3GPP TSG-RAN WG3 #113-e R3-214134

16-26 Aug 2021

Online

Agenda Item: 8.1

Source: CMCC

Title: Summary of offline discussion on QoE reply LS to RAN2

Document for: Discussion

# Introduction

This contribution provides the summary of the following email discussion,

**CB: # 2\_QoEConfigandReport**

**- Q1: QoE configuration without modification is preferred? Yes: CMCC, ZTE No: E///**

**- Q2: Allow multiple QoE configuration for the same service type to be configured to a UE? RAN3 is unable to confirm that all slices with the same service type will be provided with the same container, up to SA4 and SA5?**

**- Reply LS to RAN2**

(CMCC - moderator)

[NWM] Summary of offline disc in [R3-214134](Inbox%5CR3-214134.zip)

# For the Chairman’s Notes

Propose to capture the following:

(To be added after the second round)

# Discussion (Second round)

Since all companies agree to send a reply LS to RAN2 regarding Issue1 and Issue2, the draft reply LS has been uploaded in the folder, reflecting the majority view for each issue.

**The comments are recommended to be provided directly in the reply LS or by emails.** Just in case, please provide the comment below if companies see fit,

|  |  |
| --- | --- |
| Company | Comment |
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# Discussion (First round)

At this meeting RAN3 receives an LS from RAN2. In this LS, RAN2 identified some issues on QoE configuration and reporting, and explicitly asked RAN3 to provide feedback on the first two issues.

**Question 1: Do companies think it necessary for RAN3 to reply LS to RAN2?**

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| --- | --- |
| Company | Comment |
| Samsung | Yes, we should reply Q1 and Q2 as requested by RAN2, even some aspects may not fully depend on RAN3, we can give information from RAN3 perspective for better group coordination. |
| CMCC | Yes. Since some of the topics, such as per-slice QoE measurement, are the first time ever to be discussed in 3GPP, and RAN3 is the responsible group for such topics, the opinions from RAN3 are sometimes critical and decisive throughout all WGs. |
| Verizon | Yes, RAN3 inputs would be useful.  |
| CATT | Yes, at least the Q1 and Q2 need to be discussed how to reply RAN2 |
| Ericsson | Yes, since Q1 and Q2 are sent to us. |
| Qualcomm | OK to send a reply LS. |
| ZTE | Yes. We agree to send an reply LS to RAN2, with respect to Q1 and Q2. |

Moderator’s summary:

All companies agree to send reply LS to RAN2 regarding Q1 and Q2.

The first issue of RAN2 LS is quoted as follows,

‘

*Issue 1: Modify the QoE measurement configuration to UE*

*RAN2 is discussing QoE configuration signalling support, and RAN2 agreed QoE configuration are encapsulated in a transparent container in the RRC messages. RAN2 does not see the scenario that a QoE measurement configuration already configured in the UE will be modified for e.g., a certain service type or a QoE Reference, and assumes modification is not supported in RRC signalling. RAN2 would like SA5/RAN3 to confirm this assumption.*

’

Regarding the issue on whether a QoE configuration will be modified for a certain service type or a QoE Reference,

One company [2] sees benefits to modify the ‘slice scope’ associated with the QoE configuration container.

One company [3] thinks there are chances that no WGs can confirm this issue for now, so RAN3 could indicate the preference on a way of configuration without modification by following RAN2’s view.

One company [5] thinks the explicit modification procedure is not needed since the QoE configuration container is transparent to RAN.

It should be noted that according to the latest QoE running CR 38.331 endorsed by RAN2 [6], the following information is captured, indicating that configuration modification could be potentially supported by RRC signalling,

OtherConfig-v17xy ::= SEQUENCE {

 measConfigAppLayerToAddModList-r17 SEQUENCE (SIZE (1..maxNrofQoE-r17)) OF MeasConfigAppLayer-r17 OPTIONAL, -- Need N

 measConfigAppLayerToReleaseList-r17 SEQUENCE (SIZE (1..maxNrofQoE-r17)) OF TBD OPTIONAL -- Need N

}

MeasConfigAppLayer-r17 ::= SEQUENCE {

 measConfigAppLayerId-r17 MeasConfigAppLayerId-r17,

 measConfigAppLayerContainer-r17 OCTET STRING,

 serviceType-r17 ENUMERATED {streaming, mtsi, spare6, spare5, spare4, spare3, spare2, spare1} OPTIONAL, -- Need N

 ...

