**3GPP TSG-SA3 Meeting #107-e *S3-221091***

**e-meeting, 16 – 20 May 2022 Revision of S3-22xxxx**

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| *CR-Form-v12.1* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.926** | **CR** | **Draft-CR** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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 | **X** |

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| ***Title:*** | Threat modifications for token verification | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SCAS\_5G\_Ph2 | | | | |  | ***Date:*** | | | 2022-05-16 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | According to TS 33.501, for SNPNs with Credentials Holder using AUSF and UDM for primary authentication, similar authorization mechanisms with roaming are adopted to ensure the service authorization between SNPN and credentials holder. If token verification does not include the SNPN ID in the same way with PLMN ID in roaming, the service will be consumed by unauthorized SNPN. | | | | | | | | |
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| ***Summary of change:*** | | Modify the token verification threat to also cover the SNPN case. | | | | | | | | |
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| ***Consequences if not approved:*** | | The threat evaluation for SNPN is missed. | | | | | | | | |
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| ***Clauses affected:*** | | 6.3.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of 1st Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.

### 6.3.3 Threats related to service access

#### 6.3.3.1 Elevation of privilege via incorrect verification of access tokens

- *Threat name*: Incorrect Verification of Access Tokens.

- *Threat category*: Elevation of Privilege, Information Disclosure, Denial of Service.

- *Threat Description*: there are following threats if the generic NF cannot correctly verify the access tokens:

- An access token may be tampered so that an attacker can arbitrarily access any services from any NF service providers within the same PLMN or in different PLMNs or SNPNs, which leads to elevation of privilege and consequently information disclosure.

- An access token may be tampered so that an attacker can arbitrarily access the services of any slices provided by the NF producer instances (excluded from the list of NSSAIs or the list NSI IDs) within the same PLMN or in different PLMNs or SNPNs, which leads to elevation of privilege and consequently information disclosure.

- An access token may be tampered so that an attacker can arbitrarily access the services provided by the NF producer instances outside the NF Set which it is allowed to access within the same PLMN or in different PLMNs or SNPNs, which leads to elevation of privilege and consequently information disclosure.

- An access token may be tampered so that an attacker can arbitrarily access the disallowed resources or conduct disallowed actions on the resources for the services provided by a NF service provider within the same PLMN or in different PLMNs or SNPNs, which leads to elevation of privilege and consequently information disclosure.

- An access token may be tampered so that an attacker can block service access by replacing the granted services/NF service providers with unavailable services/NF service providers, which leads to denial of service.

- An expired access token can be replayed so that an attack can access the services which may no longer be allowed by the NF service provider, which leads to elevation of privilege and consequently information disclosure.

*- Threatened Asset:* NF API data, NF Application, Sufficient processing capacity

NOTE x: This SNPNs authorization aspects only apply to UDMs, NRFs and AUSFs in Credentials Holders Credentials Holder using AUSF and UDM for primary authentication.\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of 1st Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*