# ETSI TS 124 381 V13.0.1 (2016-05)

**TECHNICAL SPECIFICATION**

**LTE;
Mission Critical Push To Talk (MCPTT) group management;
Protocol specification
(3GPP TS 24.381 version 13.0.1 Release 13)**

Reference
DTS/TSGC-0124381vd01

Keywords
LTE

*ETSI*

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# Contents

# Foreword

This Technical Specification has been produced by the 3$^{rd}$ Generation Partnership Project (3GPP).

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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.

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# 1 Scope

This document specifies the group management protocols needed to support Mission Critical Push To Talk (MCPTT). Group management applies only when the UE operates on the network.

Mission critical communication services are services that require preferential handling compared to normal telecommunication services, e.g. in support of police or fire brigade.

The MCPTT service can be used for public safety applications and also for general commercial applications (e.g., utility companies and railways).

This document is applicable to User Equipment (UE) supporting the group management client (GMC) functionality, to application server supporting the group management server (GMS) functionality, and to application server supporting the MCPTT server functionality.

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- - References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- - For a specific reference, subsequent revisions do not apply.

- - For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] OMA-TS-XDM_Core-V2_1-20120403-A: "XML Document Management (XDM) Specification".

[3] OMA-TS-XDM_Group-V1_1-20120403-A: "Group XDM Specification".

[4] 3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services".

[5] 3GPP TS 24.379: "Mission Critical Push To Talk (MCPTT) call control Protocol specification".

[6] IETF RFC 4745: "Common Policy: A Document Format for Expressing Privacy Preferences".

[7] 3GPP TS 24.334: "Proximity-services (ProSe) User Equipment (UE) to ProSe function protocol aspects; Stage 3".

[8] IETF RFC 1166: "Internet Numbers".

[9] IETF RFC 5952: "A Recommendation for IPv6 Address Text Representation".

[10] 3GPP TS 24.382: "Mission Critical Push To Talk (MCPTT) identity management; Protocol specification".

# 3 Definitions and abbreviations

## 3.1 Definitions

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

**MCPTT Group**: A group supporting the MCPTT service.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.179 [4] apply:

**MCPTT group identity**
**MCPTT service**
**MCPTT user identity**

For the purposes of the present document, the following terms and definitions given in OMA OMA-TS-XDM_Group-V1_1 [3] apply:

**Group**

For the purposes of the present document, the following terms and definitions given in OMA OMA-TS-XDM_Core-V2_1 [2] apply:

**XDMC**
**XDMS**

## 3.2 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].

| | |
|---|---|
| GC | General Client |
| GMC | Group Management Client |
| GMS | Group Management Server |
| HTTP | HyperText Transfer Protocol |
| ICSI | IMS Communication Service Identifier |
| ID | IDentifier |
| IETF | Internet Engineering Task Force |
| MCPTT | Mission Critical Push To Talk |
| MIME | Multipurpose Internet Mail Extensions |
| OMA | Open Mobile Alliance |
| UE | User Equipment |
| URI | Uniform Resource Identifier |
| XDMC | XML Document Management Client |
| XDMS | XML Document Management Server |
| XML | eXtensible Markup Language |

# 4 General

This specification enables a group management client (GMC) and an MCPTT server to manage groups in a group management server (GMS).

# 5 Functional entities

## 5.1 Group management client (GMC)

To be compliant with the procedures in this document, a GMC:

- shall support the role of XDMC as specified in OMA OMA-TS-XDM_Core-V2_1 [2];

- may support the procedure in subclause 6.3.2.2.2;

- shall support the procedure in subclause 6.3.3.2.2;

- may support the procedure in subclause 6.3.4.2.2;

- may support the procedure in subclause 6.3.5.2.2; and

- shall support the procedure in subclause 6.3.13.2.2.

## 5.2 Group management server (GMS)

To be compliant with the procedures in this document, a GMS:

- shall support the role of XDMS as specified in OMA OMA-TS-XDM_Core-V2_1 [2];

- shall support the procedure in subclause 6.3.2.3;

- shall support the procedure in subclause 6.3.3.3;

- shall support the procedure in subclause 6.3.4.3;

- shall support the procedure in subclause 6.3.5.3; and

- shall support the procedure in subclause 6.3.13.3.

## 5.3 MCPTT server

To be compliant with the procedures in this document, an MCPTT server:

- shall support the role of XDMC as specified in OMA OMA-TS-XDM_Core-V2_1 [2];

- shall support the procedure in subclause 6.3.3.2.3; and

- shall support the procedure in subclause 6.3.13.2.3.

# 6 Procedures

## 6.1 Introduction

This clause specifies procedures enabling a group management client (GMC) and an MCPTT server to manage groups in a group management server (GMS).

## 6.2 Common procedures

### 6.2.1 General

This subclause contains common procedures applied on HTTP signalling specified in this document.

## 6.2.2    Client procedures

The GMC shall send the HTTP request over a TLS connection as specified for the HTTP client in the UE in annex A of 3GPP TS 24.382 [10].

## 6.2.3    MCPTT server procedures

The MCPTT server shall send the HTTP request as specified for the HTTP client in the network entity in annex A of 3GPP TS 24.382 [10].

## 6.2.4    Group management server (GMS) procedures

The GMS shall handle the HTTP request as specified for the HTTP server in annex A of 3GPP TS 24.382 [10].

# 6.3    Group management procedures

## 6.3.1    General

The following procedures are defined for management of group documents:

-    group document creation procedure;

-    group document retrieval procedure;

-    group document update procedure;

-    group document deletion procedure;

-    group document element creation or replacement procedure;

-    group document element deletion procedure;

-    group document element fetching procedure;

-    group document attribute creation or replacement procedure;

-    group document attribute deletion procedure;

-    group document attribute fetching procedure;

-    group document namespace binding fetching procedure;

-    group document subscription and notification procedure; and

-    group regrouping procedure.

NOTE:    CSC-3 part of MCPTT group affiliation procedure and CSC-3 part of MCPTT group de-affiliation procedure are not specified in this version of the specification.

## 6.3.2    Group document creation procedure

### 6.3.2.1    General

This procedure enables the GMC to create a group document in GMS.

### 6.3.2.2 Client procedures

#### 6.3.2.2.1 General client (GC) procedures

In order to create a group document, a GC shall create an XML document of the application usage specified in subclause 7.2.1 and shall send the XML document to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace a Document*".

#### 6.3.2.2.2 Group management client (GMC) procedures

In order to create a group document, a GMC shall perform the procedures in subclause 6.3.2.2.1 specified for GC.

