**3GPP TSG-CT WG1 Meeting #135-eC1-222615**

**E-Meeting, 6th – 12th April 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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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:*** | Alignment for NSAC for emergency and priority services | | | | | | | | | |
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| ***Source to WG:*** | Peraton Labs, CISA ECD, ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS\_Ph2 | | | | |  | ***Date:*** | | | 2022-03-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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)* | |
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| ***Reason for change:*** | | SP-220282 modified the NSAC exemption to pertain to the UE and/or PDU Session being used for emergency service or priority service rather than the S-NSSAI being used for emergency service or priority service. | | | | | | | | |
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| ***Summary of change:*** | | First change:  Modify the mobility management NSAC exemptions to pertain to the UE rather than to the S-NSSAI.  Removes duplicate heading.  Second change:  Modify the session management NSAC exemptions to pertain to the PDU Session rather than to the S-NSSAI.  Removes duplicate "A". | | | | | | | | |
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| ***Consequences if not approved:*** | | Misalignment with stage 2. No way to exempt from NSAC only those UEs and/or PDU Sessions that are used for emergency services or priority services. | | | | | | | | |
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| ***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 per network slice, which can be either activated or deactivated for the network performing network slice admission control.

If the EAC mode is activated for an S-NSSAI, 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 for an S-NSSAI, 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 used for emergency services, or the mobility management based network slice admission control result is ignored for the S-NSSAI used for emergency services.

Based on operator policy, the mobility management based network slice admission control is not applicable for the UEs configured for priority services, or the mobility management based network slice admission control result is ignored for the UEs configured for priority services.

NOTE: A UE configured for priority services can be identified based on the RRC establishment cause received from the NG-RAN or based on the MPS priority information in the user's subscription context obtained from the UDM.

The mobility management based network slice admission control is not applicable for the S-NSSAI used for onboarding services in SNPN.

\* \* \* Second 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.

The SMF performs network slice admission control on the S-NSSAI for a PDU session that is associated with the non-3GPP access, when the UE requests to transfer a session from the non-3GPP access to the 3GPP access with the Allowed PDU session status IE as described in subclause 5.6.1.4. If the maximum number of PDU sessions on a network slice associated with an S-NSSAI has been already reached, the SMF rejects the request to establish the user-plane resources (see 3GPP TS 29.502 [20A]).

Based on operator policy, the session management based network slice admission control is not applicable for the PDU session for emergency services, or the session management based network slice admission control result is ignored for the PDU session for emergency services.

Based on operator policy, the session management based network slice admission control is not applicable for the PDU session for priority services, or the session management based network slice admission control result is ignored for the PDU session for priority services.

NOTE: How the SMF determines that the PDU session is used for priority service is outside the scope of this release of the present document.

The session management based network slice admission control is not applicable for the S-NSSAI used for onboarding services in SNPN.

NOTE 1: 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.

NOTE 2: For a set of redundant PDU sessions, the SMF performs network slice admission control for each PDU session independently.

\* \* \* End of Changes \* \* \* \*