**SA WG2 Meeting #S2-145E S2-2103792**

**17 - 28 May, 2021, Electronic meeting**

**Title:** Reply LS on NAS-based busy indication

**Response to:** S2-2103768 / R2-2104354

**Release:** Release 17

**Work Item:** MUSIM / LTE\_NR\_MUSIM-Core

**Source:** SA2

**To:** RAN2, CT1, RAN3

**Cc:** SA3

**Contact Person:**

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**Attachments:** TS 23.502 CR2558

**1. Overall Description:**

SA2 thanks RAN2 for their LS on NAS-based busy indication for RRC Inactive state (S2-2103768 / R2-2104354).

The attached CR implements the RAN2 agreement to enable RAN2 to further analyse the topic and come back to SA2 with any additional feedback. Several companies in SA2 have the following concern on about the use of NAS-based busy indication from RRC Inactive state,

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| --- |
| - The UE resumes from RRC-Inactive when sending the Paging Reject in NAS level.  - The RAN is unaware of the content of the NAS message, and forward the NAS message to AMF. The RAN node starts scheduling the DL data or signalling within its buffers for the UE.  - Depending upon UE implementation, the UE may discard any received packet or NAS PDU, s, which would lead e.g. to waste of Uu resources;  - This may continue until the UE is released;  - RAN receives the N2 release request from the AMF and then release the UE to CM-IDLE/RRC-IDLE. |

SA2 would like to ask RAN2 to evaluate this CR and provide feedback on the above concerns.

Given that SA2 work on MUSIM is due for completion in June 2021 and other companies considered using NAS based Busy indication for RRC Inactate feasible, SA2 agreed to proceed with the attached CR but including an Editor’s note. A response from RAN2 is desired so SA2 can decide how to proceed.

Regarding the specific RAN2 questions in the LS:

* **Question 1: Are the impacts identified by RAN2 valid?**
* **Question 2: Are there any other impacts beyond those identified by RAN2?**
* **Question 3: If the ANS to Q1 and/or to Q2 is yes, can they be specified within Rel-17 timeframe?**

SA2 would like to offer the following answers:

- **A1**: As indicated above.

- **A2**: See the concern description above.

- **A3**: The attached CR needs only the editor's note to be removed if RAN2 does not change its Working assumption. If the RAN2 assumptions change (e.g. AS-level busy), SA2 needs to update the corresponding solution.

SA2 would also like to bring to RAN2’s attention the attached CR implies that at the end of the 5GS NAS Leaving procedure the UE is always put in RRC Idle state.

In addition, SA2 would like to check with RAN2 what range of absence time RAN2 considers to use in the procedure for “*switching without leaving RRC Connected state*”.

**2. Actions:**

**To RAN2 group.**

**ACTION:**

**1)** SA2 respectfully asks RAN2 to consider the above additional impact on NAS based Busy indication from RRC-Inactive and provide feedback.

2) SA2 would also like to ask RAN2 what range of absence time RAN2 considers to use in the procedure for “*switching without leaving RRC Connected state*”.

**To, CT1 and RAN3 groups.**

**ACTION:** SA2 respectfully asks CT1 and RAN3 to take the feedback above into consideration for their work on MUSIM.

**3. Date of Next TSG-SA WG2 Meetings:**

3GPP SA2#146-e 16 - 27 August 2021 Electronic Meeting

3GPPSA2#147-e 18 - 22 October 2021 Electronic Meeting