**3GPP TSG-SA WG6 Meeting #42-e S6-210492**

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

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0268** | **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:*** | Enhanced one-to-one FD using HTTP procedure (interconnection between MCData systems) including request of network resources with required QoS for the MCData file download | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMCData3 | | | | |  | ***Date:*** | | | 2021-03-01 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
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| ***Reason for change:*** | | MCData file download based on HTTP is defined directly between an MCData client and the MCData content server without the involvement of the MCData server, as described in clause 7.5.2.3. This leads to provide such a service with a best effort QoS since the MCData server is the only functional entity that can request the allocation of network resources with the required QoS for MCData communications.  This becomes specially critical for the case of congested network loads and an MCData user indicating an emergency state. The MCData content server does not support the capability to request the 3GPP system the configuration of the required priority of the underlying bearers since it can be only done by the MCData server. | | | | | | | | |
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| ***Summary of change:*** | | The procedures for the one-to-one file distribution using HTTP (interconnection between MCData systems) is enhanced by enabling that the MCData server sends to the 3GPP system a request for network resources with required QoS for the corresponding MCData file download based on HTTP. | | | | | | | | |
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| ***Consequences if not approved:*** | | MCData services such as file download based on HTTP can only be reliably provided when there is low or normal network load, but not in congested network loads. Also, HTTP-based MCData communications for MCData users in an emergency state cannot be established with the required priority of the underlying bearers. | | | | | | | | |
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| ***Clauses affected:*** | | 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 \* \* \*

##### 7.5.2.4.3 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.

6. The MCData client 2 knows its IP address/port to be used for the file download as well as the URI or IP address/port of the target MCData content server.

NOTE 1: How the MCData client knows the IP address and port to be used for the file download is implementation specific and out of the scope of this specification.



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 over 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 2: The contents of and mechanisms to use the authorization information are outside the scope of the present document.

NOTE 3: 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. The partner MCData server also includes a file download completed report indication within the request if it was not already requested by the MCData client 1.

NOTE 4: 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. 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 partner MCData server. MCData client 2 automatically sends an accepted MCData FD response when the received request includes mandatory download indication. If the MCData client 2 provides an accepted response, it includes information to be used for the file download by the MCData client (indicating IP address and port) and the target MCData content server (indicating the associated URI or IP address, and port).

9. The partner MCData server sends a request to the 3GPP system for the allocation of network resources with the required QoS for the corresponding file download communication between the respective MCData client and the partner MCData content server (steps 12 and 15). For that, the partner MCData server performs policy and charging control (PCC) procedures, e.g., over the Rx reference point as described in 3GPP TS 23.203 [14] for the case of an EPS system.

10. The partner MCData server forwards the MCData FD response to the MCData server in the primary MCData system. The partner MCData server removes, if present in the received MCData FD response, the information associated to the MCData client 2 (e.g. IP address, and port), and the target MCData content server (e.g. URI or IP address, and port).

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

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

NOTE 5: Step 12 may occur any time after step 8, before or after steps 10 and 11.

13. 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 6: The means of proving authorization for the request is outside the scope of the present document.

14. 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 7: 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.

15. 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.

16. MCData client 2 provides an MCData download complete report to the partner MCData server for reporting file download completed..

17. 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.

18. The 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 MCData user may be stored by the primary MCData server for download history interrogation from authorized MCData users in the primary MCData system.

19. Based on the received MCData download completed report, the partner MCData server requests to the 3GPP system to release the network resources allocated for the corresponding file download.

NOTE 8: Step 19 can occur at any time following step 16.