**3GPP TSG-CT WG1 Meeting #128-eC1-211132**

**Electronic meeting, 25 February – 5 March 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.379** | **CR** | 0691 | **rev** | **1** | **Current version:** | **17.1.0** |  |
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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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Call control of FAs allowed in a first-to-answer call | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMONASTERY2 | | | | |  | ***Date:*** | | | 2021-02-11 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | *Rel-17* |
|  | *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 can be 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) Rel-17 (Release 17)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Stage 2 requirements on support of functional aliases (FA) in first-to-answer private calls dictate that specific restrictions may apply on calls from an FA to an FA. In particular:  - The MCPTT server shall check whether the calling MCPTT client is allowed to use the functional alias of the called MCPTT client to setup a private call.  - The MCPTT server shall check whether the called MCPTT client is allowed to receive a private call from the calling MCPTT client using a functional alias.  Stage3 does not support that an MC service user that has activated an FA shall only have private communications with those MC service users that have activated specific FAs which are configured, whereas private communications with other MC service users shall not be allowed. For this purpose, two lists are introduced, one including the FAs that a user that has activated an FA can call and a second one including the FAs of users from which a call can be received. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1) Introduction of new warning texts  2) Update Originating and Terminating participating procedures to capture the specific case of limiting the FAs from and to which a first-to-answer call is allowed.  3) Extend <mcpttinfo> with the <called-functional-alias-URI>  4) Add editor's note that how this element is populated is FFS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | All FAs in incoming and outgoing first-to-answer calls are allowed, which contradicts stage 2 requirements | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.4.2, 11.1.1.3.1.1, 11.1.1.3.2, F1.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

### 4.4.2 Warning texts

The text string included in a Warning header field consists of an explanatory text preceded by a 3-digit text code, according to the following format in Table 4.4.2-1.

Table 4.4.2-1 ABNF for the Warning text

warn-text =/ DQUOTE mcptt-warn-code SP mcptt-warn-text DQUOTE

mcptt-warn-code = DIGIT DIGIT DIGIT

mcptt-warn-text = \*( qdtext | quoted-pair )

Table 4.4.2-2 defines the warning texts that are defined for the Warning header field when a Warning header field is included in a response to a SIP INVITE request as specified in subclause 4.4.1.

