**3GPP TSG-WG SA4 Meeting #118E e-meeting**  ***S4-220478***

**Online, April 6th – 14th, 2022**

**Title: LS Reply on QoS support with PDU Set granularity**

Response to: LS (S2-2201803/S2-2201851/23700-60)

Release: Rel-18

Work Item: FS\_XRM

Source: SA4

To: SA2

Cc: RAN1, RAN2, RAN3

**Contact Person:**

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

Attachments: None

**1. Overall Description:**

SA4 thanks SA2 about the LS on QoS support with PDU Set granularity. SA4 would like to provide the following feedback:

1. provide any feedback/guidance as necessary on the PDU Set definition and Video Slice definition in the attached document S2-2201851.

Answer:

* w.r.t PDU Set definition: The SA4 understanding from TR 23.700-60 is that 5GS would like to optimize the use of radio resources when transporting XR by selective dropping of PDUs in a PDU Set, or an entire PDU Set, in case the delivery of this traffic cannot be used by the XR Client in the receiver. SA4 would like to note that a PDU Set may carry the payload for an encoded video bitstream, as well as audio/haptics. From those perspectives, the definition looks good.
* w.r.t Video slice definition: On a high-level, current definition in TR 23.700-60 is correct.

1. provide any input on traffic characteristics of typical media services that rely on e.g., PDU Sets, as necessary.

Answer: Few observations from SA4 regarding media traffic characters which may have an impact on a PDU or PDU sets:

1. The size of encoded video payload for each type of video frame such as I/P/B may be bigger than one MTU (ex. 1500bytes).
2. One PDU may only be able to carry one type of encoded video frame such as either an I or P/B frame due to packet size limitations.
3. The encoded bitstream may be encrypted per PDU.
4. clarify what, if any, dependency there is between the IP packets that make up PDU Sets, e.g. a frame/”slice”.

Answer: SA4 understands the question is regarding the dependency between different video frame types in a single PDU set. Feedback below:

1. The common size for an I-frame may be over one MTU (e.g., 1500 bytes)
2. One PDU may only carry the payload for one type of video frame.
3. If a lost PDU contains an I-frame, then the rest of PDUs in that PDU set may also be dropped.
4. If a lost PDU contains a P/B frame, then the rest of the PDUs in that PDU set may also be dropped.
5. clarify what, if any, dependency there is between PDU Sets that may carry, e.g. different frames/”slices”

Answer: SA4 understands the question is regarding

Answer: SA4 understands the requestion is regarding the dependency on video frame types among multiple PDU sets. Feedback below:

1. If a lost PDU contains an I-frame, then the rest of the PDUs in that PDU set may also be dropped. (Same as Q3(c)).
2. At the same time, the corresponding PDU set(s) containing referencing P/B frames may also need to be dropped.
3. provide feedback on the “*Annex X (informative): Traffic characteristics of XR and media services*” in the attached document S2-2201807

Answer: In General, the information provided in S2-2201807 Annex is valid.

**2. Actions:**

**To SA2 group.**

**ACTION:** SA4 asks SA2 group to take the above reply into account and provide feedback if any.

**3. Date of Next TSG SA WG4 Meetings:**

SA4#119-e 11 – 20 May 2022 E-Meeting