**3GPP TSG-CT WG1 Meeting #133-bis-eC1-22xxxx**

**E-meeting, 17-21 January 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3929** | **rev** | **1** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | NSAC applicable for SNPN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | vivo | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS\_Ph2 | | | | |  | ***Date:*** | | | 2022-01-07 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | In S2-2109346, SA2 has agreed that the network slicing can be applied to SNPN and NSAC is a generic optional functionality in SNPN. So, a clarification in the NSAC subclause is needed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Remove an EN that whether NSAC is applicable for SNPN;  2. SNPN can perform MM-based and SM-based NSAC. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing specification on whether SNPN performs NSAC. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.6.2.5, 4.6.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

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

#### 4.6.2.5 Mobility management based network slice admission control

A serving PLMN or SNPN can perform network slice admission control for the S-NSSAI(s) subject to NSAC to monitor and control the number of registered UEs per network slice.

The timing of the network slice admission control is managed by the EAC mode, which can be either activated or deactivated for the network performing network slice admission control.

If the EAC mode is activated, the AMF performs network slice admission control before the S-NSSAI subject to NSAC is included in the allowed NSSAI sent to the UE. During a registration procedure (including initial registration or mobility registration updating from another AMF), if the AMF determines that the maximum number of UEs has been reached for:

a) one or more S-NSSAIs but not all S-NSSAIs in the requested NSSAI, then the AMF includes the allowed NSSAI and the rejected NSSAI accordingly in the REGISTRATION ACCEPT message as specified in the subclauses 5.5.1.2.4 and 5.5.1.3.4;

b) all S-NSSAIs in the requested NSSAI but there are one or more subscribed S-NSSAIs marked as default which can be allowed to the UE, then the AMF includes the allowed NSSAI containing these subscribed S-NSSAIs marked as default and the rejected NSSAI accordingly in the REGISTRATION ACCEPT message as specified in the subclauses 5.5.1.2.4 and 5.5.1.3.4; or

c) all S-NSSAIs in the requested NSSAI and there are no subscribed S-NSSAIs marked as default which can be allowed to the UE, then the AMF includes the rejected NSSAI accordingly in the REGISTRATION REJECT message as specified in the subclauses 5.5.1.2.5 and 5.5.1.3.5.

If the EAC mode is deactivated, the AMF performs network slice admission control after the S-NSSAI subject to NSAC is included in the allowed NSSAI sent to the UE. While the AMF is waiting for response from the NSCAF for the S-NSSAI, the AMF processes the NAS signalling message related to the S-NSSAI as usual i.e. like S-NSSAI in the allowed NSSAI. After the network performs the network slice admission control, if the AMF determines that the maximum number of UEs has been reached for:

a) one or more S-NSSAIs but not all S-NSSAIs in the allowed NSSAI, then the AMF updates the allowed NSSAI and the rejected NSSAI accordingly using the generic UE configuration update procedure as specified in the subclause 5.4.4;

b) for all S-NSSAIs in the allowed NSSAI but there are one or more subscribed S-NSSAIs marked as default which can be allowed to the UE, then the AMF updates the allowed NSSAI containing these subscribed S-NSSAIs marked as default and the rejected NSSAI accordingly using the generic UE configuration update procedure as specified in the subclause 5.4.4; or

c) for all S-NSSAIs in the allowed NSSAI and there are no subscribed S-NSSAIs marked as default which can be allowed to the UE, then the AMF performs the network-initiated de-registration procedure and includes the rejected NSSAI in the DEREGISTRATION REQUEST message as specified in the subclause 5.5.2.3 except when the UE has an emergency PDU session established or the UE is establishing an emergency PDU session.

When the UE has an emergency PDU session established or the UE is establishing an emergency PDU session, the AMF updates the rejected NSSAI using the generic UE configuration update procedure as specified in the subclause 5.4.4 and informs the SMF to release all PDU sessions associated with the S-NSSAI. During the generic UE configuration update procedure, the AMF includes the 5GS registration result IE in the CONFIGURATION UPDATE COMMAND message and sets the Emergency registered bit of the 5GS registration result IE to "Registered for emergency services". After the emergency PDU session is released, the AMF performs the network-initiated de-registration procedure as specified in the subclause 5.5.2.3.

Based on operator policy, the mobility management based network slice admission control is not applicable for the S-NSSAI included in the AMF emergency configuration data.

\*\*\*\*\* Next change \*\*\*\*\*

#### 4.6.3.1 Session management based network slice admission control

A serving PLMN or the HPLMN, or SNPN can perform network slice admission control for the S-NSSAI(s) subject to NSAC to monitor and control the total number of established PDU sessions per network slice. The SMF performs network slice admission control on the S-NSSAI during the PDU session establishment procedure. If the maximum number of PDU sessions on a network slice associated with an S-NSSAI has been already reached, the SMF rejects the PDU session establishment request using S-NSSAI based congestion control as specifed in subclause 6.2.8 and 6.4.1.4.2.

Based on operator policy, the session management based network slice admission control is not applicable for the S-NSSAI included in the SMF emergency configuration data.

NOTE: For the MA PDU session during the PDU session establishment procedure, the SMF performs network slice admission control only when it is newly established over the associated access type.

\*\*\*\*\* End of change \*\*\*\*\*