Table 4.4.2-2: Warning texts defined for the Warning header field

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | | Explanatory text | | Description | |
| 100 | | function not allowed due to <detailed reason> | | The function is not allowed to this user.  The <detailed reason> will be either "group definition", "access policy", "local policy", "user authorisation" or "pre-established session not supported", or can be a free text string. | |
| 101 | | service authorisation failed | | The service authorisation of the MCPTT ID against the IMPU failed at the MCPTT server. | |
| 102 | | too many simultaneous affiliations | | The MCPTT user already has N2 maximum number of simultaneous affiliations. | |
| 103 | | maximum simultaneous MCPTT group calls reached | | The number of maximum simultaneous MCPTT group calls supported for the MCPTT user has been exceeded. | |
| 104 | | isfocus not assigned | | A controlling MCPTT function has not been assigned to the MCPTT session. | |
| 105 | | subscription not allowed in a broadcast group call | | Subscription to the conference event package rejected during a group call initiated as a broadcast group call. | |
| 106 | | user not authorised to join chat group | | The MCPTT user is not authorised to join this chat group. | |
| 107 | | user not authorised to make private calls | | The MCPTT user is not authorised to make private calls. | |
| 108 | | user not authorised to make chat group calls | | The MCPTT user is not authorised to make chat group calls. | |
| 109 | | user not authorised to make prearranged group calls | | The MCPTT user is not authorised to make group calls to a prearranged group. | |
| 110 | | user declined the call invitation | | The MCPTT user declined to accept the call. | |
| 111 | | group call proceeded without all required group members | | The required members of the group did not respond within the acknowledged call time, but the call still went ahead. | |
| 112 | | group call abandoned due to required group members not part of the group session | | The group call was abandoned, as the required members of the group did not respond within the acknowledged call time. | |
| 113 | | group document does not exist | | The group document requested from the group management server does not exist. | |
| 114 | | unable to retrieve group document | | The group document exists on the group management server but the MCPTT server was unable to retrieve it. | |
| 115 | | group is disabled | | The group has the <disabled> element set to "true" in the group management server. | |
| 116 | | user is not part of the MCPTT group | | The group exists on the group management server but the requesting user is not part of this group. | |
| 117 | | the group identity indicated in the request is a prearranged group | | The group id that is indicated in the request is for a prearranged group, but did not match the request from the MCPTT user. | |
| 118 | | the group identity indicated in the request is a chat group | | The group id that is indicated in the request is for a chat group, but did not match the request from the MCPTT user. | |
| 119 | | user is not authorised to initiate the group call | | The MCPTT user identified by the MCPTT ID is not authorised to initiate the group call. | |
| 120 | | user is not affiliated to this group | | The MCPTT user is not affiliated to the group. | |
| 121 | | user is not authorised to join the group call | | The MCPTT user identified by the MCPTT ID is not authorised to join the group call. | |
| 122 | | too many participants | | The group call has reached its maximum number of participants. | |
| 123 | | MCPTT session already exists | | Inform the MCPTT user that the group call is currently ongoing. | |
| 124 | | maximum number of private calls reached | | The maximum number of private calls allowed at the MCPTT server for the MCPTT user has been reached. | |
| 125 | | user not authorised to make private call with automatic commencement | | The MCPTT user is not authorised to make a private call with automatic commencement. | |
| 126 | | user not authorised to make private call with manual commencement | | The MCPTT user is not authorised to make a private call with manual commencement. | |
| 127 | | user not authorised to be called in private call | | The called MCPTT user is not allowed to be part of a private call. | |
| 128 | | isfocus already assigned | | The MCPTT server owning an MCPTT group received a SIP INVITE request destined to the MCPTT group from another MCPTT server already assigned as the controlling MCPTT function and the MCPTT server owning the MCPTT group does not support mutual aid or supports trusted mutual aid but does not authorise trusted mutual aid. | |
| 136 | | authentication of the MIKEY-SAKKE I\_MESSAGE failed | | The MCPTT client's application of the procedures of 3GPP TS 33.180 [78] to authenticate the received I\_MESSAGE fails. | |
| 137 | | the indicated group call does not exist | | The participating MCPTT function cannot find an ongoing group session associated with the received MCPTT session identity. | |
| 138 | | subscription of conference events not allowed | | The controlling MCPTT function could not allow the MCPTT user to subscribe to the conference event package. | |
| 139 | | integrity protection check failed | | The integrity protection of an XML MIME body failed. | |
| 140 | | unable to decrypt XML content | | The XML content cannot be decrypted. | |
| 141 | | user unknown to the participating function | | The participating function is unable to associate the public user identity with an MCPTT ID. | |
| 142 | | unable to determine the controlling function | | The participating function is unable to determine the controlling function for the group call or private call. | |
| 143 | | not authorised to force auto answer | | The calling user is not authorised to force auto answer on the called user. | |
| 144 | | user not authorised to call this particular user | | The calling user is not authorised to call this particular called user. | |
| 145 | | unable to determine called party | | The participating function was unable to determine the called party from the information received in the SIP request. | |
| 146 | | T-PF unable to determine the service settings for the called user | | The service settings have not been uploaded by the terminating client to the terminating participating server. | |
| 147 | | user is authorized to initiate a temporary group call | | The non-controlling MCPTT function has authorized a request from the controlling MCPTT function to authorize a user to initiate an temporary group session. | |
| 148 | | group is regrouped | | The group hosted by a non-controlling function is part of a temporary group session as the result of the group regroup function. | |
| 149 | | SIP-INFO request pending | | The MCPTT client needs to wait for a SIP-INFO request with specific content, before taking further action. | |
| 150 | | invalid combinations of data received in MIME body | | The MCPTT client included invalid combinations of data in the SIP request. | |
| 151 | | user not authorised to make a private call call-back request | | The MCPTT user is not authorised to make a private call call-back request. | |
| 152 | | user not authorised to make a private call call-back cancel request | | The MCPTT user is not authorised to make a private call call-back cancel request. | |
| 153 | | user not authorised to call any of the users requested in the first-to-answer call | | All users that were invited in the first-to-answer call cannot be involved in a private call with the inviting user. | |
| 154 | | user not authorised to make ambient listening call | | The MCPTT user is not authorised to make an ambient listening call. | |
| 155 | | user not authorised to change user's selected group | | The MCPTT user is not authorised to change the selected group of the targeted user. | |
| 156 | | user not authorised to originate a first-to-answer call | | The MCPTT user is not authorised to make a first-to-answer call. | |
| 157 | | user not authorised to request a remotely initiated group call | | The MCPTT user is not authorised to request a remotely initiated group call. | |
| 158 | | user not authorised to request a remotely initiated private call | | The MCPTT user is not authorised to request a remotely initiated private call. | |
| 159 | | user not authorised to be called by this originating user | | The called user is not authorised to receive a call by this originating user. | |
| 160 | | user not authorised to request creation of a regroup | | The user is not authorised to request creation of a regroup. | |
| 161 | | user not authorised to request removal of a regroup | | The user is not authorised to request removal of a regroup. | |
| 162 | | group call abandoned due to required group members not affiliated | | The group call was abandoned as the required number of affiliated group members is not met or some required members are not affiliated. | |
| 163 | | the group identity indicated in the request does not exist | | The server determines that the group identity indicates a user or group regroup based on a preconfigured group that does not exist. | |
| 164 | | maximum number of service authorizations reached | | The number of maximum simultaneous service authorizations for the MCPTT user has been reached. | |
| 165 | | group ID for regroup already in use | | The group ID proposed by the client for the user/group regroup based on a preconfigured group is already in use. | |
| 166 | | constituent group is in an emergency call state | | The proposed constituent group cannot be added to the temporary group because there is a call on the constituent group that is in an emergency state. | |
| 167 | | call is not allowed on the preconfigured group | | Calls are not allowed on this group that is administratively designated for preconfigured group use only. | |
| 168 | | alert is not allowed on the preconfigured group | | Alerts are not allowed on this group that is administratively designated for preconfigured group use only. | |
| 169 | | user is not authorised to remove regroup in an emergency state | | The MCPTT user is not authorised to remove a regroup that is in an in-progress emergency state. | |
| aaa | | functional alias not allowed to call this particular functional alias | | The calling user is not authorised to call this particular functional alias by using this activated functional alias | |
| qqq | | functional alias not allowed to be called from this functional alias | | The called functional alias is not authorised to receive a call from the originating user using this particular Functional Alias | |

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

###### 11.1.1.3.1.1 On-demand private call and first-to-answer call

Upon receipt of a "SIP INVITE request for originating participating MCPTT function" containing an application/vnd.3gpp.mcptt-info+xml MIME body with the <session-type> element set to a value of "private" or "first-to-answer", the participating MCPTT function:

1) may reject the SIP INVITE request depending on the value of the Resource-Priority header field if the Resource-Priority header field is included in the received SIP INVITE request according to rules and procedures specified in IETF RFC 4412 [29] and shall not continue with the rest of the steps;

2) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 500 (Server Internal Error) response. The participating MCPTT function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [24] and shall not continue with the rest of the steps;

NOTE 1: If the received SIP INVITE request contains an emergency indication set to a value of "true", the participating MCPTT function can choose to accept the request.

NOTE 2: If the received SIP INVITE request contains an emergency indication set to a value of "true", the participating MCPTT function can choose to allow an exception to the limit on the number of private calls and accept the request.

3) shall determine the MCPTT ID of the calling user from public user identity in the P-Asserted-Identity header field of the SIP INVITE request;

NOTE 3: The MCPTT ID of the calling user is bound to the public user identity at the time of service authorisation, as documented in subclause 7.3.

4) if the participating MCPTT function cannot find a binding between the public user identity and an MCPTT ID or if the validity period of an existing binding has expired, then the participating MCPTT function shall reject the SIP INVITE request with a SIP 404 (Not Found) response with the warning text set to "141 user unknown to the participating function" in a Warning header field as specified in subclause 4.4, and shall not continue with any of the remaining steps;

5) shall:

a) if the <session-type> is set to "private", determine that the call is a private call; and

b) if the <session-type> is set to "first-to-answer", determine that the call is a first-to-answer-call;

6) if the call is a:

a) private call, determine the public service identity of the controlling MCPTT function for the private call service associated with the originating user's MCPTT ID identity; or

b) first-to-answer, determine the public service identity of the controlling MCPTT function for the first-to-answer call service associated with the originating user's MCPTT ID identity;

7) if the participating MCPTT function is unable to identify the controlling MCPTT function for the private call service or first-to-answer call service associated with the originating user's MCPTT ID identity, it shall reject the SIP INVITE request with a SIP 404 (Not Found) response with the warning text "142 unable to determine the controlling function" in a Warning header field as specified in subclause 4.4, and shall not continue with any of the remaining steps;

