**3GPP TSG-CT WG1 Meeting #129-eC1-212119**

**Electronic meeting, 19-23 April 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3106** | **rev** | **1** | **Current version:** | **17.2.1** |  |
|  | | | | | | | | |
| *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 | **x** | Radio Access Network |  | Core Network | **x** |

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|  | | | | | | | | | | |
| ***Title:*** | New cause value for rejected NSSAI | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS\_Ph2 | | | | |  | ***Date:*** | | | 2021-4-10 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In clause 4.2.11.2 of TS 23.502 v17.1.0, a new rejection cause for rejected NSSAI is defined, which is rejected S-NSSAI due to maximum number of UEs reached. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | It proposes to add a new rejection cause for rejected NSSAI, which is rejected S-NSSAI due to maximum number of UEs reached, to keep alignment with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Misalignment with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.11.3.75 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Rev#1   1. Remove the added new rejection cause in the Rejected NSSAI IE. 2. Change the added new rejection cause name from ‘S-NSSAI not available due to maximum number of UEs per slice reached’ to ‘S-NSSAI not available due to maximum number of UEs reached’ in the Extended rejected NSSAI IE. 3. Add Ericsson as co-source company. | | | | | | | | |

\* \* \* First Change \* \* \* \*

#### 9.11.3.75 Extended rejected NSSAI

The purpose of the Extended rejected NSSAI information element is to identify a collection of rejected S-NSSAIs if UE supports extended rejected NSSAI.

The Extended rejected NSSAI information element is coded as shown in figure 9.11.3.75.1, figure 9.11.3.75.2 and table 9.11.3.75.1.

The Extended rejected NSSAI is a type 4 information element with a minimum length of 4 octets and a maximum length of 74 octets.

NOTE: The number of rejected S-NSSAI(s) cannot exceed eight.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Extended rejected NSSAI IEI | | | | | | | | octet 1 |
| Length of Extended rejected NSSAI contents | | | | | | | | octet 2 |
| Rejected S-NSSAI 1 | | | | | | | | octet 3  octet m |
| Rejected S-NSSAI 2 | | | | | | | | octet m+1\*  octet n\* |
| … | | | | | | | | octet n+1\*  octet u\* |
| Rejected S-NSSAI n | | | | | | | | octet u+1\*  octet v\* |

Figure 9.11.3.75.1: Extended rejected NSSAI information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of rejected S-NSSAI | | | | Cause value | | | | octet 3 |
| SST | | | | | | | | octet 4 |
| SD | | | | | | | | octet 5\*  octet 7\* |
| Mapped HPLMN SST | | | | | | | | octet 8\* |
| Mapped HPLMN SD | | | | | | | | octet 9\*  octet 11\* |

Figure 9.11.3.75.2: Rejected S-NSSAI

Table 9.11.3.75.1: Extended rejected NSSAI information element

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Value part of the Extended rejected NSSAI information element (octet 3 to v) | | | | | |
|  | | | | | |
| The value part of the Extended rejected NSSAI information element consists of one or more rejected S-NSSAIs. Each rejected S-NSSAI consists of one S-NSSAI and an associated cause value. Each rejected S-NSSAI also includes the mapped HPLMN S-NSSAI if available The length of each rejected S-NSSAI can be determined by the 'length of rejected S-NSSAI' field in the first octet of the rejected S-NSSAI. | | | | | |
| The UE shall store the complete list received. If more than 8 rejected S-NSSAIs are included in this information element, the UE shall store the first 8 rejected S-NSSAIs and ignore the remaining octets of the information element. | | | | | |
|  | | | | | |
| Rejected S-NSSAI: | | | | | |
|  | | | | | |
| Cause value (octet 3) | | | | | |
| Bits | | | | | |
| 4 | 3 | 2 | 1 |  |  |
| 0 | 0 | 0 | 0 |  | S-NSSAI not available in the current PLMN or SNPN |
| 0 | 0 | 0 | 1 |  | S-NSSAI not available in the current registration area |
| 0 | 0 | 1 | 0 |  | S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization. |
| 0 | 0 | 1 | 1 |  | S-NSSAI not available due to maximum number of UEs reached |
| All other values are reserved. | | | | | |
|  | | | | | |
| Slice/service type (SST) (octet 4) | | | | | |
| This field contains the 8 bit SST value. The coding of the SST value part is defined in 3GPP TS 23.003 [4]. (NOTE 5) | | | | | |
|  | | | | | |
| Slice differentiator (SD) (octet 5 to octet 7) | | | | | |
| This field contains the 24 bit SD value. The coding of the SD value part is defined in 3GPP TS 23.003 [4]. (NOTE 6)  If the SST encoded in octet 4 is not associated with a valid SD value, and the sender needs to include a mapped HPLMN SST (octet 8) and a mapped HPLMN SD (octets 9 to 11), then the sender shall set the SD value (octets 5 to 7) to "no SD value associated with the SST".  mapped HPLMN Slice/service type (SST) (octet 8)  This field contains the 8 bit SST value of an S-NSSAI in the S-NSSAI(s) of the HPLMN to which the SST value is mapped. The coding of the SST value part is defined in 3GPP TS 23.003 [4].  mapped HPLMN Slice differentiator (SD) (octet 9 to octet 11)  This field contains the 24 bit SD value of an S-NSSAI in the S-NSSAI(s) of the HPLMN to which the SD value is mapped. The coding of the SD value part is defined in 3GPP TS 23.003 [4]. | | | | | |
| NOTE 1: Octet 3 and octet 4 shall always be included.  NOTE 2: If the octet 5 is included, then octet 6 and octet 7 shall be included.  NOTE 3: If the octet 8 is included, then octets 9, 10, and 11 may be included.  NOTE 4: If the octet 9 is included, then octet 10 and octet 11 shall be included.  NOTE 5: If the Cause value is “S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization”, this field shall contain the 8 bit SST value of an S-NSSAI in the S-NSSAI(s) of the HPLMN and octets 8, 9, 10, and 11 shall not be included.  NOTE 6: If the Cause value is “S-NSSAI not available due to the failed or revoked network slice-specific authentication and authorization”, this field shall contain the 24 bit SD value of an S-NSSAI in the S-NSSAI(s) of the HPLMN and octets 8, 9, 10, and 11 shall not be included. | | | | | |

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