**3GPP TSG-SA WG2 Meeting #143E e-meetingS2-21XXXXX**

**Elbonia, February 24 – March 09, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.502** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **17.x.x (temporary 16.7.0)** |  |
|  | | | | | | | | |
| *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:*** | Functionalities of NSSACF | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS\_Ph2 | | | | |  | ***Date:*** | | | 2021-01-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | New eNS\_Ph2 feature addition (KI#1, KI#2) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | |  | | | | | | | | |
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| ***Consequences if not approved:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 the change \* \* \* \***

### 5.15.11 Network Slice-Specific Access Control

The network may perform Network Slice-Specific Access Control(NSSAC) for the network slices which are subject to it when the UE accesses the network slice. The following network slice access control are supported by the network.

1. During the UE registration the network checks whether the current number of UE registered in the network slice exceed the Maximum number of UE in the network slice and determines whether to accept the UE registration to the network slice.
2. During PDU Session Establishment procedure the network checks whether the current number of PDU Session in the network slice exceeds the Maximum number of PDU Session in the network slice and determine whether to accept the PDU Session establishment associated with the network slice.

Whether the S-NSSAI is subject to network slice access control is local configured in NSSACF and in the AMF. The NSSACF is also configured with Maximum number of UE in the network slice and/or Maximum number of PDU Session in the network slice. When the S-NSSAI is configured with NSSAC, the AMF invokes event subscriptions towards the NSSACF so the NSSACF can send network slice specific status notification to the AMF.

In order to perform access control the NSSACF collects current number of UE registered in the network slice and current number of PDU Session successfully established in the network slice from the AMFs within the network slice by invoking subscriptions on the current number of UEs/PDU Sessions from all AMFs in the network slice. The AMF considers the UE is registered within the network slice when the associated S-NSSAI is within the Allowed NSSAI. When the subscribed event is detected the AMF notifies the NSSACF on the current number of UE registered in the network slice or current number of PDU Session associated with the network slice.

When the NSSACF determines that the current number of UE or PDU session in the network slice exceed the Maximum value, the NSSACF may sends the status notification to the AMF. When the AMF determines to reject the UE registration or PDU Session establishment on the S-NSSAI, the AMF provides a rejection cause and optionally with a back-off timer to the UE.

Per subscription request the NSSACF may exposure the network slice access control status and up-to-data number of UE/PDU Sessions to third party AFs.

The NSSACF can be deployed as standalone or co-located within existing NF(e.g. PCF or NSSF). The NSSACF may be deployed single NSSACF per PLMN, or one NSSACF per slice, or multiple NSSACF per slice.

When this feature is deployed for a network slice, it is expected that all of the AMFs within this network slice support this feature.

Editor's note: It is FFS how to apply NSSAC for roaming case.

Editor's note: It is FFS how to apply NSSAC when multiple NSSACF are deployed within the slice.

**\* \* \* \* end of the change \* \* \* \***