8) if the incoming SIP INVITE request does not contain an application/resource-lists MIME body, 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;

9) if the call is a private call and the incoming SIP INVITE request contains an application/resource-lists MIME body with 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;

10) if the <allow-private-call> element of the <ruleset> element is not present in the MCPTT user profile document on the participating MCPTT function or is present with the value "false" (see the MCPTT user profile document in 3GPP TS 24.484 [50]), indicating that the user identified by the MCPTT ID is not authorised to initiate private calls, shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response, with warning text set to "107 user not authorised to make private calls" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

11) if the call is a private call and:

a) if the received SIP INVITE request includes an Answer-Mode header field as specified in IETF RFC 5373 [18] with the value "Auto" and the <allow-automatic-commencement> element of the <ruleset> element is not present in the MCPTT user profile document on the participating MCPTT function or is present with the value "false" (see the MCPTT user profile document in 3GPP TS 24.484 [50]) indicating that the user identified by the MCPTT ID is not authorised to initiate private call with automatic commencement, shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "125 user not authorised to make private call with automatic commencement" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

b) if the received SIP INVITE request includes an Answer-Mode header field as specified in IETF RFC 5373 [18] with the value "Manual" and the <allow-manual-commencement> element of the <ruleset> element is not present in the MCPTT user profile document on the participating MCPTT function or is present with the value "false" (see the MCPTT user profile document in 3GPP TS 24.484 [50]), indicating that the user identified by the MCPTT ID is not authorised to initiate private call with manual commencement, shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "126 user not authorised to make private call with manual commencement" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

c) if the <PrivateCall> element exists in the MCPTT user profile document with one more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body does not match with one of the <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

ii) if configuration is not set in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) that allows the MCPTT user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "144 user not authorised to call this particular user" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

12) if the call is a first-to-answer call and if the <PrivateCall> element exists in the MCPTT user profile document with one or more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

a) if:

i) the "uri" attribute of each and every <entry> element of the application/resource-lists MIME body does not match with any of the <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

ii) if configuration is not set in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) that allows the MCPTT user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "153 user not authorised to call any of the users requested in the first-to-answer call" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

12a) if the call is a first-to-answer call, the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body and with the <mcpttinfo> element containing the <mcptt-Params> element with the <call-to-functional-alias-ind> element set to "true", and the <ListOfAllowedFAsToCall> element exists with one or more <entry> elements within the entry of the FunctionalAliasList element corresponding to the calling <functional-alias-URI> in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body does not match with any of the <entry> elements of the <ListOfAllowedFAsToCall> element of the entry within the FunctionalAliasList element corresponding to the calling <functional-alias-URI> of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]);

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "aaa functional alias not allowed to call this particular functional alias" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

13) if the call is a first-to-answer call and:

a) if the <allow-request-first-to-answer-call> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) or is set to a value of "false", (see the MCPTT user profile document in 3GPP TS 24.484 [50]);

then:

a) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "156 user not authorised to originate a first-to-answer call" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

14) shall validate the media parameters and if the MCPTT speech codec is not offered in the "SIP INVITE request for originating participating MCPTT function" shall reject the request with a SIP 488 (Not Acceptable Here) response. Otherwise, continue with the rest of the steps;

15) shall generate a SIP INVITE request as specified in subclause 6.3.2.1.3 with the following clarifications:

a) if the conditions in step 12) above were executed and the participating MCPTT function determined that the "uri" attribute of only one of the <entry> elements of the application/resource-lists MIME body matched with an <entry> element of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) then the <session-type> in the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP INVITE request generated in subclause 6.3.2.1.3 is set to "private"; and

b) if the conditions in step 12) above were executed, then only the <entry> element(s) of the application/resource-lists MIME body that have a "uri" attribute that matched with an <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) are included in the application/resource-lists MIME body in the SIP INVITE request generated in subclause 6.3.2.1.3;

16) shall set the Request-URI to the public service identity of the controlling MCPTT function hosting the private call service or first-to-answer call service as determined by step 6);

17) shall set the <mcptt-calling-user-id> element in an application/vnd.3gpp.mcptt-info+xml MIME body of the SIP INVITE request to the MCPTT ID of the calling user;

18) if the call is a private call and:

a) if a Priv-Answer-Mode header field specified in IETF RFC 5373 [18] was received in the incoming SIP INVITE request with a value of "Manual", shall not include a Priv-Answer-Mode header field in the outgoing SIP INVITE request;

b) if the <allow-force-auto-answer> element of the <ruleset> element is not present in the MCPTT user profile document on the participating MCPTT function or is present with the value "false" (see the MCPTT user profile document in 3GPP TS 24.484 [50]), and the Priv-Answer-Mode header field specified in IETF RFC 5373 [18] was received in the incoming SIP INVITE request with a value of "Auto", shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "143 not authorised to force auto answer" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

c) if the <allow-force-auto-answer> element of the <ruleset> element is present in the MCPTT user profile document with the value "true" (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function, and the Priv-Answer-Mode header field specified in IETF RFC 5373 [18] was received in the incoming SIP INVITE request with a value of "Auto", shall include the Priv-Answer-Mode header field set to a value of "Auto" in the outgoing SIP INVITE request;

d) if a Priv-Answer-Mode header field containing the value of "Auto" has not been included in the outgoing SIP INVITE request as specified in step 17) above and the incoming "SIP INVITE request for originating participating MCPTT function" contained an Answer-Mode header field as specified in IETF RFC 5373 [18], then shall populate the Answer-Mode header field of the outgoing SIP INVITE request with the contents of the Answer-Mode header field from the incoming "SIP INVITE request for originating participating MCPTT function";

19) shall include in the SIP INVITE request an SDP offer based on the SDP offer in the received "SIP INVITE request for originating participating MCPTT function", as specified in subclause 6.3.2.1.1.1;

19a) if the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body, then shall check if the status of the functional alias is activated for the MCPTT ID. If the functional alias status is activated, then the participating MCPTT function shall set the <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body in the outgoing SIP INVITE request to the received value, otherwise shall not include a <functional-alias-URI> element;

NOTE 4: The participating MCPTT server learns the functional alias state for an MCPTT ID from procedures specified in subclause 9A.2.2.2.7.