### 6.3.2.3 Group management server (GMS) procedures

A GMS shall support receiving an XML document of the application usage specified in subclause 7.2.1 according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*PUT Handling*" where the Request-URI of the HTTP PUT request identifies an XML document of the application usage specified in subclause 7.2.

## 6.3.3 Group document retrieval procedure

### 6.3.3.1 General

This procedure enables the GMC or the MCPTT server to retrieve a group document from the GMS.

### 6.3.3.2 Client procedures

#### 6.3.3.2.1 General client (GC) procedures

In order to retrieve a group document, a GC shall send an HTTP GET request with the Request URI that references the document to be updated to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Retrieve a Document*".

#### 6.3.3.2.2 Group management client (GMC) procedures

In order to retrieve a group document, a GMC shall perform the procedures in subclause 6.3.3.2.1 specified for GC.

#### 6.3.3.2.3 MCPTT server procedures

In order to retrieve a group document, an MCPTT server shall perform the procedures in subclause 6.3.3.2.1 specified for a GC.

### 6.3.3.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP GET request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*GET Handling*" where the Request-URI of the HTTP GET request identifies an XML document of the application usage specified in subclause 7.2.

## 6.3.4 Group document update procedure

### 6.3.4.1 General

This procedure enables the GMC to update a group from the GMS.

### 6.3.4.2 Client procedures

#### 6.3.4.2.1 General client (GC) procedures

In order to update a group document, a GC shall create an XML document of the application usage specified in subclause 7.2.1 and shall send the XML document to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace a Document*".

#### 6.3.4.2.2 Group management client (GMC) procedures

In order to update a group document, a GMC shall perform the procedures in subclause 6.3.4.2.1 specified for a GC.

### 6.3.4.3 Group management server (GMS) procedures

A GMS shall support receiving an XML document of the application usage specified in subclause 7.2.1 according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*PUT Handling*" where the Request-URI of the HTTP PUT request identifies an XML document of the application usage specified in subclause 7.2.

## 6.3.5 Group document deletion procedure

### 6.3.5.1 General

This procedure enables the GMC to delete a group document in the GMS.

### 6.3.5.2 Client procedures

#### 6.3.5.2.1 General client (GC) procedures

In order to delete a group document, a GC shall send an HTTP DELETE request with the Request URI that references the document to be deleted to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Delete a Document*".

#### 6.3.5.2.2 Group management client (GMC) procedures

In order to delete a group document, a GMC shall perform the procedures in subclause 6.3.5.2.1 specified for a GC.

### 6.3.5.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP DELETE request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*DELETE Handling*" where the Request-URI of the HTTP DELETE request identifies an XML document of the application usage specified in subclause 7.2.

## 6.3.6 Group document element creation or replacement procedure

### 6.3.6.1 General

This procedure enables the GMC to create or replace an element of a group document from the GMS.

### 6.3.6.2 Client procedures

#### 6.3.6.2.1 General client (GC) procedures

In order to create or replace an element of a group document, a GC shall send an HTTP PUT request with the Request URI that references the element of the document to be created or replaced to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace an Element*".

#### 6.3.6.2.2 Group management client (GMC) procedures

In order to create or replace an element of a group document, a GMC shall perform the procedures in subclause 6.3.6.2.1 specified for a GC.

### 6.3.6.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP PUT request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*PUT Handling*" where the Request-URI of the HTTP PUT request identifies an element of XML document of the application usage specified in subclause 7.2.

## 6.3.7 Group document element deletion procedure

### 6.3.7.1 General

This procedure enables the GMC to delete an element of a group document from the GMS.

### 6.3.7.2 Client procedures

#### 6.3.7.2.1 General client (GC) procedures

In order to delete an element of a group document, a GC shall send an HTTP DELETE request with the Request URI that references the element of the document to be deleted to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Delete an Element*".

#### 6.3.7.2.2 Group management client (GMC) procedures

In order to delete an element of a group document, a GMC shall perform the procedures in subclause 6.3.7.2.1 specified for a GC.

### 6.3.7.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP DELETE request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*DELETE Handling*" where the Request-URI of the HTTP DELETE request identifies an element of XML document of the application usage specified in subclause 7.2.

## 6.3.8 Group document element fetching procedure

### 6.3.8.1 General

This procedure enables the GMC to fetch an element of a group document from the GMS.

### 6.3.8.2 Client procedures

#### 6.3.8.2.1 General client (GC) procedures

In order to fetch an element of a group document, a GC shall send an HTTP GET request with the Request URI that references the element of the document to be fetched to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Retrieve an Element*".

#### 6.3.8.2.2 Group management client (GMC) procedures

In order to fetch an element of a group document, a GMC shall perform the procedures in subclause 6.3.8.2.1 specified for a GC.

### 6.3.8.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP GET request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*GET Handling*" where the Request-URI of the HTTP GET request identifies an element of XML document of the application usage specified in subclause 7.2.

## 6.3.9 Group document attribute creation or replacement procedure

### 6.3.9.1 General

This procedure enables the GMC to create or replace an attribute of a group document from the GMS.

### 6.3.9.2 Client procedures

#### 6.3.9.2.1 General client (GC) procedures

In order to create or replace an attribute of a group document, a GC shall send an HTTP PUT request with the Request URI that references the attribute of the document to be created or replaced to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace an Attribute*".

#### 6.3.9.2.2 Group management client (GMC) procedures

In order to create or replace an attribute of a group document, a GMC shall perform the procedures in subclause 6.3.9.2.1 specified for a GC.

### 6.3.9.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP PUT request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*PUT Handling*" where the Request-URI of the HTTP PUT request identifies an attribute of XML document of the application usage specified in subclause 7.2.

## 6.3.10 Group document attribute deletion procedure

### 6.3.10.1 General

This procedure enables the GMC to delete an attribute of a group document from the GMS.

### 6.3.10.2 Client procedures

#### 6.3.10.2.1 General client (GC) procedures

In order to delete an attribute of a group document, a GC shall send an HTTP DELETE request with the Request URI that references the attribute of the document to be deleted to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Delete an Element*".

#### 6.3.10.2.2 Group management client (GMC) procedures

In order to delete an attribute of a group document, a GMC shall perform the procedures in subclause 6.3.10.2.1 specified for a GC.

### 6.3.10.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP DELETE request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*DELETE Handling*" where the Request-URI of the HTTP DELETE request identifies an attribute of XML document of the application usage specified in subclause 7.2.

