**3GPP TSG-CT WG1 Meeting #128-eC1-210828**

**Electronic meeting, 25 February – 5 March 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **3007** | **rev** | **1** | **Current version:** | **17.1.0** |  |
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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:***  | Inclusion of Extended rejected NSSAI IE |
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| ***Source to WG:*** | ZTE |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc17 |  | ***Date:*** | 2021-2-14 |
|  |  |  |  |  |
| ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | 1. As per TS 24.501 subclause 5.4.4.2, AMF can include rejected S-NSSAI(s) in the Rejected NSSAI IE or in the Extended rejected NSSAI IE in the CONFIGURATION UPDATE COMMAND message.

However, in subcaluse 5.4.4.6 about abnormal cases of generic UE configuration update procedure, it specifies*“the CONFIGURATION COMMAND message does not contain the allowed NSSAI IE, or the rejected NSSAI IE, …”,*which should be updated to include the Extended rejected NSSAI IE.1. As per TS 24.501 subclause 5.5.1.2.5, it specifies

*“If the UE has set the ER-NSSAI bit to "Extended rejected NSSAI supported" in the 5GMM capability IE of the REGISTRATION REQUEST message, the rejected S-NSSAI(s) shall be included in the Extended rejected NSSAI IE of the REGISTRATION REJECT message. Otherwise the rejected S-NSSAI(s) shall be included in the Rejected NSSAI IE of the REGISTRATION REJECT message.”*However, in subclause 5.5.2.3.1, there is the following*“If the network de-registration is triggered due to network slice-specific authentication and authorization failure or revocation as specified in subclause 4.6.2.4, then the network shall set the 5GMM cause value to #62 "No network slices available" in the DEREGISTRATION REQUEST message. In addition, if the UE supports extended rejected NSSAI, the AMF may include the Extended rejected NSSAI IE in the DEREGISTRATION REQUEST message; otherwise the AMF shall include the rejected NSSAI IE in the DEREGISTRATION REQUEST message.”*where the highlighted word should be “shall” instead of “may”.1. In order to keep consistency of used terms,

“CONFIGURATION COMMAND message” 🡪 “CONFIGURATION UPDATE COMMAND message”,“CONFIGURATION UPDATE message” 🡪 “CONFIGURATION UPDATE COMMAND message” |
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| ***Summary of change:*** | 1. Update subcaluse 5.4.4.6:

“the Rejected NSSAI IE” 🡪 “the Rejected NSSAI IE or the Extended rejected NSSAI IE”.1. Update the above sentence in bullet 2):

“may” 🡪 “shall”1. “CONFIGURATION COMMAND message”🡪“CONFIGURATION UPDATE COMMAND message”,

“CONFIGURATION UPDATE message”🡪“CONFIGURATION UPDATE COMMAND message” |
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| ***Consequences if not approved:*** | 1. Extended rejected NSSAI IE is not considered in the abnormal cases of generic UE configuration update procedure.
2. Inconsistent spec.
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| ***Clauses affected:*** | 5.4.4.6, 5.5.2.3.1 |
|  |  |
|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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

#### 5.4.4.6 Abnormal cases on the network side

The following abnormal cases can be identified:

a) Expiry of timer T3555.

 The network shall, on the first expiry of the timer T3555, retransmit the CONFIGURATION UPDATE COMMAND message and shall reset and start timer T3555. This retransmission is repeated four times, i.e. on the fifth expiry of timer T3555, the procedure shall be aborted. In addition, if the CONFIGURATION UPDATE COMMAND message includes the 5G-GUTI IE, the network shall behave as described in case b)-1) below.

b) Lower layer failure.

 If a lower layer failure is detected before the CONFIGURATION UPDATE COMPLETE message is received and:

1) if the CONFIGURATION UPDATE COMMAND message includes the 5G-GUTI IE, the old and the new 5G-GUTI shall be considered as valid until the old 5G-GUTI can be considered as invalid by the AMF. If a new TAI list was provided in the CONFIGURATION UPDATE COMMAND message, the old and new TAI list shall also be considered as valid until the old TAI list can be considered as invalid by the AMF.

