 0 | GENERIC-ID | |
| | 1 if #CS == 0 | empty map | |
| CS ID map Info { | Present only if #CS > 0 | | |
| CS ID | '00000000'B or | CS ID of the | MCPTT |
| | '00000001'B | crypto session: '0' | |
| | | for PCK use from | |
| | | initiatior or '1' for PCK use from | |
| | | receiver within | |
| | | MCPTT (TS | |
| | | 33.180 [94] E.3.3) | |
| | '00000010'B or | CS ID of the | MCVIDEO |
| | '00000011'B | crypto session: '2' | |
| | | for PCK use from | |
| | | initiatior or '3' for | |
| | | PCK use from | |
| | | receiver within | |
| | | MCVideo (TS | |
| Prot type | 0 | 33.180 [94] E.3.3) SRTP | |
| Prot type | 0 | the security | |
| | | protocol to be | |
| | | used for the | |
| | | crypto session | |
| S | Any value | S flag to indicate | |
| | | whether the ROC | |
| | | and SEQ fields | |
| | | are provided ('1') | |
| | | or if they are | |
| #D | 1 | omitted ('0') | |
| #P | 1 | the number of | |
| | | security policies provided for the | |
| | | crypto session | |
| Ps { | | lists the policies | |
| | | for the crypto | |
| | | session | |
| | 1 | | |

| Derivation path: RFC 6509 [23], RFC 6043 | 3 [25], RFC 3830 [24] | | |
|--|---|--|-----------|
| Field | Value/remark | Comment | Condition |
| Policy_no_1 | Any value | a policy_no that corresponds to the policy_no of a SP payload | |
| } | | | |
| Session Data Length | Length of Session Data (in bytes) | 16 bits the length of Session Data (in bytes). For the Prot type SRTP, Session Data MAY be omitted in the initial message (length = 0), but it MUST be provided in the response message. | |
| Session Data { | Present if Session Data Length > 0 | session data for the crypto session | |
| SSRC | Any value | specifies the SSRC that MUST be used for the crypto session | |
| ROC | Any value if S flag is set, not present otherwise | current/initial rollover counter. If the session has not started, this field is set to '0' | |
| SEQ | Any value if S flag is set, not present otherwise | current/initial sequence number | |
| } | | | |
| SPI Length | Length of the SPI | SPI MAY be omitted in the initial message (length = 0), but it MUST be provided in the response message | |
| SPI | Any value if present | the SPI (or MKI) corresponding to the session key to (initially) be used for the crypto session. Other keys can be used. | |
| } | | | |
| Timestamp Payload (T) { | | Addressed by '00000101'B in the 'Next payload' field of the previous payload | |
| Next payload | Identifier for the next payload (NOTE 1) | | |
| TS Type | '00000000'B | NTP-UTC (0): 64- bits | |

| Field Value Comment Condition Any value 64bit UTC value representing the number of seconds since 0 to on 1 January 1900 with respect to the Coordinated Universal Time (UTC) RAND Payload { Addressed by 70000 101 B in the head payload previous payload (NOTE 1) BAND Any value 128-bit random number previous payload field of the previous payload field of the previous payload field of the previous payload previous payload previous payload previous payload previous payload field of the previous payload previous payload previous payload previous payload previous payload field of the previous payload previous payload previous payload previous payload previous payload previous payload field of the previous payload pr | Derivation path: RFC 6509 [23], RFC 6043 [25], RFC | | | |
|--|--|-------------------------|-------------------|-----------|
| representing the number of seconds since 0h on 1 January 1900 with respect to the Coordinated Universal Time (UTC) | | | | Condition |
| Next payload Identifier for the next | TS Value | Any value | | |
| | | | | |
| On 1, January 1900 with respect to the Coordinated Universal Time (UTC) | | | | |
| 1900 with respect to the Coordinated Universal Time (UTC) | | | | |
| To the Coordinated Universal Time (UTC) | | | | |
| Universal Time (UTC) | | | 1900 with respect | |
| Addressed by O0001011'B in the Next payload Identifier for the next payload Next payload Identifier for the next payload Next p | | | | |
| Addressed by | | | | |
| Next payload | 1 | | (UTC) | |
| Next payload | RAND Payload { | | Addressed by | |
| Next payload Identifier for the next payload (NOTE 1) | , , | | | |
| Next payload Identifier for the next payload (NOTE 1) | | | 'Next payload' | |
| Identifier for the next | | | field of the | |
| Payload (NOTE 1) 16 Bytes RAND RAND 16 Bytes RAND RAND Any value 128-bit random number 128-bit random 128-b | | | previous payload | |
| RAND Page RAND | Next payload | | | |
| RAND Any value 128-bit random number Addressed by '00001110'B in the 'Next payload' field of the previous payload by the previous payload horized with the initiating user in the 'initiation' payload' (Fig. 2) and the previous payload with the initiating user in the 'initiating user in the 'initiation' user in the 'initiating user in the 'initiation' (IDR) Draw | DAND Ion | | 4C Duton DAND | |
| IDRi payload { | | | | |
| IDRi payload { | RAND | Any value | | |
| Next payload | } | | HUHIDEI | |
| Next payload | IDRi pavload { | | Addressed by | |
| Next payload | payload (| | | |
| Next payload Identifier for the next payload (NOTE 1) D Role | | | | |
| Identifier for the next payload (NOTE 1) | | | | |
| Identifier for the next payload (NOTE 1) | | | | |
| DR Role | Next payload | Identifier for the next | | |
| D Type | . , | payload (NOTE 1) | | |
| Dien | ID Role | | | |
| D data | ID Type | 1 | URI | |
| associated with the initiating user px_MCVideo_ID_User_A MCVideo_ID See TS 33.180 94 clause E.4.1 px_MCData_ID_User_A MCData_ID See TS 33.180 94 clause E.4.1 px_MCData_ID_User_A MCData_ID See TS 33.180 94 clause E.4.1 See TS 33.180 94 clause E.4.1 See TS 33.180 94 clause E.4.1 Addressed by '00001110'B in the 'Next payload' field of the previous payload Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID Iben Length of ID Data ID data px_MCPTT_ID_User_B MCPTT_ID associated to the receiving user px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MCDATA MC | ID len | | | |
| Description | ID data | px_MCPTT_ID_User_A | | |
| px_MCVideo_ID_User_A MCVideo_ID_Ser_TS 33.180 [94] clause E.4.1 px_MCData_ID_User_A MCData_ID Ser_TS 33.180 [94] clause E.4.1 px_MCData_ID_User_A MCData_ID Ser_TS 33.180 [94] clause E.4.1 Ser_TS 33.180 [94] clause E.4.1 Ser_TS 33.180 [94] clause E.4.1 Addressed by '00001110'B in the 'Next payload' field of the previous payload Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID ID ID ID URI URI ID | | | | |
| See TS 33.180 [94] clause E.4.1 | | | | |
| Px_MCData_ID_User_A MCData_ID MCDATA MCD | | px_MCVideo_ID_User_A | | MCVIDEO |
| DR payload { Duser_A MCData ID See TS 33.180 [94] clause E.4.1 | | | | |
| See TS 33.180 [94] clause E.4.1 | | | | |
| Section | | px_MCData_ID_User_A | | MCDATA |
| IDRr payload { IDRr payload { IDR payload { Identifier for the next payload (NOTE 1) ID Role ID Role ID Type ID Length of ID Data ID data ID data ID data ID data ID www.mcPtt_ID_User_B ID ww.mcPtt_ID_User_B ID ww.mcVideo_ID_User_B | | | | |
| Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID len Length of ID Data ID data px_MCPTT_ID_User_B MCPTT ID associated to the receiving user px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCData Domain px_MCData_ID_User_B Addressed by '00001110'B in the 'Next payload' field of the 'Next p | | | [94] clause E.4.1 | |
| Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID len Length of ID Data ID data px_MCPTT_ID_User_B MCPTT ID associated to the receiving user px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCData Domain px_MCData_ID_User_B Addressed by '00001110'B in the 'Next payload' field of the 'Next p | IDPr payload (| | Addrosped by | |
| Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID len Length of ID Data ID data px_MCPTT_ID_User_B MCPTT ID associated to the receiving user px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCData Domain px_MCData_ID_User_B MCDATA | iDRI payload { | | | |
| Next payload Identifier for the next payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID len Length of ID Data ID data px_MCPTT_ID_User_B MCPTT ID associated to the receiving user px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCDATA MCDATA MCDATA Domain Px_MCData_ID_User_B Addressed by '00001110'B in the 'Next payload' field of the metal previous payload Next payload Next payload' field of the 'Next payload' field | | | | |
| Next payload Identifier for the next payload (NOTE 1) | | | | |
| Next payload Identifier for the next payload (NOTE 1) ID Role ID Type ID Type ID I | | | | |
| payload (NOTE 1) ID Role 2 Responder (IDRr) ID Type 1 URI ID len Length of ID Data ID data px_MCPTT_ID_User_B px_MCVideo_ID_User_B px_MCVideo Domain px_MCData_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCDATA MCDATA Addressed by '00001110'B in the 'Next payload' field of the | Next payload | Identifier for the next | p | |
| ID Role ID Type ID In ID ID In ID ID In ID In ID | 1 - 4 | | | |
| ID Type ID len Length of ID Data ID data px_MCPTT_ID_User_B px_MCVideo_ID_User_B px_MCVideo_ID_User_B px_MCVideo Domain px_MCData_ID_User_B MDSI of the MCVideo Domain px_MCData_Domain Px_MCData_Domain Addressed by '00001110'B in the 'Next payload' field of the | ID Role | | Responder (IDRr) | |
| ID len ID data D data | | 1 | | |
| ID data px_MCPTT_ID_User_B px_MCVideo_ID_User_B px_MCVideo_ID_User_B px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCDATA | | Length of ID Data | | |
| associated to the receiving user px_MCVideo_ID_User_B px_MCVideo_ID_User_B MDSI of the MCVideo Domain px_MCData_ID_User_B MDSI of the MCDATA MCDATA MCDATA MCDATA Addressed by '00001110'B in the 'Next payload' field of the | | | | |
| px_MCVideo_ID_User_B MDSI of the MCVIDEO px_MCData_ID_User_B MDSI of the MCDATA px_MCData_ID_User_B MDSI of the MCDATA MCDA | | | | |
| px_MCData_ID_User_B MDSI of the MCDATA MCData Domain } IDRkmsi payload { Addressed by '00001110'B in the 'Next payload' field of the | | | | |
| px_MCData_ID_User_B MDSI of the MCDATA MCData Domain } IDRkmsi payload { Addressed by '00001110'B in the 'Next payload' field of the | | px_MCVideo_ID_User_B | | MCVIDEO |
| MCData Domain } IDRkmsi payload { Addressed by '00001110'B in the 'Next payload' field of the | | | | |
| IDRkmsi payload { Addressed by '00001110'B in the 'Next payload' field of the | | px_MCData_ID_User_B | | MCDATA |
| '00001110'B in the 'Next payload' field of the | 1 | | MCData Domain | |
| '00001110'B in the 'Next payload' field of the | IDRkmsi navload (| | Addressed by | |
| 'Next payload' field of the | ισιλιλιοί μαγισάσι ζ | | | |
| field of the | | | | |
| | | | | |
| | | | previous payload | |

| Derivation path: RFC 6509 [23], RFC 6043 [25 |], RFC 3830 [24] Value/remark | Comment | Condition |
|--|---|--------------------------------|-----------|
| Next payload | Identifier for the next | Comment | Condition |
| Next payload | payload (NOTE 1) | | |
| ID Role | 6 | Initiator's KMS | |
| | | (IDRkmsi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| 1 | е | initiating user (UE) | |
| IDRkmsr payload { | | Addressed by | |
| IDIKITISI Payload (| | '00001110'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | | |
| | payload (NOTE 1) | | |
| ID Role | 7 | Responder's KMS | |
| ID Typo | 1 | (IDRkmsr) URI | |
| ID Type ID len | Length of ID Data | UNI | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the | |
| 300 | e | responding user | |
| } | | Addressed by | |
| • | | '00001010'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| 0 1 1 1 | D +:(#00 0 | previous payload | |
| Security Properties payload { | Present if #CS > 0 | If not present | |
| | | (#CS == 0) then the default | |
| | | security profile | |
| | | defined in Annex | |
| | | E.4.2 of TS | |
| | | 33.180 [94] shall | |
| | | be used | |
| Next payload | Identifier for the next | | |
| Policy no | payload (NOTE 1) same as Policy_no_1 in | | |
| Policy no | the CS ID map info of the | | |
| | header payload | | |
| Prot type | 0 | SRTP | |
| Policy param length | | _ | |
| Policy param { | | | |
| { | | | |
| Туре | 0 | Encryption | |
| | | Algorithm | |
| length | 6 | AES COM | |
| value | 6 | AES-GCM | |
| <u> </u> | | | |
| Type | 1 | Session | |
| . , , , , , | ' | encryption key | |
| | | length | |
| length | | | |
| value | 16 | 16 octets | |
| } | | | |
| , | | | |
| | 1 1 | Session salt key | |
| Type | 4 | | |
| | 4 | length | |
| length | | length | |
| | 12 | | |
| length | | length | |
| length | | length | |

| Derivation path: RFC 6509 [23], RFC 604 Field | Value/remark | Comment | Condition |
|---|-------------------------|---------------------------------|-----------|
| value | 0 | AES-CM | |
| } | | | |
| | | Many danisatian | |
| Type | 6 | Key derivation rate | |
| length | | Tale | |
| value | 0 | No session key | |
| value | | refresh. | |
| } | | 10.1100.11 | |
| { | | | |
| Туре | 20 | AEAD | |
| | | authentication tag | |
| | | length | |
| length | | | |
| value | 16 | 16 octets | |
| } | | | |
| } | | | |
| SAKKE payload { | | Addressed by | |
| OARRE Payloau (| | '00011010'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| Next payload | Identifier for the next | promote paryroana | |
| . , | payload (NOTE 1) | | |
| SAKKE params { | 1 | Parameter Set 1 | |
| | | according to RFC | |
| | | 6509 [23], | |
| | | Appendix A | |
| ID Scheme | 2 | '3GPP MCX | |
| | | hashed UID' | |
| | | (33.180 [94] E.1.2) | |
| SAKKE data length | Length of SAKKE data | 16 bits | |
| SARKE data length | (in bytes) | 10 bits | |
| SAKKE data | Encapsulated PCK | The PCK is | |
| O/ II II I Z GGIG | | encapsulated by | |
| | | using the public | |
| | | key (PubEncKey | |
| | | in KMS | |
| | | Certificate) and | |
| | | the UID generated | |
| | | from the MC | |
| | | Service user ID of | |
| | | the terminating | |
| 1 | | user | |
| SICN (ECCSI) poyload (| | Addrogged by | |
| SIGN (ECCSI) payload { | | Addressed by '00000100'B in the | |
| | | 'Next payload' | |
| | | field of the | |
| | | previous payload | |
| S type | 2 | ECCSI signature | |
| Signature len | Length of the signature | 12 bits | |
| 2.3 | field (in bytes) | 1 = 25 | |

| Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24] | | | | |
|--|---|--|-----------|--|
| Field | Value/remark | Comment | Condition | |
| S data | Signature: In case of UL message the signature shall be validated by the SS | Signature created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the MC Service user ID of the initiating user | | |
| } | | | | |

NOTE 1: MIKEY payloads may occur in any order apart from the header payload which is always the first payload and the signature payload which is always the last payload

