**3GPP TSG-SA WG6 Meeting #49-e S6-221088**

**e-meeting, 16th – 25th May 2022 (revision of S6-22xxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.289** | **CR** | **0068** | **rev** | **-** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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:*** | Call connect and disconnect over 5G MBS for MCData | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MCOver5MBS | | | | |  | ***Date:*** | | | 2022-05-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | The Call connect and disconnect over 5G MBS for SDS data distribution during MCData group communication are missing. it is an important feature for MCX over 5G MBS.  This CR is to add the related solution for Call connect and disconnect over 5G MBS for MCData group communication | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Adding general description about Call connect and disconnect over 5G MBS for MCData group communication 2. Adding procedures for Call connect and disconnect over 5G MBS for MCData group communication | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The Call connect and disconnect over 5G MBS will not be available for the MCData service (e.g. SDS session using mediaplane) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | New (7.3.3.12.4, 7.3.3.12.4.1, 7.3.3.12.4.2, 7.3.3.12.4.2.1, 7.3.3.12.4.2.2 & 7.3.3.12.5) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

##### 7.3.3.12.4 Call connect and disconnect over MBS session procedures

###### 7.3.3.12.4.1 General

MBS session can be used for MCData group communication. One MBS session may be not permanently associated to one specific group or group communication.

NOTE: It is implementation-specific that one MBS session can be re-assigned to different groups, or is associated to only one group.

The procedure in clause 7.3.3.12.4 requires that the group session is setup before the data transmission starts. This eliminates the need for the receiving clients to continuously use a unicast session. Prior to group session setup, the MBS session is activated and announced to the MCData clients.

###### 7.3.3.12.4.2 Procedure

7.3.3.12.4.2.1 Group communication connect over MBS session

Pre-conditions:

- The MCData clients 1 to n are attached to the 5GS, registered and affiliated to the same MCData group X.

- The MCData server has directly performed (or via NEF/MBSF) an MB-SMF discovery and selection, unless the corresponding information is locally configured.

- The MCData server has decided to use an MBS session for the MCData service group communication associated with to the MCData group X.

- The MCData clients 2 to n are within the MBS service area (if the session is limited to an area) where the MBS session is configured.



Figure 7.3.3.12.4.2.1-1: Group communication connect over broadcast and multicast MBS sessions.

1. An MBS session is configured with the required QoS requirements announced and established.

NOTE: In case of broadcast MBS sessions, the session is established as part of session configuration procedures as described in 3GPP TS 23.247 [15]. In case of multicast MBS sessions, the session is established as specified in step 2.

2. In the case of multicast MBS sessions, the MCData UE initiates a UE session join towards the 5GS based on the session information provided to the MCData UE during the service announcement step. This step 2 is essential in order to receive the corresponding MC media. The multicast MBS session is hence established once the first initiated UE session join is accepted as indicated in 3GPP TS 23.247 [15].

3. MCData client 1 initiates a group communication by sending a MCData group session data request over a unicast PDU session towards the MCData server.

4. MCData server initiates the MCData group data request towards each MCData clients 2 to n.

5. The receiving MCData clients 2 to n optionally notify the user about the incoming MCData session data request.

6. The receiving MCData clients 2 to n accept or reject the MCData group data request and the corresponding result is in the MCData group data response towards MCData server.

7. The MCData server sends a MapGroupToSessionStream including the necessary stream information for the MCData clients 2 to n to receive the MC data related to the group communication which is taken place within the associated MBS session.

8. The MCData clients 2 to n process the MapGroupToSessionStream information and may send a MapGroupToSessionStream Ack back to the MCData server if required.

9. MCData server forwards the MCData group data response received from MCData clients 2 to n to the MCData user initiating the MCData session data request.

NOTE: The steps 4 to 6 and steps 7 to 8 can occur in any order, and prior to step 10 depending on the conditions to proceed with the data transmission.

10. MCData client 1 sends the MC data over uplink unicast PDU session towards the MCData server.

11. The MCData server sends the MC data over the indicated stream within the associated MBS session to the MCData clients 2 to n.

7.3.3.12.4.2.2 Group communication disconnect from MBS session

Figure 7.3.3.12.4.2.2-1 presents the procedure for a group communication call disconnect over broadcast and multicast MBS sessions.



Figure 7.3.3.12.4.2.2-1: Group communication disconnect over broadcast and multicast MBS sessions.

1. The MC group communication is taking place over the associated MBS session. MCData client 1 is sending the MC data over a unicast PDU session to the MCData server.

2. The MCData server sends the MC data over the associated MBS session to MCData clients 2 to n.

3. After the MC data transmission is over, i.e., no further data to be sent over the group communication, the MCData server sends an UnMapGroupFromSessionStream to de-associate the group communication from the MBS session.

4. The MCData server may decide to release the MBS session by sending an MBS session release request towards the 5GS indicating the MBS session ID to be released as specified in 3GPP TS 23.247 [15].

NOTE: In case of multicast MBS sessions, the 5GS removes the MCData UEs 2 to n from the multicast MBS session as a response to the session release request. Hence, the resources in both NG-RAN and 5GC are released.

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

##### 7.3.3.12.5 Downlink media transmission with 5MBS

The MCData service shall support the procedure for using pre-created MBS session, or dynamic MBS session as specified in clause 7.3.3.1.

MCData may use MBS session for the different types of sub-services. Both SDS and FD can use the pre-created MBS session or dynamic MBS session for distributing the data.

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