**3GPP TSG-SA WG2 Meeting #149E (e-meeting)S2-2201026r05**

**14 – 25 February, 2022, Electronic meeting (revision of S2-220xxxx)**

**Title:** [Draft] Response LS on NAS PDU delivery during PDU Session modification procedure

**Response to:** S2-2200423 (R3-221475) LS on NAS PDU delivery during PDU Session modification procedure

**Release:** Rel-16

**Work Item:** TEI16

**Source:** SA2

**To:** RAN3

**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:**

SA2 thanks RAN3 for their LS on NAS PDU delivery during PDU Session modification procedure. SA2 discussed the option 1 and option 2, agreed that both options 1 and 2 can work2.

Regarding the different understanding by RAN3, SA2 would like to provide following feedback:

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| --- |
| * Understanding 1: The SMF would send PDU Session Modification Reject message to UE if the SMF found that the UE requested modification on the PDU session is rejected by NG-RAN node no matter other modifications e.g. TNL address update included in the same N2 message succeeds or not. * Understanding 2: The SMF would send PDU session Modification Reject message to UE only when all of the modification request included in the N2 message failed, i.e. upon receiving the *PDU Session Resource Modify Unsuccessful Transfer IE* in the PDU SESSION RESOURCE MODIFY RESPONSE message. |

**SA2 Response**

SA2 would like to clarify the following aspects:

* If the NAS PDU is received by the UE, SMF cannot send a NAS PDU Session Modification Reject message after the NG-RAN has indicated to SMF that N2 modification failed. In that case SMF has to trigger a “clean-up” by triggering a separate NAS PDN Session Modification procedure. If NAS PDU was not received by the UE, SMF can send a NAS PDU Session Modification Reject after NG-RAN has indicated that the requested N2 modification failed. Therefore, Understandings 1 and 2 seem to apply only to Option 2, not to Option 1.
* Regarding Option 2, understanding 2 is correct, i.e.,:
  + If RAN replies with PDU SESSION RESOURCE MODIFY RESPONSE containing “PDU Session Resource Modify Response Item” for the PDU Session, then SMF assumes that NAS PDU was sent to UE, even if some QoS Flow modifications failed. If some QoS Flow modification failed in RAN, the SMF needs to clean up with the UE on NAS layer later by triggering a new NAS PDU Session Modification procedure.
  + If RAN replies with PDU SESSION RESOURCE MODIFY RESPONSE containing “PDU Session Resource Failed to Modify Response Item” for the PDU Session, then SMF assumes that NAS PDU was NOT sent to UE. In this case the SMF could send a NAS Reject to the UE.

**2. Actions:**

**To RAN3:**

**ACTION:** SA2 kindly asks RAN3 to take the above information into account and provide feedback as necessary.

**3. Date of Next TSG-SA2 Meetings:**

TSG-SA2 Meeting #150-e 06 - 12 April 2022 Electronic Meeting