**3GPP TSG-CT WG1 Meeting #130-eC1-213461**

**Electronic meeting, 20-28 May 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.379** | **CR** | **0713** | **rev** | **-** | **Current version:** | **15.10.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | FA indication in subscription request MCPTT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, FirstNet | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MONASTERY | | | | |  | ***Date:*** | | | 2021-04-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Current stage 3 specs reuse the very same procedures for  i) subscription to affiliation status (as described in 9.2.1.3) and  ii)subscription to FA status (as described in 9A.2.1.3)  Thus, the receiving MCPTT server cannot distinquish the two requests.  **Interoperability impact analysis**: The proposed change is backwards compatible. The new indication is part of the anyExt optional element. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1) Specify a <request-type> element value, namely "functional-alias-status-determination"  2) Specify how the MCPTT originating client can include an indication that the subscription request is FA related.  3) Specify how the receiving MCPTT server identifies that the subscription request is FA related. | | | | | | | | |
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| ***Consequences if not approved:*** | | The two types of subscription cannot be distinquished at the server. An FA subscription could be perceived as an affiliation subscription. | | | | | | | | |
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| ***Clauses affected:*** | | 9A.2.1.3, 9A.2.2.2.4, 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:*** | |  | | | | | | | | |

#### 9A.2.1.3 Functional alias status determination procedure

NOTE 1: The MCPTT UE also uses this procedure to determine which functional alias have been successfully activated for the MCPTT ID.

In order to discover functional aliases:

1) which which are activated for the MCPTT user; or

2) which another MCPTT user has activated;

the MCPTT client shall generate an initial SIP SUBSCRIBE request according to 3GPP TS 24.229 [4], IETF RFC 3856 [51], and IETF RFC 6665 [26].

In the SIP SUBSCRIBE request, the MCPTT client:

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

2) shall include an application/vnd.3gpp.mcptt-info+xml MIME body. In the application/vnd.3gpp.mcptt-info+xml MIME body, the MCPTT client shall include:

a) the <mcptt-request-uri> element set to the MCPTT ID of the targeted MCPTT user; and

b) the <request-type> element in the <anyExt> element of the <mcptt-Params> element of the <mcpttinfo> element set to the value "functional-alias-status-determination";

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

4) 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 2: 4294967295, which is equal to 232-1, is the highest value defined for Expires header field in IETF RFC 3261 [24].

5) if the MCPTT client wants to fetch the current state only, shall set the Expires header field according to IETF RFC 6665 [26], to zero;

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

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

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

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

Upon receiving a SIP NOTIFY request according to 3GPP TS 24.229 [4], IETF RFC 3856 [51], and IETF RFC 6665 [26], if SIP NOTIFY request contains an application/pidf+xml MIME body indicating per-user functional alias information constructed according to subclause 9A.3.1, then the MCPTT client shall determine the status of the MCPTT user for each functional alias in the MIME body. If the <p-id-fa> child element of the <presence> root element of the application/pidf+xml MIME body of the SIP NOTIFY request is included, the <p-id-fa> element value indicates the SIP PUBLISH request which triggered sending of the SIP NOTIFY request.

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

##### 9A.2.2.2.4 Receiving subscription to functional alias status procedure

Upon receiving a SIP SUBSCRIBE request such that:

1) Request-URI of the SIP SUBSCRIBE request contains either the public service identity identifying the originating participating MCPTT function serving the MCPTT user, or the public service identity identifying the terminating participating MCPTT function serving the MCPTT user;

2) the SIP SUBSCRIBE request contains an application/vnd.3gpp.mcptt-info+xml MIME body containing:

a) the<mcptt-request-uri> element which identifies an MCPTT ID served by the MCPTT server; and

b) the <mcpttinfo> element with the <mcptt-Params> element containing an <anyExt> element with the <request-type> element set to a value of "functional-alias-status-determination";

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

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

the MCPTT server:

1) 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;

2) if the Request-URI of the SIP SUBSCRIBE request contains the public service identity identifying the originating participating MCPTT function serving the MCPTT user, shall identify the originating MCPTT ID from public user identity in the P-Asserted-Identity header field of the SIP SUBSCRIBE request;

3) if the Request-URI of the SIP SUBSCRIBE request contains the public service identity identifying the terminating participating MCPTT function serving the MCPTT user, shall identify the originating MCPTT ID in the <mcptt-calling-user-id> element of the application/vnd.3gpp.mcptt-info+xml MIME body of the SIP SUBSCRIBE request;

4) if the originating MCPTT ID is different than the served MCPTT ID and the originating MCPTT ID is not authorized to modify functional alias status of the served MCPTT ID, shall send a SIP 403 (Forbidden) response and shall not continue with the rest of the steps; and

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

For the duration of the subscription, the MCPTT server shall notify the subscriber about changes of the information of the served MCPTT ID, as described in subclause 9A.2.2.2.5.

\*\*\*\*\* 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> and <mcptt-client-id> 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> or <originated-by> 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> or <imminentperil-ind> 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#](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;

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

vi) set to a value of "functional-alias-status-determination" when a client initiates a subscription to FA status determination 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"; and

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; and

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.

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.

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

\*\*\*\*\* End of change \*\*\*\*\*