**3GPP TSG-RAN WG3 #111-e** **R3-211051**

**25 January – 4 February 2021**

**Title:** [DRAFT] Reply LS on small data transmission

**Reply to:** LS to RAN3 on small data transmission (R2-2010839)

**Release:** Release 17

**Work Item:** NR\_SmallData\_INACTIVE-Core

**Source:** Ericsson [To Be RAN3]

**To:** RAN2, SA3

**Cc:**

**Contact Person:**

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**Attachments:** n/a

**1. Overall Description:**

RAN3 thanks RAN2 for the LS on their progress.

RAN3 has briefly discussed how to support SDT in RRC\_INACTIVE WI, and would like to inform RAN2 about our initial progress on RACH-based SDT as followings:

* WA1: The existing Retrieve UE Context procedure can be reused for both with and without anchor relocation scenarios with possible enhancements, which will be discussed later.
* WA2: UL data for SDT is buffered at the receiving node in the successful context retrieval procedure. For other cases, the common understanding is that UL data may need to be buffered as well, details are pending.
* WA3: The last serving gNB, i.e., anchor gNB, will be the decision maker on whether to relocate anchor or not. Assistance information provided by the receiving gNB may help on the decision. Details of such information are pending to future discussion in RAN3 and/or RAN2 inputs.
* RAN3 discussed the statement in the LS that RLC handling is processed in the receiving gNB and would like to ask if this is confirmed as a firm agreement in RAN3. Several companies in RAN3 proposed to analyse the topic further.

Furthermore, there is potential concern on security in one of the solutions discussed for the “without relocation” case, i.e., if context is fully fetched from the last serving gNB to the receiving gNB (i.e. a temporary relocation of PDCP). In this case, it is not clear how the encryption keys are handled if both nodes are able to decode the same data. If the concern is confirmed, RAN3 will assume that the PDCP decoding is located in anchor gNB only, as per legacy.

Based on the above considerations, RAN3 will continue discussing on possible solutions when the WI starts in RAN3 in Q4 2021.

**2. Actions:**

**To RAN2 working group.**

**ACTION:** RAN3 kindly asks RAN2 to take the progress into account and provide further inputs if any.

**To SA3 working group.**

**ACTION:** RAN3 respectfully requests SA3 to provide feedback on the above scenario related to security key handling in two nodes.

**3. Date of Next TSG-RAN WG3 Meetings:**

RAN3#112 May 2021 Online