**3GPP TSG-SA3 Meeting #123 S3-252951**

Goteborg, Sweden, 25 – 29 August 2025

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **33.511** | **CR** | **0094** | **rev** | **1** | **Current version:** | **19.2.0** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

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| ***Title:*** | Correcting the UP replay test case to remove the response messages | | | | | | | | | |
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| ***Source to WG:*** | Qualcomm Incorporated, MITRE | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SCAS\_5G\_Maint | | | | |  | ***Date:*** | | | 2025-08-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Sending an UP message can not guarantee response message is sent on the UP between the gNB and UE so the current text in clause 4.2.2.1.8 is incorrect. Checking logs is also unnecessary.  Some other clarfications help make the test desription clearer. | | | | | | | | |
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| ***Summary of change:*** | | Remove text about response message is sent on the UP between the gNB and UE.  In addition step 4 was re-worded to make it that the gNB needs to detect the replay as processing of the packets is necessary to check if is a replay. Checking of logs was removed as unnecessary.  Step 5 is almost a repeat of step 4 so is deleted. Original step 6 is re-worded plus the addition of a NOTE to clarify how the gNB passes the test. | | | | | | | | |
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| ***Consequences if not approved:*** | | Confusing test case. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.2.1.8 | | | | | | | | |
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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:*** | | Rev1 add the removal of logs. | | | | | | | | |

**\*\*\*\* START OF CHANGES \*\*\*\***

4.2.2.1.8 Replay protection of user data between the UE and the gNB

*Requirement Name:* Replay protection of user data between the UE and the gNB.

*Requirement Reference:* TS 33.501 [2], clause 5.3.3

*Requirement Description****:*** The gNB supports integrity protection and replay protection of user data as specified in TS 33.501 [2], clause 5.3.3.

*Threat References:* TR 33.926 [5], clause D.2.2.4 – User plane data integrity protection.

*Test Case:*

**Test Name:** TC-UP-DATA-REPLAY\_gNB

**Purpose:**

Toverify that the user data packets are replay protected over the NG RAN air interface.

**Pre-Condition:**

- The gNB network product shall be connected in emulated/real network environments. The UE may be simulated.

- The tester shall have access to the NG RAN air interface.- The tester shall have access to the N3 interface

- The tester shall activate the user plane integrity protection of user data packets.

**Execution Steps:**

1. The tester shall capture the user plane data sent between UE and gNB using any network analyser over the NG RAN air interface.

2. Tester shall filter user plane data packets sent between UE and gNB.

3. Tester shall replay the captured user plane packets or shall use any packet crafting tool to create a user plane packet similar to the captured user plane packet and replay to the gNB.

4. Tester shall check whether the replayed user plane packets were detected by the gNB by capturing the N3 interface to see if any of the replayed user plane packets have been forwarded by the gNB.

5. Tester shall verify from the result that if the replayed user plane packets are not accepted by the gNB, the UP of the NG RAN air interface is replay protected.

**Expected Results:**

The user plane packets sent between the UE and gNB over the NG air interface is replay protected.

**Expected format of evidence:**

- Evidence suitable for the interface, e.g. Screenshot containing the operational results.

- Log files, e.g., containing corresponding log events.

**\*\*\*\* END OF CHANGES \*\*\*\***