- GMK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-3: MIKEY-SAKKE I_MESSAGE (GMK distribution by the SS)

| Derivation path: RFC 6509 [23], RFC 6043 [| Value/remark | Comment | Condition |
|--|-----------------------------|--------------------|--------------|
| MIKEY Common Header { | Any | | |
| version | '00000001'B | | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | '00000101'B | Next payload is | |
| Hox payload | 000001012 | timestamp | |
| V | '0'B | timotamp | |
| PRF func | '0000001'B | PRF-HMAC-SHA- | |
| T TO TOTAL | 0000012 | 256 | |
| CSB ID | GUK-ID: | Group User Key | |
| 005.15 | 4 bit purpose tag ('0000'B | Identifier | |
| | for GMK) & 28 bit | Derived from | |
| | identifier | GMK-ID and User | |
| | 1.00.1.01 | Salt according to | |
| | | TS 33.180 [94] | |
| | | clause 5,2,3 | |
| #CS | '0000001'B | no crypto | |
| | | sessions in the | |
| | | CS ID map info. | |
| CS ID map type | 1 | empty map | |
| CS ID map Info | Not present | - 1 9 -1 | |
| } | | | |
| Timestamp Payload (T) { | | | |
| Next payload | '00001011'B | Next payload is | |
| . Tom payload | 3333.32 | RAND | |
| TS Type | '00000000'B | NTP-UTC (0): 64- | |
| . 6 . 7,60 | 00000002 | bits | |
| TS Value | Current system time | 64bit UTC value | |
| 10 Value | Current cyclem umo | representing the | |
| | | number of | |
| | | seconds since 0h | |
| | | on 1 January | |
| | | 1900 with respect | |
| | | to the Coordinated | |
| | | Universal Time | |
| | | (UTC) | |
| } | | | |
| RAND Payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRi | |
| RAND len | '00010000'B | 16 Bytes RAND | |
| RAND | 128-bit random number | | |
| | arbitrarily selected by the | | |
| | ss | | |
| } | | | |
| IDRi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| . 13 | | IDRr | 1 |
| ID Role | 1 | Initiator (IDRi) | 1 |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | 1 |
| ID data | tsc_MCX_GMS_Hostna | URI of the group | |
| | me | management | 1 |
| | 12 | server | |
| } | | | 1 |
| IDRr payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| Ton payload | 330011103 | IDRkmsi | 1 |
| ID Role | 2 | Responder (IDRr) | |
| ID Type | 1 | 1305ponder (IDIXI) | 1 |
| ID len | Length of ID Data | | |
| וטו טו | Lengin of iD Data | 1 | 1 |

| Pield Value/mark Comment Condition Data Data Data Dx_MCPTT_ID_User_A MCPTT_ID Sasociated to the group management client Dx_MCVideo_ID_User_A MCVIDEO associated to the group management client Dx_MCVideo_ID_User_A McVideo ID associated to the group management client Dx_MCData_ID_User_A McData_ID M | Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3 | | | |
|--|--|----------------------|-------------------|-----------|
| associated to the group management client Px_MCVideo_ID_User_A | | | Comment | Condition |
| associated to the group management client Px_MCVideo_ID_User_A | ID data | px_MCPTT_ID_User_A | MCPTT ID | |
| | | | associated to the | |
| Description | | | group | |
| Px_MCVideo_ID_User_A MCVideo_ID associated to the group management client | | | management | |
| associated to the group management client px_MCData_ID_User_A px_MCData_ID_User_A MCData ID associated to the group management client lient Next payload 00001110'B Next payload is IDRkms | | | client | |
| Parameter Set 1 Parameter | | px_MCVideo_ID_User_A | MCVideo ID | MCVIDEO |
| Px_MCData_ID_User_A MCData ID MCDATA | | | associated to the | |
| Client | | | group | |
| Px_MCData_ID_User_A associated to the group management client | | | management | |
| associated to the group management client IDRkmsi payload | | | | |
| Brain Brai | | px_MCData_ID_User_A | MCData ID | MCDATA |
| IDRkmsi payload { | | | associated to the | |
| Client C | | | group | |
| DRkmsi payload { Next payload Next payload Next payload Next payload Next payload Next payload | | | management | |
| Next payload 100001110'B Next payload is IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms ID ID ID ID ID ID ID I | | | client | |
| Next payload 100001110'B Next payload is IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms IDRkms ID ID ID ID ID ID ID I | } | | | |
| IDRkmsr IDRkmsr Initiator's KMS (IDRkmsi) ID Type 1 | | | | |
| ID Type | Next payload | (00001110'B | | |
| ID Type | ID Role | 6 | | |
| ID Type | | | | |
| ID len | ID Type | 1 | | |
| ID data tsc_MCX_KMS_Hostnam e } IDRkmsr payload { Next payload Next payload Next payload ID Role ID Role ID Type ID ID In ID Idata SAKKE (26) ID Odata ID data SAKKE payload Next payload SAKKE params ID Scheme 2 SAKKE data length SAKKE data length SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in length) | | Length of ID Data | | |
| Bokmsr payload { | | | | |
| Next payload { Next payload SAKKE (26) SAKKE (26) ID Role | | | | |
| Next payload is SAKKE (26) ID Role 7 Responder's KMS (IDRkmsr) ID Type 1 Length of ID Data ID data ID data SAKKE payload { Next payload is SAKKE payload is SAKKE payload is SAKKE payload { Next payload { Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | } | | | |
| Next payload is SAKKE (26) ID Role 7 Responder's KMS (IDRkmsr) ID Type 1 Length of ID Data ID data ID data SAKKE payload { Next payload is SAKKE payload is SAKKE payload is SAKKE payload { Next payload { Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | IDRkmsr payload { | | | |
| ID Role ID Role 7 Responder's KMS (IDRkmsr) ID Type 1 Length of ID Data ID data ID data ID data ID data ID SAKKE payload { Next payload 1 Next payload 1 Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | '00011010'B | Next payload is | |
| ID Role ID Type ID I | - North polytosis | | | |
| ID len ID data Length of ID Data ID data tsc_MCX_KMS_Hostnam e KMS of the UE RMS of the UE | ID Role | 7 | Responder's KMS | |
| ID len ID data Length of ID Data ID data tsc_MCX_KMS_Hostnam e KMS of the UE RMS of the UE | ID Type | 1 | | |
| BAKKE payload { Next payload '00010101'B Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | Length of ID Data | | |
| BAKKE payload { Next payload '00010101'B Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | tsc_MCX_KMS_Hostnam | KMS of the UE | |
| Next payload '00010101'B Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 "3GPP MCX hashed UID" (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | е | | |
| Next payload '00010101'B Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 "3GPP MCX hashed UID" (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | } | | | |
| Next payload '00010101'B Next payload is General Extension SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 "3GPP MCX hashed UID" (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | SAKKE payload { | | | |
| SAKKE params 1 Parameter Set 1 according to RFC 6509 [23], Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | '00010101'B | Next payload is | |
| SAKKE params 1 | | | | |
| according to RFC 6509 [23], Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | SAKKE params | 1 | | |
| ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | · | | | |
| Appendix A ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| ID Scheme 2 '3GPP MCX hashed UID' (33.180 [94] E.1.2) SAKKE data length Length of SAKKE data (in bytes) The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | ID Scheme | 2 | | |
| SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| SAKKE data length Length of SAKKE data (in bytes) SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| SAKKE data length Length of SAKKE data (in bytes) The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | SAKKE data length | Length of SAKKE data | | |
| SAKKE data Encapsulated GMK The GMK is encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| encapsulated by using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | SAKKE data | | The GMK is | |
| using the SAKKE public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| public key and the UID generated from the MC Service user ID of the group management client (provided in | | | | |
| UID generated from the MC Service user ID of the group management client (provided in | | | | |
| from the MC Service user ID of the group management client (provided in | | | | |
| Service user ID of the group management client (provided in | | | | |
| the group management client (provided in | | | | |
| management client (provided in | | | | |
| client (provided in | | | | |
| | | | | |
| } | | | | |
| | } | | | |

| Derivation path: RFC 6509 [23], RFC 6043 [25] | | | |
|---|------------------------|----------------------------------|-----------|
| Field | Value/remark | Comment | Condition |
| General Extension Payload { | (00000400)D | N. () ! ! | |
| Next payload | '00000100'B | Next payload is SIGN | |
| Type | 7 | '3GPP key | |
| | | parameters' | |
| | | See 33.180 [94] clause E.6.1 | |
| Length | Length of the data (in | Clause E.o. I | |
| | bytes) | | |
| Data { | | See | |
| | | TS 33.180 [94] | |
| Vov Tvo | '0000000'B | clause E.6 GMK | |
| Key Type Status | '00000000'B | Not-revoked | |
| Activation Time | 0 | The time in UTC | |
| Activation Time | 0 | at which the | |
| | | associated GMK | |
| | | is to be made | |
| | | active for | |
| | | transmission in | |
| | | seconds since | |
| | | midnight UTC of | |
| | | January 1, 1970 | |
| | | (not counting leap | |
| | | seconds). It shall | |
| | | be 5 octets in | |
| | | length. | |
| | | A value of 0 shall | |
| | | imply the | |
| | | activation time is | |
| | | the timestamp of | |
| | | the received | |
| | | MIKEY | |
| Francisco Time - | | I_MESSAGE | |
| Expiry Time | 0 | The 'Expiry time' | |
| | | element shall define the time in | |
| | | UTC at which the | |
| | | associated key | |
| | | shall no longer be | |
| | | used in seconds | |
| | | since midnight | |
| | | UTC of January 1, | |
| | | 1970 (not | |
| | | counting leap | |
| | | seconds). It shall | |
| | | be 5 octets in | |
| | | length. | |
| | | A value of 0 shall | |
| | | imply the key shall | |
| | | not expire. | |
| Text | пп | no text: | |
| | | Text element shall | |
| | | contain Length | |
| | | sub-element with | |
| | | the value 0 (see | |
| | | TS 33.180 [94] | |
| Croup IDe (| | E.6.5) | - |
| Group IDs { Number of Group IDs | '1' | | |
| Hanner of Gloah Ins | I I | | |

| 830 [24] | | |
|--|--|--|
| Value/remark | Comment | Condition |
| px_MCPTT_Group_A_ID | The ID for the group associated with the key. | |
| px_MCVideo_Group_A_I D | The ID for the group associated with the key. | MCVIDEO |
| px_MCData_Group_A_I D | The ID for the group associated with the key. | MCDATA |
| | | |
| | | |
| | | |
| 2 | ECCSI signature | |
| Length of the signature field (in bytes) | 12 bits | |
| Signature | The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the identifier associated with the group management server | |
| | value/remark px_MCPTT_Group_A_ID px_MCVideo_Group_A_I D px_MCData_Group_A_I D | Value/remark Comment px_MCPTT_Group_A_ID The ID for the group associated with the key. px_MCVideo_Group_A_ID The ID for the group associated with the key. px_MCData_Group_A_ID The ID for the group associated with the key. Px_MCData_Group_A_ID The ID for the group associated with the key. Px_MCData_Group_A_ID The ID for the group associated with the key. Px_MCData_Group_A_ID The ID for the group management |

- MSCCK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-4: MIKEY-SAKKE I_MESSAGE (MSCCK distribution by the SS)

| Derivation path: RFC 6509 [23], RFC 6043 [25], R | RFC 3830 [24] | | |
|--|--------------------------------|-------------------------------|-----------|
| Field | Value/remark | Comment | Condition |
| MIKEY Common Header { | Any | | |
| version | '0000001'B | | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | '00000101'B | Next payload is | |
| | | timestamp | |
| V | '0'B | | |
| PRF func | '0000001'B | PRF-HMAC-SHA- | |
| CSB ID | 104.04saaas saaaaasiD | 256 | |
| C2R ID | '0101xxxx xxxxxxxx'B | 32-bit MSCCK-ID The 4 most | |
| | | significant bits of | |
| | | the MSCCK-ID | |
| | | indicate the | |
| | | purpose of the | |
| | | MSCCK is to | |
| | | protect general | |
| | | purpose | |
| | | subchannel | |
| | | control messages. | |
| | | The other 28-bits | |
| | | are randomly | |
| #CS | '00000000'P | generated | |
| #63 | '00000000'B | no crypto sessions in the | |
| | | CS ID map info. | |
| CS ID map type | 1 | empty map | |
| CS ID map Info | Not present | Chipty map | |
| } | , tot process | | |
| Timestamp Payload (T) { | | | |
| Next payload | '00001011'B | Next payload is | |
| | | RAND | |
| TS Type | '00000000'B | NTP-UTC (0): 64- | |
| ======================================= | | bits | |
| TS Value | Current system time | 64bit UTC value | |
| | | representing the number of | |
| | | seconds since 0h | |
| | | on 1 January | |
| | | 1900 with respect | |
| | | to the Coordinated | |
| | | Universal Time | |
| | | (UTC) | |
| } | | | _ |
| RAND Payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| DANID Is in | (0004000015 | IDRi | |
| RAND len | '00010000'B | 16 Bytes RAND | |
| RAND | 128-bit random number | | |
| | arbitrarily selected by the SS | | |
| 1 | 00 | | |
| IDRi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRr | |
| ID Role | 1 | Initiator (IDRi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | px_MCPTT_PublicServic | The public service | |
| | eld_A | identity identifying | |
| | | the participating | |
| , | | MCPTT function | |
| } | | | |
| IDRr payload { | (00004440)D | Massian - 11 | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRkmsi | |

| Derivation path: RFC 6509 [23], RFC 6043 [2 | Value/remark | Comment | Condition |
|---|-------------------------|--------------------|-----------|
| | value/remark 2 | | Condition |
| ID Role | | Responder (IDRr) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | px_MCPTT_ID_User_A | MCPTT ID | |
| | | associated to the | |
| | | terminating user | |
| } | | | |
| IDRkmsi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRkmsr | |
| ID Role | 6 | Initiator's KMS | |
| | | (IDRkmsi) | |
| ID Type | 1 | ÙRI | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | | |
| 15 data | e | | |
| l | | | |
| } IDRkmsr payload { | + | | |
| | (000110102P | Novt povland in | |
| Next payload | '00011010'B | Next payload is | |
| ID D I | | SAKKE (26) | |
| ID Role | 7 | Responder's KMS | |
| | | (IDRkmsr) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the UE | |
| | е | | |
| } | | | |
| SAKKE payload { | | | |
| Next payload | '00000100'B | Next payload is | |
| | | SIGN | |
| SAKKE params | 1 | Parameter Set 1 | |
| | · | according to RFC | |
| | | 6509 [23], | |
| | | Appendix A | |
| ID Scheme | 2 | '3GPP MCX | |
| ID Scheme | 2 | hashed UID' | |
| | | | |
| | | (33.180 [94] | |
| OAKKE data law with | Landth of CARRE data | E.1.2) | |
| SAKKE data length | Length of SAKKE data | | |
| | (in bytes) | | |
| SAKKE data | Encapsulated MSCCK | The MSCCK is | |
| | | encapsulated by | |
| | | using the SAKKE | |
| | | public key and the | |
| | | UID generated | |
| | | from the MC | |
| | | Service user ID of | |
| | | the terminating | |
| | | user | |
| } | | | |
| SIGN (ECCSI) payload { | | | |
| S type | 2 | ECCSI signature | |
| | | | |
| S len | Length of the signature | 12 bits | |

| Derivation path: RFC 6509 [23], RFC 6043 [25], RFC | 3830 [24] | | |
|--|--------------|--|-----------|
| Field | Value/remark | Comment | Condition |
| S data | Signature | The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the public service identity identifying the participating MCPTT function | |
| } | | | |

- MuSiK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-5: MIKEY-SAKKE I_MESSAGE (MuSiK distribution by the SS)

| Derivation path: RFC 6509 [23], RFC 6043 Field | Value/remark | Comment | Condition |
|--|-----------------------------|----------------------------|-----------|
| MIKEY Common Header { | Any | | |
| version | '0000001'B | | |
| Data Type | '00011010'B | SAKKE msg (26) | |
| Next payload | '00000101'B | Next payload is | |
| . , | | timestamp | |
| V | '0'B | · | |
| PRF func | '000001'B | PRF-HMAC-SHA- | |
| | | 256 | |
| CSB ID | '0110xxxx xxxxxxxx'B | 32-bit MuSiK-ID | |
| | | The 4 most | |
| | | significant bits of | |
| | | the MuSiK-ID | |
| | | indicate the | |
| | | purpose of the | |
| | | MuSiK is to | |
| | | protect floor | |
| | | control messages | |
| | | sent over MBMS. | |
| | | The other 28-bits | |
| | | are randomly | |
| | | generated | |
| #CS | '00000000'B | no crypto | |
| | | sessions in the | |
| | | CS ID map info. | |
| CS ID map type | 1 | empty map | |
| CS ID map Info | Not present | | |
| } | | | |
| Timestamp Payload (T) { | (00001011) | | |
| Next payload | '00001011'B | Next payload is | |
| TO T | (0.00000015 | RAND | |
| TS Type | '00000000'B | NTP-UTC (0): 64- | |
| TO V-lu- | 0 | bits | |
| TS Value | Current system time | 64bit UTC value | |
| | | representing the number of | |
| | | seconds since 0h | |
| | | on 1 January | |
| | | 1900 with respect | |
| | | to the Coordinated | |
| | | Universal Time | |
| | | (UTC) | |
| } | | (010) | |
| RAND Payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRi | |
| RAND len | '00010000'B | 16 Bytes RAND | |
| RAND | 128-bit random number | | |
| | arbitrarily selected by the | | |
| | SS | | |
| DD: movement (| | | |
| IDRi payload { | (00004440/P | Nove povile and in | |
| Next payload | '00001110'B | Next payload is IDRr | |
| ID Role | 1 | Initiator (IDRi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | OIN | |
| ID data | px_MCPTT_PublicServic | The public service | |
| 12 data | eld_A | identity identifying | |
| | eiu_A | the participating | |
| | | MCPTT function | |
| } | | WICH IT INTOLION | |
| <i>}</i> IDRr payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| L | 33333 | IDRkmsi | |
| ID Role | 2 | Responder (IDRr) | 1 |

| Field | 43 [25], RFC 3830 [24] Value/remark | Comment | Condition |
|------------------------|-------------------------------------|--------------------|-----------|
| | | | Condition |
| ID Type | 1 | URI | |
| ID len ID data | Length of ID Data | MCPTT ID | |
| id data | px_MCPTT_ID_User_A | associated to the | |
| | | | |
| | | terminating user | |
| } | | | |
| IDRkmsi payload { | | | |
| Next payload | '00001110'B | Next payload is | |
| | | IDRkmsr | |
| ID Role | 6 | Initiator's KMS | |
| | | (IDRkmsi) | |
| ID Type | 1 | URI | |
| ID len | Length of ID Data | | |
| ID data | tsc_MCX_KMS_Hostnam | | |
| | e | | |
| } | | | |
| IDRkmsr payload { | | | |
| Next payload | '00011010'B | Next payload is | |
| payroad | 000.1010.5 | SAKKE (26) | |
| ID Role | 7 | Responder's KMS | 1 |
| ID Note | ' | (IDRkmsr) | |
| ID Type | 1 | URI | |
| ID Type | • | UKI | <u> </u> |
| ID len | Length of ID Data | 1010 (4 15 | |
| ID data | tsc_MCX_KMS_Hostnam | KMS of the UE | |
| | е | | |
| } | | | |
| SAKKE payload { | | | |
| Next payload | '00000100'B | Next payload is | |
| | | SIGN | |
| SAKKE params | 1 | Parameter Set 1 | |
| | | according to RFC | |
| | | 6509 [23], | |
| | | Appendix A | |
| ID Scheme | 2 | '3GPP MCX | |
| | | hashed UID' | |
| | | (33.180 [94] | |
| | | È.1.2) | |
| SAKKE data length | Length of SAKKE data | , | |
| o | (in bytes) | | |
| SAKKE data | Encapsulated MuSiK | The MuSiK is | |
| 5 t L ddid | Zilisapsalatea Masiit | encapsulated by | |
| | | using the SAKKE | |
| | | public key and the | |
| | | UID generated | |
| | | from the MC | |
| | | Service user ID of | |
| | | | |
| | | the terminating | |
| 1 | | user | |
| } | | | |
| SIGN (ECCSI) payload { | | | <u> </u> |
| S type | 2 | ECCSI signature | |
| S len | Length of the signature | 12 bits | |
| | field (in bytes) | ı | 1 |

| Derivation path: RFC 6509 [23], RFC 604 | 13 [25], RFC 3830 [24] | | |
|---|------------------------|--|-----------|
| Field | Value/remark | Comment | Condition |
| S data | Signature | The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the public service identity identifying the participating MCPTT function | |
| } | | | |

5.5.10 Common MCS test USIM parameters

5.5.10.1 General

The format and coding of elementary files of the USIM are defined in 3GPP TS 31.102 [73]. Those of the ISIM are defined in 3GPP TS 31.101 [79] and 3GPP TS 31.103 [80].

