**3GPP TSG-SA WG6 Meeting #42-e S6-210425**

**e-meeting, 1st – 9th March 2021 (revision of S6-21xxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.282** | **CR** | **0263** | **rev** | - | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Addition of MBMS delivery via MB2 interface for MCData | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | AT&T | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMCData3 | | | | |  | ***Date:*** | | | 2021-02-20 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As described in section 5.4, it was agreed that there can be two mechanisms for delivery over MBMS:   1. MBMS delivery via MB2 interface: MB2 delivery, defined in 23.468, is also used for MCPTT and MCVideo, and is applicable to all data transfers using media plane. 2. MBMS download delivery over xMB interface: this mechanism, detailed in 26.346 and 26.348, uses MBMS User Service architecture and takes advantage of the FLUTE protocol for file delivery (FD). This mechansim is already specified in 23.282.   This CR adds support for mechanism 1) for MCData transfers, only when the media plane is used. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Subclauses 4, 7.3.3, 7.5.2.7.2, 7.7.2.2.2.1, 7.7.2.2.2.2, 7.7.2.3.2.1, 7.7.2.3.2.2 are applicable to both MBMS delivery mechansims, are impacted by the addition of mechanism 1) and are updated.  Subclauses 5.4, 5.8.4, 6.4.3.1.2, 7.3.1 and 7.3.2 are applicable to both MBMS delivery mechansims, but they are not impacted by the addition of mechanism 1), and are not updated.  All other MBMS related subclauses in 23.282 are applicable only to mechanism 2) and hence are not updated. | | | | | | | | |
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| ***Consequences if not approved:*** | | Data delivery using MBMS over MB2 would not be possible. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4, 5.13 (new), 7.3.3, 7.5.2.7.2, 7.7.7.2.2.2.1, 7.7.2.2.2.2, 7.7.7.2.3.2.1, 7.7.2.3.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# 4 Introduction

The MCData service suite provides a set of generic capabilities and specific services to enable one-to-one and group data communications between MCData users.

The MCData architecture utilises the common functional architecture to support mission critical services over LTE defined in 3GPP TS 23.280 [5] and aspects of the IMS architecture defined in 3GPP TS 23.228 [6], the Proximity-based Services (ProSe) architecture defined in 3GPP TS 23.303 [7], the Group Communication System Enablers for LTE (GCSE\_LTE) architecture defined in 3GPP TS 23.468 [8] defining MBMS support via the MB2 interface, the MBMS User Service architecture defined in 3GPP TS 26.348 [19], the Security of the Mission Critical Service in 3GPP TS 33.180 [13] and the PS-PS access transfer procedures defined in 3GPP TS 23.237 [9] to enable support of the MCData service.

The MCData UE primarily obtains access to the MCData service via E-UTRAN, using the EPS architecture defined in 3GPP TS 23.401 [4]. Certain application functions of MCData service can be accessed using MCData UEs via non-3GPP access networks.

The MCData system provides the function to support interworking with LMR systems defined in 3GPP TS 23.283 [18].

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

## 5.13 MBMS delivery via MB2 interface

MBMS delivery via MB2 applies to MCData services that use media plane for user traffic delivery.

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

### 7.3.3 Use of dynamic MBMS bearer establishment

The MCData service shall support the procedure for using dynamic MBMS bearers as specified 3GPP TS 23.280 [5] with the following clarifications:

- The MC service client is the MCData client;

- The MC service server is the MCData server; and

- The MC service ID is the MCData ID.

The MCData service shall use the MCData-6, MCData-SDS-1, MCData-SDS-3, MCData-FD-1, MCData‑FD-3, MCData-DS-1 and MCData-DS-3 reference points for this procedure.

For MBMS delivery via MB2, MCData may use dynamic MBMS bearers for the MCData delivery over the media plane of Short Data Service, File Distribution and Data Streaming.

For MBMS delivery via xMB, MCData may use dynamic MBMS bearers for the MCData delivery of Short Data Service, File Distribution and Data Streaming according to the MBMS User Service architecture.

The MBMS bearer can be used by any group. Depending on the capacity of the MBMS bearer, the bearer can be used to broadcast one or more services in parallel.

Both the media packets as well as the transmission control messages to the receiving users may be sent on the MBMS bearer. Optionally a separate MBMS bearer could be used for the transmission control messages, due to different bearer characteristic requirements.

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

#### 7.5.2.7 Group standalone file distribution using media plane

##### 7.5.2.7.1 General

The initiation of a group standalone FD using media plane to a selected group, results in affiliated group members receiving the file data.

