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## 1 Introduction

This document is the SoD of the following CB:

Table 1:

**CB: # SONMDT12\_L2Measurements**

- **Discuss and decide if it can progress the L2 measurement functionality independently or if it needs to rubber stamp all RAN3 L2 functionality with RAN2?**
- **F1-U delay can not calculate precisely based on TS 38.425 and RAN3 need to consider how to meet the measurement requirement in TS 28.552?**
- **Qos Monitoring impact on RAN3?**
- **PDCP duplication impact on RAN3?**
- **Capture agreements and open issues**

[NWM] (HW - moderator)

Summary of offline disc

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## 2 For the Chairman's Notes

Send a LS to RAN2 to clarify on whether the RAN part delay related agreements are also applicable for M6 for MDT in MR-DC or not.

draft LS in R3-214313, agreed.

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## 3 Discussion

### 3.1 L2 measurement

As proposed in R3-213828, please feedback on following question.

**Feedback Form 1: Do you think RAN3 should discuss and decide the L2 measurement topic independently or cooperate with RAN2?**

**1 – Ericsson-LG Co.**

RAN3 could move on with discussions and LS RAN2 with its outcomes. Final decision would depend on RAN2's discussions

**2 – Qualcomm Incorporated**

Same view as Ericsson.

<p><b>3 – HuaWei Technologies Co.</b></p> <p>Agree to LS to RAN2 with RAN3 outcomes.</p>
<p><b>4 – Nokia France</b></p> <p>Our understanding is that solutions for measurements taking into account multi-leg need first to continue in RAN2, where potential impacts are highest. There are less constraints on the network side, so RAN3 will have time to conclude based on RAN2 agreements.</p>
<p><b>5 – ZTE Corporation</b></p> <p>Agree with Ericsson</p>

Furthermore, in R3-213223, it cited the following RAN2 agreements on RAN part delay measurement in case of MR-DC:

7 For QoS monitoring related delay reporting to CN, the minimum value between two legs is defined as the total delay measurement M6 over MCG/SCG for split bearers WITH PDCP duplication. ■

Agreement:   
 For QoS monitoring related delay reporting to CN, 'weighted average (consider the number of packets) over MN and SN' is used to calculate the total delay measurement M6 over MCG/SCG for split bearers WITHOUT PDCP duplication.   
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**Figure 1: RAN2 agreements on RAN part delay measurement in MR-DC**

The above agreements show that they are made only for RAN part delay reporting for QoS monitoring. Therefore, it is proposed in R3-213223 to confirm with RAN2 whether above mentioned agreements are also applied to M6 in MDT.

**Feedback Form 2: Do you agree to send a LS to RAN2 for clarification on the agreements for RAN part delay?**

<p><b>1 – Ericsson-LG Co.</b></p> <p>In our view it is obvious that the agreement applied to the MDT M6 measurement. In fact, the agreement even mentions the M6 measurement. We do not need an LS to clarify this. We should ask more important questions to RAN2</p>
<p><b>2 – Ericsson-LG Co.</b></p> <p>However, if the groups really want to, we could ask this question.</p>
<p><b>3 – Qualcomm Incorporated</b></p> <p>We are okay to assume that this agreement also applied to MDT M6 measurement as well and discuss the topic further. We can include this "assumption" when we send LS to RAN2 on the agreements related to this topic.</p>

**4 – HuaWei Technologies Co.**

Similar view as above.

**5 – Nokia France**

We agree with the analysis from HW in 3223 that RAN2's agreement to combine measurements from both legs not necessarily applies to MDT. So any such assumption in RAN3 work will require subsequent RAN2 confirmation.

**6 – ZTE Corporation**

Fine for the clarification in LS.

In addition, assuming those RAN2 agreements are also applicable for M6 for MDT, the following scenarios to be studied are proposed:

- Case 1: PDCP duplication is activated within the collection period of M6
- Case 2: PDCP duplication is not activated within the collection period of M6
- Case 3: PDCP duplication/non-duplication switch within the collection period of M6

Here are the two solutions on the table.

- Option 1: sending the following measurements to the TCE. (proposed at last meeting)
  - Number of PDCP PDUs sent via MN or SN within a measurement period, when PDCP duplication is enabled.
  - Number of PDCP PDUs sent over MN within a measurement period, when the PDCP duplication is not enabled.
  - Number of PDCP PDUs sent over SN within a measurement period, when the PDCP duplication is not enabled.
- Option 2: sending the following information to the TCE:
  - A PDCP duplication or non-duplication indication (case 1 and 2).
  - The ratio of the number of non-duplication packets sent via MN and SN to the total number of packets sent in the reporting period (case 2).
  - The ratio of the number of non-duplication packets sent via the MN or SN to the total number of non-duplication packets sent in the collection period (case 3).

Please provide your views on above two options for M6 in MR-DC.

**Feedback Form 3: Comments collection on option 1 and option 2 assuming the minimum value or weighted average should be also applied to M6 in MDT in MR-DC.**

**1 – Qualcomm Incorporated**

Either option seems fine. Option 1 might be simpler, specially in cases when there is multiple PDCP duplication/non-duplication switch within a measurement period (assuming NG-RAN can provide combined statistics across multiple switches) without the need to provide a flag every time PDCP duplication is switched ON/OFF as in option 2.

**2 – HuaWei Technologies Co.**

Reply to QC’s comments: option 2 does not need multiple flags if PDCP duplication non duplication is switched back and forth.

**3 – ZTE Corporation**

Discuss of PDCP duplication is not finished at RAN2, maybe we need to wait RAN2’s progress.

**3.2 DL F1-U avreage delay for M6**

In R3-213809, it is proposed that F1-U delay can not calculate precisely based on TS 38.425 and RAN3 need to consider how to meet the measurement requirement in TS 28.552.

Please provide your view and comments below.

**Feedback Form 4: Do you agree on the prosal?**

**1 – Ericsson-LG Co.**

This is already under discussion in **CB: # 115\_F1-UDelay**. We propose to tackle the problem there

**2 – Qualcomm Incorporated**

Ok to discuss this in **CB: # 115\_F1-UDelay**

**3 – HuaWei Technologies Co.**

agree above

**4 – Nokia France**

See our comment under CB 115

**5 – ZTE Corporation**

OK to discuss in CB 115

**3.3 Conclusion**

**4 Reference**

**Table 2:**

R3-213223	L2 measurement in MR-DC (Huawei)	discussion
R3-213809	Average delay DL on F1-U for M6 measurement (ZTE)	discussion
R3-213828	Discussion on L2 Measurements (Ericsson)	discussion