**3GPP TSG-SA WG6 Meeting #42-e S6-210489**

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.282** | **CR** | **0265** | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | MCData file upload using HTTP including request of network resources with required QoS | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eMCData3 | | | | |  | ***Date:*** | | | 2021-03-01 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | MCData file upload 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 7.5.2.2. 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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | A solution is introduced to enable the request of network resources with required QoS to the 3GPP system for MCData file uploads based on HTTP. Therefore, the MCData file upload can be provided with required QoS after a notification to the MCData users from the MCData server. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | MCData services such as file upload 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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | (new) 7.5.2.1.x, (new) 7.5.2.1.y, (new) 7.5.2.1.z, (new) 7.5.2.2.x | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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.x MCData file upload request

Table 7.5.2.1.x-1 describes the information flow for the MCData file upload request sent from the MCData client to the MCData server.

Table 7.5.2.1.x-1: MCData file upload request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user uploading the file |
| Transaction Identifier | M | Identifies the MCData transaction |
| Access information | M | Provides access resource details to be used by the MCData client for the file upload, e.g. IP address and port |
| MCData content server information | M | Provides information about the target MCData content server, where the file is intended to be uploaded, e.g. URI or IP address, and port (e.g. standard port 80 for HTTP) |
| Emergency indicator | O | Indicates that the request is for an MCData emergency communication |

##### 7.5.2.1.y MCData file upload response

Table 7.5.2.1.y-1 describes the information flow for the MCData file upload response sent from the MCData server to the MCData client.

Table 7.5.2.1.y-1: MCData file upload response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user requesting to upload the file |
| Transaction Identifier | M | Identifies the MCData transaction |
| File upload confirmation | M | Indicates whether the file upload to the MCData content server can proceed or not |

##### 7.5.2.1.z MCData file upload completion status

Table 7.5.2.1.z-1 describes the information flow for the MCData file upload completion status sent from the MCData client to the MCData server.

Table 7.5.2.1.z-1: MCData file upload completion status

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MCData ID | M | The identity of the MCData user uploading the file |
| Transaction Identifier | M | Identifies the MCData transaction |
| File upload status | M | Indicates the file upload to the MCData content server is completed |

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

##### 7.5.2.2.x Procedure for file upload including request of network resources with required QoS

The procedure in figure 7.5.2.2.x-1 describes the case where an MCData client sends a request to the MCData server for the upload of a file from the media storage client on the MCData client to the media storage function on the MCData content server. The MCData server can, therefore, request network resources with the required QoS for the corresponding file upload.

Pre-conditions:

1. The MCData user on the MCData client is registered on the MCData server for receiving MCData service.

2. The MCData client is required to upload a file to the MCData content server over network resources with required QoS.

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

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



Figure 7.5.2.2.x-1: File upload using HTTP over network resources with required QoS

1. The MC user on the MCData client intends to upload a file to the MCData content server for file distribution. The MCData client verifies that the size of the file is within the maximum data size for FD for the intended MCData FD request (e.g., by checking the group configuration for a group FD request or the service configuration for a one-to-one FD request). If the MCData emergency state is already set for the MCData client, the MCData client sets the emergency indicator in the request.

2. The MCData client sends the MCData file upload request to the MCData server. This request contains information about the MCData client (including IP address and port to be used for the file upload), and the target MCData content server (including associated URI or IP address, and port).

3. The MCData server verifies that the corresponding MCData client is authorized to upload files to the corresponding MCData content server.

4. If the MCData client is authorized for the file upload, the MCData server sends a request to the 3GPP system for the allocation of network resources with the required QoS for the corresponding file upload communication between the MCData client and the MCData content server. For that, the 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.

5. The MCData server sends a MCData file upload response to the MCData client indicating if it can proceed with the file upload to the MCData content server.

6. The media storage client on the MCData client sends an MCData upload data request to the media storage function on the MCData content server to upload the file.

7. The MCData content server provides an MCData upload data response to the MCData client indicating if the file was successfully stored (along with file URL) or failure.

8. The MCData client provides to the MCData server an MCData file upload completion status indicating that the file upload is completed.

9. Based on the MCData file upload completion status, the MCData server requests to the 3GPP system to release the network resources allocated for the corresponding file upload.

Editor’s note: It is FFS whether transmission control is applied for the file upload to the MCData content server.