The present clause defines default MCS relevant parameters for programming the elementary files of the test USIM when running conformance test cases defined in TS 36.579-2 [2], TS 36.579-6 [84], or TS 36.579-7 [85].

For requirements to the test USIM/ISIM needed for the E-UTRA/EPC and MCS off-network ProSe operation see 3GPP TS 36.508 [6], clause 4.9.

5.5.10.2 Default settings for the Elementary Files (EFs)

EFUST (USIM Service Table)

| Services | Discription | Activated | Version |
|---|---------------------------|-----------|---------|
| Service n°109 | Mission Critical Services | Yes | |
| NOTE: Only the relevant MCS related services indicated. | | | |

EF_{MST} (MCS Service Table)

This file shall be present. This EF indicates the coding of the MCS management objects and which MCS services are available.

Coding of the MCPTT management objects = '00' (XML format).

| Services | Discription | Activated | Version |
|---------------|------------------------------------|-----------|---------|
| Service n°1: | MCPTT UE configuration data | Yes | |
| Service n°2: | MCPTT User profile data | Yes | |
| Service n°3: | MCS Group configuration data | Yes | |
| Service n°4: | MCPTT Service configuration data | Yes | |
| Service n°5: | MCS UE initial configuration data | Yes | |
| Service n°6: | MCData UE configuration data | Yes | |
| Service n°7: | MCData user profile data | Yes | |
| Service n°8: | MCData service configuration data | Yes | |
| Service n°9: | MCVideo UE configuration data | Yes | |
| Service n°10: | MCVideo user profile data | Yes | |
| Service n°11: | MCVideo service configuration data | Yes | • |

EF_{MCS_CONFIG} (MCS configuration data)

This file shall be present.

Encoded in XML format (as specified in the MCS Service Table).

| MCPTT configuration data objects | Tag Values | Condition |
|------------------------------------|------------|--|
| MCPTT UE configuration data | '80' | Shall be present. The content of the MCPTT UE configuration data object shall be as specified in Table 5.5.8.2-1. |
| MCPTT user profile data | '81' | Shall be present. The content of the MCPTT User configuration data object shall be as specified in Table 5.5.8.3-1. |
| MCS Group configuration data | '82' | Shall be present. The content of the MCS Group configuration data object shall be as specified in Table 5.5.7.1 for MCPTT, Table 5.5.7.2-1 for MCVideo, and Table 5.5.7.3-1 for MCData. |
| MCPTT Service configuration data | '83' | Shall be present. The content of the MCPTT Server configuration data object shall be as specified in Table 5.5.8.4-1. |
| MCS UE initial configuration data | '84' | Shall be present. The content of the MCS UE initial configuration data object shall be as specified in Table 5.5.8.1-1 for MCPTT, Table 5.5.8.5-1 for MCVideo, and Table 5.5.8.9-1 for MCData, |
| MCData UE configuration data | '85' | Shall be present. The content of the MCData UE configuration data object shall be as specified in Table 5.5.8.10-1. |
| MCData user profile data | '86' | Shall be present. The content of the MCData user profile data object shall be as specified in Table 5.5.8.11-1. |
| MCData service configuration data | '87' | Shall be present. The content of the MCData service configuration data object shall be as specified in Table 5.5.8.12-1. |
| MCVideo UE configuration data | '88' | Shall be present. The content of the MCVideo UE configuration data object shall be as specified in Table 5.5.8.6-1. |
| MCVideo user profile data | '89' | Shall be present. The content of the MCVideo user profile data object shall be as specified in Table 5.5.8.7-1. |
| MCVideo service configuration data | '8A' | Shall be present. The content of the MCVideo service configuration data object shall be as specified in Table 5.5.8.8-1. |

5.5.11 Default MCVideo Transmission Control Messages and other Information Elements

Considerations in regard to describing specific values:

- SSRC

- Synchronization SouRCe (SSRC) values are used in most of the messages specified in clause 5.5.6. The SSRC value is randomly chosen by the participant in, and globally unique within, an RTP session as specified in IETF RFC 3550 [76]. Because the value chosen by the UE (MCVideo client) cannot be controlled, specifying a "hard coded" value to be used by the SS (MCVideo Server) or the SS-UE (MCVideo Client) is prone to triggering a collision by choosing a value which may be the same as the one chosen by the UE. How to resolve SSRC collisions is described in IETF RFC 3550 [76] however, resolving them as part of the MCVideo test case definitions e.g. in TS 36.579-6 [84] is not foreseen and is left to the test implementation.
- For the purposes of default and specific messages definition throughout the present specification, as well as, throughout the rest of the MCPTT conformance test specifications e.g. the TS 36.579-6 [84] no explicit SSRC values are defined and instead the following notation is used to clarify the messages origin/destination:

- When there is no danger for misunderstanding the notation 'The SSRC of the message sender' and the 'The SSRC of the intended recipient of the message' are used whereas the "sender" and the "recipient" are to be understood in the context of the test i.e. the test entities being involved to exchange messages.

5.5.11.1 Transmission Control Specific Messages Sent by the Transmission Participant

5.5.11.1.1 Transmission Request

Table: 5.5.11.1.1-1 Transmission Request

| Information Element | Value/remark | Comment | Reference | Condition |
|--------------------------------|--------------------------------|---|---|-----------|
| Subtype | "00000" | Transmission control messages sent by the transmission control participant to the transmission control server | TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant sending the Transmission Request message. The participant has permission to send media. | IETF RFC 35 50 [3]. | |
| Transmission Priority | | | TC 24.581 [88] clause 9.2.3.2 | |
| Transmission Priority Field ID | "0000000" | 8-bit binary value | | |
| Transmission Priority Length | "00000010" | A binary value that has the value '2' Indicates the total length in octets of the <transmission priority=""> value item and the spare bits.</transmission> | | |

| Derivation Path: TS 24.581 [88] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|--|-------------------------------------|-----------|
| Transmission Priority Value | Value/remark Consists of 8 bit parameter giving the transmission priority ('0' to '255') where '0' is the lowest priority and '255' is the highest priority | If the Transmission Priority field is not included in the message the default priority is used as the Transmission Priority value. The value of the default priority is '0'. The default priority is sometimes referred to as normal priority. Whether a transmission priority is pre-emptive or not is determined: 1. for on-network by the transmission control server as described in clause x.y; and 2. for off-network by the transmission pribitrator on | Reference | Condition |
| Spare bits | An 8-bit binary value set | arbitrator as described in clause y.z. | | |
| · | to zero. | | | |
| User ID | | The User ID field is used in off-network only. The User ID field carries the MCVideo ID of the transmission participant sending the Transmission Release message. | TC 24.581 [88] clause 9.3.2.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Transmission Indicator | | | TC 24.581 [88] clause 9.2.3.1 | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1 | |
| Transmission Indicator | "10" | value is a binary value | | |
| Length | | and has the value '2' | | |

| erivation Path: TS 24.581 [88 Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------|--|----------------------------------|-----------|
| ransmission Indicator | "10000000000000" | Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call | TC 24.581 [88] clause 9.2.3.1 .1 | Condition |
| | | E = Imminent peril call | | |
| | | NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. | | |
| | | Bits F to P are reserved for future use and are set to 0. | | |
| | | There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications. | | |

5.5.11.1.2 Transmission Release

Table: 5.5.11.1.2-1 Transmission Release

| Information Element | Value/remark | Comment | Reference | Condition |
|----------------------------------|--|--|---|-----------|
| Subtype | "00010" | Transmission control messages sent by the transmission control participant to the transmission control server | TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant with permission to send media. | IETF RFC 35 50 [3]. | |
| User ID | | The User ID field is used in off-network only. The User ID field carries the MCVideo ID of the transmission participant sending the Transmission Release message. | TC 24.581 [88] clause 9.3.2.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Transmission Indicator | | | | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1 .1 | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |

| Derivation Path: TS 24.581 [88 Information Element | Value/remark | Comment | Reference | Condition |
|--|------------------|---|----------------------------------|-----------|
| Transmission Indicator | "10000000000000" | Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. Bits F to P are reserved for future use and are set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications. | TC 24.581 [88] clause 9.2.3.1 .1 | Condition |

5.5.11.1.3 Queue Position Request

Table: 5.5.11.1.3-1 Queue Position Request

| Derivation Path: TS 24.581 [88] | Table 9.2.11-1 | | | |
|---------------------------------|--------------------------------|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00011" | Server → client | TS 24.581 [88] 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant requesting information about its position in the transmission request queue. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| User ID | | | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |

| Derivation Path: TS 24.581 [88] T | Derivation Path: TS 24.581 [88] Table 9.2.11-1 | | | | |
|-----------------------------------|--|--|----------------------------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | | |
| Track Info | Not present | The MCVideo call does not involve a non- controlling MCVideo function | TS 24.581 [88] 9.2.3.13 | | |

5.5.11.1.4 Receive Media Request

Table: 5.5.11.1.4-1 Receive Media Request

| erence Condit | | | Value/remark | Information Element |
|---------------|----------------|------------------|-------------------------------|---------------------|
| .581 [88] | TS 24.581 [88] | Se | 0100" | Subtype |
| 1-1 | 9.2.2.1-1 | | | |
| 3550 [3], | RFC 3550 [3], | Th | ne SSRC of the | SSRC |
| ndix 6 | Appendix 6 | the | essage sender | |
| s how to | shows how to | tra | | |
| ate a | generate a | rec | | |
| m 32-bit | random 32-bit | rec | | |
| ier | identifier | fro | | |
| | | Th | | User ID |
| | | use | | |
| | | ide | | |
| | | is r | | |
| | | rec | | |
| | | No | | |
| | | the | | |
| | | not | | |
| | | byt | | |
| | | be | | |
| | | (2 | | |
| | | byt | | |
| | | pa | | |
| | | zei | | |
| | | byt | | |
| | | the | | |
| | | | 0000110" | User ID field ID |
| | TS 24.581 [88] | val | binary value | User ID length |
| 8 | 9.2.3.8 | and | | |
| | | ind | | |
| | | oct | | |
| | | val | | |
| | | pa | | |
| | TS 24.581 [88] | | <pre>c_MCVideo_ID_User_</pre> | User ID |
| 9.2.3.8- | Table 9.2.3.8- | | | |
| | | oct val pa | <_MCVideo_ID_User_ | User ID |

| Derivation Path: TS 24.581 [88] Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------|--|---|-----------|
| Source ID | 16-bit binary value | Carries the identity of the user who transmitting the media. | Reference | Condition |
| User ID field ID | "00000110" | <u> </u> | | |
| User ID length | a binary value | value is a binary value and includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | TS 24.581 [88] 9.2.3.8 | |
| User ID | px_MCVideo_ID_User_ B | | | |
| Media ID | not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call B = Broadcast group call C = System call D = Emergency call</transmission></transmission></transmission> | TS 24.581 [88] 9.2.3.11 | |
| Transmission Indicator field ID | "00001101" | E = Imminent peril call An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1- 1. | TS 24.581 [88] Table 9.2.3.1- 1-1 | |
| Transmission Indicator Length | "0000010" | An 8-bit binary value (2 in binary) | TS 24.581 [88] Table 9.2.3.1- | |
| Transmission Indicator | Any allowed value | A 16 bit bit-map | TS 24.581 [88] Table 9.2.3.11-2 | |

| Derivation Path: TS 24.581 [88] | Value/remark | Commont | Deference | Condition |
|---------------------------------|--------------------|-----------------------------|----------------|-----------|
| Information Element | value/remark | Comment | Reference | Condition |
| Reception Priority | | Describes the level of | | |
| | | reception priority | | |
| | | requested in a | | |
| | | Reception Request | | |
| | | message or granted in | | |
| | | a Reception Granted | | |
| | | message. The max | | |
| | | reception priority that | | |
| | | can be requested in a | | |
| | | Reception Request | | |
| | | message is negotiated | | |
| | | between the | | |
| | | transmission control | | |
| | | participant and the | | |
| | | transmission control | | |
| | | server | | |
| Reception Priority field ID | "00010011" | Uniquely identifies the | | |
| | | instance of the | | |
| | | Reception Priority Field | | |
| Reception Priority length | "0000010" | Indicates the total | TS 24.581 [88] | |
| rteespusier nemy temgui | 00000010 | length in octets of the < | 9.2.3.19 | |
| | | Reception Priority> | 0.2.0.10 | |
| | | value item and the | | |
| | | spare bits. | | |
| Reception Priority value | any allowed value | The reception priority | TS 24.581 [88] | |
| Reception i nonty value | arry allowed value | ('0' to '255') where '0' is | 9.2.3.19 | |
| | | the lowest reception | 9.2.3.19 | |
| | | priority and '255' is the | | |
| | | | | |
| | | highest reception | | |
| | | priority. If the Reception | | |
| | | Priority field is not | | |
| | | included in the | | |
| | | message the default | | |
| | | reception priority is | | |
| | | used as the Reception | | |
| | | Priority value. The | | |
| | | value of the default | | |
| | | reception priority is '0'. | | |
| | | The default reception | | |
| | | priority is sometimes | | |
| | | referred to as normal | | |
| | | reception priority. | | |
| Track Info | Not present | The MCVideo call does | TS 24.581 [88] | |
| | · | not involve a non- | 9.2.3.13 | |
| | | controlling MCVideo | | |
| | | function | | 1 |

5.5.11.1.5 Transmission Cancel Request

Table: 5.5.11.1.5-1 Transmission Cancel Request

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--------------------------------|---|--|-----------|
| Subtype | "00101" | Server → client | TS 24.581 [88] 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| User ID | | | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |

| Derivation Path: TS 24.581 [88] T | able 9.2.17-1 | | | |
|-----------------------------------|--|--|---------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Media ID | not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.1.6 Remote Transmission Request

Table: 5.5.11.1.6-1 Remote Transmission Request

| Derivation Path: TS 24.581 [88 | 3] Table 9.2.22-1 | | | |
|--------------------------------|--|--|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00111" | Transmission control messages sent by the transmission control participant to the transmission control server | TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. | IETF RFC 35 50 [3]. | |
| Remote ID | | Carries the identity of the user whose media transmission is requested. | TC 24.581 [88] clause 9.3.2.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |

| Derivation Path: TS 24.581 [88] | Table 9.2.22-1 | | | |
|---------------------------------|--|--|-------------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID | px_MCVideo_ID_User_ B | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| User ID | | | TC 24.581 [88] clause 9.3.2.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |

5.5.11.1.7 Remote Transmission Cancel Request

Table: 5.5.11.1.7-1 Remote Transmission Cancel Request

| Derivation Path: TS 24.581 [88] Table 9.2.24-1 | | | | |
|--|---------------------------------|---|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01000" | Transmission control messages sent by the transmission control participant to the transmission control server | TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1 | |
| SSRC | The SSRC of the message sender. | The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. | IETF RFC 35 50 [3]. | |
| User ID | | The User ID field is used in off-network only. The User ID field carries the identity of the user whose media transmission is requested for cancellation. | TC 24.581 [88] clause 9.3.2.8 | |
| User ID field ID | "00000110" | | | |

| Derivation Path: TS 24.581 [88] | Table 9.2.24-1 | | | |
|---------------------------------|--|--|----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Media ID | not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.2 Transmission Control Specific Messages Sent by the Transmission Control Server

