**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)

**[InterDigital]**

**Position:**

Option 2.2

**Justification**:

We prefer option 2 over option 1 because it is more extensible / future proof. However, options 1 and 2 can be considered complimentary. Of the three options under option 2, option 2.2. is the most flexible.

We understand Option 3 to mean that PDRs in the UPF are configured to point to application detection rules and the application detection rules would not be standardized. We do not think that much can be achieved with this approach. It cannot be guaranteed that packets will be received in order and behaviour would not be consistent because the application detection rules would not be standardized.

Our concerns with Option 4 are similar to our concerns with option 3. Additionally, the added delay due to the interaction with the AnLF is concerning.

### 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

**[InterDigital]**

**Position:**

Option 1.

**Justification**:

Option 1 is preferred because it maintains the principle that packets that require the same treatment get mapped to the same QoS Flow. We are not opposed to conveying additional information in the GTP-U header. We do not see a good reason to introduce QoS sub-flows.

### 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.

**[InterDigital]**

**Position:**

Option 1.

**Justification**:

Option 1 is preferred because it can provide the same benefits as option 2 and 3. However, option 1 is more flexible in the sense that it is not tied specifically to the I frame / non-I frame scenario and it provides more information to the RAN than option 3. Although it should be acknowledged that option 1 requires more interaction with both SA4 and RAN WGs. SA2 should work with SA4 to identify what dependency information can be conveyed to RAN. RAN can then decide if and how the dependency information can be used.

### Q4. Support to hierarchical PDU Set:

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

**[InterDigital]**

**Position:**

Option 1.

**Justification**:

Similar to our answer for Q3, closer coordination with SA4 and RAN is required.

### 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.

**[InterDigital]**

**Position:**

Option 1.

**Justification**:

In some cases, the PDU(s) become worthless if the PSDB is exceeded, thus it is preferred to discard them.