3GPP TSG RAN WG3 Meeting #129 R3-255876

Bengaluru, India, 25 - 29 August, 2025

Title: LS on compatibility issue for PEI and emergency PDU session

Response to:

Release: Release 17

Work Item: NR\_UE\_pow\_sav\_enh-Core

Source: RAN3

To: SA2

Cc: CT1, RAN2

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Attachments: None

**1. Overall Description:**

RAN3 has noticed the agreed SA2 CR [S2-2502428] on removing the restriction of usage of PEIPS-based PEI during an emergency PDU session in Rel-19 TS 23.501.

RAN3 has identified the backward compatibility issue when different releases of UE/NG-RAN/AMF are deployed. Specifically, there are, among others, two typical scenarios:

For both scenario 1 and 2, assumption is that UE performs registration first and after some time UE established emergency PDU session without updating its NAS network capability to monitor PEI while emergency PDU session is active.

* Scenario 1, R19 UE (without the restriction of using PEIPS during emergency PDU session), R17/18 gNB and AMF (with the restriction of using PEIPS during emergency PDU session): the R19 UE will monitor PEI with PEIPS while R17R18 AMF/gNB will not use PEIPS to page the UE, thus the R19 UE will miss Paging message with PEIPS.



* Scenario 2, R17/R18 UE (with the restriction of using PEIPS during emergency PDU session), R19 gNB and AMF (with no restriction of using PEIPS during emergency PDU session): the R19 AMF/gNB could use PEIPS to page the UE while the R17 UE shall not use PEIPS, but may monitor PEI using UE\_ID based subgroup ID, in this case, the UE will miss Paging message.



RAN3 also noticed that CT1 was also discussing the Rel-19 CR to TS 24.501 to align with SA2’s change and how to address the compatibility issue.

RAN3 identified at least the above compatibility issues and would like to check with SA2 how to solve them. RAN3 has started to discuss possible solutions provided below for information but think that SA2 should take the lead to solve these issues and make the necessary coordination among all working groups.

1. Whether it is possible for SA2 to revert the R19 agreed CRs on removing the restriction of emergency PDU session for PEI?
2. Whether it is possible for SA2 to remove the restriction of emergency PDU session for PEI from R17 onwards?
3. An unified solution to be considered to address the compatibility issue solely through modifications to the Rel-19 RAN or/and CN specification?
4. R17/R18 gNBs not use the complete PEI (i.e. both CN based subgrouping and UE ID based subgrouping) in the presence of emergency PDU session (assuming SA2 CRs are applicable only from R19)?
5. R17/R18 UEs ignore the complete PEI (i.e. both CN based subgrouping and UE ID based subgrouping) in the presence of emergency PDU session (assuming SA2 CRs are applicable only from R19).
6. R17/R18 UEs initiate a registration procedure without indicating its capability of supporting PEIPS when the emergency PDU session is set up, so that AMF will not use the PEIPS during the emergency PDU session?

In light of the complexity of the situation, some companies think that option 1 may be the simplest option.

**2. Actions:**

**To SA2:**

**Action:** RAN3 kindly ask SA2 to consider the above compatibility issues for PEI and give feedback.

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

TSG RAN WG3 Meeting #129bis 13th Oct – 17th Oct 2025 Prague, CZ

TSG RAN WG3 Meeting #130 17th Nov – 21th Nov 2025 Dallas, U.S.