5.5.11.2.1 Transmission Granted

Table: 5.5.11.2.1-1 Transmission Granted

| Derivation Path: TS 24.581 [88] | Table 9.2.5-1 | | | |
|---------------------------------|--------------------------------|--|------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00000" | Server → client | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC of the Transmission Control server for on-network and transmission arbitrator for off- network. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| name | MCV1 | Transmission Control messages sent by the transmission control server and transmission control participant | | |
| Duration | | • | | |
| Duration field ID | "0000001" | | | |
| Duration length | "10" | value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item</duration> | | |
| Duration | "00000000 10000000" | 128 sec (an arbitrary value) | | |

| Derivation Path: TS 24.581 [88] Ta | Value/remark | Comment | Reference | Condition |
|---|-----------------------------------|---|---------------|-----------------|
| SSRC of granted transmission | The SSRC of the | Notation in accordance | | |
| participant | intended recipient of the | with clause 5.5.6.1. | | |
| | message | Coded as specified in | | |
| | | IETF RFC 3550 [76]. | | |
| Transmission priority | Not present | If the Transmission | | |
| | | Priority field is not included in the message | | |
| | | the default priority (='0') | | |
| | | is used as the Floor | | |
| | | Priority value | | |
| User ID | Not present | | | ON- |
| Harri ID | | | | NETWORK |
| User ID | | | | OFF- NETWORK |
| User ID field ID | "00000110" | | | TIL TWO THE |
| User ID length | a binary value that | | | |
| | includes the value | | | |
| | indicating the length in | | | |
| | octets of the <user id=""></user> | | | |
| | value item except padding. | | | |
| User ID | px_MCVideo_ID_User_ | If the length of the | | |
| 0301 12 | A | User ID> value is not | | |
| | | (2 + multiple of 4) bytes | | |
| | | User ID field shall be | | |
| | | padded to | | |
| | | (2 + multiple of 4) bytes. | | |
| | | The value of the | | |
| | | padding bytes is to | | |
| | | zero. The padding bytes | | |
| | | are ignored by the receiver. | | |
| Queue Size | Not present | receiver. | | ON- |
| | | | | NETWORK |
| Queue Size | "0" | the number of queued | | OFF- |
| | | MCVideo clients in the | | NETWORK |
| 0000 () () () () () | N . | MCVideo call | | |
| SSRC of queued floor participant Queued User ID | Not present | | | |
| Queue Info | Not present Not present | | | |
| Track Info | Not present | The MCVideo call does | | |
| Track IIIIO | Not present | not involve a non- | | |
| | | controlling MCVideo | | |
| | | function | | |
| Transmission Indicator | | | | |
| Transmission Indicator field ID | "00001101" | An 8-bit binary value set | TS 24.581 [88 | |
| | | according to |] Table | |
| | | TS 24.581 [88] 9.2.3.1-1. | 9.2.3.1-1-1 | |
| Transmission Indicator Length | "0000010" | An 8-bit binary value (2 | TS 24.581 [88 | |
| 20.09.0 | | in binary) |] Table | |
| | | | 9.2.3.1-1-1 | |
| Transmission Indicator | Any allowed value | A 16 bit bit-map | TS 24.581 [88 | |
| | | ' |] Table | |
| | | | 9.2.3.11-2 | |

5.5.11.2.2 Transmission Rejected

Table: 5.5.11.2.2-1 Transmission Rejected

| Derivation Path: TS 24.581 [88] Information Element | Value/remark | Comment | Reference | Condition |
|---|--------------------------------|--|--|-----------|
| Subtype | "00001" | Server → client | TS 24.581 [88] 9.2.2.1-2 | Condition |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Reject Cause | | Includes the reason for the rejecting the transmission request and can be followed by a text-string explaining why the transmission request was rejected. Therefore the length of the packet will vary depending on the size of the application dependent field. | | |

| | I | | |
|--------------|-------|--------------------------------|--|
| Reject Cause | "255" | Cause #1 - | |
| | | Transmission limit | |
| | | reached | |
| | | The Deject course | |
| | | The <reject cause=""></reject> | |
| | | value set to '1' | |
| | | indicates that the | |
| | | number of transmitters | |
| | | have reached | |
| | | maximum. | |
| | | 0 | |
| | | Cause #2 - Internal | |
| | | transmission control | |
| | | server error | |
| | | The Deject course | |
| | | The <reject cause=""></reject> | |
| | | value set to '2' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request due to an | |
| | | internal error. | |
| | | 0 "0 0 1 | |
| | | Cause #3 - Only one | |
| | | participant | |
| | | The Dei i | |
| | | The <reject cause=""></reject> | |
| | | value set to '3' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because the | |
| | | requesting party is the | |
| | | only participant in the | |
| | | MCVideo session. | |
| | | | |
| | | Cause #4 - Retry-after | |
| | | timer has not expired | |
| | | · | |
| | | The <reject cause=""></reject> | |
| | | value set to '4' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because timer | |
| | | T9 (Retry-after) has not | |
| | | expired after | |
| | | permission to send | |
| | | media has been | |
| | | revoked. | |
| | | | |
| | | Cause #5 - Receive | |
| | | only | |
| | | The Deignt garage | |
| | | The <reject cause=""></reject> | |
| | | value set to '5' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because the | |
| | | requesting party only | |
| | | has receive privilege. | |
| | | Course #C. No | |
| | | Cause #6 - No | |
| | | resources available | |
| | | The «Poinct squas» | |
| | | The <reject cause=""></reject> | |
| | | value set to '6' indicates | |
| | | that the transmission | |
| | | control server cannot | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|--|---------------------------|-----------|
| | | grant the transmission request due to congestion. | | |
| | | Cause #255 - Other reason | | |
| | | The <reject cause=""> value set to '255' indicates that the transmission control server does not grant the transmission request due to the transmission control server local policy.</reject> | | |
| Reject Cause Phrase | "Other reason" | A text string encoded the text string in the SDES item CNAME. | IETF RFC 355 0 [3] | |
| User ID | | The User ID field is used in off-network only. The User ID carries the MCVideo ID of the requesting transmission participant to which the Transmission Rejected message is sent. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |

| Derivation Path: TS 24.581 [88] Ta | able 9.2.6-1 | | | |
|------------------------------------|--------------|--|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. | TS 24.581 [88] 9.2.3.11 | |
| | | The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission> | | |
| | | A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1. | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |

| Derivation Path: TS 24.581 [88] | | | | |
|---------------------------------|--------------|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| | | Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. | Reference TC 24.581 [88] clause 9.2.3.1. | Condition |
| | | There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation | | |
| | | Bits F to P are reserved for future use and are set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are | | |
| | | possible and the priority of the indications. | | |

5.5.11.2.3 Transmission Arbitration Taken

Table: 5.5.11.2.3-1 Transmission Arbitration Taken

| Information Element | Value/remark | Comment | Reference | Condition |
|-----------------------------------|--------------------------------|---|--|-----------|
| Subtype | "00010" | Server → client | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Granted Party's Identity | 32-bit value | Identifies the MCVideo user that is granted to send media. | TS 24.581 [88] 9.2.3.6 | |
| Granted Party's Identity Field ID | "00000100" | | TS 24.581 [88] 9.2.3.1.1 | |

| Derivation Path: TS 24.581 [88] T Information Element | | Comment | Reference | Condition |
|---|--|--|-----------------------------|-----------|
| Granted Party's Identity length | Value/remark value is a binary value | Comment | TS 24.581 [88] | Condition |
| , , , | and includes the value indicating the length in octets of the <user id=""> value item except padding</user> | | 9.2.3.8 | |
| Granted Party's Identity | px_MCVideo_ID_User_A | If the length of the <granted party's=""> value is not (2 + multiple of 4) bytes, the Granted Party's Identity field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is set to zero. The padding bytes are ignored by the receiver.</granted> | TS 24.581 [88] 9.2.3.8 | |
| Permission to Request the Transmission | Binary value | Indicates whether receiving parties are allowed to request the transmission. | TS 24.581 [88] 9.2.3.8 | |
| Permission to Request the Transmission Field ID | "00000101" | | TS 24.581 [88] 9.2.3.1.1 | |
| Permission to Request the Transmission length | "10" | The <permission length="" request="" the="" to="" transmission=""> value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item.</duration></permission> | TS 24.581 [88] 9.2.3.7 | |
| Permission to Request the Transmission | "1" | Coded as follows: The receiver is not permitted to request transmission. The receiver is permitted to request transmission. | TS 24.581 [88] 9.2.3.7 | |
| User ID | | The User ID field is used in off-network only. The User ID carries the MCVideo ID of the transmission participant sending the Transmission Arbitration Taken message. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |

| Derivation Path: TS 24.581 [88] Ta | | T - | | T _ |
|------------------------------------|--------------------------|--|-----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Message Sequence Number | | Used to bind a number of Transmission Arbitration Taken or bind a number of Transmission Idle messages together | TS 24.581 [88] 9.2.3.9 | |
| Message Sequence Number field ID | "00001000" | | TS 24.581 [88] 9.2.3.1.1 | |
| Message Sequence Number length | "10" | Has the value '2' indicating the total length in octets of the <message number="" sequence=""> value item.</message> | | |
| Message Sequence Number | "1" | The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again.</message></message> | | |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call</transmission></transmission></transmission> | TS 24.581 [88] 9.2.3.1.1 | |
| | | B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |

| Derivation Path: TS 24.581 [88] Ta | able 9.2.8-1 | | | |
|--|--------------------------------------|--|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1. | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |
| Transmission Indicator Transmission Indicator | "10" "10000000000000000" | value is a binary value and has the value '2' Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. Bits F to P are reserved for future use and are set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control | TC 24.581 [88] clause 9.2.3.1. | |
| | | server decides which combinations are possible and the priority | | |
| SSRC of Granted | The SSRC of the | of the indications. | IETF RFC 355 | |
| Transmission Participant | intended recipient of the message | | 0 [3] | |

5.5.11.2.4 Transmission Arbitration Release

Table: 5.5.11.2.4-1 Transmission Arbitration Release

| Derivation Path: TS 24.581 [88] T | Value/remark | Comment | Reference | Condition |
|--|--|--|--|------------|
| Subtype | "00010" | Server → client | TS 24.581 [88] | 0011011011 |
| | | | 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Granted Party's Identity | 32-bit value | Identifies the MCVideo user that is granted to send media. | TS 24.581 [88] 9.2.3.6 | |
| Granted Party's Identity Field ID | "00000100" | | TS 24.581 [88] 9.2.3.1.1 | |
| Granted Party's Identity length | value is a binary value and includes the value indicating the length in octets of the <user id=""> value item except padding</user> | | TS 24.581 [88] 9.2.3.8 | |
| Granted Party's Identity | px_MCVideo_ID_User_ A | If the length of the <granted party's=""> value is not (2 + multiple of 4) bytes, the Granted Party's Identity field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is set to zero. The padding bytes are ignored by the receiver.</granted> | TS 24.581 [88] 9.2.3.8 | |
| Permission to Request the Transmission | | Indicates whether receiving parties are allowed to request the transmission. | TS 24.581 [88] 9.2.3.8 | |
| Permission to Request the Transmission Field ID | "00000101" | | TS 24.581 [88] 9.2.3.1.1 | |
| Permission to Request the Transmission length | "10" | The <permission length="" request="" the="" to="" transmission=""> value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item.</duration></permission> | TS 24.581 [88] 9.2.3.7 | |
| Permission to Request the Transmission | "1" | O The receiver is not permitted to request transmission. The receiver is permitted to request transmission. | TS 24.581 [88] 9.2.3.7 | |

| Derivation Path: TS 24.581 [88] T | able 9.2.9-1 | | | |
|-----------------------------------|--|--|-----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID | | The User ID field is used in off-network only. The User ID carries the MCVideo ID of the transmission participant sending the Transmission Arbitration Release message. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Message Sequence Number | | Used to bind a number of Transmission Arbitration Taken or bind a number of Transmission Idle messages together | TS 24.581 [88] 9.2.3.9 | |
| Message Sequence Number field ID | "00001000" | | TS 24.581 [88] 9.2.3.1.1 | |
| Message Sequence Number length | "10" | Has the value '2' indicating the total length in octets of the <message number="" sequence=""> value item.</message> | | |
| Message Sequence Number | "1" | The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again.</message></message> | | |

| Derivation Path: TS 24.581 [88] T | able 9.2.9-1 | | | |
|-----------------------------------|--------------|---|------------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| | | Comment The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission> | Reference TS 24.581 [88] 9.2.3.1.1 | Condition |
| | | A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1. | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |

| Derivation Path: TS 24.581 [88] | | | | |
|---|---|--|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transmission Indicator | "10000000000000" | Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call | TC 24.581 [88] clause 9.2.3.1. | |
| | | B = Broadcast group call C = System call | | |
| | | D = Emergency | | |
| | | E = Imminent peril call | | |
| | | NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. | | |
| | | Bits F to P are reserved for future use and are set to 0. | | |
| | | There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications. | | |
| SSRC of Granted Transmission Participant | The SSRC of the intended recipient of the message | | IETF RFC 355 0 [3] | |

5.5.11.2.5 Transmission Revoked

Table: 5.5.11.2.5-1 Transmission Revoked

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--------------------------------|---|--|-----------|
| Subtype | "00100" | Server → client | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Reject Cause | | Message includes <reject cause=""> cause value in the Reject Cause field explaining why the transmission control server wants the transmission participant to stop sending media and can be followed by additional information. Therefore the length of the packet can vary depending on the value of the rejection cause.</reject> | TS 24.581 [88] 9.2.3.4 | |

| D. C. (O V.) | "055" | 0 "4 | |
|--------------------|-------|--------------------------------|---------------------------|
| Reject Cause Value | "255" | Cause #1 - | <reject< th=""></reject<> |
| | | Transmission limit | Cause> values |
| | | reached | are listed in |
| | | | clause 9.2.6.2. |
| | | The <reject cause=""></reject> | The Reject |
| | | value set to '1' | Cause field is |
| | | indicates that the | coded as |
| | | number of transmitters | described in |
| | | have reached | clause 9.2.3.4. |
| | | maximum. | Clause 9.2.5.4. |
| | | maximam. | Defined in |
| | | Cause #2 - Internal | |
| | | | clause 9.2.6.2 |
| | | transmission control | for |
| | | server error | Transmission |
| | | T | Rejected |
| | | The <reject cause=""></reject> | message and |
| | | value set to '2' indicates | Defined in |
| | | that the transmission | clause 9.2.10. |
| | | control server cannot | 2 for |
| | | grant the transmission | Transmission |
| | | request due to an | Revoked |
| | | internal error. | |
| | | internal error. | message |
| | | Cause #3 - Only one | |
| | | | |
| | | participant | |
| | | The Deinstein | |
| | | The <reject cause=""></reject> | |
| | | value set to '3' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because the | |
| | | requesting party is the | |
| | | only participant in the | |
| | | | |
| | | MCVideo session. | |
| | | Causa #4 Datmy after | |
| | | Cause #4 - Retry-after | |
| | | timer has not expired | |
| | | | |
| | | The <reject cause=""></reject> | |
| | | value set to '4' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because timer | |
| | | T9 (Retry-after) has not | |
| | | expired after | |
| | | permission to send | |
| | | | |
| | | media has been | |
| | | revoked. | |
| | | Cours #F Deserted | |
| | | Cause #5 - Receive | |
| | | only | |
| | | T. D | |
| | | The <reject cause=""></reject> | |
| | | value set to '5' indicates | |
| | | that the transmission | |
| | | control server cannot | |
| | | grant the transmission | |
| | | request, because the | |
| | | requesting party only | |
| | | has receive privilege. | |
| | | has receive privilege. | |
| | | Cause #6 - No | |
| | | | |
| | | resources available | |
| | | The Delect cours | |
| | | The <reject cause=""></reject> | |
| | | value set to '6' indicates | |
| | | that the transmission | |
| | | control server cannot | |

| Derivation Path: TS 24.581 [88] To Information Element | Value/remark | Comment | Reference | Condition |
|--|----------------|--|--------------------------------|-----------|
| mormation Element | value/remark | grant the transmission request due to congestion. | Reference | Condition |
| | | Cause #255 - Other reason | | |
| | | The <reject cause=""> value set to '255' indicates that the transmission control server does not grant the transmission request due to the transmission control server local policy.</reject> | | |
| Reject Cause Phrase | "Other reason" | A text string encoded the text string in the SDES item CNAME. | IETF RFC 355 0 [3] | |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. | TS 24.581 [88] 9.2.3.11 | |
| | | The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission> | | |
| | | A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1. | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |

| Information Element | Value/remark | Comment | Reference | Condition |
|-----------------------|---------------------|--------------------------------------|-----------------|-----------|
| ransmission Indicator | "10000000000000000" | Contains additional | TC 24.581 [88] | |
| | | information about a | clause 9.2.3.1. | |
| | | received transmission | 1 | |
| | | control message. | | |
| | | It is a 16 bit bit-map | | |
| | | named as shown in | | |
| | | Table 9.2.3.11.2 (a thru | | |
| | | P). | | |
| | | When set to 1, the bit | | |
| | | has the following | | |
| | | meaning: | | |
| | | A = Normal call | | |
| | | B = Broadcast | | |
| | | group call | | |
| | | C = System call | | |
| | | D = Emergency call | | |
| | | E = Imminent | | |
| | | peril call | | |
| | | NOTE 1: The | | |
| | | indicators C, D and E | | |
| | | are only informative. | | |
| | | There are no | | |
| | | procedures specified | | |
| | | for the C, D and E | | |
| | | indicators in this | | |
| | | release of the present | | |
| | | document and the use | | |
| | | of the indicators are implementation | | |
| | | specific. | | |
| | | | | |
| | | Bits F to P are reserved | | |
| | | for future use and are set to 0. | | |
| | | There can be more | | |
| | | than one bit set to 1 at | | |
| | | the same time. The | | |
| | | local policy in the | | |
| | | transmission control | | |
| | | server decides which | | |
| | | combinations are | | |
| | | possible and the priority | | |
| | | of the indications. | | |