## 6.3.11 Group document attribute fetching procedure

### 6.3.11.1 General

This procedure enables the GMC to fetch an attribute of a group document from the GMS.

### 6.3.11.2 Client procedures

#### 6.3.11.2.1 General client (GC) procedures

In order to fetch an attribute of a group document, a GC shall send an HTTP GET request with the Request URI that references the attribute of the document to be fetched to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Retrieve an Attribute*".

#### 6.3.11.2.2 Group management client (GMC) procedures

In order to fetch an attribute of a group document, a GMC shall perform the procedures in subclause 6.3.11.2.1 specified for a GC.

### 6.3.11.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP GET request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*GET Handling*" where the Request-URI of the HTTP GET request identifies an attribute of XML document of the application usage specified in subclause 7.2.

## 6.3.12 Group document namespace binding fetching procedure

### 6.3.12.1 General

This procedure enables the GMC to fetch a namespace binding of a group document from the GMS.

### 6.3.12.2 Client procedures

#### 6.3.12.2.1 General client (GC) procedures

In order to fetch a namespace binding of a group document, a GC shall send an HTTP GET request according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Fetch Namespace Bindings*".

#### 6.3.12.2.2 Group management client (GMC) procedures

In order to fetch a namespace binding of a group document, a GMC shall perform the procedures in subclause 6.3.12.2.1 specified for a GC.

### 6.3.12.3 Group management server (GMS) procedures

A GMS shall support handling an HTTP GET request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*GET Handling*" where the Request-URI of the HTTP GET request identifies a namespace binding of XML document of the application usage specified in subclause 7.2.

## 6.3.13 Group document subscription and notification procedure

### 6.3.13.1 General

This procedure enables the GMC or MCPTT server to subscribe to notification of changes of a group document in GMS.

### 6.3.13.2 Client procedures

#### 6.3.13.2.1 General client (GC) procedures

In order to subscribe to an MCPTT group document, a GC shall send a SIP SUBSCRIBE request to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Subscribing to Changes in the XDM Resources*". In the SIP SUBSCRIBE request, the GC:

    a) if direct subscription is used, shall set the Request URI to a SIP URI containing:

        1) the XUI part of the XCAP URI pointing to the MCPTT group document; and

        2) an "auid" parameter set to "org.openmobilealliance.groups"; and

    b) if subscription via a subscription proxy is used, shall set the Request URI to the SIP-URI of the subscription proxy.

    NOTE: The body of the SIP SUBSCRIBE request contains a list of XCAP URIs pointing to the resources(s) that the GC subscribes to.

#### 6.3.13.2.2 Group management client (GMC) procedures

In order to subscribe to MCPTT group document, a GMC shall perform the procedures in subclause 6.3.13.2.1 specified for GC.

#### 6.3.13.2.3 MCPTT server procedures

In order to subscribe to an MCPTT group document, an MCPTT server shall perform the procedures in subclause 6.3.13.2.1 specified for GC.

### 6.3.13.3 Group management server (GMS) procedures

A GMS shall support handling a SIP SUBSCRIBE request from a GMC according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Subscriptions to Changes in XDM Resources*".

## 6.3.14 Temporary MCPTT group formation procedure

### 6.3.14.1 General

This procedure enables a GMC to initiate creation of a temporary MCPTT group by combining MCPTT groups.

### 6.3.14.2 Group management client (GMC) procedures

In order to form a temporary MCPTT group, a GMC shall create an XML document of the application usage specified in subclause 7.2.1. In the XML document, the GMC shall include the <temporary> element according to subclause 7.2. In the <temporary> element, the GMC shall include <constituent-MCPTT-group-IDs> element according to subclause 7.2. In the <constituent-MCPTT-group-IDs> element, the GMC shall include one <constituent-MCPTT-group-ID> element according to subclause 7.2 for each MCPTT group to be combined.

The GMC shall send the XML document to the network according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace a Document*".

### 6.3.14.3 Group management server (GMS) procedures

#### 6.3.14.3.1 Procedure of GMS creating a temporary MCPTT group

Upon reception of an HTTP PUT request:

    a) with a Request-URI with an XCAP URI identifying a non-existing MCPTT group document; and

   b) with a MIME body:

      1) of a MIME type identified in subclause 7.2.6; and

      2) containing a group document according to subclause 7.2 of a temporary MCPTT group;

then the GMS:

   a) for each constituent MCPTT group indicated in the group document of the received HTTP PUT request:

      1) shall send an HTTP PUT request according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Create or Replace an Element*". In the HTTP PUT request, the GMS:

         A) set the Request-URI to an XCAP URI identifying a <regrouped> element of the constituent MCPTT group such that the <regrouped> element has the "temporary-MCPTT-group-ID" attribute set to the content of the "uri" attribute of the <list-service> element of the group document included in the received HTTP PUT request; and

         B) include an application/xcap-el+xml MIME body containing a <regrouped> element. In the <regrouped> element, the GMS:

            i) shall set the "temporary-MCPTT-group-ID" attribute to the content of the "uri" attribute of the <list-service> element of the group document included in the received HTTP PUT request;

            ii) shall include the <group-priority> element set to content of the <group-priority> of the <list-service> element of the group document included in the received HTTP PUT request; and

            iii) shall include set the <constituent-MCPTT-group-IDs> element set to content of the <constituent-MCPTT-group-IDs> element of <temporary> element of the <list-service> element of the group document of the MCPTT group included in the received HTTP PUT request.

Upon reception of HTTP 2xx responses to all sent HTTP PUT requests, the GMS shall create the group document of the temporary MCPTT group and shall send an HTTP 2xx response to the received HTTP request.

#### 6.3.14.3.2 Procedure of GMS owning an MCPTT group to be combined

Upon reception of an HTTP PUT request with Request-URI set to an XCAP URI identifying a non-existing <regrouped> element of an existing MCPTT group, the GMS shall act according to according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*PUT Handling*".

## 6.3.15 Temporary MCPTT group tear down procedure

### 6.3.15.1 General

This procedure enables a GMC to initiate tear down of a temporary MCPTT group.

### 6.3.15.2 Group management client (GMC) procedures

In order to tear down a temporary MCPTT group, the GMC shall send an HTTP DELETE request with Request-URI with an XCAP URI identifying a group document of the temporary MCPTT group according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*Delete an Element*".

