**3GPP TSG-SA WG6 Meeting #42-bis-e S6-210828**

**e-meeting, 12th – 20th April 2021 (revision of S6-21xxxx)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0273** | **rev** | **-** | **Current version:** |  |  |
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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:*** | Enhancement and corrections to one-to-one file distribution using HTTP | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMCData3 | | | | |  | ***Date:*** | | | 2021-04-12 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Some of the information flows and the procedures for the one-to-one file distribution using HTTP require some small corrections for clarification. Furthermore, considering that files are only temporarily stored in the MCData content server, the procedures for the one-to-one file distribution using HTTP are enhanced to enable that the MCData server, upon the reception of an MCData FD request, may first verify if the corresponding file is available in the MCData content server to be distributed to the target MCData user. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Information flows and the procedures for the one-to-one file distribution using HTTP are modified to address some clarifications and to enhance the procedures by enabling that the MCData server may first verify the availability of the file in the MCData content server. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The corrections are needed to provide a better clarification of the information flows and procedures related to the one-to-one file distribution using HTTP. Also, enabling that the MCData server may first verify the availability of the file in the MCData content server can avoid unnecessary signalling and waste of resources in the whole MCData system (including the network). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.5.2.1.5, 7.5.2.1.6, 7.5.2.4.2, 7.5.2.4.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \*

##### 7.5.2.1.5 MCData FD request (using HTTP)

Table 7.5.2.1.5-1 describes the information flow for the MCData FD request (in subclause 7.5.2.4.2) sent from the MCData client to the MCData server.

Table 7.5.2.1.5-1: MCData FD request (using HTTP) from MCData client to MCData server

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user sending file |
| Functional alias | O | The functional alias associated with MCData user sending the file. |
| MCData ID (see NOTE) | O | The identity of the MCData user receiving file |
| Functional alias (see NOTE) | O | The associated functional alias of the MCData user identity towards which the data is sent. |
| Conversation Identifier | M | Identifies the conversation |
| Transaction Identifier | M | Identifies the MCData transaction |
| Reply Identifier | O | Identifies the original MCData transaction to which the current transaction is a reply to |
| Disposition indication | O | Indicates whether file download completed reported is expected or not |
| Download indication | O | Indicates mandatory download |
| Application metadata container | O | Implementation specific information that is communicated to the recipient |
| Content reference | M | URL reference to the content and file metadata information |
| Emergency indicator | O | Indicates that the data request is for MCData emergency communication |
| Deposit file indication | O | Indicates whether the file to be stored into the MCData message store account of the MCData user |
| NOTE: Either the MCData ID or the functional alias must be present. | | |

Table 7.5.2.1.5-2 describes the information flow for the MCData FD request (in clause 7.5.2.4.2) sent from an MCData server to a partner MCData server.

Table 7.5.2.1.5-2: MCData FD request (using HTTP) from an MCData server to another MCData server

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user sending file |
| Functional alias | O | The associated functional alias of the MCData user identity sending the file. |
| MCData ID | M | The identity of the MCData user receiving file |
| Functional alias | O | The associated functional alias of the MCData user identity towards which the data is sent. |
| Conversation Identifier | M | Identifies the conversation |
| Transaction Identifier | M | Identifies the MCData transaction |
| Reply Identifier | O | Identifies the original MCData transaction to which the current transaction is a reply to |
| Disposition indication | O | Indicates whether file download completed reported is expected or not |
| Download indication | O | Indicates mandatory download |
| Application metadata container | O | Implementation specific information that is communicated to the recipient |
| Content reference | M | URL reference to the content and file metadata information |
| Emergency indicator | O | Indicates that the data request is for MCData emergency communication |

Table 7.5.2.1.5-3 describes the information flow for the MCData FD request (in clause 7.5.2.4.2) sent from the MCData server to the MCData client.

Table 7.5.2.1.5-3: MCData FD request (using HTTP) from MCData server to MCData client

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user sending file |
| Functional alias | O | The associated functional alias of the MCData user sending the file. |
| MCData ID | M | The identity of the MCData user receiving file |
| Conversation Identifier | M | Identifies the conversation |
| Transaction Identifier | M | Identifies the MCData transaction |
| Reply Identifier | O | Identifies the original MCData transaction to which the current transaction is a reply to |
| Disposition indication | O | Indicates whether file download completed reported is expected or not |
| Download indication | O | Indicates mandatory download |
| Application metadata container | O | Implementation specific information that is communicated to the recipient |
| Content reference | M | URL reference to the content and file metadata information |
| Emergency indicator | O | Indicates that the data request is for MCData emergency communication |

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

##### 7.5.2.1.6 MCData FD response (using HTTP)

Table 7.5.2.1.6-1 describes the information flow for the MCData FD response (in subclause 7.5.2.4.2) sent from the MCData client to the MCData server, from the MCData server to another MCData client and from an MCData server to a partner MCData server.