20) shall include a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [4] set to the value indicated in the Resource-Priority header field if included in the SIP INVITE request from the MCPTT client;

21) if, according to subclause 6.4, the SIP INVITE request is regarded as being received with an implicit request to grant the floor to the originating MCPTT client, the participating MCPTT function:

if:

a) the incoming SIP INVITE request contained an application/vnd.3gpp.mcptt-location-info+xml MIME body with a <Report> element included in the <location-info> root element; and

b) the <allow-location-info-when-talking> element of the <ruleset> element of the MCPTT user profile document identified by the MCPTT ID of the calling MCPTT user (see the MCPTT user profile document in 3GPP TS 24.484 [50]) is set to a value of "true";

then shall copy the application/vnd.3gpp.mcptt-location-info+xml MIME body from the received SIP INVITE request into the outgoing SIP INVITE request;

otherwise:

if:

a) the participating MCPTT function has available the location of the originating MCPTT client; and

b) the <allow-location-info-when-talking> element of the <ruleset> element of the MCPTT user profile document identified by the MCPTT ID of the calling MCPTT user (see the MCPTT user profile document in 3GPP TS 24.484 [50]) is set to a value of "true";

then shall include an application/vnd.3gpp.mcptt-location-info+xml MIME body with a <Report> element included in the <location-info> root element; and

22) shall forward the SIP INVITE request, according to 3GPP TS 24.229 [4].

Upon receiving a SIP 180 (Ringing) response, the participating MCPTT function:

1) shall generate a SIP 180 (Ringing) response to the SIP INVITE request as specified in the subclause 6.3.2.1.5.1;

2) shall include the P-Asserted-Identity header field as received in the incoming SIP 180 (Ringing) response;

3) shall include Warning header field(s) received in the incoming SIP 180 (Ringing) response; and

4) shall forward the SIP 180 (Ringing) response to the MCPTT client according to 3GPP TS 24.229 [4].

Upon receiving a SIP 200 (OK) response, the participating MCPTT function:

1) shall generate a SIP 200 (OK) response as specified in the subclause 6.3.2.1.5.2;

2) shall include in the SIP 200 (OK) response an SDP answer as specified in the subclause 6.3.2.1.2.1;

3) shall include Warning header field(s) received in the incoming SIP 200 (OK) response;

4) shall include the P-Asserted-Identity header field received in the incoming SIP 200 (OK) response into the outgoing SIP 200 (OK) response;

5) shall include an MCPTT session identity mapped to the MCPTT session identity provided in the Contact header field of the received SIP 200 (OK) response;

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

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

8) shall start the SIP session timer according to rules and procedures of IETF RFC 4028 [7].

The participating 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].

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

###### 11.1.1.3.1.2 Private call and first-to-answer call initiation using pre-established session

Upon receipt of a "SIP REFER request for a pre-established session", with:

1) the Refer-To header field containing a Content-ID ("cid") Uniform Resource Locator (URL) as specified in IETF RFC 2392 [62] that points to an application/resource-lists MIME body as specified in IETF RFC 5366 [20] containing one or more <entry> element(s) with a "uri" attribute containing a SIP URI set to the MCPTT ID of the called user(s);

2) an hname body" parameter in the headers portion of the SIP URI specified above containing an application/vnd.3gpp.mcptt-info MIME body with the <session-type> element set to "private" or "first-to-answer"; and

3) a Content-ID header field set to the "cid" URL;

the participating function:

1) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the SIP INVITE request with a SIP 500 (Server Internal Error) response. The participating MCPTT function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [24] and shall not continue with the rest of the steps;

NOTE 1: If the application/vnd.3gpp.mcptt-info MIME body included in the SIP REFER request as described at the top of the present subclause contains an <emergency-ind> element or <imminentperil-ind> element set to a value of "true", and this is an authorised request for originating a priority call as determined by subclause 6.3.2.1.8.1, the participating MCPTT function can according to local policy choose to accept the request.

2) shall determine the MCPTT ID of the calling user from public user identity in the P-Asserted-Identity header field of the SIP REFER request;

3) if the participating MCPTT function cannot find a binding between the public user identity and an MCPTT ID or if the validity period of an existing binding has expired, then the participating MCPTT function shall reject the SIP REFER request with a SIP 404 (Not Found) response with the warning text set to "141 user unknown to the participating function" in a Warning header field as specified in subclause 4.4, and shall not continue with any of the remaining steps;

4) if the received SIP REFER request does not contain an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall reject the "SIP REFER request for pre-established session" 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) if the received SIP REFER request contains an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field with more than one <entry> element each with an application/vnd.3gpp.mcptt-info MIME body with the <session-type> element:

a) not set to "first-to-answer", shall reject the "SIP REFER request for pre-established session" 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 any of the remaining steps; or

b) set to "first-to-answer", determine that the call is a first-to-answer call;

6) if the received SIP REFER request contains an application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field with only one <entry> element with an application/vnd.3gpp.mcptt-info MIME body with the <session-type> element:

a) not set to "private", shall reject the "SIP REFER request for pre-established session" 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 any of the remaining steps; or

b) set to "private", determine that the call is a private call;

7) if the call is a:

a) private call, shall determine the public service identity of the controlling MCPTT function for the private call service associated with the originating user's MCPTT ID; or

b) first-to-answer call, shall determine the public service identity of the controlling MCPTT function for the first-to-answer call service associated with the originating user's MCPTT ID;

NOTE 2: How the participating MCPTT server discovers the public service identity of the controlling MCPTT function associated with the private call service or first-to-answer service of the calling user is out of scope of the current document.

8) if the participating MCPTT function is unable to identify the controlling MCPTT function for the private call service or first-to-answer call service associated with the originating user's MCPTT ID, it shall reject the REFER request with a SIP 404 (Not Found) response with the warning text "142 unable to determine the controlling function" in a Warning header field as specified in subclause 4.4, and shall not continue with any of the remaining steps;

9) if the <allow-private-call> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function or is present with the value "false", indicating that the user identified by the MCPTT ID is not authorised to initiate private calls, shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response to the SIP INVITE request, with warning text set to "107 user not authorised to make private calls" in a Warning header field as specified in subclause 4.4;