### 6.3.15.3 Group management server (GMS) procedures

#### 6.3.15.3.1 Procedure of GMS owning the temporary MCPTT group

Upon reception of an HTTP DELETE request with Request-URI with an XCAP URI identifying a group document of a temporary MCPTT group, the GMS:

   a) for each constituent MCPTT group indicated in the group document indicated by Request-URI:

1) shall send an HTTP DELETE request. In the HTTP DELETE request, the GMS set the Request-URI to an XCAP URI identifying a <regrouped> element of the constituent MCPTT group, such that the "temporary-MCPTT-group-ID" attribute of the <regrouped> element contains the temporary MCPTT group ID of the temporary MCPTT group.

Upon reception of an HTTP response to all sent HTTP DELETE requests, the GMS shall remove the group document of the temporary MCPTT group and shall send an HTTP 2xx response to the received HTTP request.

### 6.3.15.3.2 Procedure of GMS owning a combined MCPTT group

Upon reception of an HTTP DELETE request with Request-URI identifying a <regrouped> element of an MCPTT group, the GMS shall act according to according to procedures specified in OMA OMA-TS-XDM_Core-V2_1 [2] "*DELETE Handling*".

# 7 Coding

## 7.1 General

This clause specifies coding enabling a group management client (GMC) and an MCPTT server to manage groups in a group management server (GMS).

## 7.2 Group coding

### 7.2.1 General

Group is described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Group*".

The requirements in the remaining subclauses of the parent subclause of this subclause apply for an MCPTT group.

The usage of an MCPTT group in an MCPTT service is described in 3GPP TS 24.379 [5].

### 7.2.2 Structure

The group structure is described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Structure*" with the MCPTT specific clarifications specified in this subclause.

The following elements and attributes of the <list-service> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

    a) a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    b) a <display-name> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    c) a <list> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    d) an <invite-members> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    e) a <ruleset> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    f) a <supported-services> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    g) a <disabled> element specified in subclause 7.2.4.2;

    h) a <group-priority> element specified in subclause 7.2.4.2;

    i) a <max-participant-count> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

    j) a <temporary> element specified in subclause 7.2.4.2;

    k) zero or more <regrouped> elements specified in subclause 7.2.4.2;

l) an <off-network-ProSe-layer-2-group-id> element specified in subclause 7.2.4.2;

m) an <off-network-PDN-type> element specified in subclause 7.2.4.2. In the present document, the <event> element can only have the values specified in table 7.2.2-1 for off-network-PDN-type-value;

n) an <off-network-IP-multicast-address> element specified in subclause 7.2.4.2 containing a IP multicast address. If the IP multicast address is an IPv4 address, its value is coded as a string representing the dotted-decimal format of the IPv4 address as specified in IETF RFC 1166 [8]. If the IP multicast address is an IPv6 address, its value is coded as a string representing the canonical text representation format of the IPv6 address as specified in IETF RFC 5952 [9];

o) an <off-network-ProSe-signalling-PPPP> element specified in subclause 7.2.4.2;

p) an <off-network-ProSe-emergency-call-signalling-PPPP> element specified in subclause 7.2.4.2;

q) an <off-network-ProSe-imminent-peril-call-signalling-PPPP> element specified in subclause 7.2.4.2;

r) an <off-network-ProSe-media-PPPP> element specified in subclause 7.2.4.2;

s) an <off-network-ProSe-emergency-call-media-PPPP> element specified in subclause 7.2.4.2;

t) an <off-network-ProSe-imminent-peril-call-media-PPPP> element specified in subclause 7.2.4.2; and

u) an <ProSe-relay-service-code> element specified in subclause 7.2.4.2.

The following elements and attributes of the <list> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) an <entry> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <entry> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 [3];

b) a <display-name> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

c) a <required> element specified in subclause 7.2.4.2;

d) a <user-priority> element specified in subclause 7.2.4.2;

e) an <off-network-user-info-id> element specified in subclause 7.2.4.2; and

f) a <participant-type> element specified in subclause 7.2.4.2.

The following elements and attributes of the <ruleset> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) a <rule> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <rule> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) a <conditions> element specified in OMA OMA-TS-XDM_Group-V1_1 [3]; and

b) an <actions> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <conditions> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) an <identity> element specified in OMA OMA-TS-XDM_Group-V1_1 [3]; and

b) an <is-list-member> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <actions> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) an <allow-initiate-conference> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

b) a <join-handling> element specified in OMA OMA-TS-XDM_Group-V1_1 [3];

c) an <allow-MCPTT-emergency-call> element specified in subclause 7.2.4.2;

d) an <allow-imminent-peril-call> element specified in subclause 7.2.4.2; and

e) an <allow-MCPTT-emergency-alert> element specified in subclause 7.2.4.2.

The following elements and attributes of the <supported-services> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) a <service> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <service> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) an "enabler" attribute specified in OMA OMA-TS-XDM_Group-V1_1 [3] including a string defining an enabler. The "enabler" attribute is set to the MCPTT ICSI specified in the 3GPP TS 24.379 [5]; and

b) a <group-media> element specified in OMA OMA-TS-XDM_Group-V1_1 [3].

The following elements and attributes of the <group-media> element specified in OMA OMA-TS-XDM_Group-V1_1 [3] are specified for the MCPTT group:

a) an <mcptt-speech> element specified in subclause 7.2.4.2.

NOTE: An MCPTT group can contain further attributes and elements from any namespaces, according to the XML schemas of the MCPTT group.

The following elements and attributes of the <temporary> element specified in subclause 7.2.4.2 are specified for the MCPTT group:

a) a <constituent-MCPTT-group-IDs> element specified in subclause 7.2.4.2; and

b) an <anyExt> element specified in subclause 7.2.4.2.

The following elements and attributes of the <constituent-MCPTT-group-IDs> element specified in subclause 7.2.4.2 are specified for the MCPTT group:

a) zero, one or more <constituent-MCPTT-group-ID> elements specified in subclause 7.2.4.2; and

b) an <anyExt> element specified in subclause 7.2.4.2.

The following elements and attributes of the <regrouped> element specified in subclause 7.2.4.2 are specified for the MCPTT group:

a) a "temporary-MCPTT-group-ID" attribute specified in subclause 7.2.4.2;

b) a <group-priority> element specified in subclause 7.2.4.2;

c) a <constituent-MCPTT-group-IDs> element specified in subclause 7.2.4.2; and

d) an <anyExt> element specified in subclause 7.2.4.2.

**Table 7.2.2-1: ABNF syntax of values of the elements**

```
off-network-PDN-type-values = IPv4-value / IPv6-value
IPv4-value = %x49.50.76.34 ; "IPv4"
IPv6-value = %x49.50.76.36 ; "IPv6"
```

Elements and attributes of the group document are defined in various namespaces. The group document refers to namespaces using prefixes specified in table 7.2.2-2.

