**3GPP TSG-RAN WG3 Meeting #124R3-243776**

**Fukuoka, Japan, May 20th - 24th 2024**

Agenda Item: 8.1

Source: Ericsson (moderator)

Title: Summary of offline discussion on QMC for MBS

Document for: Approval

# For the Chairman notes

TBW

# Discussion

Contribution R3-243367 observes that, even though the QoE measurement configuration contains the MBS Communication Type indication, which restricts QoE measurements for MBS to a particular mode (broadcast or multicast), as of today, this configuration parameter is not conveyed to the UE, ultimately leading to the inability of the UE to perform measurements in accordance with the configuration. Namely, the UE may be aware of the current MBS mode used, but it does not know whether it should collect QoE measurements in this current MBS mode.

**Q1: Do you acknowledge the issue above? If your answer is “no”, please explain how can the UE collect QoE measurements in the MBS mode stipulated by the QoE configuration?**

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| **Company** | **Yes/No** | **Comment** |
| **Ericsson** | **Yes** |  |
| ZTE | Yes |  |
| Huawei | Not sure | Not sure if there is any issue here, since UE knows it was configured to perform QoE measurement on MBS service, UE also knows that if this ongoing MBS service is unicast, multicast or broadcast, and UE will also know if the ongoing MSB service mode is switched or not according to reconfiguration from network…please note that we once discussed if OAM needs to be indicated when MBS service mode is switched, but the decision was not needed. |
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**Q2: In case you replied “yes” to Q1, please state how should the MBS communication type QMC configuration parameter be delivered to the UE:**

1. **Via RRC.**
2. **Via NAS.**
3. **Inside the QoE measurement configuration to the UE Application layer.**

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| **Company** | **Yes/No** | **Comment** |
| **Ericsson** | **a)** | Not sure how b) would work for m-based QoE. |
| ZTE | A >> B | NAS may also work if relevant WGs do a lot of jobs to enhance the current mechanism,especially for m-based QoE. But it is not valuable to enhance the existing NAS mechanism for MBS QoE function. RRC may be a proper place to handle this case.  From our point of view, RAN3 may send reply LS to relevant WGs and explain that it is flexible for RAN3 to fix this issue in the QoE configuration procedure. |
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Furthermore, the R3-243367 observes that, when a UE receiving and MBS multicast session is handed over to a non-MBS supporting target RAN node, the session continues to be delivered be means of unicast. In this case, the UE will not interrupt ongoing QMC, i.e., it will continue to collect measurements in unicast mode. In this case, the MCE will remain unaware that the measurements have partly been collected in unicast – the MCE will expect and assume that all the reports were collected in MBS multicast.

**Q3: Do you acknowledge the issue above?**

* **In case your reply is “yes”, please state how the issue can be solved?**
* **In case your reply is “no”, please motivate why.**

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| **Company** | **Yes/No** | **Comment** |
| **Ericsson** | **Yes** | The MCE needs to be made aware of whether the measurements have been collected in multicast only or whether part of measurements have been collected in unicast. |
| ZTE | No | **From mechanism of view:**  Based on current MBS mechanism, even UE is served by a MBS supported gNB, UP data may be transmitted to UE by using unicast way(e.g. PTP) from gNB to UE at Uu. In other word, MBS multicast service can not guarantee for each UEs using MC service, the UP data can be transmitted via the PTM mode all the time.  **From intention point of view:**  On the other hand, MBS function, compared with the legacy unicast transmission, can greatly save the NW resource in some scenarios. That’s one reason Operators have interested in MBS function. **Same QoE for UE, by using less NW resources.** From MBS function consumer(e.g. BBC) point of view, BBC can use less money by subscribing MBS function to deliver UP data to needed UEs with the acceptable QoE in a certain area. After BBC purchased this MBS service, BBC does not care how operator deliveries the UP data to UE if operator can guarantee the UE’s QoE. Hence, the detailed data transmission information is no needed for BBC in QoE report. For operator point of view, it can easily find whether the QoE is collected when a MBS enabled UE camps in a MBS supported gNB or no-MBS supported gNB by using existing mechanism(e.g. MDT alignment) without adding any new info.    **Conclusion:**  Existing QoE reporting mechanism is good enough from RAN3 point of view.  As i explained during online session, reply LS is needed. Content may need further discussed in second round CB if we can make consensus on the necessity of this reply LS. |
| Huawei | See comments | As commented to Q1, this was discussed, and the decision was that OAM doesn’t need to know the switch between different MBS mode, i.e. UE just continues the QoE measurement…  But we are ok to discuss the solution that a simple indication is introduced to let OAM knows this switch…  In addition, we also think it might be better to send the indication of (broadcast, multicast) received from CN/OAM to UE, if this indication has not been sent to UE, since UE may receive both broadcast and multicast at the same time. |
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