10) if the call is a private call:

a) if the received SIP REFER request includes an Answer-Mode header field as specified in IETF RFC 5373 [18] set to "Auto" contained in the headers portion of the SIP URI present in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, and the <allow-automatic-commencement> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function or is present with the value "false" (indicating that the user identified by the MCPTT ID is not authorised to initiate private call with automatic commencement), shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "125 user not authorised to make private call with automatic commencement" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

b) if the received SIP REFER request includes an Answer-Mode header field as specified in IETF RFC 5373 [18] set to "Manual" contained in the headers portion of the SIP URI present in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, and the <allow-manual-commencement> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function or is present with the value "false" (indicating that the user identified by the MCPTT ID is not authorised to initiate private call with manual commencement), shall reject the "SIP REFER request for pre-established session" with a SIP 403 (Forbidden) response including warning text set to "126 user not authorised to make private call with manual commencement" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

c) if the <allow-force-auto-answer> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function or is present with the value "false", and the SIP REFER request contained a Priv-Answer-Mode header field as specified in IETF RFC 5373 [18] set to "Auto" in the headers portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "143 not authorised to force auto answer" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps; and

d) if the <PrivateCall> element exists in the MCPTT user profile document with one more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field not match with one of the <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

ii) if configuration is not set in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) that allows the MCPTT user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "144 user not authorised to call this particular user" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

11) if the call is a first-to-answer call and if the <PrivateCall> element exists in the MCPTT user profile document with one or more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

a) the "uri" attribute of each and every <entry> element of the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field does not match with any of the <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

b) if configuration is not set in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) that allows the MCPTT user to make a private call to users not contained within the <entry> elements of the <PrivateCall> element;

then:

a) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "153 user not authorised to call any of the users requested in the first-to-answer call" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

11a) if the call is a first-to-answer call, the received SIP REFER request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body and the <mcpttinfo> element containing the <mcptt-Params> element with the <call-to-functional-alias-ind> element set to "true", the <ListOfAllowedFAsToCall> element exists with one or more <entry> elements within the entry of the FunctionalAliasList element corresponding to the calling <functional-alias-URI> in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the "uri" attribute of the <entry> element of the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field does not match with any of the <entry> elements of the <ListOfAllowedFAsToCall> element of the entry within the FunctionalAliasList element corresponding to the calling <functional-alias-URI> of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]);

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "aaa functional alias not allowed to call this particular functional alias" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

12) if the call is a first-to-answer call and:

a) if the <allow-request-first-to-answer-call> element of the <ruleset> element is not present in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) or is set to a value of "false", (see the MCPTT user profile document in 3GPP TS 24.484 [50]);

then:

a) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "156 user not authorised to originate a first-to-answer call" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

13) if the "SIP REFER request for a pre-established session" contained a Refer-Sub header field containing "false" value and a Supported header field containing "norefersub" value, shall handle the SIP REFER request as specified in 3GPP TS 24.229 [4], IETF RFC 3515 [25] as updated by IETF RFC 6665 [26], and IETF RFC 4488 [22] without establishing an implicit subscription;

14) shall generate a final SIP 200 (OK) response to the "SIP REFER request for a pre-established session" according to 3GPP TS 24.229 [4];

NOTE 3: In accordance with IETF RFC 4488 [22], the participating MCPTT function inserts the Refer-Sub header field containing the value "false" in the SIP 200 (OK) response to the SIP REFER request to indicate that it has not created an implicit subscription.

15) shall send the response to the "SIP REFER request for a pre-established session" towards the MCPTT client according to 3GPP TS 24.229 [4];

16) shall generate a SIP INVITE request as specified in subclause 6.3.2.1.4 with the following clarifications:

a) if the conditions in step 11) above were executed and the participating MCPTT function determined that the "uri" attribute of only one of the <entry> elements of the application/resource-lists MIME body matched with an <entry> element of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) then the <session-type> in the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP INVITE request generated in subclause 6.3.2.1.4 is set to "private"; and

b) if the conditions in step 11) above were executed, then only the <entry> element(s) of the application/resource-lists MIME body that have a "uri" attribute that matched with an <entry> elements of the <PrivateCall> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) are included in the application/resource-lists MIME body in the SIP INVITE request generated in subclause 6.3.2.1.4;

17) shall set the Request-URI of the SIP INVITE request to the public service identity of the controlling MCPTT function hosting the private call service or first-to-answer call service for the calling MCPTT user as determined above in step 7);

18) if the call is a private call:

a) if the SIP REFER request contained a Priv-Answer-Mode header field as specified in IETF RFC 5373 [18] set to "Manual" in the headers portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, shall copy the Priv-Answer-Mode header field from the incoming SIP REFER request to the outgoing SIP INVITE request;

b) if the <allow-force-auto-answer> element of the <ruleset> element is present in the MCPTT user profile document with the value "true" (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the participating MCPTT function, and the Priv-Answer-Mode header field specified in IETF RFC 5373 [18] was received in the headers portion of the SIP URI in the application/resource-lists MIME body referenced by a "cid" URL in the Refer-To header field, with a value set to "Auto", shall copy the Priv-Answer-Mode header field to the outgoing SIP INVITE request; and

c) if a Priv-Answer-Mode header field containing the value of "Auto" has not been copied to the outgoing SIP INVITE request as specified in step 16) above, and the incoming SIP REFER request contained an Answer-Mode header field in the headers portion of the SIP URI in the application/resource-lists referenced by a "cid" URL in the Refer-To header field, then copy the Answer-Mode header field to the outgoing SIP INVITE request;

19) if the received SIP REFER request contained a Resource-Priority header field, shall include in the outgoing SIP INVITE request a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [4] set to the value indicated in the Resource-Priority header field of the received SIP REFER request;

NOTE 4: The participating MCPTT function will leave verification of the Resource-Priority header field to the controlling MCPTT function.

19a) if the call is a private call and if the received SIP REFER request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body, then shall check if the status of the functional alias is activated for the MCPTT ID. If the functional alias status is activated, then the participating MCPTT function shall set the <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body in the outgoing SIP INVITE request to the received value, otherwise shall not include a <functional-alias-URI> element;

19b) if, according to subclause 6.4, the SIP REFER request is regarded as being received with an implicit request to grant the floor to the initiating MCPTT client:

if:

a) the incoming SIP REFER request contained an application/vnd.3gpp.mcptt-location-info+xml MIME body with a <Report> element included in the <location-info> root element; and

b) the <allow-location-info-when-talking> element of the <ruleset> element of the MCPTT user profile document identified by the MCPTT ID of the calling MCPTT user (see the MCPTT user profile document in 3GPP TS 24.484 [50]) is set to a value of "true";

then shall copy the application/vnd.3gpp.mcptt-location-info+xml MIME body from the received SIP REFER request into the outgoing SIP INVITE request;

otherwise:

if:

a) the participating MCPTT function has available the location of the initiating MCPTT client; and

b) the <allow-location-info-when-talking> element of the <ruleset> element of the MCPTT user profile document identified by the MCPTT ID of the calling MCPTT user (see the MCPTT user profile document in 3GPP TS 24.484 [50]) is set to a value of "true";

then shall include an application/vnd.3gpp.mcptt-location-info+xml MIME body with a <Report> element included in the <location-info> root element; and

20) shall forward the SIP INVITE request according to 3GPP TS 24.229 [4].

