**3GPP TSG-SA2 Meeting #156e S2-230xxxx**

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**Source: Lenovo, Tencent**

**Title: Indication of supporting PDU set handling**

**Document for: Discussion**

**Agenda Item: 9.12.2**

**Work Item / Release: XRM/ Rel-18**

*Abstract of the contribution: discussion on PDU set handling of RAN node*

# 1 Background

PDU set handling is agreed for XRM traffic. However, PDU set handling feature may not be homogenously supported in the network. In this paper, the indication of supporting PDU set handling from RAN node to 5GC is discussed.

# 2 Discussion

PDU set handling for XR traffic requests new user plane handling capability on UPF and RAN node. That is, UPF needs to identify PDUs of PDU set and derive PDU set information for DL XRM traffics and send them to RAN node via DL GTP-U header of each PDU identified as belonging to a PDU set based on SMF instruction. Besides, RAN node needs to identify PDUs of PDU set based on the PDU set information provided by UPF via DL GTP-U header, and perform PDU set integrated handling and differentiated QoS handling.

Some RAN nodes may not support PDU Set handling, e.g., the legacy RAN node has no PDU set handling capability. Besides, RAN node may also decide not to perform PDU set handling temporarily based on its own status. Therefore, SMF needs to be informed whether RAN node support PDU set handling or not to better configure UPF and RAN node. That is, SMF configures UPF to perform PDU set identification and marking if RAN node supports PDU set handling.

**Proposal 1: it is proposed SMF to be informed whether RAN node support PDU set handling or not to better configure UPF.**

Take the existing MBS scheme as an example, the following specifications specify how SMF is informed whether RAN node supports MBS or not.

In 23.247 [1], UE performs PDU session modification procedure to join Multicast MBS session. During the procedure, SMF informs RAN node the MBS session ID associated with the PDU session. Upon receiving the MBS session ID, RAN node provides SMF the indication of supporting MBS if it supports MBS.

In 38.300 [2], it is stated as follows for the handover case,

*During an active multicast MBS session, at mobility from an MBS-supporting NG-RAN node to an MBS non-supporting NG-RAN node, the target NG-RAN node sets up PDU Session Resources mapped to the multicast MBS Session. The 5GC infers from the* ***absence*** *of an "MBS-support" indication in the Path Switch Request message (Xn handover) or Handover Request Acknowledge message (NG handover) that MBS data packets delivery has to be switched to 5GC individual MBS traffic delivery as specified in TS 23.247 [45].*

*For mobility from MBS non-supporting NG-RAN node to MBS-supporting NG-RAN node, the existing Xn/NG handover procedures apply. The 5GC infers from the* ***presence*** *of the "MBS-support" indicator in the Path Switch Request message (Xn handover) or in the Handover Request Acknowledge message (NG handover) that MBS data packets delivery can be switched from 5GC MBS individual traffic delivery to 5GC shared traffic delivery. After handover, the SMF triggers switching MBS data packets delivery form individual to shared traffic delivery by providing MBS Session IDs joined by the UE to the NG-RAN node by means of the PDU Session Resource Modification procedure.*

Similar solution can be considered for SMF to be aware of whether RAN node support PDU set handling or not for both PDU session establishment/modification case and handover case.

**Proposal 2: it is proposed RAN node to provide the indication of supporting PDU set handling upon PDU session establishment/modification case and handover case.**

# 3 Reference

[1] 3GPP TR 23.247, 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects;

Architectural enhancements for 5G multicast-broadcast services; Stage 2 (Release 17)

[2] 3GPP TR 38.300, 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR; NR and NG-RAN Overall Description; Stage 2 (Release 17)