**3GPP TSG- Meeting #720**

**, , -**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  |  |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** | CT1 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | Currently, Authorized MCPTT Users (Dispatchers or Control Room Clients) does not have capability to receive location information of other MCPTT Users (Fleet members). Without Location monitoring in place, currently authorized MCPTT user does not know the exact location MCPTT Users (Fleet members). To satisfy mission critical use cases, it is important for authorized user to know the exact location of the fleet members so that further required mission critical service actions can be invoked. This CR enables the procedure for the Authorized user to subscribe (location monitoring) for the required MCPTT users or group’s, start receiving location information of MCPTT users. Once the location of the MCPTT User (fleet member) is known, authorized user can initiate further set of actions. |
|  |  |
| ***Summary of change:*** | The proposed signalling is based on SUBSCRIBE/NOTIFICATION procedures. Authorized MCPTT User shall perform SUBSCRIPTION to user or list of users or Group or list of Groups. MCPTT Server shall perform basic validation and shall accept or reject the request. Once SUBSCRIPTION is successfully accepted, Authorized MCPTT user shall be notified with Location information of MCPTT users (for whom location monitoring is on) whenever location update is done. |
|  |  |
| ***Consequences if not approved:*** | MCPTT Authorized users will be deprived of Location Monitoring use-cases which are critical for Mission Critical use-cases. |
|  |  |
| ***Clauses affected:*** | 13.2.6 (new) 13.3.5 (new), F.1.2, F.1.3 |
|  |  |
|  | **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:*** |  |

\* \* \* \* First Change \* \* \* \*

### 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 clause 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 (see <MaxAffiliationsN2> element of user profile configuration document). |
| 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 a 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. |
| 170 | user not authorised to make a private call transfer request | The MCPTT user is not authorised to make a private call transfer request. |
| 171 | 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. |
| 172 | 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. |
| 173 | user not authorised to make a private call forwarding request | The MCPTT user is not authorized to use MCPTT private call forwarding. |
| 174 | maximum number of allowed forwardings exceeded | The maximum number of allowed call forwardings has been exceeded. |
| 175 | call is forwarded | The MCPTT private call that is requested to be established is released, and a new MCPTT private call is originated to the target of the call forwarding. |
| 176 | user not authorized to request for binding/unbinding of a functional alias with the MCPTT group(s) for the MCPTT user | The function is not allowed to this user. |
| 177 | unable to determine target functional alias or group for creating/removing a binding information for the MCPTT user | The MCPTT server is unable to determine the targeted functional alias or group for creating/removing a binding information for the MCPTT user. |
| 178 | MCPTT group binding already exists with other functional alias for the MCPTT user | The requested functional alias binding with MCPTT group already exist with other functional alias for the MCPTT user.  |
| 179 | service not authorized with the interconnected system | The MCPTT service is not authorized between the local and the interconnected system and is rejected in the local system. |
| 180 | service not authorized by the interconnected system | The MCPTT service is not authorized between the local and the interconnected system and is rejected by the interconnected system. |
| 181 | called user requires to use floor control | The called user has rejected the call request because floor control is required to be used. |
| 182 | called user requires to not use floor control | The called user has rejected the call request because floor control is required not to be used. |
| 183 | MCPTT codec required | The call requires an MCPTT defined codec to be used. |
| 184 | user not authorised to make adhoc group calls | The MCPTT user is not authorised to make adhoc group calls. |
| 185 | user not authorised to initiate the adhoc group call | The MCPTT user identified by the MCPTT ID is not authorised to initiate the adhoc group call. |
| 186 | the MCPTT system do not support adhoc group call | The MCPTT system doesn’t support the adhoc group call or support of adhoc group call is turned off |
| 187 | can't determine the adhoc group participants | The MCPTT server can not determine the adhoc group participants based on the input parameters. |
| 188 | user is not allowed to participate in adhoc group call | The MCPTT user is not allowed to participate in adhoc group call e.g. user no longer meets the criteria. |
| 189 | maximum number of allowed adhoc group participants exceeded | The maximum number of allowed adhoc group participants exceeded the configured limit. |
| 190 | user is not authorised to initiate modify adhoc group call participants | The MCPTT user is not allowed to modify the participants list of the adhoc group call. |
| 191 | call forwarding due to migration | The private call is subject for call forwarding because the target user has migrated to a partner MCPTT system. |
| 192 | invalid location request target client list | The MCPTT server cannot determine the target client of the location information or location configuration change request. |
| 193 | user not authorized to request location information | The MCPTT user is not allowed to request location information of other MCPTT clients. |
| ccc | user not authorized to request location configuration changes | The MCPTT user is not allowed to request changes in the location reporting configuration of other MCPTT clients. |
| NNN | can't determine the adhoc group | The MCPTT server cannot determine that target adhoc group. |
| aaa | invalid location subscribe target client list | The MCPTT user is not allowed for location subscription as target client list is invalid. |
| bbb | user not authorized to perform location subscribe | The MCPTT user is not authorized to perform location subscribe. |
| 301-350 |  | Value allocated for use in interworking (see NOTE). |
| NOTE: Usage of these values are described in 3GPP TS 29.379 [88]. |

