**3GPP TSG-CT WG1 Meeting #124-eC1-20abcd**

**Electronic meeting, 2-10 June 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **24.379** | **CR** | **0617** | **rev** | **1** | **Current version:** | **16.4.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | Resolution of called functional alias in first-to-answer calls |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | MONASTERY2 |  | ***Date:*** | 2020-05-20 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***Reason for change:*** | Stage 2 TS 23.379 specifies how an activated Functional Alias can be used in first-to-answer calls to call multiple users.Current stage 3 specs specify how the MCPTT client can include a functional alias instead of a list of potential target recipients in the SIP INVITE request for a first-to-answer call. However, how the MCPTT server identifies the MCPTT IDs that have activated the called Functional Alias, and how to call the specific clients is not specified. Thus, the corresponding procedures have to be updated accordingly. |
|  |  |
| ***Summary of change:*** | 1)Specify how the controlling MCPTT server requests an FA resolution via a subscribe-based FA resolution request 2) Specify how the MCPTT server owning the FA responds with a notify response to the FA resolution request3)Resolve editor's note on FA resolution for first to answer call4)Correction on Subcaluse numbering regarding group dynamic data procedure |
|  |  |
| ***Consequences if not approved:*** | Stage 2 requirements on use of functional alias in a first-to-answer call are not supported. |
|  |  |
| ***Clauses affected:*** | 9.2.2.3.9, 9.2.2.3.10, 9A.2.2.2.1, 9A.2.2.2.x (new), 9A.2.2.3.1, 9A.2.2.3.x (new), 9A.2.2.3.y (new),11.1.1.4.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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##### 9.2.2.3.9 Receiving subscription to group dynamic data procedure

Upon receiving a SIP SUBSCRIBE request such that:

1) Request-URI of the SIP SUBSCRIBE request contains the public service identity of the controlling MCPTT function associated with the served MCPTT group;

2) the SIP SUBSCRIBE request contains an application/vnd.3gpp.mcptt-info+xml MIME body containing the<mcptt-request-uri> element and the <mcptt-calling-user-id> element;

3) the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcptt" (coded as specified in 3GPP TS 24.229 [4]), in a P-Asserted-Service header field according to IETF RFC 6050 [9];

4) the Event header field of the SIP SUBSCRIBE request contains the "presence" event type; and

5) the SIP SUBSCRIBE request contains an application/simple-filter+xml MIME body indicating per-group dynamic data of presence event package notification information according to subclause 9.3.2 indicating the same MCPTT group ID as in the <mcptt-calling-user-id> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP SUBSCRIBE request;

then the MCPTT server:

1) shall identify the served MCPTT group ID in the <mcptt-request-uri> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP SUBSCRIBE request;

2) shall identify the handled MCPTT ID in the <mcptt-calling-user-id> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP SUBSCRIBE request;

3) if the Expires header field of the SIP SUBSCRIBE request is not included or has nonzero value lower than 4294967295, shall send a SIP 423 (Interval Too Brief) response to the SIP SUBSCRIBE request, where the SIP 423 (Interval Too Brief) response contains a Min-Expires header field set to 4294967295, and shall not continue with the rest of the steps;

4) if an MCPTT group for the served MCPTT group ID does not exist in the group management server according to 3GPP TS 24.481 [31], shall reject the SIP SUBSCRIBE request with SIP 403 (Forbidden) response to the SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 3903 [37] and IETF RFC 3856 [51] and skip the rest of the steps;

5) if the handled MCPTT ID is not authorized to subscribe to group dynamic data of the MCPTT group identified by the served MCPTT group ID, shall reject the SIP SUBSCRIBE request with SIP 403 (Forbidden) response to the SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 3903 [37] and IETF RFC 3856 [51] and skip the rest of the steps; and

6) shall generate a SIP 200 (OK) response to the SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 6665 [26].