##### 7.5.2.7.2 Procedure

The procedure in figure 7.5.2.7.2-1 describes the case where an MCData user is initiating group standalone data communication for sending file to multiple MCData users, with or without download completed report request.

Pre-conditions:

1. The MCData users on the MCData client 1 to n belong to the same group and are already registered for receiving MCData service and affiliated.

2. Optionally, the MCData client may have an activated functional alias to be used.

3. The MCData server has subscribed to the MCData functional alias controlling server within the MC system for functional alias activation/de-activation updates.



Figure 7.5.2.7.2-1: Group standalone FD using media plane

1. The user at the MCData client 1 initiates a file distribution request to multiple MCData users selecting a pre-configured group (identified by MCData group ID) and optionally particular members from that group.

2. MCData client 1 sends a MCData group standalone FD request towards the MCData server. The MCData group standalone FD request may contain the file metadata information. The MCData group standalone data request contains target recipient(s) as selected by the user at MCData client 1. The MCData group standalone FD request contains conversation identifier for message thread indication. The MCData group standalone FD request may include additional implementation specific information in the application metadata container. MCData group standalone FD request may contain mandatory download indication. The MCData group standalone FD request may contain download completed report indication if selected by the user at MCData client 1. MCData user at MCData client 1 may include a functional alias within the FD data transfer.

If the MCData user at MCData client 1 initiates an MCData emergency file distribution communication or the MCData emergency state is already set for the MCData client 1 (due to a previously triggered MCData emergency alert):

i) the MCData group standalone FD request shall contain an emergency indicator;

ii) the MCData group standalone FD request shall set an alert indicator if configured to send an MCData emergency alert while initiating an MCData group standalone FD request for the emergency file distribution service communication; and

iii) if the MCData emergency state is not set already, MCData client 1 sets its MCData emergency state. The MCData emergency state is retained until explicitly cancelled.

NOTE 1: While MCData client 1 is in the emergency state, all types of MCData one-to-one and group communications initiated by MCData client 1 are initiated as MCData emergency communications.

If the MCData user at MCData client 1 initiates an MCData imminent peril file distribution communication:

i) the MCData group standalone FD request shall contain imminent peril indicator.

2a. If either emergency indicator or imminent peril indicator is present in the received MCData group standalone data request, the MCData server implicitly affiliates MCData client 1 to the MCData group if the client is not already affiliated.

3. MCData server checks whether the MCData user at MCData client 1 is authorized to send MCData group standalone FD request. MCData server verifies whether the provided functional alias, if present, can be used and has been activated for the user. The MCData server resolves the MCData group ID to determine the members of that group and their affiliation status, based on the information from the group management server.

i) If an emergency indicator is present in the received MCData group standalone FD request and if the MCData group is not in the in-progress emergency state, the MCData group is considered to be in the in-progress emergency state until cancelled;

NOTE 2: While the MCData group is in the in-progress emergency state, all types of MCData communications within the group are processed as emergency group communications by the MCData server. MCData group members that are not in the emergency state do not indicate emergency in group communication requests.

ii) If an imminent peril indicator is present in the received MCData group standalone FD request and if the MCData group is not in the in-progress imminent peril state, the MCData group is considered to be in the in-progress imminent peril state until cancelled;

4. The MCData server also applies transmission and reception control and the necessary policy to ensure that appropriate data is transmitted between the MCData UEs.

5. MCData server initiates the MCData group standalone FD request towards each MCData user determined in step 3. The MCData group standalone data request towards each MCData client contains:

i) an emergency indicator if it is present in the received MCData group standalone FD request from the MCData client 1;

ii) an imminent peril indicator if it is present in the received MCData group standalone FD request from the MCData client 1; and

iii) an alert indicator if requested to initiate an emergency alert in the received MCData group standalone FD request from the MCData client 1.

6. The receiving MCData clients 2 to n notifies the user about the incoming MCData group standalone FD request (including file metadata if present) which may be either accepted or rejected or ignored. If the request includes mandatory download indication in the MCData group standalone FD request an accepted response is assumed.

7. If the target MCData user on MCData clients 2 to n provides a response (accept or reject) to the notification, then the respective MCData client sends the MCData group standalone FD response to the MCData server. MCData client 2 to n automatically sends accepted MCData group standalone FD response when the incoming request included mandatory download indication.

8. MCData server forwards the MCData group standalone FD response to the MCData client 1.

NOTE 3: Step 8 can occur at any time following step 5, and prior to step 9 depending on the conditions to proceed with the file transmission.

9. MCData client 1 and MCData server have successfully established media plane for file transmission and the MCData client 1 transmits the file data.

