**3GPP TSG-SA WG2 Meeting #154 AH S2-2300499r22**

**Emeeting, Jan 16 - 20, 2022**

Title: [Draft] Reply LS on PDU Set Handling

Response to: (R2-2213351) LS on PDU Set Handling

Release: Rel-18

Work Item: XRM

Source: [Tencent, will be] SA2

To: RAN2

Cc: SA4, RAN3

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**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**1. Overall Description:**

SA2 thanks RAN2 for the LS on PDU set handling.

Regarding to the question in R2-2213351 on PDU set and QoS flow mapping, SA2 would like to reply RAN2 questions as follows:

**Q1: In order to decide how PDU sets could be mapped in radio protocols, RAN2 is wondering if different PDU sets could have different characteristics (for instance importance, PSER, and/or PSDB) and if so, which characteristics can be different and with which granularity (e.g. QoS flow, individual PDU Sets…)**

SA2 Answer: Based on the conclusion from the FS\_XRM study (See TR 23.700-60), SA2 agreed to define new 5G QoS parameters for PDU Set concept. The PDU Set comprises of one or more PDUs for which the following PDU Set QoS parameters are applicable:

* PDU Set Delay Budget (PSDB)
* PDU Set Error Rate (PSER)
* PDU Set Integrated handling Indication (PSIHI)

SA2 also agrees to define PDU Set importance that is conveyed on per-PDU Set basis. All the PDU Sets within one QoS flow should apply the same PSER, PSDB and PSIHI. The PDU Set importance of the different PDU Sets within one QoS flow can be different.

**Q2: RAN2 would also like to know whether different types of PDU set can be mapped to the same QoS flow and if so whether RAN should have the ability to treat those differently over the air interface. If RAN should have such an ability, RAN2 would like to know based on what information signalled to the gNB this would be based on.**

SA2 Answer:

SA2 has agreed that 1) Different types of PDU set can be mapped into the same QoS flow if their PDU set QoS parameters (and other QoS characteristics, e.g. 5QI, ARP) are the same. One QoS flow is associated with one PSER and one PSDB at any time. 2) Different PDU sets within one QoS flow can be associated with different ‘PDU Set importance’ information.

As concluded by SA2 in the FS\_XRM study, the PDU Set information ‘PDU Set importance’ may be provided by the UPF to NG-RAN via GTP-U header of user plane packet. It may be used by NG-RAN for PDU Set level packet discarding in presence of congestion.

SA2 defined a new QoS parameter PDU Set Error Rate (PSER) and kindly asks RAN2 to provide feedback on this new QoS parameter in relation to its intended purpose i.e. appropriate link layer protocol configurations.

*The PDU Set Error Rate (PSER) defines an upper bound for the rate of PDU Sets that have been processed by the sender of a link layer protocol (e.g. RLC in RAN of a 3GPP access) but that are not successfully delivered by the corresponding receiver to the upper layer (e.g. PDCP in RAN of a 3GPP access). Thus, the PSER defines an upper bound for a rate of non-congestion related packet losses. The purpose of the PSER is to allow for appropriate link layer protocol configurations (e.g. RLC and HARQ in RAN of a 3GPP access).*

**2. Actions:**

**To RAN2**

**ACTION:** SA2 kindly asks RAN2 to take the above into account and provide feedback.

**3. Date of Next TSG SA WG2 Meetings:**

TSG-SA WG2#155 Feb 20 – 24, 2023 E-meeting