3GPP TSG-RAN WG3 Meeting #113-e R3-214197

E-meeting, 16 – 26 August, 2021

**Agenda item: 15.2.2**

**Source: Nokia (moderator)**

**Title: CB: # QoE4\_Mobility - Summary of email discussion**

**Document for: Approval**

# 1 Introduction

This paper provides summary of discussions at RAN#113-e on:

**CB: # QoE4\_Mobility**

**- Whether signaling and management based QoE support mobility continuity?**

**- Introduce new IEs (e.g. indicate signalling/management based QoE, mark ongoing QoE measurement, indicate the pause status, etc) for QoE mobility?**

**-Whether/how to add the QoE configuration message or new IEs into the XnAP HANDOVER REQUEST, NGAP HANDOVER REQUIRED, NGAP HANDOVER REQUEST, and XnAP RETRIEVE UE CONTEXT RESPONSE?**

**- In the case when target gNB does not support QoE, RAN should release all QoE configuration? QoE reporting should be paused and the QoE configuration should be stored with limitation (e.g. a timer)? Target node should store the QoE configuration received from source node?**

**- Discuss the following aspects on overriding issue: Whether the overriding scenario exists for management based QoE and signalling based QoE? Postpone the discussion and waiting for other WGs (e.g. RAN2, SA4) input? A signalling based QoE configuration can override another management based QoE configuration? A signaling based QoE configuration can override another signaling based QoE configuration? A management based QoE configuration can override another management based QoE configuration?**

**- UE should keep performing the signalling/management based QoE measurement when UE is out of the area scope? Check with RAN2?**

**- Capture agreements and open issues**

(Nok - moderator)

For first round of the discussion it is proposed to handle the above discussion points that are in relation with open points captured at previous meeting:

*Whether a management based QoE configuration can be released before handover or if it must be propagated to target node to fulfil SA4 requirement on QoE measurement continuity; pending SA5 reply LS on support for management-based QoE and SA4 reply LS on ongoing session continuity requirement.*

*Whether a QoE Measurement Type indicator is included in QoE configuration and signaled to target node during Handover preparation and Retrieve UE Context Procedures*

*Whether a management based QoE configuration can override another management based QoE configuration and whether a signaling based QoE configuration can override another signaling based QoE configuration.*

*Upon reception of a non-supporting QoE configuration, whether the target node should discard the non-supporting QoE configuration or store it in order forward it to a subsequent node during future handovers/resume.*

Input for first round is appreciated by EOB Friday, August 20.

# 2 For the Chairman’s Notes

[To be completed]

# 3 Discussion

## 3.1 Issue 1 - Propagation of QMC configuration during mobility

The following open point has been captured by the chairman based on contributions to previous and present meeting:

*Whether a management based QoE configuration can be released before handover or if it must be propagated to target node to fulfil SA4 requirement on QoE measurement continuity; pending SA5 reply LS on support for management-based QoE and SA4 reply LS on ongoing session continuity requirement.*

**- Whether signaling and management based QoE support mobility continuity?**

Status as per moderator's understanding: There is currently consensus on propagation of s-based QMC configuration for Xn HO, while some companies indicate that the CN will send the required configuration directly to the target node (see 3947, 4074) in case of NG HO. Also, as captured at previous meeting, for m-based QMC configuration this question is pending SA5 and SA4 reply. Please comment whether something is missing or wrong in this status.

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| Company | Comment |
| Huawei | For the s-based QMC, we think the CN will send the required configuration directly to the target node in case of NG HO, same as the procedure in LTE. |
| Samsung | Agree with HW on the NG HO issueRegarding the m-based QMC, in our understandings, during handover, the configuration can be released through the RRC reconfiguration message, if there is on-going QoE measurement in application layer, it will not be stopped according to current SA4 specification, there are two options for UE to handle this kind of QoE reports:- Option 1: Discard the QoE reports.- Option 2: Send the QoE reports to the target gNB.For option 1, there is no need to transmit QoE measurement configuration over Xn, i.e. no management-based QoE configuration propagation.For option 2, SRB4 should be setup in the target gNB and the target gNB should know the "Measurement Collection Entity IP Address" to deliver the QoE reports to the right place. In this case, there is still no need to propagate the whole management-based configuration, but some information transmitted on Xn or Uu may be needed for QoE report delivery. |
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## 3.2 Issue 2 - Handling in case of HO to a non-supporting target gNB

The following open point has been captured by the chairman based on contributions to previous and present meeting:

*Upon reception of a non-supporting QoE configuration, whether the target node should discard the non-supporting QoE configuration or store it in order forward it to a subsequent node during future handovers/resume.*

**- In the case when target gNB does not support QoE, RAN should release all QoE configuration? QoE reporting should be paused and the QoE configuration should be stored with limitation (e.g. a timer)? Target node should store the QoE configuration received from source node?**

Status as per moderator's understanding: In the submitted tdocs handling this question, there seems to be consensus to release the QMC configuration at the UE in this scenario. Please comment whether something is missing or wrong in this status.