5.5.11.2.6 Queue Position Info

Table: 5.5.11.2.6-1 Queue Position Info

| Derivation Path: TS 24.581 [88] Table 9.2.12-1 | | | | | |
|--|--|--|--|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| Subtype | "00101" | Server → client | TS 24.581 [88] 9.2.2.1-1 | | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | | |
| User ID | | The User ID field is used in off-network only. The User ID field carries the MCVideo user ID of the transmission participant sending the Queue Position Info message. | TS 24.581 [88] 9.2.3.8 | | |
| User ID field ID | "00000110" | | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | | |
| User ID | px_MCVideo_ID_User _A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | | |
| SSRC of Queued Transmission Participant | The SSRC of the queued transmission participant | Applicable only in off- network and shall carry the SSRC of the queued transmission participant. | IETF RFC 355 0 [3]. | | |
| Queued User ID | px_MCVIDEO_ID_User _B | Used in off-network only. The Queued User ID field carries the MCVideo ID of the queued transmission control participant. | TS 24.581 [88] 9.2.3.8 | | |
| Queue Info | Not present | Defines the queue position and granted transmission control priority in the queue. | TS 24.581 [88] 9.2.3.5 | | |
| Track Info | Not present | The MCVideo call does not involve a non-controlling MCVideo function | TS 24.581 [88] 9.2.3.13 | | |
| Transmission Control Indicator | | | TS 24.581 [88] 9.2.3.15 (wrong ref in TS 24.581) | | |

5.5.11.2.7 Media Transmission Notification

Table: 5.5.11.2.7-1 Media Transmission Notification

| | Derivation Path: TS 24.581 [88] Table 9.2.13-1 | | | | |
|---------------------|--|--|--|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| Subtype | "00110" | Server → client | TS 24.581 [88] 9.2.2.1-2 | | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | | |
| User ID | | The User ID field is used in off-network only. The User ID carries the MCVideo ID of the requesting transmission participant to which the Transmission Rejected message is sent. | TS 24.581 [88] 9.2.3.8 | | |
| User ID field ID | "00000110" | | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | | |
| User ID | px_MCVideo_ID_User_A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3 | | |
| Track Info | Not present | The MCVideo call does not involve a non-controlling MCVideo function | TS 24.581 [88] 9.2.3.13 | | |

5.5.11.2.8 Receive Media Response

Table: 5.5.11.2.8-1 Receive Media Response

| Derivation Path: TS 24.581 [88] Table 9.2.15-1 | | | | |
|--|--------------|-----------------|----------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00111" | Server → client | TS 24.581 [88] | |
| | | | 9.2.2.1-1 | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|-----------------|------------------------------|----------------|-----------|
| SSRC | The SSRC of the | The SSRC field carries | RFC 3550 [3], | |
| | message sender | the SSRC of the | Appendix 6 | |
| | | transmission participant | shows how to | |
| | | requesting the | generate a | |
| | | reception of the media | random 32-bit | |
| | | from another user. | identifier | |
| Result | | Indicates whether | | |
| | | media reception is | | |
| | | possible as per the | | |
| | | request | | |
| Result field ID | "00001111" | | TS 24.581 [88] | |
| | | | Table 9.2.3.1- | |
| | | | 1 | |
| Result length | "2" | value is a binary value | TS 24.581 [88] | |
| | | and has the value '2' | 9.2.3.17 | |
| | | indicating the total | | |
| | | length in octets of the | | |
| | | <result> value item</result> | | |
| | | and the spare bits | | |
| Result | "1" | 0 - The receiver is not | TS 24.581 [88] | |
| | | permitted (rejected) to | 9.2.3.17 | |
| | | receive the media | | |
| | | transmission. | | |
| | | 1 - The receiver is | | |
| | | permitted (granted) to | | |
| | | receive the media | | |
| | | transmission. | | |
| Reject Cause | not present | Includes the reason for | | |
| - | • | the rejecting the media | | |
| | | receive request and | | |
| | | can be followed by a | | |
| | | text-string explaining | | |
| | | why the media receive | | |
| | | request was rejected. | | |
| | | Therefore the length of | | |
| | | the packet will vary | | |
| | | depending on the size | | |
| | | of the application | | |
| | | dependent field | | |
| Media ID | not present | The Media ID field is | TS 24.581 [88] | |
| | | present only if media | 9.2.3.x | |
| | | multiplexing is used. | - | |
| | | The Media ID field | | |
| | | identified a media flow | | |
| | | within a media | | |
| | | multiplex. | | |

| Derivation Path: TS 24.581 [88] Table 9.2.15-1 | | | | |
|--|---------------------|---|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. | TS 24.581 [88] 9.2.3.11 | |
| | | The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call</transmission></transmission></transmission> | | |
| | | B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |
| Transmission Indicator field ID | "00001101" | An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1. | TS 24.581 [88] Table 9.2.3.1- 1-1 Transmission Indicator Length | |
| Transmission Indicator Length | "00000010" | An 8-bit binary value (2 in binary) | TS 24.581 [88] Table 9.2.3.1- 1-1 | |
| Transmission Indicator | "10000000000000000" | A 16 bit bit-map | TS 24.581 [88] Table 9.2.3.11-2 | |

5.5.11.2.9 Media Reception Notification

Table: 5.5.11.2.9-1 Media Reception Notification

| Information Element | Value/remark | Comment | Reference | Condition |
|------------------------|--------------------------------|--|---|-----------|
| Subtype | "01000" | Server → client | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |

| Information | th: TS 24.581 [88] Table 9.2.16-1 | Commont | Deference | Condition |
|-------------|---|--|----------------|-----------|
| | value/remark | Comment | Reference | Condition |
| Element | | | | |
| User ID | | The User ID field carries the | TS 24.581 [88] | |
| | | MCVideo ID of the user | 9.2.3.8 | |
| | | transmitting the media. | | |
| | | Note: If the length of the <user< td=""><td></td><td></td></user<> | | |
| | | ID> value is not (2 + multiple of 4) | | |
| | | bytes User ID field shall be | | |
| | | padded to (2 + multiple of 4) | | |
| | | bytes. The value of the padding | | |
| | | bytes is to zero. The padding | | |
| | | bytes are ignored by the receiver. | | |
| User ID | "00000110" | | | |
| field ID | | | | |
| User ID | a binary value that includes the | | | |
| length | value indicating the length in | | | |
| | octets of the <user id=""> value</user> | | | |
| | item except padding. | | | |
| User ID | px_MCVideo_ID_User_A | If the length of the <user id=""></user> | | |
| | | value is not (2 + multiple of 4) | | |
| | | bytes User ID field shall be | | |
| | | padded to (2 + multiple of 4) | | |
| | | bytes. The value of the padding | | |
| | | bytes is to zero. The padding | | |
| | | bytes are ignored by the receiver. | | |
| Media ID | Not present | The Media ID field is present only | TS 24.581 [88] | |
| | | if media multiplexing is used. The | 9.2.3 | |
| | | Media ID field identified a media | | |
| | | flow within a media multiplex. | | |

5.5.11.2.10 Transmission Cancel Response

Table 5.5.11.2.10-1 Transmission Cancel Response

| Derivation Path: TS 24.581 [88] | Table 9.2.18-1 | | | |
|---------------------------------|--------------------------------|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01001" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.18 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.2.11 Transmission Cancel Request Notify

Table: 5.5.11.2.11-1 Transmission Cancel Request Notify

| Derivation Path: TS 24.581 [88] | Table 9.2.19-1 | | | |
|---------------------------------|--------------------------------|---|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01010" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.19 | |
| SSRC | The SSRC of the message sender | The SSRC of the Transmission Control server for on-network and transmission arbitrator for off- network. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.2.12 Remote Transmission Response

Table: 5.5.11.2.12-1 Remote Transmission Response

| Derivation Path: TS 24.581 [88] | Table 9.2.23-1 | | | |
|---------------------------------|--------------------------------|--|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01011" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.2.13 Remote Transmission Cancel Response

Table: 5.5.11.2.13-1 Remote Transmission Cancel Response

| Derivation Path: TS 24.581 [88] | Table 9.2.25-1 | | | |
|---------------------------------|--------------------------------|---|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01100" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.2.14 Media Reception Override Notification

Table: 5.5.11.2.14-1 Media Reception Override Notification

| Derivation Path: TS 24.581 [88] Table 9.2.28-1 | | | | |
|--|--|---|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01101" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| User ID | 16-bit binary value | Carries the identity of the user who is requesting the reception of the media. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |

| Derivation Path: TS 24.581 [88] | | | | |
|---------------------------------|--|--|----------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Overriding ID | 16-bit binary value | Carries the identity of the user of the overriding media. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ B | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identifies the communication of overriding media within a media multiplex. | TS 24.581 [88] 9.2.3.x | |
| Overridden ID | 16-bit binary value | Carries the identity of the user of the overridden media. | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |

| Derivation Path: TS 24.581 [88] T | Derivation Path: TS 24.581 [88] Table 9.2.28-1 | | | | | |
|-----------------------------------|--|--|----------------------------|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identifies the communication of overriding media within a media multiplex. | TS 24.581 [88] 9.2.3.x | | | |

5.5.11.2.15 Transmission End Notify

Table: 5.5.11.2.15-1 Transmission End Notify

| Derivation Path: TS 24.581 [88] | | | 1 | T |
|---------------------------------|--|--|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01110" | Server → client | TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20 | |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| User ID | | Carries the identity of the user whose media transmission has been released | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |

| Derivation Path: TS 24.581 [88] Table 9.2.29-1 | | | | | |
|--|--------------|--|----------------------------|-----------|--|
| Information Element | Value/remark | Comment | Reference | Condition | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | | |

5.5.11.2.16 Transmission Idle

Table: 5.5.11.2.16-1 Transmission Idle

| Derivation Path: TS 24.581 [88] Table 9.2.30-1 | | | | |
|--|--------------------------------|---|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "01111" | | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC of the Transmission Control server for on-network and transmission arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in | | |
| | | IETF RFC 3550 [76]. | | |
| name | "MCV1" | Transmission Control messages sent by the Transmission Control Server and the Transmission Control Participant. | | |
| Message Sequence Number | | | | |
| Message Sequence Number field ID | "00001000" | | | |
| Message Sequence Number length | "10" | value is a binary value and has the value '2' indicating the total length in octets of the <message number="" sequence=""> value item.</message> | | |
| Message Sequence Number | "1" | value is a binary value. The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again</message></message> | | |
| Transmission Indicator | | | | |
| Transmission Indicator field ID | "00001101" | | TC 24.581 [88] clause 9.2.3.1 .1 | |
| Transmission Indicator Length | "10" | value is a binary value and has the value '2' | | |

| Derivation Path: TS 24.581 [88] Table 9.2.30-1 | | | | | | |
|--|--------------------|--|---|-----------|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | |
| Transmission Indicator | "1000000000000000" | Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: | TC 24.581 [88] clause 9.2.3.1 .1 | | | |
| | | A = Normal call | | | | |
| | | B = Broadcast group call | | | | |
| | | C = System call | | | | |
| | | D = Emergency call | | | | |
| | | E = Imminent peril call | | | | |
| | | NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. | | | | |
| | | Bits F to P are reserved for future use and are set to 0. | | | | |
| | | There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications. | | | | |

5.5.11.3 Transmission control specific messages sent by both the transmission control server and transmission control participant

5.5.11.3.1 Transmission End Request

Table: 5.5.11.3.1-1 Transmission End Request

| Derivation Path: TS 24.581 [88] Table 9.2.20-1 | | | | |
|--|--------------|---------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00000" | | TS 24.581 [88 | |
| | | |] 9.2.2.1-2 | |

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|--|----------------------------------|-----------|-----------|
| SSRC | The SSRC of the | The SSRC of the | | |
| | message sender | Transmission Control | | |
| | , and the second | server for on-network | | |
| | | and transmission | | |
| | | arbitrator for off- | | |
| | | network. | | |
| | | Notation in accordance | | |
| | | with clause 5.5.6.1. | | |
| | | Coded as specified in | | |
| | | IETF RFC 3550 [76]. | | |
| User ID | | The User ID field is | | |
| Osei ID | | | | |
| | | used to carry the | | |
| | | identity of the user | | |
| | | whose media | | |
| | | transmission is | | |
| | | requested to be | | |
| | | terminated. | | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that | | | |
| | includes the value | | | |
| | indicating the length in | | | |
| | octets of the <user id=""></user> | | | |
| | value item except | | | |
| | padding. | | | |
| User ID | px_MCVideo_ID_User_ | If the length of the | | |
| | A | <user id=""> value is not</user> | | |
| | | (2 + multiple of 4) bytes | | |
| | | User ID field shall be | | |
| | | padded to | | |
| | | (2 + multiple of 4) bytes. | | |
| | | The value of the | | |
| | | | | |
| | | padding bytes is to | | |
| | | zero. The padding bytes | | |
| | | are ignored by the | | |
| | 1 | receiver. | | |
| Media ID | Not Present | The Media ID field is | | |
| | | present only if media | | |
| | | multiplexing is used. | | |
| | | The Media ID field | | |
| | | identified a media flow | | |
| | | within a media | | |
| | | multiplex. | | |

5.5.11.3.2 Transmission End Response

Table: 5.5.11.3.2-1 Transmission End Response

| Derivation Path: TS 24.581 [88 Information Element | Value/remark | Comment | Reference | Condition |
|--|--|--|------------------------------|-----------|
| Subtype | "00001" | | TS 24.581 [88] 9.2.2.1-2 | |
| SSRC | The SSRC of the message sender | The SSRC of the Transmission Control server for on-network and transmission arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | |
| User ID | | The User ID field is used to carry the identity of the user whose media transmission is requested to be terminated. | | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Media ID | Not Present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | | |

5.5.11.3.3 Media Reception End Request

Table: 5.5.11.3.3-1 Media Reception End Request

| Derivation Path: TS 24.581 [88] Table 9.2.26-1 | | | | |
|--|--------------|-----------------|---------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Subtype | "00010" | Server → client | TS 24.581 [88 | |
| | | |] 9.2.2.1-3 | |

| Derivation Path: TS 24.581 [88] | Table 9.2.26-1 | | | |
|---------------------------------|--|---|--|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server or the transmission control participant requesting the end of reception of the media from another user. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| User ID | | The User ID field is used to carry the identity of the user who is requesting the reception of the media Note: If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | TS 24.581 [88] 9.2.3.8 | |
| User ID field ID | "00000110" | | | |
| User ID length | a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user> | | | |
| User ID | px_MCVideo_ID_User_ A | If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user> | | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

| Derivation Path: TS 24.581 [88] T | | | | |
|-----------------------------------|-------------------|--|---|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transmission Indicator | | The Transmission Indicator contains additional information about a received transmission control message. | TS 24.581 [88] 9.2.3.11 | |
| | | The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission> | | |
| | | A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call | | |
| Transmission Indicator field ID | "00001101" | An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1. | TS 24.581 [88] Table 9.2.3.1-1-1 | |
| Transmission Indicator Length | "00000010" | An 8-bit binary value (2 in binary) | TS 24.581 [88] Table 9.2.3.1-1-1 | |
| Transmission Indicator | Any allowed value | A 16 bit bit-map | TS 24.581 [88] Table 9.2.3.11-2 | |

5.5.11.3.4 Media Reception End Response

Table: 5.5.11.3.4-1 Media Reception End Response

| Derivation Path: TS 24.581 [88 Information Element | Value/remark | Comment | Reference | Condition |
|--|--------------------------------|--|--|-----------|
| Subtype | "00011" | Server → client | TS 24.581 [88 19.2.2.1-3 | Condition |
| SSRC | The SSRC of the message sender | The SSRC field carries the SSRC of the transmission control server or the transmission control participant requesting the end of reception of the media from another user. | RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier | |
| Media ID | Not present | The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex. | TS 24.581 [88] 9.2.3.x | |