**Table 7.2.2-2: Assignment of prefixes to namespace names in group documents**

| Prefix | Namespace |
|---|---|
| rl | urn:ietf:params:xml:ns:resource-lists |
| cp | urn:ietf:params:xml:ns:common-policy |
| ocp | urn:oma:xml:xdm:common-policy |
| oxe | urn:oma:xml:xdm:extensions |
| mcpttgi | urn:3gpp:ns:mcpttGroupInfo:1.0 |
| NOTE: The "urn:oma:xml:poc:list-service" namespace is the default namespace so no prefix is used for it in the group document. | |

## 7.2.3 Application Unique ID

Application Unique ID is described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Application Unique ID*".

## 7.2.4 XML schema

### 7.2.4.1 General

The group XML document is composed according the XML schema described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*XML Schema*", and extended with extensions from the XML schema defined in subclause 7.2.4.2.

### 7.2.4.2 XML schema for MCPTT specific extensions

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  targetNamespace="urn:3gpp:ns:mcpttGroupInfo:1.0"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:mcpttgi="urn:3gpp:ns:mcpttGroupInfo:1.0"
  xmlns:oxe="urn:oma:xml:xdm:extensions"
  xmlns:rl="urn:ietf:params:xml:ns:resource-lists"
  elementFormDefault="qualified" attributeFormDefault="unqualified">

  <xs:import namespace="urn:oma:xml:xdm:extensions"/>
  <xs:import namespace="urn:ietf:params:xml:ns:resource-lists"/>

  <!-- MCPTT specific "list-service" child elements -->
  <xs:element name="disabled" type="mcpttgi:emptyType"/>
  <xs:element name="group-priority" type="xs:unsignedShort"/>
  <xs:element name="temporary" type="mcpttgi:temporaryType"/>
  <xs:element name="regrouped" type="mcpttgi:regroupedType"/>
  <xs:element name="off-network-ProSe-layer-2-group-id" type="xs:hexBinary"/>
  <xs:element name="off-network-IP-multicast-address" type="xs:string"/>
  <xs:element name="off-network-PDN-type" type="xs:string"/>
  <xs:element name="off-network-ProSe-signalling-PPPP" type="xs:hexBinary"/>
  <xs:element name="off-network-ProSe-emergency-call-signalling-PPPP" type="xs:hexBinary"/>
  <xs:element name="off-network-ProSe-imminent-peril-call-signalling-PPPP" type="xs:hexBinary"/>
  <xs:element name="off-network-ProSe-media-PPPP" type="xs:hexBinary"/>
  <xs:element name="off-network-ProSe-emergency-call-media-PPPP" type="xs:hexBinary"/>
  <xs:element name="off-network-ProSe-imminent-peril-call-media-PPPP" type="xs:hexBinary"/>
  <xs:element name="ProSe-relay-service-code" type="xs:hexBinary"/>

  <!-- MCPTT specific "entry" child elements -->
  <xs:element name="required" type="mcpttgi:emptyType"/>
  <xs:element name="user-priority" type="xs:unsignedShort"/>
  <xs:element name="off-network-user-info-id" type="xs:hexBinary"/>
  <xs:element name="participant-type" type="xs:string"/>

  <!-- MCPTT specific "actions" child elements -->
  <xs:element name="allow-MCPTT-emergency-call" type="xs:boolean"/>
  <xs:element name="allow-imminent-peril-call" type="xs:boolean"/>
  <xs:element name="allow-MCPTT-emergency-alert" type="xs:boolean"/>

  <!-- MCPTT specific media elements -->
  <xs:element name="mcptt-speech" type="oxe:extensionType"/>

  <!-- MCPTT specific complex type definitions -->

  <!-- empty complex type -->
```

```
<xs:complexType name="emptyType"/>

<!-- complex type for temporary element -->
<xs:complexType name="temporaryType">
  <xs:sequence>
    <xs:element name="constituent-MCPTT-group-IDs" type="constituentMCPTTgroupTypeIDsType"/>
    <xs:element name="anyExt" type="anyExtType" minOccurs="0"/>
    <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
  <xs:anyAttribute namespace="##any" processContents="lax"/>
</xs:complexType>

<!-- complex type for constituent-MCPTT-group-ID element -->
<xs:complexType name="constituentMCPTTgroupTypeIDsType">
  <xs:sequence>
    <xs:element name="constituent-MCPTT-group-ID" type="xs:anyURI" minOccurs="0"
maxOccurs="unbounded"/>
    <xs:element name="anyExt" type="anyExtType" minOccurs="0"/>
    <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
  <xs:anyAttribute namespace="##any" processContents="lax"/>
</xs:complexType>

<!-- complex type for regrouped element -->
<xs:complexType name="regroupedType">
  <xs:sequence>
    <xs:element ref="mcpttgi:group-priority"/>
    <xs:element name="constituent-MCPTT-group-IDs" type="constituentMCPTTgroupTypeIDsType"/>
    <xs:element name="anyExt" type="anyExtType" minOccurs="0"/>
    <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
  <xs:attribute name="temporary-MCPTT-group-ID" type="xs:anyURI" use="required"/>
  <xs:anyAttribute namespace="##any" processContents="lax"/>
</xs:complexType>

<!-- complex type for any extensions element -->
<xs:complexType name="anyExtType">
  <xs:sequence>
    <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>