For the duration of the subscription, the MCPTT server shall notify subscriber about changes of the information of the served MCPTT ID, as described in subclause 9.2.2.3.10.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9.2.2.3.10 Sending notification of change of group dynamic data procedure

In order to notify the subscriber identified by the handled MCPTT ID about changes of the per-group dynamic data of the served MCPTT group ID, the MCPTT server:

1) shall consider an MCPTT group information entry such that:

a) the MCPTT group information entry is in the list of MCPTT group information entries described in subclause 9.2.2.3.2; and

b) the MCPTT group ID of the MCPTT group information entry is equal to the served MCPTT group ID;

2) shall generate an application/pidf+xml MIME body indicating per-group dynamic data according to subclause 9.3.1 with the following clarifications:

a) the MCPTT server shall include the "expires" attribute in the <affiliation> element; and

3) shall send a SIP NOTIFY request according to 3GPP TS 24.229 [4], and IETF RFC 6665 [26] for the subscription created in subclause 9.2.2.3.8. In the SIP NOTIFY request, the MCPTT server shall include the generated application/pidf+xml MIME body indicating per-group dynamic data.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9A.2.2.2.1 General

The procedures of MCPTT server serving the MCPTT user consist of:

- a receiving functional alias status change from MCPTT client procedure;

- a receiving subscription to functional alias status procedure;

- a sending notification of change of functional alias status procedure;

- a sending functional alias status change towards MCPTT server owning the functional procedure;

- a functional alias status determination from MCPTT server owning the functional alias procedure; and

- a functional alias resolution from MCPTT server owning the functional alias procedure.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9A.2.2.2.x Functional alias resolution from MCPTT server owning the functional alias procedure

In order to discover the MCPTT users that have successfully activated a handled functional alias in the MCPTT server owning the functional alias, the MCPTT server shall generate an initial SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 3856 [51], and IETF RFC 6665 [26].

In the SIP SUBSCRIBE request, the MCPTT server:

1) shall set the Request-URI to the public service identity of the controlling MCPTT function associated with the handled functional alias;

2) shall include an application/vnd.3gpp.mcptt-info+xml MIME body. In the application/vnd.3gpp.mcptt-info+xml MIME body, the MCPTT server shall include the <mcptt-request-uri> element set to the handled functional alias ID;

3) shall include the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcptt" (coded as specified in 3GPP TS 24.229 [4]), in a P-Asserted-Service header field according to IETF RFC 6050 [9];

4) shall set the Expires header field according to IETF RFC 6665 [26] to zero;

NOTE: if the MCPTT server wants to receive the current status and later notification, can set the Expires header field according to IETF RFC 6665 [26], to 4294967295, which is the highest value defined for Expires header field in IETF RFC 3261 [24].

5) shall include an Accept header field containing the application/pidf+xml MIME type;

6) shall include an Events header field set to "presence"; and

7) shall include an application/simple-filter+xml MIME body indicating per-functional alias restrictions of presence event package notification information indicating the served functional alias.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9A.2.2.3.1 General

The procedures of MCPTT server owning the functional alias consist of:

- receiving functional alias status change procedure;

- receiving subscription to functional alias status procedure;

- sending notification of change of functional alias status procedure;

- modification of functional alias eligibility check procedure;

- receiving subscription to functional alias resolution procedure; and

- sending notification of functional alias resolution procedure.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9A.2.2.3.x Receiving subscription to functional alias resolution procedure

Upon receiving a SIP SUBSCRIBE request such that:

1) Request-URI of the SIP SUBSCRIBE request contains the public service identity of the controlling MCPTT function associated with the requested functional alias;

2) the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcptt" (coded as specified in 3GPP TS 24.229 [4]), in a P-Asserted-Service header field according to IETF RFC 6050 [9];

3) the Event header field of the SIP SUBSCRIBE request contains the "presence" event type; and

4) the SIP SUBSCRIBE request contains an application/simple-filter+xml MIME body indicating per-functional alias restrictions of presence event package notification information according to subclause 9A.3.2;

then the MCPTT server:

1) shall identify the requested functional alias ID in the <mcptt-request-uri> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP SUBSCRIBE request;

2) if the Expires header field of the SIP SUBSCRIBE request is not included or has nonzero value lower than 4294967295, shall send a SIP 423 (Interval Too Brief) response to the SIP SUBSCRIBE request, where the SIP 423 (Interval Too Brief) response contains a Min-Expires header field set to 4294967295, and shall not continue with the rest of the steps;

3) if the requested functional alias does not exist in the MCPTT server, shall reject the SIP SUBSCRIBE request with SIP 403 (Forbidden) response to the SIP PUBLISH request according to 3GPP TS 24.229 [4], IETF RFC 3903 [37] and IETF RFC 3856 [51] and skip the rest of the steps; and

4) shall generate a SIP 200 (OK) response to the SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 6665 [26].