5.5.11.3.5 Transmission Control Ack

Table: 5.5.11.3.5-1: Transmission Control Ack

| Derivation Path: TS 24.581 [88] Table 9.2.31-1 | | | | | | | |
|--|--|---|-----------|-----------|--|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | | |
| Subtype | "00100" | | | | | | |
| SSRC | The SSRC of the message sender | The SSRC of the Transmission Control server for on-network and transmission arbitrator for off-network. Notation in accordance | | | | | |
| | | with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]. | | | | | |
| Source | | | | | | | |
| Source field ID | "00001010" | | | | | | |
| Source length | "10" | value is a binary value and has the value 2 indicating the total length in octets of the <source/> value item | | | | | |
| Source | "2" | The <source/> value is a 16 bit binary value where: '0' the transmission | | | | | |
| | | participant is the source '1' the participating MCVideo function is the source '2' the controlling | | | | | |
| | | MCVideo function is the source '3' the non- controlling MCVideo function is the source | | | | | |
| | | All other values are reserved for future use | | | | | |
| Message name | "00040000" | <u> </u> | | | | | |
| Message Name field ID Message Name Length | "00010000" "110" | value is a binary value and has the value '6'. | | | | | |
| Message Name | the message name of the received message | value is as coded as an ascii name field | | | | | |
| Message type | | | | | | | |
| Message Type field ID Message Type Length | "00001100" "10" | value is a binary value and has the value '2' | | | | | |

| Derivation Path: TS 24.581 [88] Ta | able 9.2.31-1 | | | |
|------------------------------------|--|----------------------------|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Message Type | "000" <the of<="" subtype="" td=""><td>value is an 8 bit binary</td><td></td><td></td></the> | value is an 8 bit binary | | |
| | the received | value containing the | | |
| | message> | binary value consisting of | | |
| | | the 5 bit message | | |
| | | subtype as coded in | | |
| | | table 9.2.2.1-1, | | |
| | | table 9.2.2.1-2 and | | |
| | | table 9.2.2.1-3 (including | | |
| | | the first bit (used by | | |
| | | some transmission | | |
| | | control messages to | | |
| | | indicate that a | | |
| | | Transmission control Ack | | |
| | | message is requested) of | | |
| | | the five bit subtype) | | |
| | | preceded by "000". | | |

5.5.12 MSRP Messages for MCData

- 5.5.12.1 MSRP SEND
- 5.5.12.1.1 MSRP SEND from the UE
- MSRP SEND from the UE with No Chunking Used

Table 5.5.12.1-1: MSRP SEND from the UE

| Derivation Path: RFC 4975 [X] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|--------------------------------|-----------|
| Transaction Identifier | | | | |
| value | any allowed value | | | |
| To-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_A_ID | | | |
| Message-ID | | 16 1 1: : . | | |
| value | any allowed value | If chunking is done: The message ID corresponds to the whole message, so the receiver can also use it to reassemble the message and tell which chunks belong with which message. | | |
| Byte-Range | | The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message | | |
| range-start | any allowed value | | | |
| range-end | any allowed value | | | . |
| total length | any allowed value | | TO 04 500 1001 | |
| Content-Type | | | TS 24.582 [89] , clause 6.4 | |
| media-type | "multipart/mixed" | | , clause 6.4 | |
| media-type MIME body part | | SDS SIGNALLING PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-signalling" | | | |
| MIME-part-body | As described in Table 5.5.3.8.1-1 | | | |
| MIME body part | | SDS DATA PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-payload" | | | |
| MIME-part-body | As described in Table 5.5.3.9-1 | | | |
| End-line | "" <transaction Identifier value>"\$"</transaction | an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message | | |

Empty MSRP SEND from the UE for Binding

Table 5.5.12.1-2: Empty MSRP SEND from the UE for Binding

| Derivation Path: RFC 4975 [X] Information Element | Value/remark | Comment | Reference | Condition |
|---|--|---|-----------|-----------|
| Transaction Identifier | | | | |
| value | any allowed value | | | |
| To-Path | any anomou raido | | | |
| value | px MSRP URI SS ID | | | |
| From-Path | premeru est ueste est uest | | | |
| value | px_MSRP_URI_A_ID | | | |
| Message-ID | | | | |
| value | any allowed value | | | |
| Byte-Range | "1_" | The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message | | |
| range-start | "0/" | + | | + |
| range-end | "0" | | | |
| total length | | | | |
| Content-Type End-line | not present "" <transaction< td=""><td> </td><td></td><td>1</td></transaction<> | | | 1 |
| cno-iine | "< ransaction | | | |

- MSRP SEND from the UE with Chunking Used

Table 5.5.12.1-3: MSRP SEND from the UE with Chunking Used

| Derivation Path: RFC 4975 [X] | | | | |
|-------------------------------|--|---|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transaction Identifier | | | | |
| value To-Path | any allowed value | | | |
| | px_MSRP_URI_SS_ID | + | | |
| value From-Path | | | | |
| value | px_MSRP_URI_A_ID | | | |
| Message-ID | pa_mera _era_ra_r | | | |
| value | any allowed value | If chunking is done: The message ID | | |
| | | corresponds to the whole message, so the receiver can also use it to reassemble the message and tell which chunks belong with | | |
| Byte-Range | | which message. The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message. Example: Byte-Range for Chunk 1 of 2: 1-2/8 | | |
| | | Byte-Range for Chunk 2 of 2: 5-8/8 | | |
| range-start | <any allowed="" value="">"-"</any> | | | |
| range-end | <any allowed="" value="">"/"</any> | The range-end field SHOULD indicate the position of the last byte in the body, if known. It MUST take the value of "*" if the position is unknown, or if the request needs to be interruptible. | | |
| total length | the total length | | | |
| Content-Type | Harvaldin of the Mill | | TS 24.582 [89] , clause 6.4 | |
| media-type MIME body part | "multipart/mixed" | SDS SIGNALLING PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-signalling" | TATEORD | | |
| MIME-part-body | As described in Table 5.5.3.8.1-1 | | | |
| MIME body part | | SDS DATA PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-payload" | | | |
| MIME-part-body | As described in Table 5.5.3.9-1 | | | |

| End-line | "" <transaction Identifier value>"+"</transaction | an end-line of seven hyphens, the transaction identifier, and a "+" to indicate that this request is not the end of a complete | |
|----------|---|---|--|
| | | message | |

- MSRP SEND from the UE with Chunking Used – Last Chunk

Table 5.5.12.1-4: MSRP SEND from the UE with Chunking Used – Last Chunk

| Derivation Path: RFC 4975 [X] | | | | |
|-------------------------------|--|--|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transaction Identifier | | | | |
| value | any allowed value | | | |
| To-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_A_ID | | | |
| Message-ID | | | | |
| value | any allowed value | If chunking is done: The message ID corresponds to the whole message, so the receiver can also use it to reassemble the message and tell which chunks belong with which message. | | |
| Byte-Range | | The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message. Example: Byte-Range for Chunk 1 of 2: 1-2/8 Byte-Range for Chunk 2 of 2: 5-8/8 | | |
| range-start range-end | <any allowed="" value="">"-" <the length="" total="">"/"</the></any> | The range-end field for the last chunk of a message should be equal to the total length of the message. | | |

| 4 - 4 - 1 . 1 | 46 - 4-4-11 | The Desta Danses | | |
|---------------------|---|--------------------------|----------------|--|
| total length | the total length | The Byte-Range | | |
| | | header field value | | |
| | | contains a starting | | |
| | | value (range-start) | | |
| | | followed by a "-", an | | |
| | | ending value (range- | | |
| | | end) followed by a "/", | | |
| | | and finally the total | | |
| | | length. The first octet | | |
| | | in the message has a | | |
| | | position of one, rather | | |
| | | than a zero. | | |
| | | The Byte-Range | | |
| | | header field identifies | | |
| | | the portion of the | | |
| | | message carried in this | | |
| | | chunk and the total size | | |
| | | of the message. | | |
| | | Example: | | |
| | | Byte-Range for Chunk | | |
| | | 1 of 2: 1-2/8 | | |
| | | Byte-Range for Chunk | | |
| | | 2 of 2: 5-8/8 | | |
| Content-Type | | | TS 24.582 [89] | |
| | | | , clause 6.4 | |
| media-type | "multipart/mixed" | | | |
| MIME body part | | SDS SIGNALLING | | |
| MINAT Content Turns | llandiation/und 2000 | PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. | | | |
| NAINAE ALL I | mcdata-signalling" | | | |
| MIME-part-body | As described in Table | | | |
| MIME body part | 5.5.3.8.1-1 | SDS DATA PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. | SES DATA FAILUAD | | |
| white-Content-Type | mcdata-payload" | | | |
| MIME part had: | As described in Table | | | |
| MIME-part-body | 5.5.3.9-1 | | | |
| End-line | "" <transaction< td=""><td>an end-line of seven</td><td></td><td></td></transaction<> | an end-line of seven | | |
| | Identifier value>"\$" | hyphens, the | | |
| | | transaction identifier, | | |
| | | and a "\$" to indicate | | |
| | | that this request | | |
| | | contains the last chunk | | |
| | | of a complete message | | |

5.5.12.1.2 MSRP SEND from the SS

- MSRP SEND from the SS

Table 5.5.12.1.2-1: MSRP SEND from the SS

| Derivation Path: RFC 4975 [X] | | | | |
|-------------------------------|---|---|--------------------------------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transaction Identifier | | | | |
| value | "a786hjs2" | | | |
| To-Path | | | | |
| value | px_MSRP_URI_A_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| Message-ID | | | | |
| value | "87652491" | | | |
| Byte-Range | | The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message | | |
| range-start | 1 | | | |
| range-end | the length of the message in bytes | | | |
| total length | the length of the message in bytes | | | |
| Content-Type | | | TS 24.582 [89] , clause 6.4 | |
| media-type | "multipart/mixed" | | | |
| MIME body part | · | SDS SIGNALLING PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-signalling" | | | |
| MIME-part-body | As described in Table 5.5.3.8.2-1 | | | |
| MIME body part | | SDS DATA PAYLOAD | | |
| MIME-Content-Type | "application/vnd.3gpp. mcdata-payload" | | | |
| MIME-part-body | As described in Table 5.5.3.9-2 | | | |
| End-line | "a786hjs2\$" | an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message | | |

Empty MSRP SEND from the SS for Binding

Table 5.5.12.1.2-2: Empty MSRP SEND from the SS for Binding

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------------|-----------------------------|---|-----------|-----------|
| Transaction Identifier | | | | |
| value | "a786hjs2" | | | |
| To-Path | • | | | |
| value | px_MSRP_URI_A_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| Message-ID | , = = = = | | | |
| value | "87652491" | | | |
| Byte-Range | | The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message | | |
| range-start | 0 | | | + |
| range-end total length | 0 | + | | |
| | | | | |
| Content-Type End-line | not present "a786hjs2\$" | | | 1 |

5.5.12.2 MSRP 200 (OK)

5.5.12.2.1 MSRP 200 (OK) from the UE

Table 5.5.12.2.1-1: MSRP 200 (OK) from the UE

| Information Element | Value/remark | Comment | Reference | Condition |
|------------------------|--|---|-----------|-----------|
| Transaction Identifier | | | | |
| value | same value as received in the MSRP SEND message | | | |
| To-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_A_ID | | | |
| End-line | "" <transaction Identifier value>"\$"</transaction | an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message | | |

5.5.12.2.2 MSRP 200 (OK) from the SS

Table 5.5.12.2.2-1: MSRP 200 (OK) from the SS

| Derivation Path: RFC 4975 [X] | | | | |
|-------------------------------|--|---|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Transaction Identifier | | | | |
| value | same value as received in the MSRP SEND message | | | |
| To-Path | · · | | | |
| value | px_MSRP_URI_A_ID | | | |
| From-Path | | | | |
| value | px_MSRP_URI_SS_ID | | | |
| End-line | "" <transaction Identifier value>"\$"</transaction | an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message | | |

5.5.13 Default XML messages and elements for XML security

5.5.13.1 XML signature for integrity protection of MIME bodies

Table 5.5.13.1-1: XML signature MIME body from the UE

| Derivation Path: TS 24.379 [9] a | | | | T = |
|----------------------------------|---|--|-----------|-----------|
| Information Element | Value/remark | Comment | Reference | Condition |
| Signatures | | list of N signatures for | | |
| | | the signed XML bodies | | |
| | | of a SIP message | | |
| Signature [n] | | n ∈ {1N} | | |
| id | any value if present | | | |
| SignedInfo | | | | |
| CanonicalizationAlgorithm | any value | canonicalisation method e.g. "http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315" | | |
| SignatureAlgorithm | "HMAC-SHA-256" | Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo | | |
| Reference | | j | | |
| URI | same value as the Content-ID of the XML MIME body the signature belongs to | | | |
| DigestAlgorithm | "SHA-256" | Hashing algorithm to be applied to sign the data object | | |
| DigestValue | Hash signing the data object (referred to by the URI) | | | |
| SignatureValue | Hash signing the SignedInfo | The signing key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = CSK-ID | | |
| KeyInfo | | | | |
| KeyName | base64 encoded CSK- ID | | | |

Table 5.5.13.1-2: XML signature MIME body from the SS

| Information Element | Value/remark | Comment | Reference | Condition | |
|---------------------------|---|--|-----------|-----------|--|
| Signatures | | list of N signatures for the signed XML bodies | | | |
| | | of a SIP message | | | |
| Signature [n] | | n ∈ {1N} | | | |
| id | "signature" & n | | | | |
| SignedInfo | | | | | |
| CanonicalizationAlgorithm | "http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315" | canonicalisation method | | | |
| SignatureAlgorithm | "HMAC-SHA-256" | Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo | | | |
| Reference | | | | | |
| URI | same value as the Content-ID of the XML MIME body the signature belongs to | | | | |
| DigestAlgorithm | "SHA-256" | Hashing algorithm to be applied to sign the data object | | | |
| DigestValue | Hash signing the data object (referred to by the URI) | | | | |
| SignatureValue | Hash signing the SignedInfo | The signing key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = CSK-ID | | | |
| KeyInfo | | | | | |
| KeyName | base64 encoded CSK- ID | | | | |

5.5.13.2 XML <EncryptedData> element for encryption of XML element content

Table 5.5.13.2-1: XML < Encrypted Data > element from the UE

| Derivation Path: XML Encryption Syntax, Version 1.1 [108] clause 9.1 | | | | | | | | |
|--|-------------------------|------------------------|----------------|-----------|--|--|--|--|
| Information Element | Value/remark | Comment | Reference | Condition | | | | |
| EncryptedData | | | | | | | | |
| Type attribute | "http://www.w3.org/200 | | | | | | | |
| | 1/04/xmlenc#Content" if | | | | | | | |
| | present | | | | | | | |
| EncryptionMethod | if present | | | | | | | |
| Algorithm attribute | "http://www.w3.org/200 | | | | | | | |
| | 9/xmlenc11#aes128- | | | | | | | |
| | gcm" | | | | | | | |
| KeyInfo | if present | | | | | | | |
| KeyName | base64 encoded CSK- | The CSK-ID is provided | | | | | | |
| | ID | by the UE at CSK | | | | | | |
| | | distribution | | | | | | |
| CipherData | | | | | | | | |
| CipherValue | encrypted XML element | The encryption key is | TS 33.180 [94] | | | | | |
| | content | derived from the CSK | clause 9.3.4.2 | | | | | |
| | | according to | | | | | | |
| | | TS 33.180 [94] Annex | | | | | | |
| | | F.1.4 with | | | | | | |
| | | FC = 0x51 | | | | | | |
| | | XPK-ID = CSK-ID | | | | | | |

Table 5.5.13.2-2: XML < Encrypted Data > element from the SS

| Information Element | Value/remark | Reference | Condition | |
|---------------------|--|---|-------------------------------|--|
| EncryptedData | | | | |
| Type attribute | "http://www.w3.org/200 1/04/xmlenc#Content" | | | |
| EncryptionMethod | | | | |
| Algorithm attribute | "http://www.w3.org/200 9/xmlenc11#aes128- gcm" | | | |
| KeyInfo | | | | |
| KeyName | base64 encoded CSK- ID | The CSK-ID is provided by the UE at CSK distribution | | |
| CipherData | | | | |
| CipherValue | encrypted XML element content | The encryption key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = CSK-ID | TS 33.180 [94] clause 9.3.4.2 | |

5.5.13.3 Encrypted XML URI attribute

Table 5.5.13.3-1: Encrypted XML URI attribute

| Information Element | Value/remark | Comment | Reference | Condition |
|---------------------|---|---|--|-----------|
| SIP URI | | | | |
| scheme | "sip" | | | |
| user | semicolon separated list of: | | TS 24.379 [9] clause 6.6.2.3.4 | |
| | base64 encoded encrypted URI | The encryption key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = CSK-ID | | |
| | "iv=" & base64 encoded 96-bit random initialisation vector (IV) | IV as used by AES-128 encryption algorithm | | |
| | "key-id=" & base64 encoded encryption key identifier (XPK-ID) | with XPK-ID = CSK-ID | | |
| | "alg=128-aes-gcm" | AES-128 encryption algorithm | | |
| password | not present | | | |
| host | "mc1- encryption.3gppnetwor k.org" | | TS 24.379 [9] clause 6.6.2.3.4; TS 23.003 [69] clause 26.2 | |
| port | not present | | _ | |
| uri parameters | not present | | _ | |
| headers | not present | | | |

5.6 Reference configurations

5.6.1 General

The Reference configuration requirements provided in clause 5.6 specify configuration values that are expected to be pre-configured in the UE before a test is started. The exception to this requirement are tests which verify the communication exchange which allows a MCPTT device to be enabled for the provision of MCPTT cervices e.g. test case 5.1 in TS 36.579-2 [2].

