3GPP TSG-RAN WG1 Meeting #105-e R1-21xxxxx

e-Meeting, May 10th – 27th, 2021

**Title: DRAFT** Reply LS on PDB for new 5QI

**Reply to:** LS on PDB for new 5QI (S2-2103552)

**Release:** Release 17

**Work Item:** 5GSAT\_ARCH, NR\_NTN\_solutions-Core

**Source:** Ericsson (to be: RAN1)

**To:** SA2

**Cc:** RAN2, RAN3

**Contact Person:** Xingqin Lin

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**Attachments:** None

**1. Overall Description:**

RAN1 would like to thank SA2 for sending their LS on PDB for the new 5QI.

RAN1 notices that the new 5QI has a AN PDB of 812 ms and a PER of 10-6 for QoS flow of type Non-GBR. A AN PDB of 812 ms is about 1.5 RTT of the maximum round trip delay in GEO satellite access with transparent payload.

RAN1 understands that services using Non-GBR QoS Flows should be prepared to experience congestion-related packet drops and delays. In uncongested scenarios, 98 percent of the packets should not experience a delay exceeding the 5QI's PDB. The PDB for Non-GBR denotes a "soft upper bound" in the sense that an "expired" packet, e.g. a link layer SDU that has exceeded the PDB, does not need to be discarded and is not added to the PER.

However, there are different views in RAN1 whether the new 5QI is reasonable. Some companies hold the view that it is possible to satisfy the new 5QI with proper network configuration and implementation. Some companies hold the view that satisfying the new 5QI will cause severe drop in network spectral efficiency due to conservative link adaptation and significantly longer delay for retransmissions to reach PER of 10-6, and thus the new 5QI can only be satisfied in ideal conditions and recommend that SA2 consider higher PDB and/or higher PER for this new 5QI.

**2. Actions:**

**To SA2 group:**

**ACTION:** RAN1 respectfully requests SA2 to take the above into account.

**3. Date of Next TSG-RAN WG1 Meetings:**

TSG-RAN WG1 Meeting #106-e 16 – 27 August 2021 Electronic Meeting

TSG-RAN WG1 Meeting #106-bis-e 11 – 19 October 2021 Electronic Meeting