Upon receiving SIP provisional responses for the SIP INVITE request the participating MCPTT function:

1) shall discard the received SIP responses without forwarding them.

Upon receiving a SIP 200 (OK) response for the SIP INVITE request the participating MCPTT function:

1) if:

a) the received SIP 2xx response was in response to a request for an MCPTT private call; or

b) the received SIP 2xx response was in response to a SIP INVITE request for a first-to-answer call which did not include an a=key-mgmt "mikey" attribute value containing a MIKEY-SAKKE I\_MESSAGE in the SDP answer;

then:

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

2) if the received SIP 2xx response was in response to a request for an MCPTT emergency private call and does not contain a Warning header field as specified in subclause 4.4 with the warning text containing the mcptt-warn-code set to "149":

a) shall generate a SIP re-INVITE request to be sent towards the MCPTT client within the pre-established session as specified in subclause 6.3.2.1.8.6;

b) shall send the SIP re-INVITE request towards the MCPTT client within the pre-established session according to 3GPP TS 24.229 [4]; and

c) if the received SIP 2xx response was in response to a request for a first-to-answer call, upon receipt of a SIP 2xx response to the SIP re-INVITE, shall interact with the media plane as specified in 3GPP TS 24.380 [5]; and

3) if the received SIP 2xx response was in response to a SIP INVITE request for a first-to-answer call which was not a request for an MCPTT emergency private call and contains an SDP answer including an a=key-mgmt "mikey" attribute value containing a MIKEY-SAKKE I\_MESSAGE, the participating MCPTT function:

a) shall generate a SIP re-INVITE request as specified in subclause 6.3.2.1.8.7;

b) shall send the SIP re-INVITE request towards the originating MCPTT client according to 3GPP TS 24.229 [4]; and

c) upon receipt of a SIP 2xx response to the SIP re-INVITE, shall interact with the media plane as specified in 3GPP TS 24.380 [5].

Upon receiving a SIP INFO request from the controlling MCPTT function within the dialog of the SIP INVITE request for an MCPTT emergency private call, the participating MCPTT function shall:

1) shall send a SIP 200 (OK) response to the SIP INFO request to the controlling MCPTT function as specified in 3GPP TS 24.229 [4];

2) shall generate a SIP re-INVITE request to be sent towards the MCPTT client within the pre-established session as specified in subclause 6.3.2.1.8.6; and

3) shall send the SIP re-INVITE request the MCPTT client according to 3GPP TS 24.229 [4].

Upon receipt of a SIP 4xx, 5xx or 6xx response to the above SIP INVITE request in step 20) the participating MCPTT function:

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

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

##### 11.1.1.3.2 Terminating procedures

This subclause covers both on demand session and pre-established session.

Upon receipt of a "SIP INVITE request for terminating participating MCPTT function", the participating MCPTT function:

1) if unable to process the request due to a lack of resources or a risk of congestion exists, may reject the "SIP INVITE request for terminating participating MCPTT function" with a SIP 500 (Server Internal Error) response. The participating MCPTT function may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [24], and shall not continue with the rest of the steps;

NOTE: If the received SIP INVITE request contains an emergency indication set to a value of "true", the participating MCPTT function can choose to accept the request.

2) shall check the presence of the isfocus media feature tag in the Contact header field and if it is not present then the participating MCPTT function shall reject the request with a SIP 403 (Forbidden) response with the warning text set to "104 isfocus not assigned" in a Warning header field as specified in subclause 4.4, and shall not continue with the rest of the steps;

3) if the <session-type> element of the application/vnd.3gpp.mcptt-info+xml MIME body is set to "private" and the Answer-Mode Indication in the application/poc-settings+xml MIME body has not yet been received from the invited MCPTT client as defined in subclause 7.3.3 or subclause 7.3.4, shall reject the request with a SIP 480 (Temporarily Unavailable) response with the warning text set to "146 T-PF unable to determine the service settings for the called user" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

4) shall use the MCPTT ID present in the <mcptt-request-uri> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the incoming SIP INVITE request to retrieve the binding between the MCPTT ID and public user identity;

5) if the binding between the MCPTT ID and public user identity does not exist, then the participating MCPTT function shall reject the SIP INVITE request with a SIP 404 (Not Found) response. Otherwise, continue with the rest of the steps;

6) when the called user identified by the MCPTT ID is unable to participate in private calls as identified in the called user's MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) on the terminating participating MCPTT function, shall reject the "SIP INVITE request for terminating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "127 user not authorised to be called in private call" in a Warning header field as specified in subclause 4.4;

6a) if the <session-type> element of the application/vnd.3gpp.mcptt-info+xml MIME body is set to "private" and if the <IncomingPrivateCallList> element exists in the MCPTT user profile document with one or more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the <mcptt-calling-user-id> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the incoming SIP INVITE request does not match with one of the <entry> elements of the <IncomingPrivateCallList> element of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

ii) if configuration is not set in the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]) that allows the MCPTT user to receive a private call by users not contained within the <entry> elements of the <IncomingPrivateCallList> element;

then:

i) shall reject the "SIP INVITE request for terminating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "159 user not authorised to be called by this originating user" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

6b) if the call is a first-to-answer call, the received SIP INVITE request contains a <functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body and the <mcpttinfo> element containing the <mcptt-Params> element with the <call-to-functional-alias-ind> element set to "true", the <ListOfAllowedFAsToBeCalledFrom> element exists in the MCPTT user profile document with one or more <entry> elements (see the MCPTT user profile document in 3GPP TS 24.484 [50]) and:

i) if the <called-functional-alias-URI> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the incoming SIP INVITE request does not match with any of the <entry> elements of the <ListOfAllowedFAsToBeCalledFrom> element of the entry within the FunctionalAliasList element corresponding to the called functional alias of the MCPTT user profile document (see the MCPTT user profile document in 3GPP TS 24.484 [50]); and

then:

i) shall reject the "SIP INVITE request for originating participating MCPTT function" with a SIP 403 (Forbidden) response including warning text set to "qqq functional alias not allowed to be called from this functional alias" in a Warning header field as specified in subclause 4.4 and shall not continue with the rest of the steps;

Editor’s Note: [eMONASTERY2, CR 0691] How the controlling MCPTT server adds and populates <called-functional-alias-URI> element for a first-to-answer-call is FFS.