5.6.2 Key material for provisioning of End-to-end communication security

For any end-point to use or access end-to-end secure communications, it needs to be provisioned with keying material associated to its identity by the KMS as specified in 3GPP TS 33.180 [94]. To avoid dynamic allocation of key material before each test case is run, the following keying information needs to be preconfigured in the UE. For convenience, the information is provided in the form of an XML which can be provided/pre-configured in the UE e.g. by a Key Management Server (KMS) as specified in 3GPP TS 33.180 [94].

```
<?xml version="1.0" encoding="UTF-8"?>
<SignedKmsResponse xmlns= "TOBEDEFINED" xmlns:xsi = "http://www.w3.org/2001/XMLSchema-instance"
    xmlns:ds = "http://www.w3.org/2000/09/xmldsig#" xmlns:se = "TOBEDEFINED"
    xsi:schemaLocation = "TOBEDEFINED SE_KmsInterface_XMLSchema.xsd" Id = "xmldoc">

<KmsResponse xmlns= "TOBEDEFINED" Version = "1.0.0">

<KmsUri>kms.example.org</KmsUri>
    <UserUri>user@example.org</VserUri>
    <Time>2014-01-26T10:07:14</Time>

<KmsId>KMsDrovider12345</KmsId>
    <ClientReqUrl>http://kms.example.org/keymanagement/identity/v1/keyprov</ClientReqUrl>
```

```
<KmsMessage>
    <KmsKeyProv Version = "1.0.0" xsi:type = "se:KmsKeyProvTkType">
      <KmsKeySet Version = "1.1.0">
        <KmsUri>kms.example.org</kmsUri>
        <CertUri>cert1.kms.example.org</CertUri>
        <Issuer>www.example.org</Issuer>
        <UserUri>user@example.org</UserUri>
        <UserID>0123456789ABCDEF0123456789ABCDEF</UserID>
        <ValidFrom>2017-07-31T17:00:00</ValidFrom>
        <ValidTo>2018-07-31T16:59:59</ValidTo>
        <KeyPeriodNo>3710502000</KeyPeriodNo>
        <Revoked>false</Revoked>
        <UserDecryptKey xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KevInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KevInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
          </EncryptedKey>
        </UserDecryptKey>
        <UserSigningKeySSK xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KeyInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KeyInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
        </EncryptedKey>
        </UserSigningKeySSK>
        <UserPubTokenPVT xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KevInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KeyInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
          </EncryptedKey>
        </UserPubTokenPVT>
      </KmsKeySet>
      <NewTransportKey xmlns= "TOBEDEFINED">
            <EncryptedKey xmlns="http://www.w3.org/2001/04/xmlenc#"</pre>
Type="http://www.w3.org/2001/04/xmlenc#EncryptedKey">
              <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
              <ds:KeyInfo>
                <ds:KeyName>tk.12.user@example.org</KeyName>
              </ds:KeyInfo>
              <CipherData>
                <CipherValue>DEADBEEF</CipherValue>
              </CipherData>
              <CarriedKeyName>tk.13.user@example.org</CarriedKeyName>
            </EncryptedKey>
          </NewTransportKey>
    </KmsKeyProv>
  </KmsMessage>
</KmsResponse>
<Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
    <SignedInfo>
      <CanonicalizationMethod Algorithm="http://www.w3.org/TR/2001/REC-xml-c14n-20010315"/>
      <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#hmac-sha256">
        <HMACOutputLength>128/HMACOutputLength>
      </SignatureMethod>
      <Reference URI="#xmldoc">
        <DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256"/>
        <DigestValue>nnnn</DigestValue>
      </Reference>
    </SignedInfo>
    <SignatureValue>DEADBEEF</SignatureValue>
      <KeyName>tk.12.user@example.org</KeyName>
    </KeyInfo>
  </Signature>
```

</SignedKmsResponse>

5.6.3 XML schema for MCPTT location information

```
From TS 24.379 clause F.3.2:
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"</pre>
xmlns:mcpttloc="urn:3gpp:ns:mcpttLocationInfo:1.0"
targetNamespace="urn:3gpp:ns:mcpttLocationInfo:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified"
xmlns:xenc="http://www.w3.org/2001/04/xmlenc#">
    <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>
    <xs:element name="location-info" id="loc">
            <xs:documentation>Root element, contains all information related to location
configuration, location request and location reporting for the MCPTT service</xs:documentation>
        </xs:annotation>
        <xs:complexType>
            <xs:choice>
                <xs:element name="Configuration" type="mcpttloc:tConfigurationType"/>
                <xs:element name="Request" type="mcpttloc:tRequestType"/>
                <xs:element name="Report" type="mcpttloc:tReportType"/>
                <xs:any namespace="##other" processContents="lax" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
            </xs:choice>
            <xs:anyAttribute namespace="##any" processContents="lax"/>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="tConfigurationType">
        <xs:sequence>
            <xs:element name="NonEmergencyLocationInformation"</pre>
type="mcpttloc:tRequestedLocationType" minOccurs="0"/>
            <xs:element name="EmergencyLocationInformation" type="mcpttloc:tRequestedLocationType"</pre>
minOccurs="0"/>
            <xs:element name="TriggeringCriteria" type="mcpttloc:TriggeringCriteriaType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ConfigScope">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Full"/>
                    <xs:enumeration value="Update"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestType">
        <xs:complexContent>
            <xs:extension base="mcpttloc:tEmptyType">
                <xs:attribute name="RequestId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tReportType">
            <xs:element name="TriggerId" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="CurrentLocation" type="mcpttloc:tCurrentLocationType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ReportID" type="xs:string" use="optional"/>
        <xs:attribute name="ReportType" use="required">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                     <xs:enumeration value="Emergency"/>
                    <xs:enumeration value="NonEmergency"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="TriggeringCriteriaType">
```

```
<xs:sequence>
            <xs:element name="CellChange" type="mcpttloc:tCellChange" minOccurs="0"/>
            <xs:element name="TrackingAreaChange" type="mcpttloc:tTrackingAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PlmnChange" type="mcpttloc:tPlmnChangeType" minOccurs="0"/>
            <xs:element name="MbmsSaChange" type="mcpttloc:tMbmsSaChangeType" minOccurs="0"/>
            <xs:element name="MbsfnAreaChange" type="mcpttloc:tMbsfnAreaChangeType" minOccurs="0"/>
<xs:element name="PeriodicReport" type="mcpttloc:tIntegerAttributeType" minOccurs="0"/>
            <xs:element name="TravelledDistance" type="mcpttloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="McpttSignallingEvent" type="mcpttloc:tSignallingEventType"</pre>
minOccurs="0"/>
            <xs:element name="GeographicalAreaChange" type="mcpttloc:tGeographicalAreaChange"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCellChange">
        <xs:sequence>
            <xs:element name="AnyCellChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificCell" type="mcpttloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificCell" type="mcpttloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmptyType"/>
    <xs:simpleType name="tEcgi">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}[0-1]{28}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tSpecificCellType">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tEcgi">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tEmptyTypeAttribute">
        <xs:complexContent>
            <xs:extension base="mcpttloc:tEmptyType">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tTrackingAreaChangeType">
        <xs:sequence>
            <xs:element name="AnyTrackingAreaChange" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="EnterSpecificTrackingArea" type="mcpttloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificTrackingArea" type="mcpttloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tTrackingAreaIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}[0-1]{16}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tTrackingAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tTrackingAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tPlmnChangeType">
        <xs:sequence>
            <xs:element name="AnyPlmnChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
```

```
<xs:element name="EnterSpecificPlmn" type="mcpttloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificPlmn" type="mcpttloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tPlmnIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tPlmnIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tPlmnIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbmsSaChangeType">
            <xs:element name="AnyMbmsSaChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificMbmsSa" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
<xs:element name="ExitSpecificMbmsSa" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anvAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbmsSaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="65535"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbmsSaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tMbmsSaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbsfnAreaChangeType">
        <xs:sequence>
            <xs:element name="EnterSpecificMbsfnArea" type="mcpttloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificMbsfnArea" type="mcpttloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbsfnAreaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="255"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbsfnAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tMbsfnAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tIntegerAttributeType">
        <xs:simpleContent>
            <xs:extension base="xs:integer">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tTravelledDistanceType">
        <xs:sequence>
            <xs:element name="TravelledDistance" type="xs:positiveInteger"/>
```

```
<xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSignallingEventType">
        <xs:sequence>
            <xs:element name="InitialLogOn" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="GroupCallNonEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallNonEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="LocationConfigurationReceived" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type=" mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmergencyEventType">
        <xs:sequence>
            <xs:element name="GroupCallEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="GroupCallImminentPeril" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="InitiateEmergencyAlert" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestedLocationType">
        <xs:sequence>
            <xs:element name="ServingEcqi" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcpttloc:tEmptyType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="GeographicalCordinate" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="minimumIntervalLength" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCurrentLocationType">
        <xs:sequence>
            <xs:element name="CurrentServingEcgi" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcpttloc:tLocationType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="CurrentCoordinate" type="mcpttloc:tPointCoordinate" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="protectionType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="Normal"/>
            <xs:enumeration value="Encrypted"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tLocationType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="Ecgi" type="mcpttloc:tEcgi" minOccurs="0"/>
            <xs:element name="SaId" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="MbsfnAreaId" type="mcpttloc:tMbsfnAreaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:choice>
```

```
<xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tGeographicalAreaChange">
            <xs:element name="AnyAreaChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificAreaType" type="mcpttloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificAreaType" type="mcpttloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSpecificAreaType">
        <xs:sequence>
            <xs:element name="GeographicalArea" type="mcpttloc:tGeographicalAreaDef"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPointCoordinate">
        <xs:sequence>
            <xs:element name="longitude" type="mcpttloc:tCoordinateType"/>
            <xs:element name="latitude" type="mcpttloc:tCoordinateType"/>
<xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCoordinateType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="threebytes" type="mcpttloc:tThreeByteType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tThreeByteType">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="16777215"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tGeographicalAreaDef">
            <xs:element name="PolygonArea" type="mcpttloc:tPolygonAreaType" minOccurs="0"/>
            <xs:element name="EllipsoidArcArea" type="mcpttloc:tEllipsoidArcType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPolygonAreaType">
        <xs:sequence>
            <xs:element name="Corner" type="mcpttloc:tPointCoordinate" minOccurs="3"</pre>
maxOccurs="15"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEllipsoidArcType">
        <xs:sequence>
            <xs:element name="Center" type="mcpttloc:tPointCoordinate"/>
            <xs:element name="Radius" type="xs:nonNegativeInteger"/>
            <xs:element name="OffsetAngle" type="xs:unsignedByte"/>
            <xs:element name="IncludedAngle" type="xs:unsignedByte"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
```

5.6.4 XML schema for MCVideo location information

```
From TS 24.281 clause F.3.2:
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"</pre>
xmlns:mcvideoloc="urn:3gpp:ns:mcvideoLocationInfo:1.0"
targetNamespace="urn:3gpp:ns:mcvideoLocationInfo:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified"
xmlns:xenc="http://www.w3.org/2001/04/xmlenc#">
    <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>
    <xs:element name="location-info" id="loc">
        <xs:annotation>
            <xs:documentation>Root element, contains all information related to location
configuration, location request and location reporting for the MCVideo service</xs:documentation>
        </xs:annotation>
        <xs:complexType>
                <xs:element name="Configuration" type="mcvideoloc:tConfigurationType"/>
                <xs:element name="Request" type="mcvideoloc:tRequestType"/>
<xs:element name="Report" type="mcvideoloc:tReportType"/>
                 <xs:any namespace="##other" processContents="lax" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
            </xs:choice>
            <xs:anyAttribute namespace="##any" processContents="lax"/>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="tConfigurationType">
        <xs:sequence>
            <xs:element name="NonEmergencyLocationInformation"</pre>
type="mcvideoloc:tRequestedLocationType" minOccurs="0"/>
            <xs:element name="EmergencyLocationInformation" type="mcvideoloc:tRequestedLocationType"</pre>
minOccurs="0"/>
            <xs:element name="TriggeringCriteria" type="mcvideoloc:TriggeringCriteriaType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ConfigScope">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Full"/>
                     <xs:enumeration value="Update"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestType">
        <xs:complexContent>
            <xs:extension base="mcvideoloc:tEmptyType">
                <xs:attribute name="RequestId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tReportType">
            <xs:element name="TriggerId" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="CurrentLocation" type="mcvideoloc:tCurrentLocationType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ReportID" type="xs:string" use="optional"/>
        <xs:attribute name="ReportType" use="required">
            <xs:simpleType>
```

```
<xs:restriction base="xs:string">
                    <xs:enumeration value="Emergency"/>
                    <xs:enumeration value="NonEmergency"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="TriggeringCriteriaType">
            <xs:element name="CellChange" type="mcvideoloc:tCellChange" minOccurs="0"/>
            <xs:element name="TrackingAreaChange" type="mcvideoloc:tTrackingAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PlmnChange" type="mcvideoloc:tPlmnChangeType" minOccurs="0"/>
            <xs:element name="MbmsSaChange" type="mcvideoloc:tMbmsSaChangeType" minOccurs="0"/>
            <xs:element name="MbsfnAreaChange" type="mcvideoloc:tMbsfnAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PeriodicReport" type="mcvideoloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="TravelledDistance" type="mcvideoloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="McvideoSignallingEvent" type="mcvideoloc:tSignallingEventType"</pre>
minOccurs="0"/>
            <xs:element name="GeographicalAreaChange" type="mcvideoloc:tGeographicalAreaChange"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCellChange">
        <xs:sequence>
            <xs:element name="AnyCellChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificCell" type="mcvideoloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificCell" type="mcvideoloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmptyType"/>
    <xs:simpleType name="tEcgi">
        <xs:restriction base="xs:string">
           <xs:pattern value="\d{3}\d{3}[0-1]{28}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tSpecificCellType">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tEcgi">
               <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tEmptyTypeAttribute">
        <xs:complexContent>
            <xs:extension base="mcvideoloc:tEmptyType">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tTrackingAreaChangeType">
        <xs:sequence>
            <xs:element name="AnyTrackingAreaChange" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="EnterSpecificTrackingArea" type="mcvideoloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificTrackingArea" type="mcvideoloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tTrackingAreaIdentityFormat">
        <xs:restriction base="xs:string">
           <xs:pattern value="\d{3}\d{3}[0-1]{16}"/>
        </xs:restriction>
```

```
</xs:simpleType>
    <xs:complexType name="tTrackingAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tTrackingAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tPlmnChangeType">
        <xs:sequence>
           <xs:element name="AnyPlmnChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificPlmn" type="mcvideoloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificPlmn" type="mcvideoloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
           <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tPlmnIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tPlmnIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tPlmnIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </rs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbmsSaChangeType">
        <xs:sequence>
            <xs:element name="AnyMbmsSaChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificMbmsSa" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="ExitSpecificMbmsSa" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbmsSaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="65535"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbmsSaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tMbmsSaIdentityFormat">
               <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbsfnAreaChangeType">
        <xs:sequence>
            <xs:element name="EnterSpecificMbsfnArea" type="mcvideoloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
           <xs:element name="ExitSpecificMbsfnArea" type="mcvideoloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbsfnAreaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="255"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbsfnAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tMbsfnAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
```

```
</xs:complexType>
    <xs:complexType name="tIntegerAttributeType">
        <xs:simpleContent>
            <xs:extension base="xs:integer">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tTravelledDistanceType">
        <xs:sequence>
            <xs:element name="TravelledDistance" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSignallingEventType">
        <xs:sequence>
            <xs:element name="InitialLogOn" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="GroupCallNonEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallNonEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="LocationConfigurationReceived" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type=" mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmergencyEventType">
        <xs:sequence>
            <xs:element name="GroupCallEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="GroupCallImminentPeril" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="InitiateEmergencyAlert" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestedLocationType">
        <xs:sequence>
            <xs:element name="ServingEcgi" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcvideoloc:tEmptyType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="GeographicalCordinate" type="mcvideoloc:tEmptyType" minOccurs="0"/>
<xs:element name="minimumIntervalLength" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCurrentLocationType">
            <xs:element name="CurrentServingEcgi" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcvideoloc:tLocationType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="CurrentCoordinate" type="mcvideoloc:tPointCoordinate" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="protectionType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="Normal"/>
            <xs:enumeration value="Encrypted"/>
```

```
</xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tLocationType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="Ecgi" type="mcvideoloc:tEcgi" minOccurs="0"/>
            <xs:element name="SaId" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="MbsfnAreaId" type="mcvideoloc:tMbsfnAreaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>
        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    <xs:complexType name="tGeographicalAreaChange">
        <xs:sequence>
            <xs:element name="AnyAreaChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificAreaType" type="mcvideoloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificAreaType" type="mcvideoloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSpecificAreaType">
        <xs:sequence>
            <xs:element name="GeographicalArea" type="mcvideoloc:tGeographicalAreaDef"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPointCoordinate">
        <xs:sequence>
            <xs:element name="longitude" type="mcvideoloc:tCoordinate"/>
            <xs:element name="latitude" type="mcvideoloc:tCoordinate"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCoordinateType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="threebytes" type="mcvideoloc:tThreeByteType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>
        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tThreeByteType">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="16777215"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tGeographicalAreaDef">
        <xs:sequence>
            <xs:element name="PolygonArea" type="mcvideoloc:tPolygonAreaType" minOccurs="0"/>
            <xs:element name="EllipsoidArcArea" type="mcvideoloc:tEllipsoidArcType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPolygonAreaType">
        <xs:sequence>
            <xs:element name="Corner" type="mcvideoloc:tPointCoordinate" minOccurs="3"</pre>
maxOccurs="15"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
```

```
</xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEllipsoidArcType">
        <xs:sequence>
            <xs:element name="Center" type="mcvideoloc:tPointCoordinate"/>
             <xs:element name="Radius" type="xs:nonNegativeInteger"/>
            <xs:element name="OffsetAngle" type="xs:unsignedByte"/>
             <xs:element name="IncludedAngle" type="xs:unsignedByte"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="anyExtType">
        <xs:sequence>
             <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:schema>
```

