**3GPP TSG-RAN2 Meeting #118-e *R2-22xxxxx***

Electronical meeting, 9th- 20th May 2022

**Title: LS on questions on RAN visible QoE**

**Release:** Rel-17

**Work Item:** NR\_QoE-Core

**Source:** RAN2

**To:** RAN3

**Cc:** SA4

**Contact Person:**

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**Attachments:**

**1. Overall description:**

RAN2 has discussed RAN visible QoE and made the following agreement with regards to buffer level reporting:

* *Application layer shall report the latest values of the buffer level to the AS layer.*

However, on other aspects RAN2 could not reach consensus and thus seek guidance from RAN3.

1. **Buffer level measurements**

RAN2 has discussed the request from SA4 in their feedback received in the reply LS S4-220239.

* *Assumption 1a: RAN2 specifies the maximum number of buffer level entries (ASN.1 value) for each buffer level metric report in one reporting message.*

[Feedback]: SA4 agrees with the above expectation on Application layer reporting behavior and AS layer can limit the maximum number in one reporting message. However, SA4 notes that RAN2 also need to specify how often buffer level measurements shall be done.

SA4 asks RAN2 to specify how often buffer level measurements shall be done. RAN2 has specified a list of buffer level entries and reporting periodicity for RAN visible QoE, but not sampling periodicity for buffer level measurements.

1. **Reporting of PDU session ID(s)**

RAN2 specified that PDU session ID(s) corresponding to the service that is subject to QoE measurements can be reported by the UE along with the RAN visible QoE measurement results. According to current signaling the PDU session ID(s) are optional but some companies think that it should be mandatory.

1. **Reporting of RAN visible QoE measurements**

Furthermore, based on the RAN3 stage 2 input to QoE the below highlighted requirement is specified in TS 38.300, subclause 21.4:

*RAN visible QoE measurements can be reported with a reporting periodicity different from the one of regular QoE. If there is no reporting periodicity defined in the RAN visible QoE configuration, RAN visible QoE reports should be sent together with the legacy QoE reports.*

RAN2 discussed this requirement and has the following question:

However, from RAN2 point of view no requirement was agreed that RAN visible QoE reports should be sent together with the QoE reports if no reporting periodicity is defined in the RAN visible QoE configuration. RAN2 has agreed that it is up to UE implementation on how to send QoE and RAN visible QoE reports to the network according to the following agreements:

1. *The UE can send each QoE/RVQoE report immediately to the gNB in a single MeasurementReportAppLayer message once it arrives at UE AS layer.*
2. *The UE can collect QoE/RVQoE reports and temporarily buffer them in AS layer and send them altogether to the gNB in a single MeasurementReportAppLayer message (either as one complete message if the message size does not exceed the maximum PDCP SDU size or as segments if UL RRC segmentation is supported and allowed).*
* *In this context the UE can decide in which order it sends the collected QoE/RVQoE reports, e.g. prioritizing the latest received reports or the oldest received reports.*
1. *In case of QoE resume the UE can prioritize the transmission of stored QoE reports over RVQoE reports or vice versa.*

Based on the discussions above, RAN2 has the following questions to RAN3:

Question 1: Does a dedicated periodicity for buffer level reporting need to be specified? If yes, what should be configurable values of the sampling? If not, what are the assumptions on how the application layer performs the measurements of buffer level and how the buffer level list is filled?

Question 2: Should the PDU session ID(s) be provided for each RAN visible QoE report and should it be mandatory or optional in the signaling?

Question 3: What was the motivation from RAN3 to have RAN visible QoE reported together with container-based QoE? Instead of specifying this principle, is it acceptable to RAN3 to make RAN visible QoE reporting periodicity mandatory?

**2. Actions:**

**To 3GPP RAN3**

**ACTION:**

RAN2 respectfully asks RAN3 to provide feedback to the questions above.

**To 3GPP SA4**

**ACTION:**

RAN2 respectfully asks SA4 to take the agreement on buffer level reporting into account in their specifications and provide feedback to Question 1 if they have any.

**3. Date of next TSG RAN WG2 meetings:**

RAN2#119 15th August - 26th August 2022 Online

RAN2#119bis 10th October - 19th October 2022 Online