**3GPP TSG-SA WG6 Meeting #37-e S6-200799**

**e-meeting, 14th – 26th May 2020 (revision of S6-xxxxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.280** | **CR** | **0259** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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:*** | Clarification and correction on media direction | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh3MCPTT | | | | |  | ***Date:*** | | | 2020-04-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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:*** | | In 10.7.3.9.2.2 Multi-server bearer coordination inn 23.280, the MC service server can use the MBMS bearer discovered from the MBMS bearer control role to deliver the group call downlink media to the receiving participants.  However, the MBMS bearer discover from MC service server 3 before utilizing the MBMS bearer at step 6 and 7 is missing, which causes confusion about how MC service server 3 get the MBMS bearer for group media delivery.  . | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the discover bearer requst and response for MC service 3 in the figure 10.7.3.9.2.2-1 and update the corresponding steps. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Confussion and misunderstanding may be caused. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.7.3.9.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1st change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

###### 10.7.3.9.2.2 MBMS bearer coordination within one group call

The procedure in this sub clause may be used when two MC service servers are serving users in the same area and are configured to share MBMS bearers for that specific area. The MC service servers are of the same kind, and the MC service servers may participate in the same group call, and by that have a need to broadcast the same content.

Pre-conditions:

- All MC service servers are configured with the contact information of those MC service servers that are configured to take the MBMS bearer control role.



Figure 10.7.3.9.2.2-1: Multiple server MBMS procedure

1. The MC service server 1 and MC service server 3 evaluate whether multicast is desired for each service area in which MC service group members are located, based upon the locations, affiliation status and other factors.

2. The MC service server 1 and MC service server 3 determine whether another MC service server has already established a bearer with coverage for the MBMS service area where multicast is desired. To do this, the MC service server 1 and MC service server 3 consult a pre-configured list of MC service servers and sends them a discover bearer request. This request may be sent to several MC service servers.

NOTE 1: MC service servers of the same type can be configured to discover bearers from a single server. The single server then becomes a centralized entity for MBMS bearer control for the MC service. Similarly, all MC service servers of all types can be configured to discover bearers from a single server. The single server then becomes a centralized MBMS bearer controller for all MC services.

3. The MC service server 2 (MBMS bearer control role) responds with a discover bearer response indicating whether there is an MBMS bearer available in the specific MBMS service area with the requested bandwidth. The discover bearer response message includes the TMGI of the bearer that is shared between the MC service servers. If the bearer of interest has insufficient bandwidth, the polling MC service server 1 and MC service server 3 may resort to unicast, or may allocate another bearer for the congested area. If a duplicate bearer is allocated for the same area, the bearer should not be shared with other servers and may be torn down as soon as the congestion on the original bearer clears up, in order to conserve resources.

For any MBMS service areas not covered by another MC service server, the MC service server 1 and MC service server 3 prepare to distribute media to those MBMS service areas via multicast by setting up a bearer. The bearer set up by the MC service server 1 and MC service server 3 may then become available for other MC service servers (controlling role) for other MC service groups.

4. The MC service server 1 and MC service server 3 perform the MBMS bearer announcement and the MBMS listening reporting according relevant procedures specified in this specification. If the MC service server 2 is authorized to receive MBMS related location information from the users utilizing the services from MC service server 1 and MC service server 3, the MC service server 2 may optionally do the MBMS bearer announcement and handling the listening reports on behalf of MC service server 1 and MC service server 3. Listening reports shall in this case be sent to both MC service server 1, MC service server 3 and MC service server 2.

5. The MC service client 2 initiate a group call that is subject for multicast transmission. In this scenario there are more than one MC service server (i.e. MC service server 1 and MC service server 3) that serves MC service clients that are affiliated to the group, and by that should receive the media in the group call.

6a. The MC service server 1 sends a media distribution request to the MC service server 2 (MBMS bearer control role). The media distribution request includes the MC group identifier. This indicates that the media distribution request is used for this specific group call.

6b. The MC service server 3 sends a media distribution request to the MC service server 2 (MBMS bearer control role). The media distribution request includes the MC group identifier. This indicates that the media distribution request is used for this specific group call.

7a. The MC service server 2 (MBMS bearer control role) sends a media distribution response to the MC service server 1 indicating whether the request can be supported and supplies details about the bearer. This also includes details on which media stream that should be used for broadcasting the media on the MBMS bearer. This information is used in the MapGroupToBearer message sent by the MC service server when setting up the group call.

7b. The MC service server 2 (MBMS bearer control role) sends a media distribution response to the MC service server 3 indicating that the group call is already transmitted on the MBMS bearer by another MC service server. Based on the information, the MC service server 3 could decide to not broadcast media if media is already being broadcasted.

8a. The media is sent from the MC service client 2 to MC service server 1, which is the participating server for the MC service group of the group call.

8b. The media is forwarded to all MC service servers that are serving users that takes part in the group call.

NOTE 3: The figure above does not visualize the participating server for the MC service group and controlling server for the MC service group. The media is sent to all participating servers for the MC service group which are the servers that decide on unicast or multicast transmission.

9. The MC service server 1 forwards the media to MC service server 2 (MBMS bearer control role).

10. The MC service server 2 (MBMS bearer control role) distributes the media to MBMS served MC service client 1 via multicast.

11. The MC service server 1 sends a media distribution release request, informing the MC service server 2 (MBMS bearer control role) to request the MC service server 2 (MBMS bearer control role) to release the capacity that was reserved in step 5. The media distribution release request shall only be sent when the group call is terminated. 12. The MC service server 2 (MBMS bearer control role) respond to the request by sending a media distribution release request.

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