7) shall perform the automatic commencement procedures specified in subclause 6.3.2.2.5.1 and according to IETF RFC 5373 [18] if one of the following conditions are met:

a) "SIP INVITE request for terminating participating MCPTT function" contains an Answer-Mode header field with the value "Auto";

b) "SIP INVITE request for terminating participating MCPTT function" does not contain an Answer-Mode header field and the Answer-Mode Indication received in the application/poc-settings+xml MIME body received from the invited MCPTT client as per subclause 7.3.3 or subclause 7.3.4 is set to "auto-answer"; or

c) "SIP INVITE request for terminating participating MCPTT function" contains a Priv-Answer-Mode header field with the value "Auto"; and

8) shall perform the manual commencement procedures specified in subclause 6.3.2.2.6.1 and according to IETF RFC 5373 [18] if either of the following conditions are met:

a) "SIP INVITE request for terminating participating MCPTT function" contains an Answer-Mode header field with the value "Manual";

b) "SIP INVITE request for terminating participating MCPTT function" does not contain an Answer-Mode header field and Answer-Mode Indication received in the application/poc-settings+xml MIME body received from the invited MCPTT client as per subclause 7.3.3 or subclause 7.3.4 is set to "manual-answer"; or

c) "SIP INVITE request for terminating participating MCPTT function" contains a Priv-Answer-Mode header field with the value "Manual".

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

## F.1.3 Semantic

The <mcpttinfo> element is the root element of the XML document. The <mcpttinfo> element can contain subelements.

NOTE 1: The subelements of the <mcpttinfo> are validated by the <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/> particle of the <mcpttinfo> element

If the <mcpttinfo> contains the <mcptt-Params> element then:

1) the <mcptt-access-token>, <mcptt-request-uri>, <mcptt-calling-user-id>, <mcptt-called-party-id>, <mcptt-calling-group-id>, <emergency-ind>, <alert-ind>, <imminentperil-ind>, <originated-by>, <mcptt-client-id>, <functional-alias-URI>, <called-functional-alias-URI> and <non-acknowledged-user> can be included with encrypted content;

2) for each element in 1) that is included with content that is not encrypted:

a) the element has the "type" attribute set to "Normal";

b) if the element is the <mcptt-request-uri>, <mcptt-calling-user-id>, <mcptt-called-party-id> or <mcptt-calling-group-id>, <originated-by>, <functional-alias-URI>, <called-functional-alias-URI> or <non-acknowledged-user> then the <mcpttURI> element is included;

c) if the element is the <mcptt-access-token> or <mcptt-client-id>, then the <mcpttString> element is included; and

d) if the element is <emergency-ind>, <alert-ind>, <alert-ind-rcvd>, <imminentperil-ind>, or <emergency-ind-rcvd> elements then the <mcpttBoolean> element is included;

3) for each element in 1) that is included with content that is encrypted:

a) the element has the "type" attribute set to "Encrypted";

b) the <xenc:EncryptedData> element from the "<http://www.w3.org/2001/04/xmlenc#>" namespace is included and:

i) can have a "Type" attribute can be included with a value of "<http://www.w3.org/2001/04/xmlenc#Content>";

ii) can include an <EncryptionMethod> element with the "Algorithm" attribute set to value of "http://www.w3.org/2009/xmlenc11#aes128-gcm";

iii) can include a <KeyInfo> element with a <KeyName> element containing the base 64 encoded XPK-ID; and

iv) includes a <CipherData> element with a <CipherValue> element containing the encrypted data.

NOTE 2: When the optional attributes and elements are not included within the <xenc:EncryptedData> element, the information they contain is known to sender and the receiver by other means.

If the <mcpttinfo> contains the <mcptt-Params> element then:

1) the <mcptt-access-token> can be included with the access token received during authentication procedure as described in 3GPP TS 24.482 [49];

2) the <session-type> can be included with:

a) a value of "chat" to indicate that the MCPTT client wants to join a chat group call

b) a value of "prearranged" to indicate the MCPTT client wants to make a prearranged group call;

c) a value of "private" to indicate the MCPTT client wants to make a private call;

d) a value of "first-to-answer" to indicate that the MCPTT client wants to make a first-to-answer call; or

e) a value of "ambient-listening" to indicate the MCPTT client wants to make an ambient listening call;

3) the <mcptt-request-uri> can be included with:

a) a value set to an MCPTT group ID or temporary MCPTT group ID when the <session-type> is set to a value of "prearranged" or "chat"; and

b) a value set to the MCPTT ID of the called MCPTT user when the <session-type> is set to a value of "private";

4) the <mcptt-calling-user-id> can be included, set to MCPTT ID of the originating user;

5) the <mcptt-called-party-id> can be included, set to the MCPTT ID of the terminating user;

6) the <mcptt-calling-group-id> can be included to indicate the MCPTT group identity to the terminating user;

7) the <required> can be included in a SIP 183 (Session Progress) from a non-controlling MCPTT function of an MCPTT group to inform the controlling MCPTT function that the group on the non-controlling MCPTT function has group members in the group document which are marked as <on-network-required>, as specified in 3GPP TS 24.481 [31];

8) the <emergency-ind> can be:

a) set to "true" to indicate that the call that the MCPTT client is initiating is an emergency MCPTT call; or

b) set to "false" to indicate that the MCPTT client is cancelling an emergency MCPTT call (i.e. converting it back to a non-emergency call)

9) the <alert-ind> can be:

a) set to "true" in an emergency call initiation to indicate that an alert to be sent; or

b) set to "false" when cancelling an emergency call which requires an alert to be cancelled also

10) if the <session-type> is set to "chat" or "prearranged":

a) the <imminentperil-ind> can be set to "true" to indicate that the call that the MCPTT client is initiating is an imminent peril group MCPTT call;

11) the <broadcast-ind> can be:

a) set to "true" indicates that the MCPTT client is initiating a broadcast group call; or

b) set to "false" indicates that the MCPTT client is initiating a non-broadcast group call;

12) the <mc-org> can be:

a) set to the MCPTT user's Mission Critical Organization in an emergency alert sent by the MCPTT server to terminating MCPTT clients;

13) the <floor-state> can be:

a) set to "floor-idle", if the floor is idle in a non-controlling MCPTT function; or

b) set to "floor-taken" if the floor state in a non-controlling MCPTT function is taken;