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| Company | Comment |
| Huawei | We think the target node should release or just discard the QMC configuration for the UE (pending on its implementation), i.e. it will not propagate the QoE configuration to the next node. |
| Samsung | We support pause QoE reporting if the target doesn’t support QMC, the configuration should be propagated in case it will be used when UE moves out of the target. |
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## 3.3 Issue 3 - Overriding configurations

The following open point has been captured by the chairman based on contributions to previous and present meeting:

*Whether a management based QoE configuration can override another management based QoE configuration and whether a signaling based QoE configuration can override another signaling based QoE configuration.*

**- Discuss the following aspects on overriding issue: Whether the overriding scenario exists for management based QoE and signalling based QoE? Postpone the discussion and waiting for other WGs (e.g. RAN2, SA4) input? A signalling based QoE configuration can override another management based QoE configuration? A signaling based QoE configuration can override another signaling based QoE configuration? A management based QoE configuration can override another management based QoE configuration?**

Please provide your view.

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| Company | Comment |
| Huawei | A signalling based QoE configuration can override another management based QoE configuration.A signaling based QoE configuration cannot override another signaling based QoE configurationA management based QoE configuration can override another management based QoE configuration. |
| Samsung | We prefer follow the same principle as MDT. |
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## 3.4 Issue 4 - Area scope handling

The following open point has been captured by the chairman based on contributions to the present meeting:

**- UE should keep performing the signalling/management based QoE measurement when UE is out of the area scope? Check with RAN2?**

Please provide your view.

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| Company | Comment |
| Huawei | It depends on RAN2 |
| Samsung | We already discussed this and sent LS to RAN2 at last meeting, let’s wait for the reply. |
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## 3.5 Issue 5 - Inter-node transfer of additional information

The following open point has been captured by the chairman based on contributions to previous and present meeting:

*Whether a QoE Measurement Type indicator is included in QoE configuration and signaled to target node during Handover preparation and Retrieve UE Context Procedures*

**- Introduce new IEs (e.g. indicate signalling/management based QoE, mark ongoing QoE measurement, indicate the pause status, etc) for QoE mobility?**

Please provide your view on whether any of this additional information, i.e. information available in the source node but not explicitly part of the QMC configuration provided by the OAM or the CN, should be transferred in case of inter-node mobility.

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| Company | Comment |
| Huawei | 1. We think the target node can know the type of QoE measurement based on the QoE configuration information in the Xn and the QoE configuration information in the RRC container within the handover preparation information.
2. For the ongoing QoE measurement, we think it depends on RAN2 progress. In our understanding, RAN2 will discuss it based on the previous LS on mobility from RAN3.
3. For the pause status, as commented in CB#QoE3 configuration, we think the target node can know which QoE measurement is paused based on the RRC container in the handover preparation information.
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| Samsung | There is no need for the indication of signalling/management based QoE, at least we should first confirm issue 1 and then discuss this.For making on-going QoE measurement, agree with HW, it depends on RAN2For the pause status, we think it’s needed, FFS on whether it’s inside or outside of the RRC container. |
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# 4 Conclusion, Recommendations [if needed]

If needed

# 5 References

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| [R3-213316](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213316.zip) | CR TS 38.423 Mobility Support for NR QoE Measurement Collection (Ericsson) | CR0639r, TS 38.423 v16.6.0, Rel-17, Cat. B |
| [R3-213319](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213319.zip) | QoE Mobility Support (Ericsson) | discussion |
| [R3-213490](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213490.zip) | QoE measurement in mobility scenarios (China Unicom, China Southern Power Grid) | discussion |
| [R3-213655](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213655.zip) | QoE measurement collection and reporting continuity in mobility scenarios (Qualcomm Incorporated) | discussion |
| [R3-213684](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213684.zip) | Open issues on mobility (Nokia, Nokia Shanghai Bell) | discussion |
| [R3-213947](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213947.zip) | Discussion on Measurement Collection and Continuity in Intra-System Intra-RAT Mobility (CATT) | discussion |
| [R3-214045](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214045.zip) | Discussion on Measurement Collection and Continuity in Intra-System Intra-RAT Mobility (ZTE, China Telecom, China Unicom) | discussion |
| [R3-214074](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214074.zip) | Further discussions on measurement Collection and Continuity in Intra-System Intra-RAT Mobility (Huawei) | discussion |
| [R3-214131](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214131.zip) | On the reception of QoE configuration in a non-supporting node (China Telecom Corporation Ltd.) | discussion |