**3GPP TSG-CT WG1 Meeting #133-eC1-21abcd**

**E-meeting, 11-19 November 2021 *(was* *C1-216801)***

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **24.282** | **CR** | **0269** | **rev** | **1** | **Current version:** | **17.4.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **x** |

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| ***Title:***  | MCData procedures for *on-network* upgrade / cancel of **private** emergency calls applied to pre-established session for SDS |
|  |  |
| ***Source to WG:*** | AT&T |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | eMCData3 |  | ***Date:*** | Nov 3, 2021 |
|  |  |  |  |  |
| ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)* *Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | This CR adds/updates support for *on-network* private (one-to-one) communication **emergency** communications when SDS pre-established session is used.That includes adding missing explicit references to controlling MCData function procedures for pre-established session. |
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| ***Summary of change:*** | Add new participating and controlling functions procedures to section 6.3.7.1 for invocation from other procedures. Add explicit invocation of above mentioned procedures to client, participation function and controlling function in the section 9.2.5, for pre-established SDS session. |
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| ***Consequences if not approved:*** | The specified emergency related functionalities will not be available, and harmonization across the services would not be possible. |
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| ***Clauses affected:*** | All new: 6.3.7.1.17, 6.3.7.1.18, 6.3.7.1.19, 6.3.7.1.20, 6.3.7.1.21, 6.3.7.1.22, 9.2.5.2.1.3, 9.2.5.2.1.4, 9.2.5.2.1.5, 9.2.5.2.2.3, 9.2.5.2.2.4, 9.2.5.2.3, 9.2.5.2.3.1, 9.2.5.2.3.2, 9.2.5.2.3.3, 9.2.5.2.3.4, 9.2.5.2.3.5, 9.2.5.2.3.6. |
|  |  |
|  | **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 \* \* \* \* \* \*

##### 6.3.7.1.17 Receiving a SIP re-INVITE request by the terminating participating function

This subclause applies to the terminating participating function and is part of processing of an in-progress emergency communication cancellation or an upgrade of an ongoing communication. The incoming SIP re‑INVITE request is sent by the controlling MCData function, and the outgoing SIP re‑INVITE is sent towards the MCData client.

On receipt of a SIP re-INVITE request, the terminating participating MCData function shall generate a SIP re-INVITE request according to 3GPP TS 24.229 [5] and further:

1. if the incoming SIP re-INVITE request contained an application/sdp MIME body, shall copy the application/sdp MIME body;
2. if the incoming SIP re-INVITE request contained a MIME application/resource-lists body, shall copy the MIME application/resource-lists body;
3. if the incoming SIP re‑INVITE request contained a Resource-Priority header field, shall include in the outgoing SIP re‑INVITE request a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [5], set to the value indicated in the Resource-Priority header field of the received SIP re‑INVITE request;

4) if the incoming SIP re-INVITE request contained an application/vnd.3gpp.mcdata-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-info+xml MIME body;

5) if the incoming SIP re-INVITE request contained an application/vnd.3gpp.mcdata-location-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-location-info+xml MIME body; and

6) shall send the SIP re‑INVITE request according to 3GPP TS 24.229 [5].

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \*

##### 6.3.7.1.18 Receipt of SIP re-INVITE for MCData one-to-one communication from the served user

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

Upon receipt of a SIP re-INVITE request for an existing MCData one-to-one communication session, the originating participating MCData function:

1) if unable to process the request due to a lack of resources or a risk of congestion, may reject the SIP request with a SIP 500 (Server Internal Error) response. The participating MCData function may include a Retry-After header field to the SIP 500 (Server Internal Error);

NOTE: If the SIP re-INVITE request contains an emergency indication, the participating MCData function can choose to accept the request.