Table 7.5.2.1.6-1: MCData FD response (using HTTP)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user sending FD request |
| MCData ID | M | The identity of the MCData user sending response |
| Conversation Identifier | M | Identifies the conversation |
| Result | O | Indicates if the request is accepted or not |

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

##### 7.5.2.4.2 Procedure for single MCData system

The procedure in figure 7.5.2.4.2-1 describes the case where a MCData user is initiating one-to-one data communication for sending file to the other MCData user, with or without download completed report request.

Pre-conditions:

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

2. The file to be distributed is uploaded to media storage function on MCData content server using the procedures defined in subclause 7.5.2.2.

3. The MCData client may have activated functional alias to be used.

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



Figure 7.5.2.4.2-1: One-to-one file distribution using HTTP

1. The user at the MCData client 1 initiates a file distribution request to the chosen MCData user.

2. The MCData client 1 sends a MCData FD request towards the MCData server. The MCData FD request contains content payload in the form of file URL and may contain the file metadata information. The MCData FD request contains one MCData user for one-to-one data communication as selected by the user at MCData client 1. The MCData FD request contains conversation identifier for message thread indication. The MCData FD request may include additional implementation specific information in the application metadata container. If MCData user at MCData client 1 has requested to mandatory download at the recipient side, then MCData FD request contains mandatory download indication. The MCData FD request may contain download completed report indication if selected by the user at MCData client 1. The MCData user at MCData client 1 may include a functional alias within the FD data transfer and may address the target MCData client 2 using a functional alias.

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

i) The MCData FD request shall contain emergency indicator; and

ii) If MCData emergency state is not set already, MCData client 1 sets its MCData emergency state. The MCData emergency state of MCData client 1 is retained until explicitly cancelled by the user of MCData client 1.

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.

3. MCData server checks whether the MCData user at MCData client 1 is authorized to send MCData FD request and that the size of the file is below maximum data size for FD from the service configuration. MCData server verifies whether the provided functional alias of MCData client 1, if present, can be used and has been activated for the user. If functional alias is used to address that target MCData user, the MCData server resolves the functional alias to the corresponding MCData IDs for which the functional alias is active and proceed with step 4 otherwise proceed with step 6.

NOTE 2: If the MCData server detects that the functional alias used as the target of the MCData FD request is simultaneously active for multiple MCData users, then the MCData server can proceed by selecting an appropriate MCData ID based on some selection criteria. The selection of an appropriate MCData ID is left to implementation. These selection criteria can include rejection of the MCData FD request, if no suitable MCData ID is selected.

4. The MCData server may verify whether the corresponding file is available in the MCData content server (not shown in the figure) via the MCData-FD-5 reference point using the received file URL in the MCData FD request. For that, the MCData server sends an MCData file availability request to the MCData content server. Upon the receipt of the request, the MCData content server provides an MCData file availability response to the MCData server. If the MCData server identifies that the corresponding file is not available in the MCData content server, the MCData server provides a response to the MCData client 1 indicating that the file distribution request cannot proceed due to the unavailability of the file in the MCData content server.

5. The MCData server responds back to MCData client 1 with a functional alias resolution response message that contains the resolved MCData ID.

6. If the MCData server replies with a MCData functional alias resolution response message, the MCData client 1 sends a new MCData FD request towards the resolved MCData ID.

7. MCData server initiates the MCData FD request towards MCData client 2. The MCData FD request towards the MCData user contains an emergency indicator if it is present in the received MCData FD request from MCData client 1.

NOTE 3: MCData client 2 does not set its emergency state as a result of receiving the MCData FD request containing the emergency indicator.

8. The receiving MCData client 2 notifies the user about the incoming MCData FD request (including file metadata, if present) which may be either accepted or rejected or ignored.

9. The MCData user 2 may provide a response (accept or reject) or not (ignore) to the notification, then MCData client 2 sends the MCData FD response to the MCData server. The MCData client 2 automatically sends an accepted MCData FD response when the received request includes a mandatory download indication.

10. The MCData server forwards the MCData FD response to the MCData client 1.

11. The Media storage client on the MCData client 2 downloads the file from the MCData content server using the procedures defined in subclause 7.5.2.3, either automatically (for mandatory download) or based upon the MCData user 2 subsequent action. The MCData client 2 records file download completed and notifies the MCData user 2.

12. The MCData client 2 provides an MCData download completed report for reporting file download completed, if requested by the user at MCData client 1.

12. The received MCData file download completed report from the MCData client 2 may be stored by the MCData server for download history interrogation from authorized MCData users. The MCData download completed report is sent by the MCData server to the MCData user at MCData client 1, if requested by the MCData client 1.

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

##### 7.5.2.4.3 Procedure with interconnection between MCData systems

The procedure in figure 7.5.2.4.3-1 describes the case where a MCData user initiates a one-to-one data communication for sending a file to another MCData user where that other MCData user is receiving MCData service on a partner MCData system, and where interconnection is in use between the two MCData systems. In this procedure, the file has not previously been downloaded in the partner MC system.

Pre-conditions:

1. The MCData users on the MCData client 1 and the MCData client 2 are already service authorized and receiving MCData service. MCData client 1 is receiving service on its primary MCData system, and MCData client 2 is receiving MCData service in the partner MCData system of MCData client 1.