For the duration of the subscription, the MCPTT server shall notify subscriber about changes of the information of the requested functional alias, as described in subclause 9.2.2.3.y.

\*\*\*\*\* Next change \*\*\*\*\*

##### 9A.2.2.3.y Sending notification to functional alias resolution procedure

In order to notify the subscriber about the MCPTT users that have successfully activated the functional alias corresponding to the requested functional alias ID, the MCPTT server:

1) shall consider a functional alias information entry such that:

a) the functional alias information entry is in the list of functional alias information entries described in subclause 9A.2.2.3.2; and

b) the functional alias ID of the functional alias information entry is equal to the requested functional alias ID;

2) shall consider any MCPTT user information entry such that the MCPTT user information entry is in the list of the MCPTT user information entries of the served functional alias information entry, as the served MCPTT user information entry;

3) shall generate an application/pidf+xml MIME body indicating per-functional alias information according to subclause 9A.3.1 and the served list of the served MCPTT user information entry of the functional alias information entry

4) send a SIP NOTIFY request according to 3GPP TS 24.229 [4], and IETF RFC 6665 [26] for the subscription created in subclause 9A.2.2.3.x. In the SIP NOTIFY request, the MCPTT server shall include the generated application/pidf+xml MIME body indicating per-functional alias information.

\*\*\*\*\* Next change \*\*\*\*\*

## 9A.3 Coding

### 9A.3.1 Extension of application/pidf+xml MIME type

#### 9A.3.1.1 Introduction

The subclauses of the parent subclause describe an extension of the application/pidf+xml MIME body specified in IETF RFC 3863 [52]. The extension is used to indicate:

- per-user functional alias information; and

- per-functional alias status information.

#### 9A.3.1.2 Syntax

The application/pidf+xml MIME body indicating per-user functional alias information is constructed according to IETF RFC 3863 [52] and:

1) contains a <presence> root element according to IETF RFC 3863 [52];

2) contains an "entity" attribute of the <presence> element set to the MCPTT ID of the MCPTT user;

3) contains one <tuple> child element according to IETF RFC 3863 [52] per <presence> element;

4) can contain a <p-id-fa> child element defined in the XML schema defined in table 9A.3.1.2-1, of the <presence> element set to an identifier of a SIP PUBLISH request;

5) contains an "id" attribute of the <tuple> element set to the MCPTT client ID;

6) contains one <status> child element of each <tuple> element;

7) contains one <functionalAlias> child element defined in the XML schema defined in table 9A.3.1.2-1, of the <status> element, for each functional alias in which the MCPTT user is interested;

8) contains a "functionalAliasID" attribute of each <fucntionalAlias> element set to the functional alias ID of the functional alias in which the MCPTT user is interested;;

9) can contain a "status" attribute of each <functionalAliasID> element indicating the activation status of functional alias for the MCPTT user; and

10) can contain an "expires" attribute of each <functionalAlias> element indicating expiration of activation of the functional alias for the MCPTT user.

The application/pidf+xml MIME body indicating per-functional alias status information is constructed according to IETF RFC 3856 [51] and:

1) contains the <presence> root element according to IETF RFC 3863 [52];

2) contains an "entity" attribute of the <presence> element set to the functional alias ID of the functional alias;

3) contains one <tuple> child element according to IETF RFC 3863 [52] of the <presence> element;

4) can contain a <p-id-fa> child element defined in the XML schema defined in table 9A.3.1.2-1, of the <presence> element set to an identifier of a SIP PUBLISH request;

5) contains an "id" attribute of the <tuple> element set to the functional alias ID;

6) contains one <status> child element of each <tuple> element;

7) contains one <functionalAlias> child element defined in the XML schema defined in table 9A.3.1.2-1, of the <status> element, for each MCPTT ID for which functional alias information is provided;

8) contains one "user" attribute defined in the XML schema defined in table 9A.3.1.2-1, of the <functionalAlias> element set to the MCPTT client ID; and

9) can contain an "expires" attribute defined in the XML schema defined in table 9A.3.1.2-1, of the <functionalAlias> element indicating expiration of activation of the functional alias for the MCPTT user.

