**3GPP TSG-WG SA2 Meeting #139E e-meeting  *S2-200xxxx***

**Elbonia, June 01 - 12, 2020, 2020 (revision of S2-200xxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.501** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **16.4.0** |  |
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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 |  | Core Network | **x** |

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| ***Title:*** | Unsubscribe the notification of Re-authentication and Re-authorization or Revocation | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS | | | | |  | ***Date:*** | | | 2020-05-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
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| ***Reason for change:*** | | During NSSAA procedure, the AMF implicitly subscribes to the notification of the need to re-authenticate and re-authorize the UE or to revoke the UE authorization as defined in clause 4.2.9.2 step 15..  *The AAA-S stores the S-NSSAI for which the authorisation has been granted, so it may decide to trigger reauthentication and reauthorization based on its local policies.*  According to the last e-meeting discussion, the UE may no longer access to the authorized S-NSSAIs due to, e.g., Deregistration or 5GS to EPS mobility in which case the PDU sessions associated with S-NSSAIs subject to NSSAA cannot be maintained. However, there is no corresponding method of how to terminate the notification of re-authentication and re-authorization or revocation from AAA-S., hence the AAA server will keep notify AMF on the re-authorization or Revocation even after UE don’t use the slice any more.  It is proposed that the AMF unsubscribes the notification of Re-authentication and Re-authorization or Revocation. | | | | | | | | |
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| ***Summary of change:*** | | The AMF unsubscribes the notification of Re-authentication and Re-authorization or Revocation in case UE no longer access to the authorized S-NSSAIs. | | | | | | | | |
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| ***Consequences if not approved:*** | | The AAA will keep notifying the AMF about Re-auth or Revocation even after UE don’t use the slice any more. | | | | | | | | |
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| ***Clauses affected:*** | | 5.15.10 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS23.502... CRxxx | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

### 5.15.10 Network Slice-Specific Authentication and Authorization

A serving PLMN shall perform Network Slice-Specific Authentication and Authorization for the S-NSSAIs of the HPLMN which are subject to it based on subscription information. The UE shall indicate in the Registration Request message in the UE 5GMM Core Network Capability whether it supports NSSAA feature. If the UE does not support NSSAA feature and if the UE requests any of these S-NSSAIs that are subject to Network Slice-Specific Authentication and Authorization, the AMF shall not trigger this procedure for the UE and they are rejected for the PLMN. If the UE supports NSSAA feature and if the UE requests any of these S-NSSAIs that are subject to Network Slice-Specific Authentication and Authorization, they are included in the list of Pending NSSAI for the PLMN, as described in clause 5.15.5.2.1.

If a UE is configured with S-NSSAIs, which are subject to Network Slice-Specific Authentication and Authorization, the UE stores an association between the S-NSSAI and corresponding credentials for the Network Slice-Specific Authentication and Authorization.

NOTE: The credentials for Network Slice-Specific Authentication and Authorization and how to provision them in the UE are not specified.

To perform the Network Slice-Specific Authentication and Authorization for an S-NSSAI, the AMF invokes an EAP- based Network Slice-Specific authorization procedure documented in TS 23.502 [3] clause 4.2.9 (see also TS 33.501 [29]) for the S-NSSAI. When an NSSAA procedure is started and is ongoing for an S-NSSAI, the AMF stores the NSSAA status of the S-NSSAI as pending, the NSSAA status of each S-NSSAI, if any is stored, is transferred when the AMF changes.

This procedure can be invoked for a supporting UE by an AMF at any time, e.g. when:

a. The UE registers with the AMF and one of the S-NSSAIs of the HPLMN which maps to an S-NSSAI in the Requested NSSAI is requiring Network Slice-Specific Authentication and Authorization (see clause 5.15.5.2.1 for details), and can be added to the Allowed NSSAI by the AMF once the Network Slice-Specific Authentication and Authorization for the S-NSSAI succeeds; or

b. The Network Slice-Specific AAA Server triggers a UE re-authentication and re-authorization for an S-NSSAI; or

c. The AMF, based on operator policy or a subscription change, decides to initiate the Network Slice-Specific Authentication and Authorization procedure for a certain S-NSSAI which was previously authorized.

In the case of re-authentication and re-authorization (b. and c. above) the following applies:

- If S-NSSAIs that are requiring Network Slice-Specific Authentication and Authorization are included in the Allowed NSSAI for each Access Type, AMF selects an Access Type to be used to perform the Network Slice Specific Authentication and Authorization procedure based on network policies.

- If the Network Slice-Specific Authentication and Authorization for some S-NSSAIs in the Allowed NSSAI is unsuccessful, the AMF shall update the Allowed NSSAI for each Access Type to the UE via UE Configuration Update procedure.

- If the Network Slice-Specific Authentication and Authorization fails for all S-NSSAIs in the Allowed NSSAI, the AMF shall execute the Network-initiated Deregistration procedure described in TS 23.502 [3], clause 4.2.2.3.3, and shall include in the explicit De-Registration Request message the list of Rejected S-NSSAIs, each of them with the appropriate rejection cause value.

After a successful or unsuccessful UE Network Slice-Specific Authentication and Authorization, the UE context in the AMF shall retain the authentication and authorization status for the UE for the related specific S-NSSAI of the HPLMN while the UE remains RM-REGISTERED in the PLMN, so that the AMF is not required to execute a Network Slice-Specific Authentication and Authorization for a UE at every Periodic Registration Update or Mobility Registration procedure with the PLMN.

A Network Slice-Specific AAA server may revoke the authorization or challenge the authentication and authorization of a UE at any time. When authorization is revoked for an S-NSSAI that is in the current Allowed NSSAI for an Access Type, the AMF shall provide a new Allowed NSSAI to the UE and trigger the release of all PDU sessions associated with the S-NSSAI, for this Access Type.

The AMF provides the GPSI of the UE related to the S-NSSAI to the AAA Server to allow the AAA server to initiate the Network Slice-Specific Authentication and Authorization, or the Authorization revocation procedure, where the current AMF serving the UE needs to be identified by the system, so the UE authorization status can be challenged or revoked.

The Network Slice-Specific Authentication and Authorization requires that the UE Primary Authentication and Authorization of the SUPI has successfully completed. If the SUPI authorization is revoked, then also the Network Slice-Specific authorization is revoked.

If the AMF determines that the UE no longer access to the S-NSSAIs that map to the HPLMN S-NSSAIs for which Network Slice-Specific Authentication and Authorization succeeded previously, e.g. based on Deregistration or 5GS to EPS mobility, the AMF unsubscribes the notification of Re-authentication and Re-authorization or Revocation for the Network Slices identified by the HPLMN S-NSSAIs, as described in the clause 4.2.9.X in TS 23.502[3].

\* \* \* \* End of changes \* \* \* \*