**3GPP TSG-RAN WG2 Meeting #116bis Electronic DRAFT R2-220xxxx**

**Elbonia, 17 – 25 January 2022**

**Title: [DRAFT]** LS on Security for Small Data Transmission

**Response to:** -

**Release:** Release 17

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

**Source:** Nokia [TSG RAN WG2]

**To:** TSG SA WG3

**Cc:**

**Contact Person:**

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

**Attachments:** -

**1. Overall Description:**

RAN2 is working on Small Data Transmission (SDT) feature which allows small data transmissions in INACTIVE state. As part of this work, when UL data needs to be transmitted over radio bearers configured for SDT, SDT procedure may be initiated to transmit/receive data over radio bearers configured for SDT. When SDT procedure is initiated, *RRCResumeRequest* is transmitted as part of the first UL transmission by the UE along with the UL small data. Network can identify the RRC Resume procedure is for SDT based on the used RACH by the UE which is exclusively used by the UEs initiating SDT procedure.

While the SDT procedure is ongoing, new UL data may appear into a buffer of a radio bearer not configured for SDT. It is agreed by RAN2 that UE will switch to a non-SDT procedure to indicate this non-SDT data arrival to the network. One of the solutions for such indication discussed in RAN2 is that the UE terminates the ongoing SDT procedure and triggers a new RRC Resume procedure – in this case, a second *RRCResumeRequest* would be transmitted by the UE to the network.

RAN2 further discussed on the security solutions for this case. One option discussed is that the UE performs autonomous horizontal key derivation when switching from the SDT procedure to second RRC Resume procedure for non-SDT data indication. Furthermore, the UE could use the key derived for the SDT procedure for *resumeMAC-I* generation for the *RRCResumeRequest* transmitted in the second RRC Resume procedure for non-SDT data indication.

RAN2 would like to ask from SA3 if the above is feasible from SA3 point of view? Furthermore, RAN2 would like to know if SA3 has any preference on the used key(s)/solution applied in the above scenario for second RRC Resume procedure for non-SDT data indication?

**2. Actions:**

**To SA3 group.**

**ACTION:** RAN2 respectfully asks SA3 if the above security concept is feasible from SA3 point of view? Furthermore, RAN2 would like to know if SA3 has any preference on the used key(s)/solution applied in the above scenario for second RRC Resume procedure for non-SDT data indication?

Further, RAN2 respectfully asks SA3 if a fast handling of the LS and related response could be possible? The next RAN2#117-e meeting would be the last meeting for functional agreements in Rel-17 work items, hence, the decision about the solution for the above issue needs to be decided by the RAN2 in the next meeting.

**3. Date of Next TSG-RAN WG2 Meeting:**

3GPP RAN2#117-e from 2022-02-21 to 2022-03-03 Electronic Meeting