Annex A (informative): Change history

| | | | | | | Change history | |
|--|--------------------------------------|--|------------------------------|------------------|--------|---|----------------------------|
| Date | Meeting | TDoc | CR | R ev | Cat | Subject/Comment | New version |
| 2017-02 | R5#74 | R5-171298 | - | - | - | Introduction of TS 36.579-1. | 0.0.1 |
| 2017-05 | R5#75 | R5-172100 | - | - | - | Introduction of default message content for some media control messages, some generic procedures from R5-172078 Default MCPTT media plane control messages R5-172079 Generic MCPTT procedures | 0.0.2 |
| 2017-06 | RAN5#75 | - | - | - | - | lifted to v0.1.0 because of technical contents | 0.1.0 |
| 2017-08 | RAN5#76 | - R5-173766 | - | - | - | Implemented approved: R5-173702 'Various updates of MCPTT TS 36579-1' R5-173703 'Update of MCPTT generic procedures' R5-173704 'New Generic procedures ProSe and MCPTT' R5-173705 'Update default media plane control messages' R5-173706 'Update of MCPTT Default MCPTT call control Offnetwork messages' R5-173707 'Update of MCPTT MIKEY-SAKKE I.MESSAGE' R5-173766 'Update of TS 36.579-1 to version 0.2.0' R5-174599 'SIP message defaults for 36.579-1' R5-174600 'MCPTT Off-Network Group Call Signaling Message | 0.1.0 |
| 2017-12 | RAN5#77 | R5-176835 | - | - | - | Defaults' Implemented approved: R5-177000 "Update of SIP Message Defaults for MCPTT" R5-176345 "Update of Specific SIP messages in Generic procedures" R5-177001 "Update of Generic procedures for SIP registration" R5-176347 "New Generic Procedure for ProSe group calls Announcing-Discoveree procedure for group member discovery" R5-176348 "New Generic Procedure for ProSe group calls Monitoring/Discoverer procedure for group member discovery" R5-177002 "Update with UE Configuration Defaults" - References updates | 0.3.0 |
| 2017-12 | RAN#78 | RP-172182 | - | - | - | Draft version for information purposes to the RAN Plneary | 1.0.0 |
| 2018-03 | RAN5#78 | R5-180684 | | | - | Implemented approved: R5-180534 "Update of Section 5.5.2 and 5.5.3 for TS 36.579-1" R5-180535 "Update of Section 5.5.5 for TS 36.579-1" R5-180536 "Update of Section 5.5.6 for TS 36.579-1" R5-181241 "Update of Section 5.5.9 TS 36.579-1" R5-180633 "Update of Default HTTP message and other information elements" R5-180634 "Update of Default MCPTT configuration management messages" R5-180635 "New Generic procedures for MCPTT Authorization/Configuration and Key Generation" R5-18063 "New Generic procedures for MCPTT communication in E-UTRA / Change of cells" R5-180637 "Generic Test Procedure for MCPTT communication over MBMS" R5-180638 "Various updates to 36579-1" | 1.1.0 |
| 2018-03 | RAN#79 | RP-180126 | - | - | - | Draft version for approval to move the spec under revision control to | 2.0.0 |
| 2018-03 | RAN#79 | _ | 1_ | +- | _ | the RAN Plenary Editorial changes and promoted to v13.0.0 | 13.0.0 |
| 2018-06 | RAN#80 | R5-182418 | 0001 | - | F | Addition and correction of GNSS information | 13.1.0 |
| 2018-06 | RAN#80 | R5-182419 | 0001 | - | F | Editorial correction of typos and incorrect references | 13.1.0 |
| 2018-06 | RAN#80 | R5-182430 | 0003 | <u>I-</u> | F | Editorial Update of 36.579-2 for style H6 | 13.1.0 |
| 2018-06 | RAN#80 | R5-182431 | 0004 | - | F | Update of TC 5.1 for MCPTT APN | 13.1.0 |
| 2018-06 | RAN#80 | R5-182432 | 0005 | - | F | Updates of Location information messages in 36.579-2 | 13.1.0 |
| 2018-06 | RAN#80 | R5-182489 | 8000 | - | F | Update of MCPTT TC 6.1.1.1 | 13.1.0 |
| 2018-06 | RAN#80 | R5-182510 | 0009 | 1 | F F | Correction to MCPTT TC of 6.1.1.8, 6.1.1.11, 6.1.2.5 and 6.1.2.7 | 13.1.0 |
| 2018-06 2018-06 | RAN#80 RAN#80 | R5-183167 R5-183168 | 0006 0007 | 1 | F | Updates of TC 6.3.1 Updates of TC 6.3.2 | 13.1.0 13.1.0 |
| | RAN#80 | R5-185084 | 0007 | - | F | Update to TLS setup | 13.1.0 |
| | | | 0003 | 1 | F | Corrections to MCPTT Authorization | 13.2.0 |
| 2018-09 | RAN#81 | R5-185122 | | 1 | F | Update of default message contents for new Rel-14 TCs for Private | 14.0.0 |
| 2018-09 2018-09 2018-09 | RAN#81 RAN#81 | R5-185122 R5-184685 | 8000 | _ | | Call Call-Back and Ambient listening call | |
| 2018-09 2018-09 | | | | - | F | Call Call-Back and Ambient listening call Correction to Generic Test Procedure for MCPTT pre-established | 14.1.0 |
| 2018-09 2018-09 2018-09 2018-12 | RAN#81 RAN#82 | R5-184685 R5-186878 | 0008 | - | F | Call Call-Back and Ambient listening call Correction to Generic Test Procedure for MCPTT pre-established session establishment CO | 14.1.0 |
| 2018-09 2018-09 2018-09 2018-12 2018-12 | RAN#81 RAN#82 RAN#82 | R5-184685 R5-186878 R5-186879 | 0008 0010 0011 | - | F | Call Call-Back and Ambient listening call Correction to Generic Test Procedure for MCPTT pre-established session establishment CO Editorial update of the default SDP and Resource-list Messages | 14.1.0 |
| 2018-09 2018-09 2018-09 2018-12 | RAN#81 RAN#82 | R5-184685 R5-186878 | 0008 | - - - | F | Call Call-Back and Ambient listening call Correction to Generic Test Procedure for MCPTT pre-established session establishment CO | 14.1.0 |
| 2018-09 2018-09 2018-12 2018-12 2018-12 2018-12 | RAN#81 RAN#82 RAN#82 RAN#82 | R5-184685 R5-186878 R5-186879 R5-186880 | 0008 0010 0011 0012 | - - - - | F F | Call Call-Back and Ambient listening call Correction to Generic Test Procedure for MCPTT pre-established session establishment CO Editorial update of the default SDP and Resource-list Messages Update of default MCPTT media plane control messages and other information elements to reflect latest Rel-13 core specs | 14.1.0 14.1.0 14.1.0 |

| 0040 : 5 | DAN!#22 | DE 4077 : : | 10012 | 1. | - | The data for Decourse Pate 1, 00 570 4 | 4445 |
|--------------------|------------------|------------------------|--------------|----------|----------|--|------------------|
| 2018-12 | RAN#82 | R5-187711 | 0016 | 1 | F | Update for Resource-lists in 36.579-1 | 14.1.0 |
| 2018-12 2018-12 | RAN#82 | R5-187712 | 0017 | 1 | F | Correction to Table 5.5.1-1 in 36.579-1 | 14.1.0 |
| 2018-12 | RAN#82 RAN#82 | R5-187713 R5-187714 | 0018 0019 | 1 | F F | Correction to Table 5.5.4.10.1-1 in 36.579-1 Correction to Table 5.5.4.2-1 in 36.579-1 | 14.1.0 |
| 2018-12 | RAN#82 | R5-187715 | 0019 | 1 | F | Correction to Table 5.5.4.2-1 in 36.579-1 Correction to SIP NOTIFY message in 36.579-1 | 14.1.0 |
| 2018-12 | RAN#82 | R5-187716 | 0020 | 1 | F | Correction to SIP SUBSCRIBE message in 36.579-1 | 14.1.0 |
| 2018-12 | RAN#82 | R5-187717 | 0021 | 1 | F | Update of Generic Test 5.3.2 in 36.579-1 | 14.1.0 |
| 2019-03 | RAN#83 | R5-191210 | 0023 | - | F | Correction of default contents in SIP INVITE from the UE | 14.2.0 |
| 2019-03 | RAN#83 | R5-191902 | 0024 | <u> </u> | F | Update to MCPTT floor control default messages | 14.2.0 |
| 2019-03 | RAN#83 | R5-192155 | 0025 | - | F | Update 36.579-1 Section 4.2 and 4.3 | 14.2.0 |
| 2019-03 | RAN#83 | R5-192156 | 0026 | - | F | Update 36.579-1 Delete clauses inside the present spec | 14.2.0 |
| 2019-03 | RAN#83 | R5-192157 | 0027 | - | F | Update 36.579-1 Blue text removal | 14.2.0 |
| 2019-06 | RAN#84 | R5-194001 | 0028 | - | F | Correction of default contents in the SIP INVITE from the UE | 14.3.0 |
| 2019-06 | RAN#84 | R5-194665 | 0030 | - | F | Typo for MCPTT in 36.579-1 | 14.3.0 |
| 2019-06 | RAN#84 | R5-195216 | 0029 | 1 | F | Update of UE registration procedure for location info configuration | 14.3.0 |
| 2019-06 | RAN#84 | R5-195217 | 0031 | 1 | F | References and derivation path updates for SIP messages | 14.3.0 |
| 2019-09 | RAN#85 RAN#85 | R5-196773 R5-196983 | 0045 0046 | - | F | Updates to conditions Table 5.5.1-1 Correction of SIP messages | 14.4.0 |
| 2019-09 | RAN#85 | R5-190903 | 0046 | 1 | F | Update for MCVideo and MCData services | 14.4.0 |
| 2019-09 | RAN#85 | R5-197133 | 0038 | 1 | F | Correction of default contents in the SIP REGISTER | 14.4.0 |
| 2019-09 | RAN#85 | R5-197293 | 0043 | 2 | F | Update to Generic Procedure 5.3.3 | 14.4.0 |
| 2019-09 | RAN#85 | R5-197294 | 0043 | - | F | Correction and addition of references or values and editorial | 14.4.0 |
| | | | | | | comments | |
| 2019-09 | RAN#85 | R5-197295 | 0041 | 2 | F | Corrections to MCPTT UE registration procedures | 14.4.0 |
| 2019-12 | RAN#86 | R5-198159 | 0050 | | F | Corrections to SIP signalling for MCPTT CO and CT communication | 14.5.0 |
| | | | | | <u> </u> | procedures | |
| 2019-12 | RAN#86 | R5-199043 | 0049 | 1 | F | Correction to default HTTP messages | 14.5.0 |
| 2019-12 | RAN#86 | R5-199044 | 0051 | 1 | F | Corrections to MCPTT UE registration procedures | 14.5.0 |
| 2019-12 | RAN#86 | R5-199045 | 0052 | 1 | F | Additions of further references | 14.5.0 |
| 2019-12 | RAN#86 | R5-199046 R5-199047 | 0053 0054 | 1 | F | Corrections related to MIKEY protocol Correction to default messages for MCPTT group management and | 14.5.0 14.5.0 |
| 2019-12 | RAN#86 | K5-199047 | 0054 | 1 | Г | configuration management | 14.5.0 |
| 2019-12 | RAN#86 | R5-199048 | 0055 | 1 | F | Correction of default SDP message and other information elements | 14.5.0 |
| 2019-12 | RAN#86 | R5-199051 | 0056 | 1 | F. | SDP Default for MCVideo and MCData | 14.5.0 |
| 2019-12 | RAN#86 | R5-199052 | 0058 | 1 | F | Adding MCVideo Transmission Control Messages | 14.5.0 |
| 2019-12 | RAN#86 | R5-199053 | 0060 | 1 | F | Updates TS 33.179 references to TS 33.180 | 14.5.0 |
| 2019-12 | RAN#86 | R5-199077 | 0048 | 2 | F | Correction to default SIP messages | 14.5.0 |
| 2020-03 | RAN#87 | R5-200264 | 0063 | - | F | Corrections to default SIP message and other information elements | 14.6.0 |
| 2020-03 | RAN#87 | R5-200265 | 0064 | - | F | Addition of further references | 14.6.0 |
| 2020-03 | RAN#87 | R5-200301 | 0065 | - | F | Corrections to default HTTP message and other information | 14.6.0 |
| | | | | | | elements | |
| 2020-03 | RAN#87 | R5-200385 | 0066 | - | F | Corrections to default MCPTT configuration management messages | 14.6.0 |
| 2020.02 | D 4 N # 0 7 | DE 201220 | 0062 | 1 | F | and other information elements | 1460 |
| 2020-03 | RAN#87 | R5-201220 R5-202552 | 0062 0069 | 1 | F | Corrections to MCPTT UE registration procedures Correcting core spec reference for APN requirements | 14.6.0 14.7.0 |
| 2020-06 | RAN#88 | R5-202698 | 0009 | 1 | F | SDP updates for MCVideo and MCData | 14.7.0 |
| 2020-06 | RAN#88 | R5-202699 | 0076 | 1 | F | Default MCVideo Transmission Control Messages | 14.7.0 |
| 2020-06 | RAN#88 | R5-203001 | 0077 | 1 | F | SIP 202 (Accepted) message default | 14.7.0 |
| 2020-06 | RAN#88 | R5-203073 | 0067 | 1 | F | Updates to MCX generic test procedures and default message | 14.7.0 |
| | | | | | | contents | • |
| 2020-06 | RAN#88 | R5-203074 | 0068 | 1 | F | Updates to generic test procedure for MCPTT | 14.7.0 |
| | | | 1 | | | Authorization/Configuration and Key Generation | |
| 2020-09 | RAN#89 | R5-204226 | 0082 | - | F | Addition of XML schema for MCVideo location information | 14.8.0 |
| 2020-09 | RAN#89 | R5-204229 | 0083 | - | F | MCVideo and MCData in Clause 4 | 14.8.0 |
| 2020-09 | RAN#89 | R5-204490 | 0084 | 1 | F | MCVideo and MCData in Clause 5.5.7 | 14.8.0 |
| 2020-09 | RAN#89 | R5-204491 | 0085 | 1 | F | Updates to UE configuration document | 14.8.0 |
| 2020-09 | RAN#89 | R5-204492 | 0086 | 1 | F | Update of content with Rel-14 requirements | 14.8.0 |
| 2020-09 | RAN#89 | R5-204533 | 0078 | 1 | F | New MCPTT Common Procedures for CT/CO session establishment | 14.8.0 |
| 2020-09 | RAN#89 | R5-204534 | 0079 | 1 | F | Updates to MCX generic test procedures and default message | 14.8.0 |
| | | | | | | contents | |
| 2020-09 | RAN#89 | R5-204535 | 0081 | 1 | F | Description of the distribution of MSCCK and MuSiK | 14.8.0 |
| 2020-12 | RAN#90 | R5-206053 | 0094 | | F | PIDF body modifications | 14.9.0 |
| 2020-12 | RAN#90 | R5-206084 | 0096 | | F | Condition updates for default MCS configuration management | 14.9.0 |
| | I | D = 0 = - : : | 0.5.5 | | | messages | |
| | D 4 | 111 000400 | 0097 | <u> </u> | F | Update of MCPTT Floor Control Messages for Rel-14 | 14.9.0 |
| 2020-12 | RAN#90 | R5-206108 | 000- | | | | 11400 |
| 2020-12 2020-12 | RAN#90 RAN#90 | R5-206108 R5-206445 | 0087 | 1 | F | Correction to Generic Test Procedure for MCPTT pre-established | 14.9.0 |
| 2020-12 | RAN#90 | R5-206445 | | | | session establishment CO | |
| | | | 0087 | 1 | F | session establishment CO Correction to MCPTT Common Procedures for CT/CO session | 14.9.0 |
| 2020-12 | RAN#90 | R5-206445 | | | | session establishment CO | |

| 2020-12 | RAN#90 | R5-206449 | 0091 | 1 | F | Updates for Group Communications Key retrieval | 14.9.0 |
|---------|--------|-----------|------|---|---|---|--------|
| 2020-12 | RAN#90 | R5-206450 | 0093 | 1 | F | Second group configuration retrieval process modification | 14.9.0 |
| 2020-12 | RAN#90 | R5-206451 | 0095 | 1 | F | Existing Generic Test Procedures Updates | 14.9.0 |
| 2020-12 | RAN#90 | R5-206422 | 0098 | 1 | F | Update of MCPTT Floor Control Messages for Rel-15 | 15.0.0 |
| 2020-12 | RAN#90 | R5-206423 | 0099 | 1 | F | MCPTT Configuration Doc Update for Rel-15 Location | 15.0.0 |

History

| Document history | | | | | | | |
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| V15.0.0 | January 2021 | Publication | | | | | |
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