Table 9A.3.1.2-1: XML schema with elements and attributes extending the application/pidf+xml MIME body

<?xml version="1.0" encoding="UTF-8"?>

<xs:schema

 targetNamespace="urn:3gpp:ns:mcpttPresInfoFA:1.0"

 xmlns:xs="http://www.w3.org/2001/XMLSchema"

 xmlns:mcpttPI10="urn:3gpp:ns:mcpttPresInfoFA:1.0"

 elementFormDefault="qualified" attributeFormDefault="unqualified">

 <!-- MCPTT functional alias specific child elements of tuple element -->

 <xs:element name="functionalAlias" type="mcpttPIFA10:fucntionalAliasType"/>

 <xs:complexType name="functionalAliasType">

 <xs:sequence>

 <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>

 </xs:sequence>

 <xs:attribute name="functionalAliasID" type="xs:anyURI" use="optional"/>

 <xs:attribute name="user" type="xs:anyURI" use="optional"/>

 <xs:attribute name="status" type="mcpttPIFA10:statusType" use="optional"/>

 <xs:attribute name="expires" type="xs:dateTime" use="optional"/>

 <xs:anyAttribute namespace="##any" processContents="lax"/>

 </xs:complexType>

 <xs:simpleType name="statusType">

 <xs:restriction base="xs:string">

 <xs:enumeration value="activating"/>

 <xs:enumeration value="activated"/>

 <xs:enumeration value="deactivating"/>

 <xs:enumeration value="take-over-possible"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="p-id-fa" type="xs:string"/>

 <xs:element name="take-over" type="xs:boolean"/>

 </xs:schema>

The application/pidf+xml MIME body refers to namespaces using prefixes specified in table 9A.3.1.2-2.

Table 9A.3.1.2-2: Assignment of prefixes to namespace names in the application/pidf+xml MIME body

|  |  |
| --- | --- |
| Prefix | Namespace |
| mcpttPIFA10 | urn:3gpp:ns:mcpttPresInfoFA:1.0 |
| NOTE: The "urn:ietf:params:xml:ns:pidf" namespace is the default namespace so no prefix is used for it in the application/pidf+xml MIME body. |

### 9A.3.2 Extension of application/simple-filter+xml MIME type

#### 9A.3.2.1 Introduction

The subclauses of the parent subclause describe an extension of the application/simple-filter+xml MIME body specified in IETF RFC 4661 [63].

The extension is used to indicate per-user restrictions of presence event package notification information for functional alias information and per-functional alias restrictions of presence event package notification information.

#### 9A.3.2.2 Syntax

The application/simple-filter+xml MIME body indicating per-user restrictions of presence event package notification information is constructed according to IETF RFC 4661 [63] and:

1) contains a <filter-set> root element according to IETF RFC 4661 [63];

2) contains a <ns-bindings> child element according to IETF RFC 4661 [63], of the <filter-set> element;

3) contains a <ns-binding> child element according to IETF RFC 4661 [63], of the <ns-bindings> element where the <ns-binding> element:

A) contains a "prefix" attribute according to IETF RFC 4661 [63] set to "pidf"; and

B) contains a "urn" attribute set to the "urn:ietf:params:xml:ns:pidf" value;

4) contains a <ns-binding> child element according to IETF RFC 4661 [63], of the <ns-bindings> element where the <ns-binding> element:

A) contains a "prefix" attribute according to IETF RFC 4661 [63], set to "mcpttPIFA10"; and

B) contains an "urn" attribute according to IETF RFC 4661 [63], set to the "urn:3gpp:ns:mcpttPresInfoFA:1.0" value;

5) contains a <filter> child element according to IETF RFC 4661 [63], of the <filter-set> element where the <filter> element;

A) contains an "id" attribute set to a value constructed according to IETF RFC 4661 [63];

B) does not contain an "uri" attribute of the <filter> child element according to IETF RFC 4661 [63]; and

C) does not contain an "domain" attribute according to IETF RFC 4661 [63];

6) contains a <what> child element according to IETF RFC 4661 [63], of the <filter> element; and

7) contains an <include> child element according to IETF RFC 4661 [63], of the <what> element where the <include> element;

A) does not contain a "type" attribute according to IETF RFC 4661 [63]; and

B) contains the value, according to IETF RFC 4661 [63], set to concatenation of the '//pidf:presence/pidf:tuple[@id="' string, the MCPTT ID, and the '"]' string.