\* \* \* \* Next Change \* \* \* \*

### 13.2.6 Location Subscription handling by Participating MCPTT function.

Upon receiving a SIP SUBSCRIBE request, the participating MCPTT function:

1) if unable to process the request due to a lack of resources or if a risk of congestion exists, may reject the SIP SUBSCRIBE request with a SIP 500 (Server Internal Error) response, may include a Retry-After header field to the SIP 500 (Server Internal Error) response as specified in IETF RFC 3261 [24] and shall skip the rest of the steps;

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

NOTE 1: The MCPTT ID of the requesting user is bound to the public user identity at the time of service authorisation, as documented in clause 7.3.

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 SUBSCRIBE 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 clause 4.4, and shall not continue with any of the remaining steps;

4) if the incoming SIP SUBSCRIBE request does not contain an application/vnd.3gpp.mcptt-info+xml MIME body, shall reject the SIP SUBSCRIBE request with a SIP 403 (Forbidden) response including warning text set to "aaa invalid location subscribe target client list" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

5) shall check if the MC user is authorized to send a location information request and if the MC user is not authorized, reject the SIP SUBSCRIBE request with a SIP 403 (Forbidden) response including a warning text set to "bbb user not authorized to perform location subscribe" in a Warning header field as specified in clause 4.4, and shall not continue with the rest of the steps;

NOTE 2: How the participating MCPTT function determine if the MC user is authorized to send location subscription request is out of scope of the current specification.

6) Shall verify 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];

7) Shall verify event header field of the SIP SUBSCRIBE request contains the "location" event type;

8) Shall start processing SIP SUBSCRIBE request containing an application/vnd.3gpp.mcptt-info+xml MIME body

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

b) Shall identify the served set of users, based on presence of <mcptt-userlist-request-uri> in <mcpttinfo> extension of <mcptt-Params> element of application/vnd.3gpp.mcptt-info+xml.

i) <mcpttURI> element present in the <mcptt-userlist-request-uri> element of <mcpttinfo> extension of <mcptt-Params> in application/vnd.3gpp.mcptt-info+xml MIME Body shall point to List of MCPTT URI’s.

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

10) Shall identify request is MCPTT Location DE-SUBSCRIBE request, based on “Expires” header value set to 0 (zero).

a) Shall close the SUBSCRIBE dialog, Stops sending any further messages in SIP SUBSCRIBE Dialog. Handling shall be done according to the procedures defined as per IETF RFC 6665 [26].

\* \* \* \* Next Change \* \* \* \*

### 13.3.5 Authorized MCPTT client sending location information subscription request.

To request a subscription of location information for one or several MCPTT clients, an authorized MC user’s MCPTT client shall generate a SIP SUBSCRIBE request in accordance with 3GPP TS 24.229 [4] IETF RFC 3856 [51], and IETF RFC 6665 [26], as follows:

1) Shall set the Request-URI to the public service identity identifying the originating participating MCPTT function serving the MCPTT user;

2) 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-Preferred-Service header field according to IETF RFC 6050 [9];

3) Shall include Content-Type header field with the value set to application/vnd.3gpp.mcptt-info+xml.

a) For supporting location subscription to single user, shall include an application/vnd.3gpp.mcptt-info+xml MIME body, with <mcptt-Params> having <mcpttinfo> with the following sub element information. Shall have <mcptt-request-uri> element, with <mcpttURI> pointing to single MCPTT User.

b) For supporting location subscription to set of users, include an application/vnd.3gpp.mcptt-info+xml MIME body with <mcptt-Params> having <mcpttinfo> extensions. Shall have <mcptt-userlist-request-uri> element, with <mcpttURI> pointing to resource list URI, with the list having list of MCPTT Users.

