**3GPP** **TSG SA WG3 Meeting 106-e draft\_S3-220152-r10**

**Electronic meeting, 14-25 February 2022**

**Title: Reply LS on Security of Small data transmission**

**Response to: LS S3-220051(R2-2201983) LS on Security for Small Data Transmission**

**Release: Rel-17**

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

**Source: SA3**

**To:** **RAN2**

**Cc: RAN3**

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

**Attachments:** none

# 1 Overall description

SA3 thanks RAN2 for their LS on Small data transmission.

SA3 discussed the LS from RAN2 and would like to provide the following response on the exemplary call flow detailed in the RAN2 LS (S3-220051/R2-2201983):

1. Two nodes (gNBs) using a key (KRRCint\_1) to verify RRC messages (at steps 12 & 13 in serving gNB and at step 18 in last serving gNB) is not acceptable from the security point of view. RAN2 needs to update the solution to prohibit using the same key at different entities.
2. SA3 prefers not to reuse the same I-RNTI for the second resume request.
3. The key derivation between gNBs shall meet the 2-hop forward security principle, i.e., the 1st node (gNB) shall not predict the 3rd node (gNB)’s key, which is similar to the handover, after two handovers, the 1st gNB cannot predict the 3rd gNB since a new {NH, NCC} is received from the AMF. RAN2 needs to update the solution as the current solution does not meet this security requirement.
4. A SA3 study and work are needed to develop a security solution and specify if RAN2 agrees to the solution similar to the one mentioned in the RAN2 LS (S3-220051/R2-2201983).

The exemplary call flow detailed in the RAN2 LS (S3-220051/R2-2201983) requires further study from the security point of view, as mentioned above, to be feasible.

# 2 Actions

**To RAN2**

**ACTION:** 3GPP TSG SA WG3 asks RAN2 to take the above feedback into account and reply to SA3.

# 3 Dates of next TSG SA WG3 meetings

TSG SA WG3 Meeting 106-Bis-e 04-08 April 2022

TSG SA WG3 Meeting 107-e 27 June-01 July 2022