The application/simple-filter+xml MIME body indicating per-functional alias restrictions of presence event package notification information is constructed according to IETF RFC 4661 [63] and:

1) contains a <filter-set> root element according to IETF RFC 4661 [63];

2) contains a <ns-bindings> child element according to IETF RFC 4661 [63], of the <filter-set> element;

3) contains a <ns-binding> child element according to IETF RFC 4661 [63], of the <ns-bindings> element where the <ns-binding> element:

A) contains a "prefix" attribute according to IETF RFC 4661 [63] set to "pidf"; and

B) contains a "urn" attribute set to the "urn:ietf:params:xml:ns:pidf" value;

4) contains a <ns-binding> child element according to IETF RFC 4661 [63], of the <ns-bindings> element where the <ns-binding> element:

A) contains a "prefix" attribute according to IETF RFC 4661 [63], set to "mcpttPIFA10"; and

B) contains a "urn" attribute according to IETF RFC 4661 [63], set to the "urn:3gpp:ns:mcpttPresInfoFA:1.0" value;

5) contains a <filter> child element according to IETF RFC 4661 [63], of the <filter-set> element where the <filter> element;

A) contains an "id" attribute set to a value constructed according to IETF RFC 4661 [63];

B) does not contain an "uri" attribute of the <filter> child element according to IETF RFC 4661 [63]; and

C) does not contain a "domain" attribute according to IETF RFC 4661 [63];

6) contains a <what> child element according to IETF RFC 4661 [63], of the <filter> element; and

7) contains an <include> child element according to IETF RFC 4661 [63], of the <what> element where the <include> element;

A) does not contain a "type" attribute according to IETF RFC 4661 [63]; and

B) contains the value, according to IETF RFC 4661 [63], set to concatenation of the '//pidf:presence/pidf:tuple[@id="' string, the functional alias ID, and the '"]' string.

\*\*\*\*\* Next change \*\*\*\*\*

##### 11.1.1.4.2 Terminating procedures

In the procedures in this subclause:

1) <emergency–ind> refers to the <emergency-ind> element of the application/vnd.3gpp.mcptt-info+xml MIME body;

2) <alert–ind> refers to the <alert-ind> element of the application/vnd.3gpp.mcptt-info+xml MIME body; and

3) <session-type> refers to the <session-type> element of an application/vnd.3gpp.mcptt-info+xml MIME body.

Upon receipt of:

- a "SIP INVITE request for controlling MCPTT function of a private call"; or

- a "SIP INVITE request for controlling MCPTT function of a first-to-answer call";

the controlling MCPTT function:

1) if the <session-type> in the SIP INVITE request is set to "private":

a) shall check whether the public service identity contained in the Request-URI is allocated for private call and perform the actions specified in subclause 6.3.7.1 if it is not allocated and skip the rest of the steps; and

b) shall perform actions to verify the MCPTT ID of the inviting MCPTT user in the <mcptt-calling-user-id> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP INVITE request, and authorise the request according to local policy, and if it is not authorised the controlling MCPTT function shall return a SIP 403 (Forbidden) response with the warning text as specified in "Warning header field" and skip the rest of the steps;

2) if the <session-type> in the SIP INVITE request is set to "first-to-answer" shall check whether the public service identity contained in the Request-URI is allocated for first-to-answer call and perform the actions specified in subclause 6.3.7.1 if it is not allocated and skip the rest of the steps;

3) if the incoming SIP INVITE request does not contain an application/resource-lists MIME body shall reject the SIP INVITE request with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

4) if the <session-type> is set to "private" and the application/resource-lists MIME body contains more than one <entry> element, shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "145 unable to determine called party" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

5) shall validate that the received SDP offer includes at least one media stream for which the media parameters and at least one codec or media format is acceptable by the controlling MCPTT function and if not, reject the request with a SIP 488 (Not Acceptable Here) response and skip the rest of the steps;

6) if received SIP INVITE request includes an <emergency-ind>, shall validate the request as described in subclause 6.3.3.1.17;