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

3) if the participating MCData function cannot find a binding between the public user identity and an MCData ID or if the validity period of an existing binding has expired, shall reject the SIP re‑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 4.9, and shall not continue with any of the remaining steps;

4) shall generate a SIP re-INVITE request according to 3GPP TS 24.229 [5], and proceed as follows:

a) if the incoming SIP re-INVITE request contained a MIME application/resource-lists body with the MCData ID of the invited MCData user, shall copy the MIME application/resource-lists body into the generated SIP re‑INVITE;

b) if the incoming SIP re-INVITE request contained an application/vnd.3gpp.mcdata-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-info+xml MIME body into the generated SIP re‑INVITE; and

c) if the incoming SIP re-INVITE request contained an application/vnd.3gpp.mcdata-location-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-location-info+xml MIME body into the generated SIP re‑INVITE;

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

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

7) shall include in the SIP re-INVITE request an SDP containing the SDP currently used by the existing session;

8) shall include a Resource-Priority header field according to rules and procedures of 3GPP TS 24.229 [5] set to the value indicated in the Resource-Priority header field, if included in the SIP re-INVITE request from the MCData client; and

9) shall forward the SIP re-INVITE request, according to 3GPP TS 24.229 [5].

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

1) shall generate a SIP 200 (OK) response according to 3GPP TS 24.229 [5];

2) if the received SIP 200 (OK) response contained an application/vnd.3gpp.mcdata-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-info+xml MIME body into the generated SIP 200 (OK) response;

3) if the received SIP 200 (OK) included Warning header field(s), shall copy the Warning header field(s) into the generated SIP 200 (OK) response;

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

5) shall send the SIP 200 (OK) response to the MCData client according to 3GPP TS 24.229 [5]; and

6) shall interact with the media plane as specified in 3GPP TS 24.582 [15].

##### 6.3.7.1.19 Controlling MCData function receiving a SIP re-INVITE for upgrade to emergency one-to-one communication

In the procedures in this subclause:

1) emergency indication in an incoming SIP re-INVITE request refers to the <emergency-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body; and

2) alert indication in an incoming SIP re-INVITE request refers to the <alert-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body.

Upon receiving a SIP re-INVITE request with an emergency indication set to a value of "true", the controlling MCData function:

1) shall validate that the received SDP is acceptable by the controlling MCData function and if not, reject the request with a SIP 488 (Not Acceptable Here) response and skip the rest of the steps;

2) shall validate the request as described in subclause 6.3.7.1.9, and if invalid, shall skip the rest of the steps;

3) if the SIP re-INVITE request contains an unauthorised request for an MCData emergency one-to-one communication as determined by subclause 6.3.7.2.6:

a) shall reject the SIP re-INVITE request by generating a SIP 403 (Forbidden) response and applying the procedure in subclause 6.3.7.2.7; and

b) shall send the SIP 403 (Forbidden) response as specified in 3GPP TS 24.229 [5] and skip the rest of the steps;

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

a) the SIP re-INVITE request contains an authorised request for an MCData emergency communication as determined in step 2 above; or

b) the originating MCData user is in an in-progress emergency private communication state with the targeted MCData user;

5) if the SIP re-INVITE request contains an emergency indication set to a value of "true" and the originating MCData user is not in an in-progress emergency private communication state with the targeted MCData user:

a) shall cache the information that the MCData user is in an in-progress emergency private communication state with the targeted MCData user; and

b) if the SIP re-INVITE request contains an alert indication set to "true" and this is an authorised request for an MCData emergency alert as specified in subclause 6.3.7.2.1, shall cache the information that the MCData user has sent an MCData emergency alert to the targeted user; and

6) shall send a SIP re-INVITE invite towards the MCData user listed in the MIME resource-lists body of received SIP re-INVITE request as specified in subclause 6.3.7.1.21.

Upon receiving a SIP 200 (OK) response for the SIP re-INVITE request and if the SIP response has not yet been sent to the inviting MCData client, the controlling MCData function:

1) shall generate a SIP 200 (OK) response to the SIP re-INVITE request by performing the steps for SIP 200 (OK) response generation described in subclause 9.2.3.4.4;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP re-INVITE request containing the current parameters used by the existing session;

3) if the received SIP re-INVITE request contains an alert indication set to a value of "true" and this is an unauthorised request for an MCData emergency alert as specified in subclause 6.3.7.2.1, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in subclause 4.9.

