3GPP TSG RAN WG2 Meeting #116bis-e R2-21xxxx

Electronic meeting, 17th-25th January 2022

**Title:** [draft] LS on RAN3 impacts for CCCH based solution for non-SDT handling

**Release:** Rel-17

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

**Source:** Intel Corporation (to be RAN2)

**To:** RAN3

**Cc:** SA3, CT1

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# 1 Overall description

During the ongoing SDT session with anchor relocation, the UE context is transferred from the anchor gNB to the serving gNB. For the CCCH solution, when there is data for a non-SDT radio bearer, the UE aborts the ongoing SDT session before the network would have sent a *RRCRelease* message with new I-RNTI or security key information. In this case, the UE will send a second *RRCResumeRequest* message using the I-RNTI that was issued by the old anchor gNB and performs horizontal key derivation. The *ResumeMAC-I* is expected to be updated as discussed in [Reference to SA3 LS].

RAN2 would like to ask RAN3:

* **Q1:** Which node (old anchor gNB or serving gNB) will process the second *RRCResumeRequest* message with I-RNTI associated to the old anchor gNB and will perform *ResumeMAC-I* verification and key derivation?
* **Q2:** When UE autonomously terminates the ongoing SDT session and sends second *RRCResumeRequest* message, serving gNB may have buffered DL data from the previous ongoing SDT session. Could the serving gNB be able to associate that buffered DL data with the new UE AS context relocated for the second RRC resume procedure in order for the serving gNB to send it without loss after the UE gets RRC\_CONNECTED?
* **Q3:** Is it possible for the old anchor gNB and/or the serving gNB to distinguish the second *RRCResumeRequest* message without any explicit indication from UE? gNB needs to differentiate them because the security for this second RRC resume procedure is different than for the first resume procedure used to initiate the SDT session, as discussed in [Reference to SA3 LS]. This is important for gNB to determine which security information shall be used, especially for the case that the first resume request is not received successfully.
* **Q4:** Are there any other RAN3 impacts with the proposed CCCH solution explained above and if so, can RAN3 specify the necessary changes in time for Rel-17 completion?

# 2 Actions

**To RAN3**

**ACTION:**

RAN3 is respectfully requested to reply the above questions (Q1 to Q4) and provide any additional feedback on the proposed CCCH based solution, if any.

# 3 Dates of next TSG RAN WG2 meetings

RAN2#117-e 21st February to 03 March 2022, E-meeting

RAN2#118-e 16th to 27th May 2022, E-meeting