**3GPP TSG-SA WG2 Meeting #153eS2-2208209r16**

**October 10 – 17, 2022**

Title: [draft]LS on XR and Media Services

Response to: LS on UE Power Saving for XR and Media Services (R1-2205531/S2-2208105) and LS on XR-awareness in RAN (R2-2209215/S2-2208144)

Release: Rel-18

Work Item: FS\_XRM, FS\_NR\_XR\_enh

Source: 3GPP TSG SA WG2

To: RAN WG1, RAN WG2, RAN WG3

Cc:

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Attachments:

**1. Overall Description:**

SA2 would like to thank RAN1’s LS reply (R1-2205531/S2-2208105) on UE power saving for XR and media services. So far, SA2 has started to evaluate and conclude solutions for key issues for the study of XR and Media Services and has reached conclusions in chapter 8 of TR 23.700-60. SA2 would like to coordinate with RAN WGs about the following aspects:

* In KI#3 (Network exposure), SA2 has been studying what information is useful for the purpose of enablement of rate adaptation at application and how that can can be exposed by 5GS to the serverand agreed the conclusions in TR 23.700-60 clause 8.zz (see pCR 2208536rZZ). The purpose of rate adaptation is to reduce the influx of data to keep the buffer/queue length level low which gives low latency. In the mentioned KI, SA2 clarifies supports for L4S and for exposure of congestion level are pending RAN WG's feedback on the feasibility of RAN judgment and/or exposure of the corresponding info (e.g. per QoS flow congestion level).

Two variants of L4S marking are considered: (1) L4S marking in the NG-RAN node and (2) L4S marking by the PSA UPF based on information provided by NG-RAN. SA2 would like to ask RAN2 and RAN3 feedback on the following questions:

* + Q1: whether it is feasible for RAN to estimate congestion per QoS flow, per DRB in downlink and uplink directions.
  + Q2: whether it is feasible for RAN to estimate congestion per QoS flow in UL, per DRB in UL without UE involvement and UE impacts.

SA2 is also considering per QoS flow congestion information exposure on N2 as well as on N3 for which SA2 seeks RAN WGs feedback.

* In KI#4&5 (PDU Set based QoS framework), SA2 has been discussing the extension of the 5GS QoS framework to support the efficient handling of PDU Set, mainly including PDU Set identification and PDU Set level QoS.

SA2 has agreed to send to the gNB the information captured in TR 23.700-60 clause 8.xx (see agreed pCR S2-2228568rXX).

In KI#8 (Power Saving), as to RAN1’s LS reply (R1-2205531/S2-2208105), SA2 notes that RAN1 indicates that it may be helpful for the core network to provide RAN with the following pieces of information: PDU set periodicity and start time, PDU set end indication, PDU set level QoS parameters, PDU set size (number of bits) or number of PDUs in a PDU set, PDU set identity and relationship information among PDUs within the same PDU set, and Jitter information. SA2 would like to inform RAN1 that relying on above listed PDU Set information alone may not result in an optimal CDRX configuration, since a data burst may include one or multiple PDU Sets. As a result, e.g. a PDU set end indication may or may not mark the end of a Data Burst. (See agreed pCR S2-2209159rYY)

**2. Actions:**

**To RAN WG1, RAN WG2, RAN WG3:**

**ACTION:**  SA2 kindly asks RAN WG1, RAN2 and RAN3 to take the above information into account and reply.

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

SA WG2 Meeting #154 14 – 18 November 2022 Toulouse, France

SA WG2 Meeting #155 20 – 24 February 2023 EU, EU