NOTE: When a SIP 200 (OK) response sent to the originator as a response to a SIP INVITE or a SIP re‑INVITE request that contained authorised request(s) for an MCData emergency one-to-one communication and optionally an MCData emergency alert, the originator will consider a SIP 200 (OK) response populated in this manner as confirmation that its request(s) for an upgrade to an MCData emergency one-to-one communication and optionally an MCData emergency alert were accepted by the controlling function.

4) shall interact with the media plane as specified in 3GPP TS 24.582 [15]; and

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

Upon receiving a SIP ACK to the SIP 200 (OK) response sent towards the inviting MCData client, and the SIP 200 (OK) response was sent with the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in subclause 4.9, the controlling MCData function shall follow the procedures in subclause 6.3.7.1.10.

##### 6.3.7.1.20 Controlling MCData function receiving a SIP re-INVITE for cancellation of emergency one-to-one communication

In the procedures in this subclause:

1) emergency indication in an incoming SIP re-INVITE request refers to the <emergency-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body; and

2) alert indication in an incoming SIP re-INVITE request refers to the <alert-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body.

Upon receiving a SIP re-INVITE request with an emergency indication set to a value of "false", the controlling MCPTT function:

1) shall validate the request as described in subclause 6.3.7.1.9, and if invalid, shall skip the rest of the steps;

2) if the SIP re-INVITE request contains an unauthorised request for an MCData emergency private (one-to-one) communication cancellation, as determined by subclause 6.3.7.2.3:

a) shall generate a SIP 403 (Forbidden) response to reject the SIP re-INVITE request;

b) shall include in the SIP 403 (Forbidden) response an application/vnd.3gpp.mcdata-info+xml MIME body as specified in annex D.1, with an <emergency-ind> element set to a value of "true";

c) if the SIP re-INVITE request contains an alert indication set to "false" and this is an unauthorised request for an MCData emergency alert cancellation as specified in subclause 6.3.7.2.2, shall include in the SIP 403 (Forbidden) response an application/vnd.3gpp.mcdata-info+xml MIME body with an <alert-ind> element set to "true; and

d) shall send the SIP 403 (Forbidden) response as specified in 3GPP TS 24.229 [5] and skip the rest of the steps;

4) shall reject the SIP re-INVITE request with a SIP 403 (Forbidden) response if a Resource-Priority header field is included in the received SIP re-INVITE request set to the value configured for emergency communications, and skip the remaining steps;

5 if the SIP re-INVITE request contains an authorised request for an MCData emergency private communication cancellation as determined by subclause 6.3.7.2.3:

a) shall clear the cache of the MCData ID of the originator of the MCData emergency private communication that is no longer in an in-progress emergency private communication state with the targeted MCData user; and

b) if the SIP re-INVITE request contains an alert indication set to "false" and this is an authorised request for an MCData emergency alert cancellation meeting the conditions specified in subclause 6.3.7.2.2:

i) if the received SIP re-INVITE request contains an <originated-by> element in the application/vnd.3gpp.mcdata-info+xml MIME body, shall clear the cache of the MCData ID of MCData user identified by the <originated-by> element as having an outstanding MCData emergency alert; and

ii) if the received SIP re-INVITE request does not contain an <originated-by> element in the application/vnd.3gpp.mcdata-info+xml MIME body, clear the cache of the MCData ID of the sender of the SIP re-INVITE request, as having an outstanding MCData emergency alert; and

6) shall generate, according to subclause 6.3.7.1.22, a SIP re-INVITE request and send it towards the MCData user listed in the MIME resource-lists body of the received SIP re-INVITE request.

