**Source: Huawei (Rapporteur)**

**Title: KI#4 and KI#5, key questions for company view collection**

This document is to collect company views on key questions of KI#4 and #5 to facilitate the following conclusion discussion. Please kindly provide your company views on the following questions before EoB of Sep 16th. The rapporteur will collect the views and propose summary/way forwards/SoH for further discussion afterwards.

### Q1: How does UPF identify DL PDU Set info?

* Option 1: use existing IETF RTP/SRTP RFC and draft
* Option 2: Define/extend N6 protocols to carry related info
	+ Option 2.1: extend GTP-U protocol
	+ Option 2.2: extend HTTP header (S2-2205830)
	+ Option 2.3: extend RTP header
* Option 3: UPF implementation based on e.g. traffic characteristics.
* Option 4: UPF interacts with NWDAF(S2-2205838)

**[Apple view]**

**Position: Support Option 1. Support Option 2.2/2.3 for an enhanced PDU Set identification**

**Justification**: Option 1 would be the least required for PDU Set identification. However there may be limitations to the extent of information that could be derived from interpreting the headers. Option 2.2 using MASQUE for identification of DL PDU Set on N6 or Option 2.3 by extending RTP header would offer more flexibility for deriving PDU Set information at the UPF for wider range of application communication. We also support these options as a longer term solution if achieving this in Rel-18 is difficult. We don’t support Option 3 and Option 4.

### Q2. How to deliver PDU Set importance information to RAN:

* Option 1: use different QoS Flows with different priority level. PDU Set importance is mapped to existing QoS flow priority.
* Option 2: use one QoS flow for different PDU Set with different priority level
	+ Option 2.1: use different sub-QoS Flow within one QoS Flow, and using sub-QoS flow Identifier in GTP-U header
	+ Option 2.2: use PDU Set importance information in GTP-U header

**[Apple view]**

**Position: Support option 1.**

**Justification**: Option 1 relies on the existing QoS model and is least complex when realized without increasing the max number of DRBs. If PDU sets of different importance are mapped to different QoS flows, some enhancement may be needed for in-order delivery at the RAN side. But this could be manageable provided the right set of header information is available. As a second priority we also support Option 2.2. We do not support Option 2.1.

### Q3: Support to PDU Set dependency-based scheduling

* Option 1: Identify accurate dependency relationship between PDU Sets for scheduling.
* Option 2: In some scenario (e.g. closed GOP), the decoding of the non-I frames between two successive I frames always directly or indirectly relies on the 1st I frame of the two successive I frames. If the 1st I frame is in error, the non-I frames can be dropped until the next I frame. (proposed in S2-2205839)
* Option 3: If a PDU Set is depended by others, it can be considered as more important during scheduling. But the scheduling will not further consider the accurate dependency relationship.

**[Apple view]**

**Position: Support Option 1 as a first preference.**

**Justification**: Option 1 is the preferred solution as it provides RAN with accurate information for dropping packets, driving capacity management. As a second option, we can go for option 3 (or a combination of Option 1 and 3 depending on the information available in the 5GS)

### Q4. Support to hierarchical PDU Set:

* Option 1: introduces PDU Set group. (S2-2205938)
* Option 2: not support.

**[Apple view]**

**Position: Option 2**

**Justification**: We are not convinced whether this added complexity would bring in any benefit.

### Q5. On “*Whether to drop a PDU Set in case PSDB is exceeded*”, do we need further define “*PDU Set Discard Time*” (A PDU Set shall be dropped in case this time is exceeded (sol 25 etc):

* Option 1: Support
* Option 2: not support.

**[Apple view]**

**Position: Option 2**

**Justification**: An option to drop PDU sets in quite important from RAN capacity point of view. However, looking at the existing QoS model we only have PDB and currently it does not require another parameter for discard timer. How the discard timer is set (e.g., in the RAN node or in the UE’s PDCP) is up to the RAN. This can be the same for XR. In other words, PSDB is essential, but PSDT is not absolutely needed. More important would be the information if a PDU Set can tolerate loss of packets.