14) the <associated-group-id>:

a) if the <mcptt-request-uri> element contains a group identity then this element can include an MCPTT group ID associated with the group identity in the <mcptt-request-uri> element. E.g. if the <mcptt-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCPTT group ID;

15) the <originated-by>:

a) can be included, set to the MCPTT ID of the originating user of an MCPTT emergency alert when being cancelled by another authorised MCPTT user;

16) the <MKFC-GKTPs>:

a) contains a group key transport payload carrying one or more MKFC(s) and MKFC-ID(s) as described in3GPP TS 24.481 [31] subclause 7.4, to be used for protection of multicast floor control signalling when the UE operates on the network;

17) the <mcptt-client-id>:

a) can be included, set to the MCPTT client ID of the MCPTT client that originated a SIP INVITE request, SIP REFER request or SIP MESSAGE request;

18) the <alert-ind-rcvd>

a) can be set to true and included in a SIP MESSAGE to indicate that the emergency alert or cancellation was received successfully; and

19) the <anyExt> can be included with the following elements not declared in the XML schema:

a) an <ambient-listening-type> of type "xs:string":

i) set to a value of "remote-init" when the listening MCPTT user of an ambient listening call initiates the call; or

ii) set to a value of "local-init" when the listened-to MCPTT user of an ambient listening call initiates the call; and

b) a <release-reason> of type "xs:string":

i) set to a value of "private-call-expiry" when the ambient listening call is release due to the expiry of the private call timer;

ii) set to a value of "administrator-action" when the ambient listening call is released by an MCPTT administrator;

iii) set to a value of "not selected for call" when the when a dialog is released with an MCPTT client that was not selected as the terminating client of a first-to-answer call;

iv) set to a value of "call-request-for-listened-to-client" when there is a call request targeted to the listened-to client;

v) set to a value of "call-request-initiated-by-listened-to-client" when there is a call request initiated by the listened-to client; or

vi) set to a value of "authentication of the MIKEY-SAKE I\_MESSAGE failed" by a MCPTT client when the signature of the cannot be verified;

c) a <request-type> of type "xs:string":

i) set to value of "private-call-call-back-request" when a client initiates a private call call-back request;

ii) set to a value of "private-call-call-back-cancel-request" when a client initiates a private call call-back cancel request;

iii) set to a value of "group-selection-change-request" when a client initiates a group selection change request;

iv) set to a value of "remotely-initiated-group-call-request" when a client initiates a remotely initiated group call request; or

v) set to a value of "remotely-initiated-private-call-response" when a client responds to a remotely initiated private call request;

d) a <response-type> of type "xs:string":

i) set to a value of "private-call-call-back-response" when a client responds to a private call call-back request;

ii) set to a value of "private-call-call-back-cancel-response" when a client responds to a private call call-back cancel request;

iii) set to a value of "group-selection-change-response" when a client responds to a group selection change request;

iv) set to a value of "remotely-initiated-group-call-response" when a client responds to a remotely initiated call request; or

v) set to a value of "remotely-initiated-private-call-response" when a client responds to a remotely initiated private call request;

e) an <urgency indication> of type "xs:string":

(i) set to a value of "low", "normal" or "high" to indicate the urgency of a private call call-back request; and

f) a <time-of-request> of type "xs:dateTime":

(i) set to the date and time at which the private call call-back request was initiated, in the form: "YYYY-MM-DDThh:mm:ss" where:

- YYYY indicates the year;

- MM indicates the month;

- DD indicates the day;

- T indicates the start of the required time section;

- hh indicates the hour;

- mm indicates the minute; and

- ss indicates the second; and

g) a <selected-group-change-outcome> of type "xs:string":

i) set to a value of "success" when a client reports that it has successfully changed its selected group as requested by a received group selection change request; or

ii) set to a value of "fail" when a client reports that it has failed to change its selected group as requested by a received group selection change request;

h) an<affiliation-required> of type "xs:Boolean":

i) set to a value of "true" when received by a client in a group-selection-change-request indicates that the client needs to affiliate to the specified group;

i) a <remotely-initiated-call-outcome> of type "xs:string":

i) set to a value of "success" when a client reports that it has successfully initiated a call requested by a received remotely initiated call request; or

ii) set to a value of "fail" when a client reports that it has failed to initiated a call triggered as requested by a received group selection change request;

j) a <notify-remote-user> of type "xs:Boolean":

i) set to a value of "true" when the remote user is to be notified of a remotely initiated call request; or

ii) set to a value of "false" when the remote user is to be notified of a received remotely initiated call request;

k) a <functional-alias-URI> of type "mcpttinfo:contentType" set to a value of the functional alias that is used together with the "mcptt-calling-user-id";

l) an <emergency-alert-area-ind> of type "xs:Boolean":

i) set to a value of "true" when the MCPTT client has entered an emergency alert area; or

ii) set to a value of "false" when the MCPTT client has exited an emergency alert area;

m) an <group-geo-area-ind> of type "xs:Boolean":

i) set to a value of "true" when the MCPTT client has entered a group geographic area; or

ii) set to a value of "false" when the MCPTT client has exited a group geographic area;

n) one or more <non-acknowledged-user> of type "mcpttinfo:contentType" elements set to the MCPTT IDs of invited members to a group call that have not sent a SIP 200 (OK) response;

o) a <call-to-functional-alias-ind> of type "xs:Boolean":

i) set to a value of "true" when the MCPTT client is using a functional alias to identify the MCPTT IDs of the potential target MCPTT users; or

ii) set to a value of "false" when the MCPTT client is using MCPTT IDs to identify the potential target MCPTT users;

p) the <emergency-ind-rcvd>

i) can be set to "true" and included in a SIP MESSAGE to indicate that the in-progress emergency cancellation request was received successfully; and

q) a <called-functional-alias-URI> of type "mcpttinfo:contentType" set to the value of the functional alias to be called.

Absence of the <emergency-ind>, <alert-ind> and <imminentperil-ind> in a SIP INVITE request indicates that the MCPTT client is initiating a non-emergency private call or non-emergency group call.

Absence of the <broadcast-ind> in a SIP INVITE request indicates that the MCPTT client is initiating a non-broadcast group call.

Absence of the <floor-state> in a SIP 200 (OK) response from the non-controlling MCPTT function indicates that the floor is idle.

Absence of the <call-to-functional-alias-ind> in a SIP INVITE request for a first-to-answer call indicates the use of the MCPTT IDs of the potential target MCPTT users.

The recipient of the XML ignores any unknown element and any unknown attribute.