**3GPP TSG-CT WG4 Meeting #110-eC4-223193**

**E-Meeting, 12th – 20th May 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.527** | **CR** | **0056** | **rev** | **-** | **Current version:** | **17.3.1** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Support of Broadcast | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5MBS | | | | |  | ***Date:*** | | | 2022-04-30 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | It should be made it clear how a Broadcast MBS session interworking with an AMF Set (as discussed in C4-223192) when the AMF for a Broadcast MBS session has failed:  1. Another AMF in the same AMF set may be selected by an implementation specific mechanism for this Broadcast MBS session, this AMF will notify the MB-SMF this.  2.When the MB-SMF detects the AMF which was handling the MBS session has failed, the MB-SMF may reselect an alternative AMF by sending a MBS Broadcast Context Update Request message with an indication to request the AMF2 to not trigger any NGAP message to deliver N2 container - MBS Session Information Request Transfer, but just to store it for future potential NG-RAN restoration, so that the AMF becomes the serving AMF for this broadcast MBS session and is responsible for restoration | | | | | | | | |
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| ***Summary of change:*** | | A couple of requirements enabling a broadcast MBS session interworking with AMF Set feature are proposed. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is ambiguous how a broadcast MBS session would interwork with AMF set feature, or the benefit for AMF set is not utilized. | | | | | | | | |
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| ***Clauses affected:*** | | 8.x.2.y | | | | | | | | |
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|  | | **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 \* \* \* \*

#### 8.x.2.y Selecting an alternative AMF for a Broadcast MBS Session at AMF failure

When the AMF selected by the MB-SMF to start a Broadcast MBS Session fails with restart, to support the restoration procedure to restore the Broadcast MBS Session in a restarted NG-RAN as specified in 8.x.2.2 and 8.x.2.3, another AMF in the same AMF set need to be selected as described in clause 8.x.2.2, so that this alternative AMF becomes the serving AMF for this broadcast MBS session and is responsible for restoration, this can be done either:

- another AMF in the same AMF set is selected by an implementation specific mechanism, and this AMF sends Namf\_MBSBroadcast:ContextStatusNotify Request message to the MB-SMF to notify this; or

- When the MB-SMF detects the AMF which was handling the Broadcast MBS session has failed, the MB-SMF may reselect an alternative AMF by sending a Namf\_MBSBroadcast\_ContextUpdate Request message with an indication to require the alternative AMF to not trigger any NGAP message to deliver N2 container - MBS Session Information Request Transfer, but just to store it for future potential NG-RAN restoration.



Figure 8.x.2.y-1 Selecting an alternative AMF at AMF failure.

1. A Broadcast MBS Session has been established in the network.

2. The AMF1 has failed without restart.

3. Alternative A: another AMF2 in the same AMF set is selected by an implementation specific mechanism.

4. The AMF2 sends Namf\_MBSBroadcast\_ContextStatusNotify to the MB-SMF that the AMF2 becomes the AMF for the Broadcast MBS Session.

5. The MB-SMF acknowledges the notification and will send subsequent signalling message for this Broadcast MBS Session via the AMF2.

6. Alternative B: the MB-SMF detects that the AMF1 has failed without restart either via HTTP/2 PING Frame for directly connected, or via notifications from the NRF for the NF Status Change when it has subsribed such event.

4. The MB-SMF selects an alternative AMF pertaining to the same AMF set using the Binding Indication provided by the old AMF or using the NF profile of the old AMF.

5. The MB-SMF sends Namf\_MBSBroadcast\_ContextUpdate Request including a MBS Session ID, the corresponding MBS Service Area, a MBS Session Information Request Transfer, and sets the "noNgapSignallingInd" to "true" to request the alternative AMF to not trigger any NGAP signalling towards NG-RANs covering the MBS service area.

6. The AMF responds the Namf\_MBSBroadcast\_ContextUpdate Request message without triggering any NGAP MBS session signalling.

7. The AMF2 continues with the procedures as specified in clauses 8.x.2.2 and 8.x.2.3.

NOTE: Before any subsequent NGAP Broadcast MBS Session signalling towards NG-RANs covering the MBS service area, one of NG-RAN can send a NGAP Broadcast MBS Session signaling (e.g. Broadcast MBS Session Release Required) to a third AMF, e.g. AMF3, this doesn't affect that AMF2 is the AMF be responsible for the Broadcast MBS Session, e.g. to handle subsequent Namf\_MBSBroadcast\_ContextUpdate request messages or to restore the Broadcast MBS session at a NG-RAN restart.

\* \* \* \* End of changes \* \* \* \*