**3GPP TSG-RAN WG3 Meeting #116-e *R3-223854***

**E-meeting, 9-19 May, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.401** | **CR** | **0213** | **rev** | **1** | **Current version:** | 17.0.0 |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Clarifications on RA-SDT overall procedures | | | | | | | | | |
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| ***Source to WG:*** | CATT, ZTE, Nokia, Nokia Shanghai Bell, Intel Corporation, NEC | | | | | | | | | |
| ***Source to TSG:*** | RAN3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SmallData\_INACTIVE | | | | |  | ***Date:*** | | | 2022-05-13 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | 1. For the overall procedures for RA-SDT in section 8.18.1, it’s mentioned that the step 6 and 7 are not excuted in case of partial UE context transfer (SDT without anchor relocation case). However, it’s not clear how the DL F1-U TEID(s) is provided to another gNB for DL SDT transmission.   We understand that the DL F1-U TEID(s) obtained in step 5 should be signalled to the last serving gNB-CU-CP within the PARTIAL UE CONTEXT TRANSFER ACKNOWLEDGE message, and which will be used for transferring of the DL SDT data.   1. In Step 2, it’s clearly specified the UL SDT data and/or signalling is bufferred in gNB-DU. But when and how to proceed with the buffered UL SDT data and/or signalling in gNB-DU is not mentioned, which should be clarified. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add some procedural texts in Note 2 of section 8.18.1 on how to use the F1-U DL TEIDs assigned in the receiving gNB-DU, as below:  * The F1-U DL TEIDs received from the gNB-DU in step 5 should be forwarded to the other gNB-CU-CP, which will be provided to the gNB-CU-UP by the Bearer Context Modification procedure, and be used for transferring of the DL SDT data.  1. Add a NOTE to specify when and how to proceed with the buffered UL SDT data and/or signalling. | | | | | | | | |
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| ***Consequences if not approved:*** | | The procedural texts for RA-SDT is not clear enough. | | | | | | | | |
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| ***Clauses affected:*** | | 8.18.1 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | Rev -. CR Creation.  Rev 1. Refine the coversheet and the Note 3. | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< Begin of change >>>>>>>>>>>>>>>>>>>>

## 8.18 Overall procedure for Small Data Transmission during RRC Inactive

### 8.18.1 RACH based SDT

The procedure for RACH based small data transmission in RRC Inactive is shown in Figure 8.18.1-1.



Figure 8.18.1-1: RACH based Small Data Transmission in RRC Inactive state.

1. The UE in RRC Inactive sends *RRCResumeRequest* message together with UL SDT data and/or UL SDT signalling.

2. The gNB-DU buffers the UL SDT data and/or UL SDT signalling.

3. The step 3 is as defined in step 4 in clause 8.6.2, with including an indication of SDT access. The gNB-DU may also provide SDT assistance information.

4-5. The steps 4-5 are as defined in steps 6-7 in clause 8.9.6.2. The UL SDT data, if any, is forwarded to the gNB-CU-UP, and the UL signalling, if any, is forwarded to the gNB-CU-CP via the UL RRC MESSAGE TRANSFER message, in which any UL NAS PDU is delivered to AMF.

NOTE 1: In case that full UE context is retrieved from another gNB-CU-CP as specified in TS 38.300 [2], the gNB-CU-CP first establishes the UE context in the gNB-CU-UP via the Bearer Context Setup procedure and F1-U UL TEIDs are retreived before step 4. The BEARER CONTEXT SETUP REQUSET message may include an indication to suspend non-SDT bearers, and in this case, the BEARER CONTEXT MODIFICATION REQUEST message in step 6 does not include resume indication for SDT DRBs.

NOTE 2: In case that only partial UE context for SDT including F1-U UL TEIDs is retrieved from another gNB-CU-CP as specified in TS 38.300 [2], the gNB-CU-CP uses those F1-U UL TEIDs for steps 4-5, and the subsequent steps 6-7 are not executed. The F1-U DL TEIDs received from the gNB-DU in step 5 should be forwarded to the other gNB-CU-CP, to be used for transferring of the DL SDT data. In addition, the UL SDT data, if any, is forwarded from the gNB-DU to the gNB-CU-UP of the other gNB-CU-CP for which the partial context is retrieved, and the UL signalling, if any, is forwarded from the gNB-CU-CP to the other gNB-CU-CP via the XnAP RRC TRANSFER message.

NOTE 3: The buffered UL SDT data/signalling in the gNB-DU could be sent to the other gNB-CU-UP/gNB-CU-CP afer step 5. The other gNB-CU-UP may need to buffer the UL SDT data if received before the SDT bearer(s) are resumed.

6. The gNB-CU-CP sends the BEARER CONTEXT MODIFICATION REQUEST message including an resume indication for SDT DRBs. The gNB-CU-CP also includes the F1-U DL TEIDs received from the gNB-DU in step 5.

7. The gNB-CU-CP responds with the BEARER CONTEXT MODIFICATION RESPONSE message.

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