**3GPP TSG-RAN WG2 Meeting #113-e R2-201xxxx**

**E-meeting, 25th Jan – 5th Feb 2021**

**Title: Reply LS on 5MBS progress and issues to address**

**Response to: S2-2009235**

**Release: Release 17**

**Work Item: FS\_5MBS, NR\_MBS-Core**

**Source: RAN2**

**To: SA2, SA4, RAN3**

**Cc: SA3**

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**Attachments:** **N/A**

1 Overall description

RAN2 thanks SA2 for their LS on 5MBS progress and issues to address. RAN2 analysed the editor’s notes with an impact to RAN2 captured in section 8 of TR 23.757 and would like to provide feedback as below.

* **Editor's notes in section 8.2.2.2 of TR 23.757**

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| - The UE shall indicate leaving an MBS session in CM-CONNECTED with RRC-CONNECTED state.  Editor's note: Whether the UE can stop receiving traffic of a multicast session without indicating leaving in CM-IDLE state or CM-CONNECTED with RRC-INACTIVE state relies on RAN WG feedback. |

**RAN2 response:**

RAN2 assumes that MBS session join/leave indications are sent using NAS signalling regardless of the RRC state the UE is in. 5GC should inform RAN about the UE leaving the MBS session.

Editor's note: RAN and/or SA3 is assumed to determine the handling of the security for MBS traffic.

**RAN2 response:**

RAN2 will wait for SA3 to finalize their study on security for MBS before discussing security aspects in RAN2.

- The 5GC shall be able to trigger NG-RAN nodes to notify session start/activation of an MBS session to UEs.

Editor's note: How the NG-RAN node notify session activation to UEs relies on RAN WG feedback.

**RAN2 response:**

RAN2 assumes that in case the UE which joined the multicast session is in RRC CONNECTED state when the session is started, the gNB sends RRC Reconfiguration message with relevant MBS configuration to the UE and there is no need for separate session start notification for this UE. It is not clear whether the same should apply for session activation. To resolve this issue, RAN2 would like to request a clarification from SA2 about whether and what the difference is between a session start and session activation and between a session stop and session deactivation.

RAN2 has not yet discussed how the UEs in RRC IDLE and RRC INACTIVE states are notified of the multicast session start (and/or activation) and RAN2 will inform SA2 once the progress on that aspect is made.

* **Editor's notes in section 8.7 of TR 23.757**

Editor's note: How 5GC Shared MBS delivery is enabled for the UE will be developed with RAN WGs.

**RAN2 response:**

RAN2 believes this issue is related to shared MBS tunnel between RAN and UPF and not related to over-the-air radio bearer aspects. Thus it is out of RAN2 scope and should be answered by RAN3.

- During the inter supporting 5MBS NG-RAN node handover, minimization of data loss may be supported, e.g. by data forwarding, details for RAN WGs to decide.

Editor's note: It is FFS whether the support for lossless handover with data forwarding from source NG-RAN supporting 5MBS to the target NG-RAN not supporting 5MBS is needed, which needs confirmation by RAN.

**RAN2 response:**

From RAN2 perspective, mobility from the source gNB supporting MBS to target gNB not supporting MBS can be achieved by switching the traffic from delivery via MRB to delivery via DRB either before or during the handover. Whether and how this can be done without data losses has to be further investigated and requires progress and input from other WGs, i.e. RAN3 and SA2.

For delivery method switching not due to mobility, the following principle are agreed,

- Switching between PTP and PTM delivery methods for 5GC Shared MBS traffic delivery shall be supported. NG-RAN is the decision point for of switching the PTP and PTM delivery methods.

Editor's note: Whether any assistance information from CN is needed, e.g. for PTP/PTM delivery method decision and switching, needs further confirmation when the relevant conclusion is reached in RAN WGs.

**RAN2 response:**

The issue on assistance information from CN to RAN has been already replied in the LS from RAN2 in R2-2011271.

SA2 also asked RAN2 to provide feedback on the following question from SA4:

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| *SA2 also received the following question from SA4 and believe RAN WGs are more suitable to respond to this first:*  *SA4 Question: “The existing BM-SC hosts the SYNC (for time synchronization) and RoHC function. The prime reason here is MBSFN operation. SA4 understands that the 5MBS feature does not yet have a requirement for synchronization across adjacent cells, but that the related RAN normative work item does not preclude its introduction in a later release. Does SA2 have any view on the need of SYNC and/or RoHC support in the MBSF-U?”* |

**RAN2 response:**

SYNC protocol is not supported in the specifications in Rel-17. RAN2 has agreed that ROHC is to be located in RAN.

2 Actions

**To SA2 group:**

RAN2 respectfully asks SA2 to take the above feedback into account and provide feedback on whether and what the difference is between session start and session activation and between the session stop and session deactivation.

**To SA4, RAN3 group:**

RAN2 respectfully asks SA4 and RAN3 to take the above feedback into account.

3 Dates of next RAN2 meetings

TSG-RAN2 Meeting #113-bis-e April 12 – April 20, 2021 E-Meeting

TSG-RAN2 Meeting #114-e May 19 – May 27, 2021 E-Meeting