**3GPP TSG WG-SA Meeting #93E *SP-211016***

**Elbonia, 14-20 September 2021** Revision of S2-2106677

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| *CR-Form-v11.1* |
| **CHANGE REQUEST** |
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|  | **23.501** | **CR** | **3172** | **rev** | **3**  | **Current version:** | **17.1.1** |  |
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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:***  | NSSAAF Discovery and Selection based on S-NSSAI or UE ID Range |
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| ***Source to WG:*** | China Mobile  |
| ***Source to TSG:*** | Nokia, Nokia Shanghai Bell, Telecom Italia |
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| ***Work item code:*** | eNS, TEI17 |  | ***Date:*** | 2021-09-08 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***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-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:*** | This proposal proposes to enable differentiation of NSSAAFs and adds S-NSSAI, SUPI or Internal Group ID as the input factors for NSSAAF discovery and selection.Revisions into SA#93 are cyan highlighted Reason for revisions: * the NSSAAF is in HPLM so the VPLMN S-NSSAI shall not be criterion for NSSAAF selection, so only HPLMN S-NSSAI shall be considered as in this revision.

Additional aspects that are added during SA#93e in green:* The new capability introduced in Rel-17 for HPLMN to deploy NSSAAF instances supporting specific S-NSSAIs and/or sets of SUPIs is functional modification to the existing functionality.
* It is unclear how this new Rel-17 capability for HPLMN to deploy NSSAAF instances supporting specific S-NSSAIs and/or sets of SUPIs interoperate with VPLMNs supporting selection of NSSAAF as per previous releases. This is, for NSSAA an AMF in a Rel-16 VPLMN will select any NSSAAF within the HPLMN of the SUPI, yielding to possible wrong NSSAAF selection if a Rel-17 HPLMN deployes specific NSSAAF instances per S-NSSAI and/or sets of SUPIs. Therefore, an Editor’s Note to identify the issue and allow further clarification at future SA2 meeting this interoperability aspect is introduced.

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| ***Summary of change:*** | To add S-NSSAI, SUPI or Internal Group ID as the input factors for NSSAAF selection |
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| ***Consequences if not approved:*** | Unable to select the appropriate NSSAAF when deploying different NSSAAFs. |
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| ***Clauses affected:*** | 6.3.17 |
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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 ...  |
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| ***Other comments:*** |  |

\* \* \* \* Begin of Change \* \* \* \*

### 6.3.17 NSSAAF discovery and selection

In the case of NF consumer based discovery and selection, the following applies:

- The AMF performs NSSAAF selection to select an NSSAAF Instance that supports network slice specific authentication between the UE and the AAA-S associated with the HPLMN. The AMF shall utilize the NRF to discover the NSSAAF instance(s) unless NSSAAF information is available by other means, e.g. locally configured on AMF. The NSSAAF selection function in the AMF selects an NSSAAF instance based on the available NSSAAF instances (obtained from the NRF or locally configured in the AMF).

NSSAAF selection is applicable to both 3GPP access and non-3GPP access.

The NSSAAF selection function in NSSAAF NF consumers or in SCP should consider the following factors when it is available:

1. For roaming subscribers, Home Network Identifier (e.g. MNC and MCC) of SUPI (by an NF consumer in the Serving network).

2. S-NSSAI of the HPLMN.

3. SUPI or Internal Group ID; the NSSAAF NF consumer selects a NSSAAF instance based on the SUPI range the UE's SUPI belongs to or based on the results of a discovery procedure with NRF using the UE's SUPI or Internal Group ID as input for NSSAAF discovery.

Editor’s note: It is to be further specified how a Rel-17 HPLMN deploying NSSAAF instances supporting specific S-NSSAIs and/or sets of SUPIs (according to factors 2-3) interoperate appropriately with VPLMNs supporting selection of NSSAAF as per previous release (according to factor 1).

In the case of delegated discovery and selection in SCP, the NSSAAF NF consumer shall send all available factors to the SCP.

\* \* \* \* End of Change \* \* \* \*