**3GPP TSG-CT WG1 Meeting #128-eC1-21XXXX**

**Electronic meeting, 25 February – 5 March 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **2991** | **rev** | **1** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | NSSAA failure during network slice-specific EAP message reliable transport procedure | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Lenovo, Motorola Mobility, ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17, eNS | | | | |  | ***Date:*** | | | 2021-02-25 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Communication failure in the access stratum (AS) layer can happen during the network slice-specific EAP message reliable transport procedure as described in subclause 5.4.7.2 in 3GPP TS 24.501. In this case the NSSAA signalling exchange has started, but the EAP procedure couldn't be completed. With other words, the EAP procedure is timed out and the AAA-S and the AMF determines this situation require termination of all ongoing EAP procedures for each of the S-NSSAIs from the pending NSSAI.  This results in abnormal cases on the network side and on the UE side. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | If the failure during the network slice specific EAP messagereliable transport procedure, the UE deletes one or more S-NSSAIs that it requested the NSSAA for. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | After regaining coverage in the same network, if the UE has not deleted the pending S-NSSAIs it has requested NSSAA for, the UE cannot request NSSAA for those S-NSSAIs. This limits the UE freedom to use network slices according to the demand after recovery back from the AS layer communication failure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.7.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

------------------------------------------ Next Change --------------------------------------

##### 5.4.7.2.4 Abnormal cases in the UE

The following abnormal cases can be identified:

a) Transmission failure of the NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message with TAI change from lower layers

If the current TAI is not in the TAI list, the network slice-specific authentication and authorization procedure shall be aborted and a registration procedure for mobility and periodic registration update indicating "mobility registration updating" in the 5GS registration type IE of the REGISTRATION REQUEST message shall be initiated.

If the current TAI is still part of the TAI list, it is up to the UE implementation how to re-run the ongoing procedure that triggered the network slice-specific authentication and authorization procedure.

b) Transmission failure of NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message indication without TAI change from lower layers

It is up to the UE implementation how to re-run the ongoing procedure that triggered the network slice-specific authentication and authorization procedure.

c) Network slice-specific authentication and authorization procedure and de-registration procedure collision

If the UE receives NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND message after sending a DEREGISTRATION REQUEST message and the access type included in the DEREGISTRATION REQUEST message is the same as the access in which the NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND message is received, then the UE shall ignore the NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND message and proceed with the de-registration procedure. Otherwise, the UE shall proceed with both procedures.

d) Lower layer failure

If the UE is in 5GMM-REGISTERED.NO-CELL-AVAILABLE state or 5GMM-REGISTERED.LIMITED-SERVICE prior to transmitting the NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message unsuccessfully, the UE shall delete the one or more S-NSSAIs from the pending NSSAI, for which the NSSAA was requested.

------------------------------------------ End of Change --------------------------------------