Upon receiving a SIP 200 (OK) response for the SIP re-INVITE request and if the SIP response has not yet been sent to the inviting MCData client, the controlling MCData function:

1) shall generate a SIP 200 (OK) response to the SIP re-INVITE request by performing the steps for SIP 200 (OK) response generation described in subclause 9.2.3.4.4;

2) shall include in the SIP 200 (OK) response an SDP answer to the SDP offer in the incoming SIP re-INVITE;

3) if the received SIP re-INVITE request contains an alert indication set to a value of "false" and this is an unauthorised request for an MCData emergency alert cancellation as specified in subclause 6.3.7.2.2, shall include in the SIP 200 (OK) response the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in subclause 4.9.

NOTE: When a SIP 200 (OK) response sent to the originator as a response to a SIP re-INVITE request that contained authorised request(s) for an MCData emergency private communication cancellation and optionally an MCData emergency alert cancellation, the originator will consider a SIP 200 (OK) response populated in this manner as confirmation that its request(s) for cancellation of an MCData emergency private communication and optionally an MCData emergency alert were accepted by the controlling function.

4) shall interact with the media plane as specified in 3GPP TS 24.582 [15]; and

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

Upon receiving a SIP ACK to the SIP 200 (OK) response sent towards the inviting MCData client, and the SIP 200 (OK) response was sent with the warning text set to "149 SIP INFO request pending" in a Warning header field as specified in clause 4.9, the controlling MCData function shall follow the procedures in subclause 6.3.7.1.10.

##### 6.3.7.1.21 Controlling MCData function sending a SIP re-INVITE for upgrade to emergency one-to-one communication

This subclause describes the procedures for the controlling MCData function sending a re-INVITE request to an MCData user in an MCData private (one-to-one) communication for the purpose of upgrading the session to an emergency private communication session. The procedure is initiated by the controlling MCData function as the result of receiving a SIP re-INVITE request, as described in subclause 6.3.7.1.19.

The controlling MCData function:

1) shall generate a SIP re-INVITE request as specified in subclause 6.3.7.1.13;

2) if the received SIP re-INVITE request contained an application/vnd.3gpp.mcdata-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-info+xml MIME body to the outgoing SIP re-INVITE request;

3) if the received SIP re-INVITE request contains an authorised request for an MCData emergency one-to-one communication, as determined by subclause 6.3.7.2.6:

a) shall set the <emergency-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body in the outgoing SIP re-INVITE request to a value of "true";

b) if the received SIP re-INVITE request contains an alert indication set to a value of "true" and this is an authorised request for an MCData emergency alert meeting the conditions specified in subclause 6.3.7.2.1, perform the procedures specified in subclause 6.3.7.1.3; and

c) if the received SIP re-INVITE request did not contain an alert indication or contains an alert indication set to a value of "true" and is not an authorised request for an MCData emergency alert meeting the conditions specified in subclause 6.3.7.2.1, shall set the <alert-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body to a value of "false";

4) shall include a Resource-Priority header field populated with the values for an MCData emergency communication as specified in subclause 6.3.7.1.4, if the received SIP re-INVITE request contains an authorised request for an MCData emergency private communication as determined in subclause 6.3.7.2.6; and

5) shall send the SIP re-INVITE request towards the core network according to 3GPP TS 24.229 [5].

Upon receiving SIP 200 (OK) response for the SIP re-INVITE request, the controlling MCData function:

1) shall cache the contact received in the Contact header field.

##### 6.3.7.1.22 Controlling MCData function sending a SIP re‑INVITE for cancellation of emergency one-to-one communication

This subclause describes the procedures for the controlling MCData function sending a re-INVITE request to an MCData user in an MCData emergency private (one-to-one) communication for the purpose of downgrading the session to a normal priority private communication session. The procedure is initiated by the controlling MCData function as the result of receiving a SIP re-INVITE request, as described in subclause 6.3.7.1.20.

The controlling MCData function:

1) shall generate a SIP re-INVITE request as specified in subclause 6.3.7.1.13;

2) if the received SIP re-INVITE request contained an application/vnd.3gpp.mcdata-info+xml MIME body, shall copy the application/vnd.3gpp.mcdata-info+xml MIME body to the outgoing SIP re-INVITE request.

