**3GPP TSG-RAN WG3 Meeting #125bis** **R3-24xxxx**

**Hefei, China, 14th– 18th Oct, 2024**

**Title: [Draft] LS on PDCP SN gap report handling during UE mobility**

**Response to:**

**Release: Rel-18**

**Work Item: NR\_XR\_enh-Core**

**Source: Huawei (to be RAN3)**

**To: RAN2**

**Cc:**

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** mailto:3GPPLiaison@etsi.org

**Attachments:** **-**

**1. Overall Description:**

For Rel-18 XR, PDCP SN gap report is supported by RAN2. However, how to handle the PDCP SN gap report during UE‘s mobility is unclear. Specifically, for uplink transmission, if the UE discards some packets before handover, it will send the PDCP SN gap report to the source gNB, but the target gNB is not aware of the discarding. This will result in unnecessary waiting delay at the target gNB for the discarded packets. Similar issue also exists for UE’s RLF recovery scenario

RAN3 discussed this issue and there are three solutions on table:

* Alternative 1: The source gNB forwards the SN gap report to the target gNB.
* Alternative 2: The source gNB indicates the discarded SDUs as received in the SN STATUS TRANSFER.
* Alternative 3: The UE sends the PDCP SN gap report again after connecting to the target gNB.

RAN3 believes Alternative 1 and 2 are network-based solution, while Alternative 3 is UE-based solution and should be RAN2 territory. So, RAN3 would like to ask RAN2 to investigate the Alternative 3 and provide feedback on its feasibility based on existing UE behavior. If Alternative 3 needs further enhancement on UE behavior, RAN3 will discuss the network-based solutions.

**2. Actions:**

**To RAN2:**

**ACTION:** RAN3 kindly asks RAN2 to investigate the alternative 3 and provide feedback on its feasibility based on existing UE behavior.

**3. Date of Next RAN3 Meetings:**

RAN3#126 18th Nov – 22nd Nov 2024 Orlando, US

RAN3#127 17th Feb – 21st Feb 2024 Athens, GR