4) If MCPTT client wants to receive the current location information and later subsequent location notifications, shall set the Expires header field according to IETF RFC 6665 [26].

NOTE 2: 4294967295, which is equal to 232-1, is the highest value defined for Expires header field in IETF RFC 3261 [24].

5) MCPTT client shall include application/resource-lists+xml MIME body IETF RFC 5366 [20] only when MCPTT client requires to SUBSCRIBE to a list of MCPTT Users.

6) The Event header field of the SIP SUBSCRIBE request contains the "location" event type.

In order to re-subscribe or de-subscribe, the MCPTT client shall generate an in-dialog 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 client:

1. if the MCPTT client wants to receive the current status and later notification, shall set the Expires header field according to IETF RFC 6665 [26], to 4294967295;

NOTE 3: 4294967295, which is equal to 232-1, is the highest value defined for Expires header field in IETF RFC 3261 [24].

2) if the MCPTT client wants to de-subscribe, shall set the Expires header field according to IETF RFC 6665 [26], to zero; and

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

4) after receiving 2XX response to DE-SUBSCRIBE, MCPTT client shall not process any out of Dialog messages received for cancelled Dialog. This is according to the procedures defined as per IETF RFC 6665 [26].

\* \* \* \* Next Change \* \* \* \*

## F.1.2 XML schema

 <xs:complexType name="mcptt-ParamsType">

 <xs:sequence>

 <xs:element name="mcptt-access-token" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="session-type" type="xs:string" minOccurs="0"/>

 <xs:element name="mcptt-request-uri" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="mcptt-calling-user-id" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="mcptt-called-party-id" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="mcptt-calling-group-id" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="required" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="emergency-ind" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="alert-ind" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="imminentperil-ind" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="broadcast-ind" type="xs:boolean" minOccurs="0"/>

 <xs:element name="mc-org" type="xs:string" minOccurs="0"/>

 <xs:element name="floor-state" type="xs:string" minOccurs="0"/>

 <xs:element name="associated-group-id" type="xs:string" minOccurs="0"/>

 <xs:element name="originated-by" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="MKFC-GKTPs" type="mgktp:singleTypeGKTPsType" minOccurs="0"/>

 <xs:element name="mcptt-client-id" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="alert-ind-rcvd" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="gw-mcptt-usage" type="xs:boolean" minOccurs="0"/>

 <xs:element name="mcptt-userlist-request-uri" type="mcpttinfo:contentType" minOccurs="0"/>

 <xs:element name="mcptt-grouplist-request-uri" type="mcpttinfo:contentType" minOccurs="0"/>

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

 <xs:element name="anyExt" type="mcpttinfo:anyExtType" minOccurs="0"/>

 </xs:sequence>

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

 </xs:complexType>

\* \* \* \* Next Change \* \* \* \*

## F.1.3 Semantic

18c) the <gw-mcptt-usage>

a) can be set to true in a SIP REGISTER or a SIP PUBLISH to indicate to the MCPTT server that the MCPTT client uses a MCPTT gateway UE, which requires that network resources are allocated over Rx, N5 or N33; and

18d) The <mcptt-userlist-request-uri>:

a) This element will be present if location monitoring subscription is requested for set of users.

b) Shall have <mcpttURI> element pointing to resource list URI, with the list having list of MCPTT Users.

 18e) The < mcptt-grouplist-request-uri >:

a) This element will be present if location monitoring subscription is requested for set of Groups.

b) Shall have <mcpttURI> element pointing to resource list URI, with the list having list of MCPTT Groups.\* \* \* \* End of Changes \* \* \* \*