3) if the received SIP re-INVITE request contains an authorised request for an MCData emergency private communication cancellation as determined by subclause 6.3.7.2.3:

a) shall set the <emergency-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body to a value of "false";

b) if the received SIP re-INVITE request contains an alert indication set to a value of "false" and this is an authorised request for an MCData emergency alert cancellation, meeting the conditions specified in subclause 6.3.7.2.2:

i) shall set the <alert-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body to a value of "false"; and

ii) if the received SIP request contains an <originated-by> element in the application/vnd.3gpp.mcdata-info+xml MIME body, copy the contents of the received <originated-by> element to an <originated-by> element in the application/vnd.3gpp.mcdata-info+xml MIME body in the outgoing SIP re-INVITE request; and

c) if the received SIP INVITE request contains an alert indication set to a value of "false" and is not an authorised request for an MCData emergency alert cancellation meeting the conditions specified in subclause 6.3.7.2.3, shall set the <alert-ind> element of the application/vnd.3gpp.mcdata-info+xml MIME body to a value of "true";

4) shall include a Resource-Priority header field populated with the values for a normal MCData private communication as specified in subclause 6.3.7.1.4, if the received SIP re-INVITE request contains an authorised request for an MCData emergency private communication cancellation as determined in subclause 6.3.7.2.3; and

5) shall send the SIP re-INVITE request towards the core network according to 3GPP TS 24.229 [5].

Upon receiving SIP 200 (OK) response for the SIP re-INVITE request, the controlling MCData function:

1) shall cache the contact received in the Contact header field.

\* \* \* \* \* \* NEXT CHANGE\* \* \* \* \* \*

###### 9.2.5.2.1.3 MCData client initiates cancellation for an in-progress emergency SDS communication using pre‑established session

The MCData client shall execute the procedure in subclause 6.2.8.4.3.

###### 9.2.5.2.1.4 MCData client initiates upgrade for an ongoing SDS communication using pre‑estalished session

The MCData client shall execute the procedure in subclause 6.2.8.4.4.

###### 9.2.5.2.1.5 Terminating procedures for MCData client using pre-established session to upgrade or cancel an existing emergency one‑to‑one SDS communication

The MCData client shall execute the procedure in subclause 6.2.8.4.2.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \*

###### 9.2.5.2.2.3 Processing of request from the served user to upgrade or cancel emergency one‑to‑one SDS communication

The participating MCData function shall execute the procedure in subclause 6.3.7.1.18.

###### 9.2.5.2.2.4 Processing of request from controlling MCData function to upgrade or cancel emergency one‑to‑one SDS communication

The participating MCData function shall execute the procedure in subclause 6.3.7.1.17.

\* \* \* \* \* \* NEXT CHANGE \* \* \* \* \* \*

##### 9.2.5.2.3 Controlling MCData function procedures

###### 9.2.5.2.3.1 Originating controlling MCData function procedures

The controlling MCData function shall execute the procedure in subclause 9.2.4.4.3.

###### 9.2.5.2.3.2 Terminating controlling MCData function procedures

The controlling MCData function shall execute the procedure in subclause 9.2.4.4.4.

###### 9.2.5.2.3.3 Controlling MCData function receiving a request for upgrade to emergency one‑to‑one SDS communication

The controlling MCData function shall execute the procedure in subclause 6.7.3.1.19.

###### 9.2.5.2.3.4 Controlling MCData function receiving a request for cancellation of emergency one‑to‑one SDS communication

The controlling MCData function shall execute the procedure in subclause 6.7.3.1.20.

###### 9.2.5.2.3.5 Controlling MCData function sending a request for upgrade to emergency one‑to‑one SDS communication

The controlling MCData function shall execute the procedure in subclause 6.7.3.1.21.

###### 9.2.5.2.3.6 Controlling MCData function sending a request for cancellation of emergency one‑to‑one SDS communication

The controlling MCData function shall execute the procedure in subclause 6.7.3.1.22.

\* \* \* \* \* \* END OF CHANGES \* \* \* \* \* \*