10. MCData server distributes the file received from MCData client 1 to MCData clients 2 to n over the established media plane. Distribution of file can be via unicast or via MBMS bearer(s). For distribution via MBMS bearer(s), the procedure described in subclause 7.3 Use of MBMS transmission (on-network) is executed. File download report is shared by the receiving MCData clients, if requested by the user at MCData client 1. After file transaction is completed, the media plane is released.

Editor’s note: Adding text that use of MBMS delivery via MB2 interface for file distribution is also possible, is FFS.

NOTE 4: MCData server is not required to wait for the complete download of file from MCData client 1 prior to initiating file distribution to MCData client 2.

11. The MCData clients successfully receiving the file, records file download completed and notifies MCData user.

12. MCData client 2 initiates a MCData download completed report for reporting file download completed, if requested by the user at MCData client 1.

13. The MCData file download completed report from MCData client(s) may be stored by the MCData server for download history interrogation from the authorized MCData users. The MCData file download completed report from each MCData user may be aggregated.

14. Aggregated or individual MCData file download completed report is sent to the disposition requesting user at MCData client 1.

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

###### 7.7.2.2.2.1 General

The subclause describes the procedure for MCData user initiated MCData communication release where MCData communication is established as SDS using media plane or SDS session or file distribution using media plane.

Editor's note: Release of MCData communication over MBMS when MBMS user service is used is FFS.

###### 7.7.2.2.2.2 Procedure

The procedure in figure 7.7.2.2.2.2-1 describes signalling control plane procedure for the case where MCData communication is ongoing and transmitting participant initiates MCData communication release. The procedure is applicable for one-to-one and group MCData communications.

Pre-conditions:

1. MCData users on MCData client 1 and client 2 are already registered for receiving MCData service.

2. MCData communication is established between MCData client 1 and MCData client 2 and MCData client1 is the initiator of the MCData communication.



Figure 7.7.2.2.2.2-1: Release of MCData communication using media plane

1. MCData user at MCData client 1 requests to release ongoing MCData communication.

2. MCData client 1 sends MCData communication release request towards MCData server, for tearing down the communication with the other MCData client(s).

3. MCData server sends MCData communication release request to all the participants of the MCData communication.

4. Recipient MCData clients notifies respective MCData user about the release of MCData communication.

5. MCData clients receiving the MCData communication release request provide communication release response back towards MCData server.

6. MCData server sends MCData communication release response back to MCData client 1.

7. All participants of the MCData communication have successfully released the media plane resources associated with the MCData communication that is released.

Editor’s note: Adding text that in case of MBMS delivery via MB2 interface the server unmaps the group from the MBMS bearer and may deactivate it and cancel its announcement to the UE, is FFS.

8. MCData client 1 notifies the MCData user about the communication release.

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

##### 7.7.2.3.2 Release of MCData communication using media plane

###### 7.7.2.3.2.1 General

The subclause describes the procedure for MCData server initiated MCData communication release without prior indication, where MCData communication is established as SDS using media plane or file distribution using media plane.

Editor's note: Release of MCData communication over MBMS when MBMS user service is used is FFS.

###### 7.7.2.3.2.2 Procedure

The procedure in figure 7.7.2.3.2.2-1 describes signalling control plane procedure for the case where during an ongoing MCData communication, based on communication release conditions, MCData server initiates the communication release. The procedure is applicable for one-to-one and group communication.

Pre-conditions:

1. MCData users on MCData client 1, client 2 and client 3 are already registered for receiving MCData service.

2. A MCData administrator has configured the limits for the maximum amount of data and time that a participant transmits from a single request to transmit.

3. A MCData communication is ongoing between MCData client 1, client 2 and client 3.



Figure 7.7.2.3.2.2-1: MCData server initiated release of MCData communication using media plane

1. MCData server would like to release the ongoing MCData communication, identified by conversation identifier, since at least one of the release conditions are met e.g. lack of capacity, limit for the maximum amount of data or time that a participant transmits from a single request to transmit exceeded. Based on configuration, MCData server decides to pre-empt the MCData communication without giving prior indication to MCData client 1.

2. MCData server identifies the participants of the ongoing MCData communication and generates communication release request to release ongoing MCData communication.

3. MCData server sends server MCData communication release request towards each participant of the MCData communication.

4. MCData users are notified about the release of the MCData communication.

5. MCData client at each MCData communication participant sends server MCData communication release response towards the MCData server.

6. All participants of the MCData communication have successfully released the media plane resources associated with the MCData communication that is released.

Editor’s note: Adding text that in case of MBMS delivery via MB2 interface the server unmaps the group from the MBMS bearer and may deactivate it and cancel its announcement to the UE, is FFS.

\* \* \* End Changes \* \* \* \*