3GPP TSG-WG SA2 Meeting #142E e-meeting *S2-2008735r22*

Elbonia, November 16 – 20, 2020

**Source: Huawei, HiSilicon, CATT, ZTE**

**Title: KI#7: Conclusion update**

**Document for: Approval**

**Agenda Item: 8.9**

**Work Item / Release: FS\_5MBS / Rel-17**

*Abstract: This contribution proposes to updater the conclusion for KI#7.*

1. Introduction

In S2#141E e-meeting, regarding KI#7 the conclusions has been achieved with three Editor’s Notes captured. Per the analysis in S2-2008736, this paper proposes to update the conclusion of KI#7.

In [S2-2006044](https://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_140e_Electronic/Docs/S2-2006044.zip) "LS on RAN impact of FS\_5MBS Study", one question is asked on PTP/PTM delivery method switching: "4. Some solution suggests the 5GC sends MBS assistance information to RAN for PTP/PTM delivery method decision and switching. SA2 would appreciate RAN2 and RAN3 feedback on the above and comments, if any." To this question, RAN WG2 give the following response in [S2-2009094](https://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_142e_Electronic/Docs/S2-2009094.zip) (R2-2011271) "Reply LS on RAN impact of FS\_5MBS Study": "RAN2 agreed that at least information of MBS services/groups subscribed by the UE (e.g. TMGI) and QoS requirements of a MBS service should be provided to RAN for MBS operation in general. RAN2 has not concluded whether any information from CN is needed, e.g. for PTP/PTM delivery method decision and switching." Based on the response, an EN is proposed to the conclusion for KI#7.

# 2. Proposal

It is proposed to capture the following changes in TR 23.757.

\* \* \* \* First change \* \* \* \*

8 Conclusions

8.7 Key Issue #7: Reliable delivery method switching between unicast and multicast

For delivery method switching due to mobility, the following principle are agreed,

* When the UE moves from a NG-RAN node that supports 5MBS to a RAN node that does not support 5MBS, the network and UE shall support switch from 5GC Shared MBS traffic delivery method to 5GC Individual MBS traffic delivery method.
* When the UE moves from a RAN node that does not support 5MBS to a NG-RAN node that supports 5MBS, the network and UE shall support switch from 5GC Individual MBS traffic delivery method to 5GC Shared MBS traffic delivery method.
* When the UE joins an MBS session and handover to NG-RAN nodes not supporting 5MBS is required, mapping information is provided to the UE and to the NG-RAN node supporting MBS, which enables data reception of the MBS session via 5GC Individual MBS traffic delivery mode.
* To support handover to an NG-RAN node not supporting 5MBS, the N3 tunnel of the PDU Session, which is used for 5GC Individual MBS traffic delivery, need to be activated.
* During the handover from RAN not supporting 5MBS to NG-RAN supporting 5MBS, PDU sessions, including the one associated with the MBS session and used for 5GC Individual MBS traffic delivery, are handed over to target RAN.

NOTE 1:  How 5GC Shared MBS delivery is enabled for the UE will be developed with RAN WGs.

* During the mobility from NG-RAN supporting 5MBS to NG-RAN not supporting 5MBS, the 5GC triggers the switching from 5GC Shared MBS traffic delivery method to 5GC Individual MBS traffic delivery method.
* The delivery method during the MBS session establishment procedure is determined by 5GC based on NG-RAN support of MBS.

NOTE 2:  How 5GC determines NG-RAN support of MBS needs coordination with RAN WGs to further work on.

* 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..

NOTE 3: 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.

* It is commonly understood that if service requirements result in applying ‘lossless handover’ (see TS 38.300), UEs receiving MBS traffic of that MBS session need to be in CM-CONNECTED with RRC-CONNECTED state.

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.

NOTE 4: 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.

* If the NG-RAN node supports 5MBS, the network shall use the 5GC Shared MBS traffic delivery method for MBS Session packet transfer.

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Switching between multicast delivery and unicast delivery using individual UE and application server addresses is not specified in normative work.

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