2. The file to be distributed has been uploaded to the media storage function on the MCData content server in the primary MCData system of MCData client 1 using the procedures defined in subclause 7.5.2.2.

3. There is a service agreement between the primary and partner MCData systems to allow files to be shared between MCData content servers in the two systems.

4. The MCData client may have an activated functional alias to be used.

5. The MCData server may have subscribed to the MCData functional alias controlling server within the MC system for functional alias activation/de-activation updates.



Figure 7.5.2.4.3-1: One-to-one file distribution using HTTP with interconnection

1. The user at the MCData client 1 initiates a file distribution request to the MCData user at MCData client 2.

2. MCData client 1 sends an MCData FD request towards the primary MCData server. The MCData FD request contains content payload in the form of a file URL with the necessary access authorization information and may contain the file metadata information. The MCData FD request indicates the target MCData user for the one-to-one data communication. The MCData FD request contains a conversation identifier for message thread indication. If the MCData user at MCData client 1 has requested to mandatory download at the recipient side, then the MCData FD request contains the mandatory download indication. The MCData FD request may contain a request for a download completed report indication if selected by the user at MCData client 1. The MCData user at MCData client 1 may include a functional alias within the FD data transfer and may address the target MCData client 2 using a functional alias.

3. MCData server checks whether the MCData user at MCData client 1 is authorized to send the MCData FD request and that the size of the file is below maximum data size for FD from the service configuration. MCData server verifies whether the provided functional alias of MCData client 1, if present, can be used and has been activated for the user.

4. The MCData server may verify whether the corresponding file is available in the MCData content server via the MCData-FD-5 reference point using the received file URL in the MCData FD request. If the MCData server identifies that the corresponding file is not available in the MCData content server, the MCData server provides a response to the MCData client 1 indicating that the file distribution request cannot proceed due to the unavailability of the file in the MCData content server.

5. The MCData server in the primary MCData system initiates the MCData FD request towards the MCData server in the partner MCData system, which contains the URL of the file which is stored in the primary MCData content server. The request includes the necessary access authorization information as MCData client 2 will retrieve the file while receiving service in the partner MCData system.

NOTE 1: The contents of and mechanisms to use the authorization information are outside the scope of the present document.

NOTE 2: With the use of the functional alias for addressing the target MCData clients, the partner MCData system is to be determined by the primary MCData system.

6. If functional alias is used to address that target MCData user, the MCData server in the partner MCData system resolves the MCData IDs of the functional alias. The resulting list contains all associated MCData IDs/MCData users that may share this functional alias. The MCData server in the partner MCData system now checks which MCData users have FD capabilities and which are authorized to receive a file. The partner MCData server sends the MCData FD request to the MCData users determined. The file URL being provided in MCData FD request to the MCData users determined is prepended with server URI of the partner MCData content server, such that the URL identifies a file location in the partner MCData content server.

NOTE 3: Determination of the target MCData client is based on the associated MCData IDs that share a functional alias and other criteria.

7. The receiving MCData client 2 may notify the user about the incoming MCData FD request (including file metadata, if present) which may be either accepted, rejected or ignored.

8. The MCData user 2 may provide a response (accept or reject) or not (ignore) to the notification, then the MCData client 2 sends the MCData FD response to the partner MCData server. The MCData client 2 automatically sends an accepted MCData FD response when the received request includes a mandatory download indication.

9. The partner MCData server forwards the MCData FD response to the MCData server in the primary MCData system.

10. The primary MCData server forwards the MCData FD response to MCData client 1.

11. MCData client 2 requests the file from the partner MCData content server.

NOTE 4: Step 11 may occur any time after step 8, before or after steps 9 and 10.

12. The partner MCData content server checks whether the file is stored locally, and if this is not the case, sends an MCData file retrieve request to the primary MCData content server. The MCData file retrieve request contains the URL of the file location in the primary MCData system, generated by removing the prepended local path from the requested URL.

NOTE 5: The means of proving authorization for the request is outside the scope of the present document.

13. The primary MCData content server responds to the partner MCData content server with an MCData file retrieve response which contains the content of the file to be retrieved. File metadata may include the lifetime of the file. The primary MCData content server records that the file has been sent to the indicated partner MCData system.

NOTE 6: The partner MCData content server may store the local copy of the file in case future requests arise until the expiry time sent from primary MCData system for the file is reached or until a request is received to delete the file.

14. The partner MCData content server sends the file to MCData client 2 in the MCData download data response. MCData client 2 records file download completed and notifies MCData user 2.

15. The MCData client 2 provides an MCData download complete report for reporting file download completed, if this was requested by the user at MCData client 1 in the initial MCData FD request.

16. The MCData download complete report is sent to the primary MCData server. The partner MCData server may store the download complete report for download history interrogation from authorized MCData users in the partner MCData system.

17. The received MCData download completed report is sent by the primary MCData server to the MCData user at MCData client 1, if requested by the MCData client 1. The MCData file download completed report from the MCData client 2 may be stored by the primary MCData server for download history interrogation from authorized MCData users in the primary MCData system.