3GPP TSG-RAN WG2 Meeting #115-e R2-210xxxx

**e-Meeting, 16th - 27th August, 2021**

**Title: [Draft]** LS on the new MBS service ID and MBS session identification

**Response to:**

**Release:** Release 17

**Work Item:** NR\_MBS-Core

**Source:** To be RAN2

**To:** RAN3, SA2, SA4

**Cc:** -

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**Attachments:** -

**1. Overall Description:**

In RAN2#112-e, RAN2 agreed to support delivery mode 1 (which is used only for multicast sessions) and delivery mode 2 (which is used for broadcast sessions).

In RAN2#115-e, RAN2 discussed the service continuity for delivery mode 2 (i.e. for broadcast session) to allow the RRC\_IDLE/INACTIVE UE to prioritize the frequency which provides the UE’s interested MBS service and to allow the RRC\_CONNECTED UE to report MBS interest information to the network, and RAN2 achieved the following agreements:

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| **For IDLE / INACTIVE:** * The UE is allowed to prioritize the MBS frequency of interest when the cell of the MBS frequency provides MBS SIB carrying the MCCH configuration, as LTE SC-PTM.
* The UE is allowed to prioritize the MBS frequency of interest when the UE is only capable of receiving the MBS service by camping on the MBS frequency, as LTE SC-PTM.
* The UE may consider cell reselection candidate frequencies at which it cannot receive the MBS service to be of the lowest priority during the MBS session, as LTE SC-PTM.
* Working assumption: The mapping between frequency and MBS service ID (e.g. SAI) is provided in the upper layer signalling (e.g. USD), as LTE SC-PTM. (The detailed information included in the upper layer (e.g. USD) is up to the decision of other WGs)
* Send an LS to SA2 and SA4 to check whether the mapping between frequency and MBS service ID (e.g. SAI) is provided in the upper layer signalling (e.g. USD), as LTE SC-PTM.
* The mapping between frequency and MBS service ID (e.g. SAI) is provided in SIB, as LTE SC-PTM. The detailed mapping is pending for the feedbacks of other WGs.
* The mapping between frequency and MBS service ID (e.g. SAI) is allowed to be sent in cells not broadcasting MBS service, as LTE SC-PTM.
* The mapping between frequency and MBS service ID (e.g. SAI) is provided in a new SIB different from the MBS SIB providing the MCCH configuration, as LTE SC-PTM.
* An ID (e.g. SAI) of MBS services is provided in SIB and USD, as LTE SC-PTM. The details of the ID is pending for the feedbacks of other WGs.
* Send an LS to SA2, SA4 and RAN3 to check whether an ID (e.g. SAI) of MBS services can be provided in SIB and USD, as LTE SC-PTM.

For CONNECTED:* The UE reports the following MBS interest information (as LTE SC-PTM):

MBS frequency list priority between the reception of all listed MBMS frequencies and the reception of any unicast bearerTMGI list* If MBS frequencies are allowed to be reported, the MBS frequencies reported by the UE is sorted by decreasing order of interest, as LTE SC-PTM.
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Regarding the MBS service continuity function, the RRC\_IDLE/INACTVE/CONNECTED UE needs to use the MBS service information in both SIB and upper layer signalling (e.g. USD).

For RRC\_IDLE/INACTIVE UE, RAN2 has assumed that there would a mapping between frequency and MBS service ID (e.g. SAI) in SIB and/or in upper layer signalling (e.g. USD). If the MBS service ID (e.g. SAI) associated with the MBS frequency indicated in SIB matches the MBS service ID (e.g. SAI) associated with the MBS service of interest (identified by TMGI) indicated in upper layer signalling (e.g. USD), the UE is allowed to prioritize the corresponding MBS frequency as indicated in SIB. As an alternative, if the mapping between MBS frequency and MBS service ID (e.g. SAI) of the MBS service of interest (identified by TMGI) is provided in the upper layer signalling (e.g. USD), the UE is allowed to prioritize the MBS frequency provided in upper layer signalling.

To support the MBS service continuity, RAN2 would like to ask SA2, RAN3 and SA4 the following question:

Question 1: Can an ID (like LTE SAI) be defined for a MBS service, which can be used in SIB (to avoid too many TMGIs broadcast) and the upper layer signalling (e.g. USD)?

Question 2: Can the mapping between frequency and MBS service ID (e.g. SAI) be provided in the upper layer signalling (e.g. USD), as LTE SC-PTM?

There is another issue how to identify a MBS session for NR Multicast and Broadcast. During RAN2#115-e meeting, one of the issues related to NR MBS that RAN2 discussed was the identification of an MBS session in 5G/NR system. RAN2 noted that in RRC signalling provided from the network to the UE to configure (SC-)MRB in LTE MBMS, an MBMS session was identified by TMGI and a separate optional sessionID parameter, which is defined in the following way in 3GPP TS 36.331:

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| ***sessionId***Indicates the optional MBMS Session Identity, which together with TMGI identifies a transmission or a possible retransmission of a specific MBMS session: see TS 29.061 [51], clauses 20.5, 17.7.11, and 17.7.15. The field is included whenever upper layers have assigned a session identity i.e. one is available for the MBMS session in E-UTRAN. |

RAN2 would like seek a guidance from SA2:

**Question 3: Is sessionID parameter or alike required in NR or TMGI is sufficient to identify the MBS session for both broadcast and multicast sessions?**

**2. Actions:**

**To RAN3 group.**

**ACTION:** RAN2 respectfully asks RAN3 to answer the Question 1 above.

**To SA2 group.**

**ACTION:** RAN2 respectfully asks SA2 to answer the Question 1, Question 2 and Question 3 above.

**To SA4 group.**

**ACTION:** RAN2 respectfully asks SA4 to answer the Question 1 and Question 2 above.

**3. Date of Next TSG-RAN WG2 Meetings:**

3GPP RAN2#116-e from 2021-11-01 to 2021-11-12 Electronic Meeting