**3GPP TSG-SA3 Meeting #108-e *draft\_S3-221841-r2***

**e-meeting, 22 - 26 August 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **33.501** | **CR** | **1435** | **rev** | **1** | **Current version:** | **17.6.0** |  |
|  |
| *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:***  | Clarification on N32-f connection establishment with TLS |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2022-08-26 |
|  |  |  |  |  |
| ***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 canbe 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:*** | If TLS is selected, the SEPP shall correlate the N32-f TLS connection with the N32-c connection by comparing the PLMN-IDs contained in the SEPP TLS certificates used to establish the N32-c and N32-f connections. The case of SNPNs is not yet described but should be covered as well. In this scenario, for SNPNs with Credentials Holder using AUSF and UDM for primary authentication, the SNPN ID of the serving SNPN is included instead of the NF Service Consumer's PLMN ID and the SNPN ID or the PLMN ID of the Credentials Holder is included instead of the NF Service Producer's PLMN ID.  |
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| ***Summary of change:*** | Add a clarification sentence on SNPN ID in line with the reason. |
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| ***Consequences if not approved:*** | SNPN ID id not addressed for SEPPs. |
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| ***Clauses affected:*** | 13.1.2 |
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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:*** |  |
|  |  |
| ***This CR's revision history:*** | S3-221841 |

\*\*\*\*\*\*\*\*\* START OF CHANGE

13.1.2    Protection between SEPPs

TLS shall be used for N32-c connections between the SEPPs.

If there are no IPX providers between the SEPPs, TLS shall be used for N32-f connections between the SEPPs. Different TLS connections are used for N32-c and N32-f. If there are IPX providers which only offer IP routing service between SEPPs, either TLS or PRINS (application layer security) shall be used for protection of N32-f connections between the SEPPs. PRINS is specified in clause 5.9.3 (requirements) and clause 13.2 (procedures).

If TLS is selected, the SEPP shall correlate the N32-f TLS connection with the N32-c connection by comparing the PLMN-IDs contained in the SEPP TLS certificates used to establish the N32-c and N32-f connections.

For SNPNs with Credentials Holder using AUSF and UDM for primary authentication, the SEPP of such SNPN shall compare the SNPN IDs contained in the TLS certificate of the SNPN's SEPP used to establish the N32-c and N32-f connection for the SNPN and, if the Credentials Holder is an SNPN, for the Credentials Holder.

If there are IPX providers which, in addition to IP routing, offer other services that require modification or observation of the information and/or additions to the information sent between the SEPPs, PRINS shall be used for protection of N32-f connections between the SEPPs.

NOTE 1a: The procedure specified in clause 13.5 for security mechanism selection between SEPPs allows SEPPs to negotiate which security mechanism to use for protecting NF service-related signalling over N32, and provides robustness and future-proofness, e.g. in case new algorithms are introduced in the future.

If PRINS is used on the N32-f interface, one of the following additional transport protection methods should be applied between SEPP and IPX provider for confidentiality and integrity protection:

-    NDS/IP as specified in TS 33.210 [3] and TS 33.310 [5], or

-    TLS VPN with mutual authentication following the profile given in clause 6.2 of TS 33.210 [3] and clause clause 6.1.3a of TS 33.310 [5]. The identities in the end entity certificates shall be used for authentication and policy checks, with the restriction that it shall be compliant with the profile given by HTTP/2 as defined in RFC 7540 [47].

NOTE 1:  Void

NOTE 2:  Void.

\*\*\* END OF CHANGE