**3GPP TSG- Meeting #121 R3-234543**

**Tolouse, FR – – Aug 25th**

Agenda Item: 10.2.5

Source: Ericsson (moderator)

Title: CB # SONMDT5\_NRU

Document for: Discussion, Approval

# Introduction

**CB: # SONMDT5\_NRU**

**- Capture the agreements in TP**

**- Discuss the open issues as above**

**- Capture agreements and open issues**

(moderator – E///)

Summary of offline disc [R3-234543](file:///C:\Luca\Work\Standard\3GPP\Meetings\RAN\R3\RAN3_121\Server\Inbox\Chairs_Notes\Inbox\R3-234543.zip)

# For the Chairlady’s Notes

**Proposal 1: Introduce an optional load metric on Radio Resource Status per NR-U Channel in XnAP RESOURCE STATUS UPDATE message and in F1AP RESOURCE STATUS UPDATE message.**

**Proposal 2: Agree on TP for XnAP BL CR in R3-234544.**

**Proposal 3: Agree on TP for F1AP BL CR in R3-234545.**

**Proposal 4: There is no need to transfer the UL EDT in F1AP RESOURCE STATUS UPDATE message.**

**For HO execution, FFS whether the source node can deduce from UE reports – excluding UL LBT failures information - whether the target node suffered from DL LBT issues during the HO execution.**

# Discussion

During the online discussion, the following was captured:

MLB for NR-U:

**Convert the following WA into agreement: WA: introduce an optional load metric on Radio Resource Status per NR-U Channel in XnAP RESOURCE STATUS UPDATE message and in F1AP RESOURCE STATUS UPDATE message.**

**There is no need to transfer the UL EDT in resource status update message via F1 interface.**

MRO for NR-U:

**Continue the discussion on RLF MRO report optimization:**

* **actual UL EDT**
* **actual minimum UL EDT**
* **lowest detected power**

**Downlink LBT issue during HO exaction, whether the failure needs to be distinguished.**

Based on the online discussion, and regarding the “MLB for NR-U” the following is proposed:

**Proposal 1: Introduce an optional load metric on Radio Resource Status per NR-U Channel in XnAP RESOURCE STATUS UPDATE message and in F1AP RESOURCE STATUS UPDATE message.**

**Proposal 2: Agree on TP for XnAP BL CR in R3-234544.**

**Proposal 3: Agree on TP for F1AP BL CR in R3-234545.**

With respect to the following open point captured during the online:

**Continue the discussion on RLF MRO report optimization:**

* **actual UL EDT**
* **actual minimum UL EDT**
* **lowest detected power**

the moderator proposes to indicate whether it is beneficial to include in RLF report an information related to EDT UL for the purpose of distinguish between RLF reports impacted by LBT, including the case when the RLF report does not indicates that consistent LBT failure was detected.

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| **Company** | **Comment** |
| Ericsson | Yes, it is beneficial |
| Qualcomm | No. As we have mentioned before, requesting UE to report EDT at the granularity of each LBT attempt is too cumbersome. So we propose to remove “actual UL EDT” from open issues.  Also, RAN2 is discussing this. |
| Lenovo | RAN2 is discussing whether/what EDT UL info to be included in RLF report, we can wait for RAN2 progress. |
| Nokia | As presented in our paper [R3-233862], we’re interested in EDT reporting from the UE for the purpose of EDT optimisation. But the currently proposed values do not enable it – so the UE should rather provide also recorded EDT that caued e.g. very long medium access time. |
| ZTE | We think the lowest detected power is more straightforward. And we are also fine to wait for RAN2’s progress. |
| Samsung | We are fine for all three candidates.  If companies have the concern on actual UL EDT, we can go to option 2 and option 3. |
| CATT | No. In case of UE does not report consistent LBT failure in RLF report e.g., some success while some failure, UE can report the failre times in a RACH procedure e.g., LBT failure per RACH attempt ***to reflect LBT impact***. We already send the LS to RAN2 “*RLF Report and RA report can be enhanced to include information concerning the LBT failures in RA procedures, the granularity and implementation details needs to be further discussed based on progress in RAN2.*”So we do not see the additional benefit to report EDT UL/ detected power. It has the same purpose as reporting LBT failure per RACH attempt. |
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With respect to the following open point captured during the online:

**Downlink LBT issue during HO exaction, whether the failure needs to be distinguished.**

It is proposed to continue the discussion as follows:

1. agree (and clarify) the use case under discussion, i.e., agree (if possible) that, if the target node suffers from DL LBT issues during an handover execution, and the handover fails, it is beneficial for the source node to receive an information that allows the source node to decide whether to use the RLF report related to the handover failure for MRO purpose or not.
2. (assuming the use case is agreed) continue the discussion to understand whether and how the use case can be solved, e.g.,:
   1. investigate whether it is sufficient that target node provides to source node a generic indication (e.g., “DL LBT failures were present at the time of handover execution”), to achieve the purpose
   2. investigate whether the target node should provide a more precise indication to source node (e.g., “DL LBT failures were present after receiving Msg3”)
   3. check with other WGs (e.g., RAN4 and/or RAN2) whether a UE can provide some information

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| **Company** | **Comment** |
| Ericsson | The use case is valid  We should at least check with RAN4 whether UE-based solution is feasible. We have not explored this option yet. |
| Qualcomm | Agree on the use case.  We should investigate more on Option a) and b).  No need to involve RAN4 and have a UE solution if network-based solution is workeable. |
| Lenovo | Agree with the use case.  Same view as QC, RAN3 is the leading WG of SON/MDT topic, from RAN3 point of view, we can discuss and specify network-based solution with high priority. If we agree with network-based solution, LS to RAN2 or RAN4 is not needed. |
| Nokia | Let’s review the scenario offline. |
| ZTE | Still have concern on the validity of this issue, how to solve the similar issue in the normal HO? If it has been solved by implementation, there is no need for us to solve this for NR-U related HO.  In addition, how to add the mentioned indication in the existing message? from my side, there is no appropriate message to add this indication, and it is too complex to introduce a new message for this corner case. |
| Samsung | We have the concern on whether the enhancement is really needed for the scenario.  Firstly, we think this is a coner case. The HO is measurement result based. UE can measure the SSB during the measurement stage, which means the SSB sending/receiving is robustness. So there is low possibility that the SSB absence happens during the RA stage.  Secondly, the DL failure may happens for normal case without NRU. There is no enhancement for such case.  Thirdly, it seems there is no behaviour change if the reason is distinguished. If many failure cases happen, the target cell is not a proper cell for HO, so the source node should not handover the UE to such cell. It is same as the legacy mechanism. |
| CATT | Agree on the use case.  Network based solution may need correlation. For RLF case, target can send the RLF report together with this DL LBT indication to source node. So source node can correlate the indication with RLF report, while for HO failure, how source knows the indication from target for which UE and related to which RLF report. Network based solution need more consideration.  We can ask RAN2/4 to check whether UE based solution is feasible. If UE based solution is ok than we can stop the discussion of network based solution.  Option c is preferred. |
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# Conclusions