</xs:schema>
```

## 7.2.5    Default namespace

Default namespace is described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Default Namespace*".

## 7.2.6    MIME type

MIME type is described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*MIME Type*".

## 7.2.7    Validation constraints

Validation constraints are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Validation Constraints*".

## 7.2.8    Data semantics

Data semantics are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Data Semantics*" with the MCPTT specific clarifications specified in this subclause.

A group is an MCPTT group only if:

  a) the <supported-services> element is present in the group;

  b) the <service> child element of the <supported-services> element is present;

  c) the <service> element includes the "enabler" attribute set to the MCPTT ICSI specified in the 3GPP TS 24.379 [5];

    d)   the <group-media> child element of the <service> element is present; and

    e)   the <mcptt-speech> child element of the <group-media> element is present.

If a group includes an element not specified in subclause 7.2.2 for an MCPTT group and the element has the "must-understand" attribute, then the group is ignored.

If a group includes an element not specified in subclause 7.2.2 for an MCPTT group and the element:

    a)   does not have the "must-understand" attribute; and

    b)   is not a descendant of a <conditions> element;

then the element is ignored.

If a group includes an element not specified in subclause 7.2.2 for an MCPTT group and the element:

    a)   does not have the "must-understand" attribute; and

    b)   is a descendant of a <conditions> element;

then the element is evaluated as not known element according to IETF RFC 4745 [6].

If a group includes an attribute not specified in subclause 7.2.2 for an MCPTT group and different from the "must-understand" attribute, then the attribute is ignored.

The possible values of the <invite-members> element are:

    a)   "true" which represents the pre-arranged group; and

    b)   "false" which represents the chat group. This value is used when the element is not present.

The <display-name> element of a <list-service> element of a group contains the group name.

The <list> element of a <list-service> element of a group contains the group members.

The <ruleset> element of a <list-service> element of a group contains the authorization policy associated with this group.

The <supported-services> element of a <list-service> element of a group contains the containing supported services of this group.

The "uri" attribute of a <list-service> element of an MCPTT group:

    a)   contains the MCPTT group identity, if the MCPTT group is not a temporary MCPTT group; and

    b)   contains the temporary MCPTT group identity, if the MCPTT group is not a temporary MCPTT group.

Presence of the <disabled> element in the <list-service> element of the MCPTT group indicates that the MCPTT group is disabled. Absence of the <disabled> element in the <list-service> element of the MCPTT group indicates that the group is enabled.

Value of the <group-priority> element of the <list-service> element of the MCPTT group indicates the priority level of the group. Higher value indicates lower priority. Absence of the <group-priority> element of the <list-service> element of the MCPTT group indicates the lowest possible priority.

Presence of the <temporary> element in the <list-service> element of the MCPTT group indicates that the MCPTT group is a temporary MCPTT group. Each <constituent-MCPTT-group-ID> child elements of the <constituent-MCPTT-group-IDs> element of the <temporary> element indicates MCPTT group ID of a constituent MCPTT group of the temporary MCPTT group. Absence of the <temporary> element in the <list-service> element of the MCPTT group indicates that the group is not a temporary MCPTT group.

Presence of a <regrouped> element in the <list-service> element of the MCPTT group indicates that the MCPTT group is a constituent MCPTT group of a temporary MCPTT group with MCPTT Group ID indicated in the value of the "temporary-MCPTT-group-ID" attribute of the <regrouped> element. The <group-priority> child element of the <regrouped> element indicates the priority level of the temporary MCPTT group. Each <constituent-MCPTT-group-ID> child elements of the <constituent-MCPTT-group-IDs> element of the <regrouped> element indicates MCPTT

group ID of a constituent MCPTT group of the temporary MCPTT group. Absence of the <regrouped> element in the <list-service> element of the MCPTT group indicates that the group is not a constituent MCPTT group of a temporary MCPTT group.

Value of the <off-network-ProSe-layer-2-group-id> element of the <list-service> element of the MCPTT group indicates the ProSe layer-2 group ID specified in 3GPP TS 24.334 [7] assigned to the MCPTT group for usage in the off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-layer-2-group-id> element of the <list-service> element of the MCPTT group indicates that the MCPTT group is not to be used in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-PDN-type> element of the <list-service> element of the MCPTT group indicates the IP version to be used in off-network procedures specified in 3GPP TS 24.379 [5] assigned to the MCPTT group for usage in the off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-PDN-type> element of the <list-service> element of the MCPTT group indicates that the MCPTT group is not to be used in off-network procedures specified in 3GPP TS 24.379 [5]. A value of the <off-network-PDN-type> element of the <list-service> element of the MCPTT group other than any of the values specified in table 7.3.2-1 indicates that the MCPTT group is not to be used in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-IP-multicast-address> element of the <list-service> element of the MCPTT group indicates the IP multicast address assigned to the MCPTT group for usage in the off-network procedures specified in 3GPP TS 24.379 [5]. The IP multicast address is of the IP version to be used in off-network procedures for the MCPTT group. Incorrect format of the <off-network-IP-multicast-address> element of the <list-service> element of the MCPTT group indicates that the MCPTT group is not to be used in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-IP-multicast-address> element of the <list-service> element of the MCPTT group indicates that the MCPTT group is not to be used in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying signalling for a call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates that a call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-emergency-call-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying signalling for an MCPTT-emergency call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-emergency-call-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates that an MCPTT-emergency call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-imminent-peril-call-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying signalling for an imminent peril call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-imminent-peril-call-signalling-PPPP> element of the <list-service> element of the MCPTT group indicates that an imminent peril call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-media-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying media for a call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-media-PPPP> element of the <list-service> element of the MCPTT group indicates that a call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-emergency-call-media-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying media for an MCPTT-emergency call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-emergency-call-media-PPPP> element of the <list-service> element of the MCPTT group indicates that an MCPTT-emergency call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <off-network-ProSe-imminent-peril-call-media-PPPP> element of the <list-service> element of the MCPTT group indicates the ProSe Per-Packet Priority value to be used when transmitting IP packets carrying media for an imminent peril call on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-ProSe-imminent-peril-call-media-PPPP> element of the <list-service> element of the MCPTT group