7) if the received SIP INVITE request contains an unauthorised request for an MCPTT emergency private call as determined by subclause 6.3.3.1.13.2:

a) shall reject the SIP INVITE request with a SIP 403 (Forbidden) response as specified in subclause 6.3.3.1.14; and

b) shall send the SIP 403 (Forbidden) response as specified in 3GPP TS 24.229 [4] and skip the rest of the steps;

8) if a Resource-Priority header field is included in the received SIP INVITE request and if the Resource-Priority header field is set to the value indicated for emergency calls, shall reject the SIP INVITE request with a SIP 403 (Forbidden) response and skip the remaining steps if neither one of the following conditions are true:

a) the SIP INVITE request does not contain an authorised request for an MCPTT emergency call as determined in step 4 above; or

b) the originating MCPTT user is not in an in-progress emergency private call state with the targeted MCPTT user;

9) if:

a) the received SIP INVITE request contains an emergency indication set to a value of "true";

b) the originating MCPTT user is not in an in-progress emergency private call state with the targeted MCPTT user; and

c) if the <session-type> in the SIP INVITE request is set to "private";

then:

a) shall cache the information that the MCPTT user has initiated an MCPTT emergency private call to the targeted user; and

b) shall cache the information that the MCPTT user is in an in-progress emergency private call state with the targeted MCPTT user;

10) shall perform actions as described in subclause 6.3.3.2.2;

11) shall allocate an MCPTT session identity for the MCPTT session; and

12) if the <session-type> in the received SIP INVITE request is set to "first-to-answer" and if the SIP INVITE request contained an application/vnd.3gpp.mcptt-info+xml MIME body with the <mcpttinfo> element containing the <mcptt-Params> element with the <call-to-functional-alias-ind> element set to "true":

a) shall identify the MCPTT ID(s) of the MCPTT user(s) that have activated the received functional alias by performing the actions specified in subclause 9A.2.2.2.x; and

b) upon receipt of a SIP NOTIFY request generated as specified in subclause 9A.2.2.3.y, shall invite the MCPTT user(s) listed in the application/pidf+xml MIME body of the SIP NOTIFY request as specified in subclause 11.1.1.4.1;

 otherwise shall invite the MCPTT user(s) listed in the MIME resource-lists body of received SIP INVITE request as specified in subclause 11.1.1.4.1.

Upon receiving a SIP 180 (Ringing) response and if the SIP 180 (Ringing) response or the SIP final response has not yet been sent to the inviting MCPTT client, the controlling MCPTT function:

1) if the SIP 180 (Ringing) response is associated with a SIP INVITE that contained a <session-type> set to "private", shall generate a SIP 180 (Ringing) response to the SIP INVITE request and send the SIP 180 (Ringing) response towards the inviting MCPTT client according to 3GPP TS 24.229 [4]; and

2) if the SIP 180 (Ringing) response is associated with a SIP INVITE that contained a <session-type> set to "first-to-answer", and no other SIP 180 (Ringing) responses have been received that are associated with a SIP INVITE that contained a <session-type> set to "first-to-answer", shall generate a SIP 183 (Session Progress) response to the SIP INVITE request and send the SIP 183 (Session Progress) response towards the inviting MCPTT client according to 3GPP TS 24.229 [4].

Upon receiving a SIP 200 (OK) response for the SIP INVITE request, the SIP dialog was established as a result of receiving a SIP INVITE request with a <session-type> element set to the value of "private" and the SIP final response has not yet been sent to the inviting MCPTT client, the controlling MCPTT function:

1) shall generate a SIP 200 (OK) response to the SIP INVITE request as specified in the subclause 6.3.3.2.3.2 before continuing with the rest of the steps;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP INVITE request as specified in the subclause 6.3.3.2.2;

3) if the received SIP INVITE request contains an alert indication set to a value of "true" and this is an unauthorised request for an MCPTT emergency alert as specified in subclause 6.3.3.1.13.1, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in subclause 4.4;

NOTE 1: This is the case when the MCPTT user's request for an MCPTT emergency private call was granted but the request for the MCPTT emergency alert was denied.

4) shall interact with the media plane as specified in 3GPP TS 24.380 [5]; and

NOTE 2: Resulting media plane processing is completed before the next step is performed.

