3GPP TSG SA WG4 Meeting #122 TDoc S4-230164

Athens, Greece, February 20-24, 2023

**Title: Draft Reply LS on QoE measurements in RRC IDLE/INACTIVE states**

**Response to: R2-2213054 | S4-230xxx**

**Release: Rel-18**

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

**Source:** **3GPP SA4**

**To:** **3GPP RAN2**

**Cc: 3GPP RAN3, 3GPP SA5**

**Contact person: Qi Pan**

 **panqi8@huawei.com**

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** None

# 1 Overall description

SA4 thanks RAN2 for its liaison on the QoE measurements in RRC IDLE/INACTIVE states.

Regarding the questions 1-4, SA4 would like to provide following replies below:

***Question 1:*** *Can information about the applicable area scope of a QoE configuration be provided to the application layer in the UE as part of the QoE configuration container? If it can, how is this information defined at the application layer, e.g. does it indicate applicable tracking area, applicable cells etc.?*

**SA4 reply**: For QMC of (VR) Streaming and MTSI, the area scope of a QoE configuration can be provided within the QoE configuration container and it can be indicated via the *Location Filter*, which can be a list of cell IDs and/or a geographic area expressed with one or more instances of *polygonList* and/or *circularAreaList*.

***Question 2:*** *Can the application layer know the UE location on the proper level (e.g. tracking area, cell) and use this information to decide whether to start QoE measurements when triggering conditions are met?*

**SA4 reply**: The application layer can know the UE’s location on a proper level (e.g. cell ID, geographical coordinates). The QoE configuration is then evaluated by the client at the start of a QoE measurement and reporting session (“QoE session”) associated with a streaming session. This includes evaluation of any filtering criteria such as by geographical area or cell ID. When the trigger conditions are met, e.g. the UE moves into the target area, the QoE session is started for QoE measurement and reporting.

*Another aspect that RAN2 discussed was related to the buffering of QoE reports generated in RRC IDLE/INACTIVE state. RAN2 assumes that a minimal memory size requirement will be specified for the UE for buffering QoE reports generated in RRC IDLE/INACTIVE state and that the AS or application layer buffers the QoE reports.*

*In this context RAN2 agreed that, as a baseline, UE does not trigger RRC connection setup or resume just for the sake of reporting QoE measurement results (FFS whether there are some cases where we deviate from this principle). This means that, as a baseline, the reports are stored in the UE while the UE is in RRC IDLE or in RRC INACTIVE and can be reported only when the UE establishes a connection with the network for another reason. As a consequence, the UE needs to buffer the unsent QoE reports for as long as it stays in RRC IDLE/INACTIVE. Related to this, there was a discussion in RAN2 on whether there is a time after which the collected QoE reports are no longer useful for the OAM and can be discarded. RAN2 wonders whether the OAM handles the reports differently depending on when they were collected, e.g. are latest reports more useful to the OAM than the reports collected earlier, in case the UE is forced to discard part of QoE reports when the supported memory storage size is exceeded. Therefore, RAN2 would like to ask the following questions to SA4 and SA5:*

***Question 3:*** *Is there a time after which the QoE reports collected by the UE are no longer useful for the OAM?*

**SA4 reply**: In SA4’s understanding, the QoE reports indicate the user experience for the media service within a specific time period. It's always useful for further evaluations and network optimizations. However, it depends on the views from SA5 since the OAM related issue is under the scope of SA5.

***Question 4:*** *In case of limited storage space for QoE reports at the UE, is there any preference from the OAM side on which QoE reports should be reported and which should be discarded, e.g. is there a principle that newer or older reports are more useful for the network?*

**SA4 reply**: In SA4’s understanding, the QoE reports have to be discarded due to the limited storage space. The old or latest QoE reports may be discarded accordingly. It depends on the views from SA5 since the OAM related issue is fully under the scope of SA5.

# 2 Actions

**To RAN2**

**ACTION:** SA4 kindly asks RAN2 to take the above information into account and provide feedback if any.

# 3 Dates of next TSG SA WG 4 meetings

SA4#123-e 17th–21st April 2023 Electronic

SA4#124 22nd-26th May 2023 Berlin, Germany