indicates that an imminent peril call cannot be established on the MCPTT group in off-network procedures specified in 3GPP TS 24.379 [5].

Value of the <ProSe-relay-service-code> element of the <list-service> element of the MCPTT group indicates of a ProSe relay service code specified in 3GPP TS 24.334 [7] to be used by a UE when the UE accessing a UE-to-network relay in procedures specified in 3GPP TS 24.379 [5]. Absence of the <ProSe-relay-service-code> element of the <list-service> element of the MCPTT group indicates that the MCPTT group is not to be accessed using any procedures specified in 3GPP TS 24.379 [5] which requires support of a ProSe UE-to-network relay.

The "uri" attribute of a <entry> element of the MCPTT group:

   a)  contains the MCPTT user identity, if the MCPTT group is not a temporary MCPTT group; and

   b)  contains the MCPTT group identity of a constituent MCPTT group, if the MCPTT group is a temporary MCPTT group.

Presence of the <required> element in the <entry> element of the MCPTT group indicates that the MCPTT group member identified by the <entry> element is a required MCPTT group member. Absence of the <required> element in the <entry> element of the MCPTT group indicates that the MCPTT group member identified by the <entry> element is not a required MCPTT group member.

Value of the <user-priority> element in the <entry> element of the MCPTT group indicates the user priority of the MCPTT group member identified by the <entry> element. Higher value indicates lower priority. Absence of the <user-priority> element in the <entry> element of the MCPTT group indicates that the MCPTT group member identified by the <entry> element has the lowest possible priority.

Value of <off-network-user-info-id> element in the <entry> element of the MCPTT group indicates the User Info Id specified in 3GPP TS 24.334 [7] assigned to the MCPTT group member identified by the <entry> element for usage in the off-network procedures specified in 3GPP TS 24.379 [5]. Absence of the <off-network-user-info-id> element in the <entry> element of the MCPTT group indicates that the MCPTT group member is not to participate in off-network procedures specified in 3GPP TS 24.379 [5].

Value of <participant-type> element in the <entry> element of the MCPTT group indicates the participant type specified in 3GPP TS 23.179 [4] assigned to the MCPTT group member identified by the <entry> element. Absence of the <participant-type> element in the <entry> element of the MCPTT group indicates that the MCPTT group member identified by the <entry> element is not assigned any participant type.

The <allow-MCPTT-emergency-call> element of an <actions> element of a <rule> element of the MCPTT group indicates whether the identity matching the rule identified by the <rule> element is allowed to request an MCPTT-emergency call on the MCPTT group. The possible values of the element are:

   a)  "false" which indicates that the identity is not allowed to request an MCPTT-emergency call on the MCPTT group. This is the default value taken in the absence of the element.

   b)  "true" which indicates that the identity is allowed to request an MCPTT-emergency call on the MCPTT group.

The <allow-imminent-peril-call> element of an <actions> element of a <rule> element of the MCPTT group indicates whether the identity matching the rule identified by the <rule> element is allowed to request an imminent peril call on the MCPTT group. The possible values of the element are:

   a)  "false" which indicates that the identity is not allowed to request an MCPTT-imminent peril call on the MCPTT group. This is the default value taken in the absence of the element.

   b)  "true" which indicates that the identity is allowed to request an MCPTT imminent peril call on the MCPTT group.

The <allow-MCPTT-emergency-alert> element of an <actions> element of a <rule> element of the MCPTT group indicates whether the identity matching the rule identified by the <rule> element is allowed to request an MCPTT-emergency alert on the MCPTT group. The possible values of the element are:

   a)  "false" which indicates that the identity is not allowed to request an MCPTT-emergency alert on the MCPTT group. This is the default value taken in the absence of the element.

   b)  "true" which indicates that the identity is allowed to request an MCPTT-emergency alert on the MCPTT group.

<anyExt> element contains elements defined by future version of this document.

## 7.2.9 Naming conventions

Naming conventions are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Naming conventions*".

## 7.2.10 Global documents

Global documents are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Global Documents*".

## 7.2.11 Resource interdependencies

Resource interdependencies are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Resource interdependencies*".

## 7.2.12 Authorization policies

Authorization policies are described in the OMA OMA-TS-XDM_Group-V1_1 [3] "*Authorization policies*".

None is authorized to insert, delete, and modify a <temporary> element of a <list-service> element of an existing MCPTT group.

None is authorized to remove a group document containing a <regrouped> element of a <list-service> element of an MCPTT group

Only a GMS is allowed to add and remove a <regrouped> element in the <list-service> element of an existing MCPTT group.

# Annex A (informative):
# Signalling flows

## A.1 Scope of signalling flows

This annex gives examples of signalling flows for group management on the extensible markup language configuration access protocol (XCAP) and the session initiation protocol (SIP).

HTTP header fields and SIP header fields insignificant for the group management are omitted.

## A.2 Signalling flows for group creation

### A.2.1 GMC creating a MCPTT group on behalf of MCPTT user served by the GMC

Figure A.2.1-1 shows a flow for a group management client GMC-1 creating an MCPTT group in a group management server GMS-1 on behalf of user-1 served by the GMC-1.

Document name of the MCPTT group is groupdocument1.xml.

The MCPTT group is a disabled pre-arranged MCPTT group with maximum of 10 participants, with group-priority of 5 and with display name "My conference display name".

The MCPTT group members are the user-1, a user-2 and a user-3. The user-1 and the user-2 are required MCPTT group members.

The MCPTT user identity of the user-1 is sip:user1@example.com, the MCPTT user identity of the user-2 is sip:user2@example.com, and the MCPTT user identity of the user-3 is sip:user3@example.com. The group document indicates a display name for each member.

The user-priority of the user-1 is 10, the user-priority of the user-2 is 20, and the user-priority of the user-3 is 30.

The XUI of the user-1 is the same as the MCPTT user identity of the user-1.

The members of the MCPTT group are allowed to initiate the MCPTT group session, are allowed to join the MCPTT group session, are allowed to request an MCPTT-emergency call on the MCPTT group, are allowed to request an imminent peril call on the MCPTT group and are allowed to request an MCPTT-emergency alert on the MCPTT group.

The GMC-1 proposes that the MCPTT group identity of the MCPTT group is sip:GMCproposedMCPTTGroupID@example.com, but the GMS-1 decides that the MCPTT group identity of the MCPTT group is sip:GMSdecidedMCPTTGroupID@example.com.

The hostname of GMS-1 is gms1.example.com.
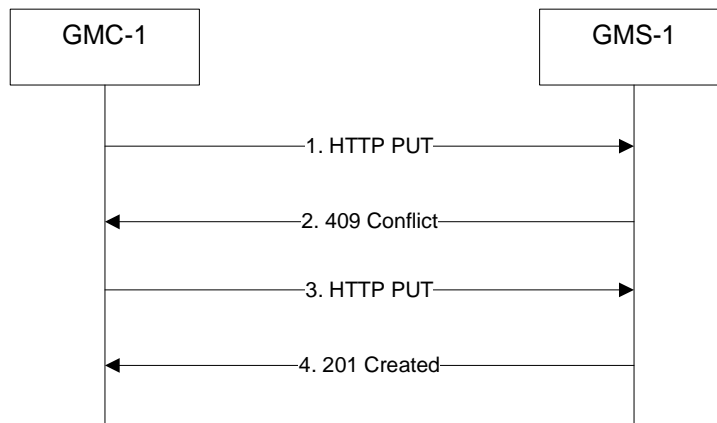
**Figure A.2.1-1: GMC-1 creating a MCPTT group in GMS-1 on behalf of user served by the GMC-1**

The details of the flows are as follows:

1) GMC-1 sends an HTTP PUT request shown in table A.2.1-1 to the GMS-1.

**Table A.2.1-1: first HTTP PUT request**