}

**Question 2: Whether a QoE configuration can be modified for a certain service type or a QoE Reference from RAN3 point of view?**

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| --- | --- |
| Company | Comment |
| Samsung | We prefer no QoE modification, which is aligned with LTE QMC. Regarding the slice scope changed scenario, it may exist, but there may be some other ways to solve the issue in this scenario, e.g. used slice information can be included in the corresponding QoE report, so that the QoE server can know the QoE report is for which slices, and according to the information, the server can decide whether or how to use the QoE report. So there is no need to modify the QoE on-going measurement. |
| CMCC | Our original intention was to follow RAN2's view as indicated in LS; however, we also see possibilities to modify slice scope. Note that RAN3 has agreed to introduce 'slice scope' explicitly over OAM/NG interface, and 'slice scope' can also potentially to be explicitly signalled over Uu. In addition, our understanding is that if a UE is not configured with, or not allowed to use some slices, the OAM is not able to configure these unconfigured slices for future use once for all, so there's still chance that the slice scope could be modified by OAM, and subsequently the slice scope could be potentially modified over Uu by RRC signaling. |
| Samsung2 | -We would like to further clarify our views based on CMCC’s comment and make discussion more clear, at least we can conclude QoE reference and QoE measurement container for the service type will not be modified.-Regarding slice scope changed, first it depends on whether it’s inside or outside the container over Uu, if the slice scope is explicit over Uu, we’re wondering whether a new QoE reference associated with the new slice scope is assigned by OAM for this case, if yes, no modification is needed, just release the old one and setup the new one.-No matter slice scope is changed or not, when UE’s slice is not meet the slice scope, the NG-RAN can release the QoE configuration, if there is on-going measurement, it will not be stopped until the session ends according to current SA4 spec, to distinguish the different slices served during the QoE measurement, include slice information in the QoE report would be helpful, so there is no need to modify anything for this case. |
| Nokia | Share the view from Samsung. Also from a general point of view, it seems preferable not to modify any configuration over RRC but release the QoE configuration if needed (e.g. because it becomes obsolete). And then possibly provide a new QoE configuration with updated information. |
| Verizon | Share view with Samsung and Nokia. For slice scope change, release of old QoE config and setup of a new one might work well.  |
| CATT | RAN2 state that they would not introduce the modification in RRC signalling. From OAM and RAN3, some modification may be happened, such as slice scope, RAN-visible QoE.  Anyway RAN2 may use deactivation and reactivation to perform the modification in RRC signalling. it is up to RAN2BTW,for this IE name *measConfigAppLayerToAddModList,* RAN 2 copy it from other place, plan to remove the "Mod" during discussion. |
| Huawei | No, we don't think there is a need or use case which would require the modification of an already configured configuration, since QoE measurement is for statistical purpose, OAM doesn't rely on a specific QoE configuration to reach observations or make evaluation. Also in TS 28.405, SA5 does not specify the modification procedure for the QMC. We do not see the scenario that need to modify the QoE measurement. Even if there are scenarios, we think SA5 can use the deactivation and activation procedure to modify the QMC. |
| Ericsson | We think that it is necessary to enable modification, one example being the infamous one about slice modification. Regarding the comments from other companies, in our understanding, releasing the existing QoE configuration while the application session is ongoing (and discarding the complete session) contradicts the SA4 requirements. |
| Qualcomm | As commented by few other companies, QoE modification is not necessary. Only the RRC ID and service type are so far agreed to sent outside the container in Uu. If a QoE configuration is received by NG-RAN from OAM/AMF with the same QoE Reference ID as one already configured, NG-RAN has to release the existing configuration and setup the new configuration (delta configuration should NOT be allowed similar to MDT configuration). We still haven't decide how to support basic per-slice QoE functionality (whether and how is slice info included in Uu). Slice modification can be discussed post that.  |
| ZTE | We don't think modifictaion is needed. If the OAM wants to change the configuration, it can just use the new configuration to replace the original one (by the same QoE Reference). We don't prefer to use modification preocedure which will just make the signaling design more complicated. |

Moderator’s summary:

Most of the companies (7 out of 9) prefer QMC deactivation/activation rather than potential QMC modification over OAM/NG interface, and prefer QoE configuration release/setup rather than potential QoE configuration modification over Uu. While other two companies mention that we need to consider the case for per-slice QoE configuration since RAN3 is the leading WG for per-slice discussion.