5) shall send a SIP 200 (OK) response towards the inviting MCPTT client according to 3GPP TS 24.229 [4].

Upon receiving a SIP 200 (OK) response for the SIP INVITE request, the SIP dialog was established as a result of receiving a SIP INVITE request with a <session-type> element set to the value of "first-to-answer" and the SIP final response has not yet been sent to the inviting MCPTT client the controlling MCPTT function:

1) shall generate a SIP 200 (OK) response to the SIP INVITE request as specified in the subclause 6.3.3.2.3.2 before continuing with the rest of the steps;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP INVITE request as specified in the subclause 6.3.3.2.1;

3) the received SIP INVITE request contains an emergency indication set to a value of "true":

a) shall cache the information that the MCPTT user has initiated an MCPTT emergency private call to the targeted user; and

b) shall cache the information that the MCPTT user is in an in-progress emergency private call state with the targeted MCPTT user;

4) if the received SIP INVITE request contains an alert indication set to a value of "true" and this is an unauthorised request for an MCPTT emergency alert as specified in subclause 6.3.3.1.13.1, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in subclause 4.4;

NOTE 3: This is the case when the MCPTT user's request for an MCPTT emergency private call was granted but the request for the MCPTT emergency alert was denied.

5) shall interact with the media plane as specified in 3GPP TS 24.380 [5];

NOTE 4: Resulting media plane processing is completed before the next step is performed.

6) shall send a SIP 200 (OK) response towards the inviting MCPTT client according to 3GPP TS 24.229 [4];

7) for all other MCPTT clients that were invited due to the controlling MCPTT function receiving a SIP INVITE request with a <session-type> element set to the value of "first-to-answer":

a) shall send a SIP BYE request to release a SIP dialog that has been established since the SIP 200 (OK) response was sent in step 5) by following the procedures in subclause 6.3.3.1.5 with the clarification that the SIP BYE request contain an application/vnd.3gpp.mcptt-info+xml MIME body including a <release-reason> element set to a value of "not selected for call";

b) shall generate and send a SIP CANCEL request according SIP IETF RFC 3261 [24], to cancel a SIP dialog that has not yet been established since the SIP 200 (OK) response was sent in step 5);

c) on receiving a SIP 200 (OK) to a SIP CANCEL request, shall wait to receive a SIP 487 (Request Terminated) to the original SIP INVITE request sent to the client; and

d) if a SIP 487 (Request Terminated) from the MCPTT client is not received within a time determined by the MCPTT server implementation, shall send a SIP BYE towards the MCPTT client by following the procedures in subclause 6.3.3.1.5 with the clarification that the SIP BYE request contain an application/vnd.3gpp.mcptt-info+xml MIME body including a <release-reason> element set to a value of "not selected for call"; and

8) if not successful in cancelling or terminating SIP dialogs in step 6) above, may repeat the SIP CANCEL and SIP BYE requests.

Upon receiving a SIP ACK to the SIP 200 (OK) response sent towards the inviting MCPTT client, where the SIP 200 (OK) response was sent with a Warning header field as specified in subclause 4.4 with the warning text containing the mcptt-warn-code set to "149", the controlling MCPTT function shall follow the procedures in subclause 6.3.3.1.18.

The controlling MCPTT function shall forward any other SIP response that does not contain SDP, including any MIME bodies contained therein, along the signalling path to the originating network according to 3GPP TS 24.229 [4].

Upon receiving a SIP BYE request from the originating MCPTT client containing an application/vnd.3gpp.mcptt-info+xml MIME body containing a <release-reason> element set to a value of "authentication of the MIKEY-SAKE I\_MESSAGE failed", the controlling MCPTT function:

1) if the received "SIP INVITE request for controlling MCPTT function of a first-to-answer call" contains an emergency indication set to a value of "true":

a) shall delete from cache the information that the MCPTT user has initiated an MCPTT emergency private call to the targeted user; and

b) shall delete from cache the information that the MCPTT user is in an in-progress emergency private call state with the targeted MCPTT user; and

2) shall follow the procedures in subclause 11.1.3.3.1.

\*\*\*\*\* Next change \*\*\*\*\*

\*\*\*\*\* Next change \*\*\*\*\*