```
PUT /org.openmobilealliance.groups/users/sip:user1@example.com/groupdocument1.xml HTTP/1.1
Host: gms1.example.com
Content-Type: application/vnd.oma.poc.groups+xml; charset="utf-8"

<?xml version="1.0" encoding="UTF-8"?>
<group
  xmlns="urn:oma:xml:poc:list-service"
  xmlns:rl="urn:ietf:params:xml:ns:resource-lists"
  xmlns:cp="urn:ietf:params:xml:ns:common-policy"
  xmlns:ocp="urn:oma:xml:xdm:common-policy"
  xmlns:oxe="urn:oma:xml:xdm:extensions"
  xmlns:mcpttgi="urn:3gpp:ns:mcpttGroupInfo:1.0"
  >
  <list-service uri="sip:GMCproposedMCPTTGroupID@example.com">
    <display-name xml:lang="en-us">My conference display name</display-name>
    <list>
      <entry uri="sip:user1@example.com">
        <rl:display-name>User 1</rl:display-name>
        <mcpttgi:required/>
        <mcpttgi:user-priority>10</mcpttgi:user-priority>
      </entry>
      <entry uri="sip:user2@example.com">
        <rl:display-name>User 2</rl:display-name>
        <mcpttgi:required/>
        <mcpttgi:user-priority>20</mcpttgi:user-priority>
      </entry>
      <entry uri="sip:user3@example.com">
        <rl:display-name>User 3</rl:display-name>
        <mcpttgi:user-priority>30</mcpttgi:user-priority>
      </entry>
    </list>
    <invite-members>true</invite-members>
    <max-participant-count>10</max-participant-count>
    <cp:ruleset>
      <cp:rule id="a7c">
        <cp:conditions>
          <is-list-member/>
        </cp:conditions>
        <cp:actions>
          <allow-initiate-conference>true</allow-initiate-conference>
          <join-handling>true</join-handling>
          <mcpttgi:allow-MCPTT-emergency-call>true</mcpttgi:allow-MCPTT-emergency-call>
          <mcpttgi:allow-imminent-peril-call>true</mcpttgi:allow-imminent-peril-call>
          <mcpttgi:allow-MCPTT-emergency-alert>true</mcpttgi:allow-MCPTT-emergency-alert>
        </cp:actions>
      </cp:rule>
    </cp:ruleset>
    <oxe:supported-services>
     <oxe:service enabler="g.3gpp.mcptt">
      <oxe:group-media>
```

```
        <mcpttgi:mcptt-speech/>
      </oxe:group-media>
     </oxe:service>
    </oxe:supported-services>
    <mcpttgi:disabled/>
    <mcpttgi:group-priority>5</mcpttgi:group-priority>
  </list-service>
</group>
```

2)  GMS-1 rejects the HTTP PUT request with HTTP 409 (Conflict) response shown in table A.2.1-2.

**Table A.2.1-2: HTTP 409 (Conflict) response to HTTP PUT request**

```
HTTP/1.1 409 Conflict
Content-Type: application/xcap-error+xml; charset="utf-8"

<?xml version="1.0" encoding="UTF-8"?>
<xcap-error xmlns="urn:ietf:params:xml:ns:xcap-error">
  <uniqueness-failure phrase="URI constraint violated">
    <exists field="group/list-service/@uri">
      <alt-value>sip:GMSdecidedMCPTTGroupID@example.com</alt-value>
    </exists>
  </uniqueness-failure>
</xcap-error>
```

3)  GMC-1 sends an HTTP PUT request to the GMS-1. The HTTP PUT request is the same as shown in table A.2.1-3 with exception of the value of the "uri" attribute of the <list-service> element of the <group> root element. The "uri" attribute contains sip:correctMCPTTGroupID@example.com.

4)  GMS-1 accepts the HTTP PUT request with HTTP 201 (Created) response.

# Annex B (informative):
# Change history

| Change history | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **TSG #** | **TSG Doc.** | **CR** | **Rev** | **Subject/Comment** | | **Old** | **New** |
| 2015-07 | | | | | Initial proposal to CT1#92-bis | | - | 0.0.0 |
| 2015-07 | | | | | Contains agreed P-CRs from CT1#92-bis: C1ah-150043, C1ah-150004, C1ah-150044 | | 0.0.0 | 0.1.0 |
| 2015-08 | | | | | Contains agreed P-CRs from CT1#93: C1-153181, C1-153182 and changes by rapporteur. | | 0.1.0 | 0.2.0 |
| 2015-08 | | | | | minor fixes from the rapporteur | | 0.2.0 | 0.2.1 |
| 2015-09 | | | | | specification numbers decided by CT#69 are indicated by the rapporteur | | 0.2.1 | 0.2.2 |
| 2015-10 | | | | | Contains agreed P-CRs from CT1#94: C1-153717, C1-153745, C1-153753. | | 0.2.2 | 0.3.0 |
| 2015-11 | | | | | Contains agreed P-CRs from CT1#95: C1-154409, C1-154593, C1-154594. Editorial fixes done and abbreviations added by the rapporteur. | | 0.3.0 | 0.4.0 |
| 2015-12 | CT-70 | CP-150735 | | | Version 1.0.0 created for presentation for information | | 0.4.0 | 1.0.0 |
| 2016-01 | | | | | Contains agreed P-CRs from CT1#95-BIS: C1-160018, C1-160019, C1-160020, C1-160021, C1-160023, C1-160026, C1-160030, C1-160031, C1-160032, C1-160033, C1-160367, C1-160369, C1-160467, C1-160468, C1-160469, C1-160470. Subclause renumbering and editorial fixes done by the rapporteur. | | 1.0.0 | 1.1.0 |
| 2016-02 | | | | | Contains agreed P-CRs from CT1-on MCPTT and CT1#96: C1ah-160040, C1ah-160086, C1ah-160093, C1ah-160104, C1-161328, C1-161373, C1-161382, C1-161397, C1-161398, C1-161399. Subclause renumbering and editorial fixes done by the rapporteur. | | 1.1.0 | 1.2.0 |
| 2016-03 | CT-71 | CP-160061 | | | Version 2.0.0 created for presentation for approval | | 1.2.0 | 2.0.0 |
| 2016-03 | CT-71 | | | | Version 13.0.0 created after approval | | 2.0.0 | 13.0.0 |
| 2016-03 | | | | | Editorial fixes - removal of superfluous spaces and addition of "(GC)", "(GMC)" and "(GMS)" when missing. | | 13.0.0 | 13.0.1 |

# History

| Document history | | |
|---|---|---|
| V13.0.1 | May 2016 | Publication |
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