**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)

**[Meta USA]**

**Position:** Support Option 1, Option 2.2, and Option 2.3.

**Justification**:

Option 1 should be supported when related media headers are not encrypted.

Option 2.2 should be supported when media headers are encrypted; otherwise, 3GPP is not able to deal with encrypted transport protocol e.g, with QUIC.

Option 2.3 should be supported for extendibility and efficiency when PDU set attributes identification are used.

Option 3 is purely based on vendor’s implementation; hence, outside 3GPP scope. Implementation (not standard based) will introduce a wide variety of requirements/supports in the ecosystem. This is not preferred.

Option 4: is not preferred as the outcome is highly dependent on the AI/ML engine. A more precise solution is preferred (option 1 or 2).

### 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

**[Meta USA]**

**Position:** Support Option 1

**Justification**:

Option 1 is preferred to minimize the impact to current 5GS by reusing existing QoS framework as much as possible.

Option 2.1: It is not clear on how this resolves the problem as sub-QoS flow identifiers will have to be mapped to a “relative factor” somehow for RAN to consume this info.

Option 2.2: Not preferred as it is not clear why this is better than option 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.

**[Meta USA]**

**Position:** Support Option 1

**Justification**:

Option 1 is preferred as it makes the system more predictable (i.e., provides accurate information to RAN for RRM).

Option 2 is not preferred as this only applies to some scenarios. We don’t think this type of fixed relationship is good for future evolution when compared to option 1.

Option 3 can also be considered as a basic option as this seems to be less complex.

### Q4. Support to hierarchical PDU Set:

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

**[Meta USA]**

**Position:** Still TBD on option 1.

**Justification**:

It is still unclear on how hierarchy is enhancing the scheduling capability in RAN when compared to just having QoS attributes related to PDU sets (and their relative dependency information).

### 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.

**[Meta USA]**

**Position:** Option 1

**Justification**:

PSDT allows more flexibility in the RRM to determine if a PS needs to be dropped or not (i.e., not just based on PSDB but also based on the expected arrival period of the incoming media packets).