The second issue of RAN2 LS is quoted as follows,

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*Issue 2: Provide multiple QoE measurement configurations for one certain service type*

*RAN2 is discussing QoE configuration and reporting signalling support, and some companies mention it is possible that multiple QoE measurement configurations can be provided to UE for one certain service type, e.g. different QoE measurement configurations for different slices may be applied to one service type, or different QoE measurement configurations may be applied for different application providers. RAN2 would like to check with SA5/RAN3 whether it is possible to provide multiple QoE measurement configurations for one certain service type?*

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Regarding the issue on whether it is possible to provide multiple QoE measurement configurations for one certain service type,

One company [2] indicates that RAN3 has agreed to support multiple QoE measurement configurations for one certain service type according to the agreement achieved last meeting.

One company [3] [4] explains that for the case e.g. when different slices for the same service type are configured with different QMC CE address, multiple QoE measurement configurations may be provided for a certain service type.

One company [5] responds with the fact that RAN3 prefers QoE configuration to be configured per service type, and it is up to SA5 to confirm this issue.

**Question 3: Whether it is possible to provide multiple QoE measurement configurations for one certain service type from RAN3 point of view?**

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| --- | --- |
| Company | Comment |
| Samsung | Since RAN2 is asking whether it is possible, based on the structure of IEs what we had agreed at the last meeting, it is possible to provide multiple QoE measurement configurations for one certain service type. |
| CMCC | Yes, we share view with Samsung.And we provide a scenario when different slices for the same service type are configured with different QMC CE addresses, multiple QoE measurement configurations may be provided for a certain service type. In addition, we also notice that last RAN3 meeting has achieved an agreement stating that '*Introduce a new IE "Measurement Collection Entity IP Address", FFS whether it is per service type or per "QoE Reference" depends on feedback from SA5*'; however, our understanding is that we cannot just rely on the feedback from SA5, since SA5 has not discussed per-slice QoE measurement, so further coordination with SA5 might be needed. |
| Nokia | I can see from the TR: "In case multiple QoE measurements are configured at a UE, it can be discussed in the normative phase whether one measurement is configured per service type **at the UE**.". My recollection from the previous meeting was that the majority of companies supported a single QoE configuration per service type (but haven't checked the exact status). So I misread or misinterpreted the sentence "- a list of UE Application layer measurement configuration IE for each service type", considering that the list had one entry per service type. However the question to be answered first is probably whether one or more QMC configurations are configured per serivce type **at the UE**. Our feeling is that a single QMC configuration per service type at the UE will provide sufficient functionality for Rel-17, but the final answer can be left to RAN2 who can better evaluate the UE complexity compared to potential benefit. |
| Verizon | Yes, (agree with Samsung). |
| CATT | Yes, RAN3 already agree to support this scenario. |
| Huawei | Signalling wise, yes, it is possible, and there might be practical use case, e.g. different slice but the same service type, though the use case might not be a usual one. |
| Ericsson | Yes - we already agreed that in May. |
| Qualcomm | In RAN3 signaling, we distinguish different QoE configurations based on QoE Reference ID. Signaling doesn't restrict that we can't have two different QoE configurations for the same service type. Different configurations for the same service type using different slices is one example use case. But otherwise, we don't see the need to configure multiple at the UE. As long as RAN2 QoE configuration is per QoE Ref ID, it shouldn't matter to RAN2 right? |
| ZTE | We have the same feeling with Nokia. QoE configuration per service type is enough in our understanding. We don't see the necessity to support multiple configurations per service type. If there does exists multiple configurations for one service type, why the OAM must configure them altogether in one QoE activation procedure? The OAM can be configure them multiple times if necessary. Anyway we think the decision is up to SA5. |

Moderator’s summary:

The majority view thinks it is possible to provide multiple QoE configurations for one service type, and RAN3 has agreed such case from signalling perspective during last meeting.

Note that the possibility to provide multiple QoE configurations for one service type does not conflict with the assumption that the QoE configuration could be configured per service type.

# Conclusion, Recommendations [if needed]

If needed

# References

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| --- | --- | --- |
| [1] | [R3-213124](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213124.zip) | LS on QoE configuration and reporting related issues (RAN2) |
| [2] | [R3-213323](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-213323.zip) | [Draft] LS Reply on QoE Configuration and Reporting Related Issues (Ericsson) |
| [3] | [R3-214111](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214111.zip) | Discussion on QoE configuration and reporting related issues (CMCC) |
| [4] | [R3-214112](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214112.zip) | [Draft] Reply LS on QoE configuration and reporting related issues (CMCC) |
| [5] | [R3-214051](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_113-e%5CDocs%5CR3-214051.zip) | [draft] Reply LS on QoE configuration and reporting related issues (ZTE) |
| [6] | R2-2108108 | Running CR for Introduction of QoE measurements in NR |