 During this period the AMF:

i) may first use the old 5G-S-TMSI from the old 5G-GUTI for paging within the area defined by the old TAI list for an implementation dependent number of paging attempts for network originated transactions. If a new TAI list was provided in the CONFIGURATION UPDATE COMMAND message, the new TAI list should also be used for paging. Upon response from the UE, the AMF may re-initiate the CONFIGURATION UPDATE COMMAND. If the response is received from a tracking area within the old and new TAI list, the network shall re-initiate the CONFIGURATION UPDATE COMMAND message. If no response is received to the paging attempts, the network may use the new 5G-S-TMSI from the new 5G-GUTI for paging for an implementation dependent number of paging attempts. In this case, if a new TAI list was provided with new 5G-GUTI in the CONFIGURATION UPDATE COMMAND message, the new TAI list shall be used instead of the old TAI list. Upon response from the UE the AMF shall consider the new 5G-GUTI as valid and the old 5G-GUTI as invalid.

ii) shall consider the new 5G-GUTI as valid if it is used by the UE and, additionally, the new TAI list as valid if it was provided with this 5G-GUTI in the CONFIGURATION UPDATE COMMAND message; and

iii) may use the identification procedure followed by a new generic UE configuration update procedure if the UE uses the old 5G-GUTI; or

2) if the CONFIGURATION UPDATE COMMAND message does not include the 5G-GUTI IE and:

i) the CONFIGURATION UPDATE COMMAND message does not contain the allowed NSSAI IE, the rejected NSSAI IE, or the Extended rejected NSSAI IE, the network shall abort the procedure; or

ii) the CONFIGURATION UPDATE COMMAND message contains the allowed NSSAI IE, the rejected NSSAI IE, or the Extended rejected NSSAI IE, the network shall either abort the procedure or retransmit the CONFIGURATION UPDATE COMMAND message on expiry of the timer T3555. The retransmission shall not be repeated more than four times. If the retransmission is repeated for four times, the network shall abort the procedure.

c) Generic UE configuration update and UE initiated de-registration procedure collision.

 If the network receives a DEREGISTRATION REQUEST message before the ongoing generic UE configuration update procedure has been completed, the network shall abort the generic UE configuration update procedure and shall progress the de-registration procedure.

d) Generic UE configuration update and registration procedure for mobility and periodic registration update collision

 If the network receives a REGISTRATION REQUEST message before the ongoing generic UE configuration update procedure has been completed, the network shall abort the generic UE configuration update procedure and shall progress the registration procedure for mobility and periodic registration update procedure.

e) Generic UE configuration update and service request procedure collision

 If the network receives a SERVICE REQUEST message before the ongoing generic UE configuration update procedure has been completed, both the procedures shall be progressed.

\* \* \* Next Change \* \* \* \*

##### 5.5.2.3.1 Network-initiated de-registration procedure initiation

The network initiates the de-registration procedure by sending a DEREGISTRATION REQUEST message to the UE (see example in figure 5.5.2.3.1.1).

NOTE: If the AMF performs a local de-registration, it will inform the UE with a 5GMM messages (e.g. SERVICE REJECT message or REGISTRATION REJECT message) with 5GMM cause #10 "implicitly de-registered" only when the UE initiates a 5GMM procedure.

The network may include a 5GMM cause IE to specify the reason for the DEREGISTRATION REQUEST message. The network shall start timer T3522. The network shall indicate whether re-registration is needed or not in the De-registration type IE. The network shall also indicate via the access type whether the de-registration procedure is:

a) for 3GPP access only;

b) for non-3GPP access only; or

c) for 3GPP access, non-3GPP access or both when the UE is registered in the same PLMN for both accesses.

If the network de-registration is triggered due to network slice-specific authentication and authorization failure or revocation as specified in subclause 4.6.2.4, then the network shall set the 5GMM cause value to #62 "No network slices available" in the DEREGISTRATION REQUEST message. In addition, if the UE supports extended rejected NSSAI, the AMF shall include the Extended rejected NSSAI IE in the DEREGISTRATION REQUEST message; otherwise the AMF shall include the rejected NSSAI IE in the DEREGISTRATION REQUEST message.

If the network de-registration is triggered for a UE supporting CAG due to CAG restrictions, the network shall set the 5GMM cause value to #76 "Not authorized for this CAG or authorized for CAG cells only" and should include the "CAG information list" in the CAG information list IE in the DEREGISTRATION REQUEST message.

If the network de-registration is triggered for a UE not supporting CAG due to CAG restrictions, the network shall operate as described in bullet g) of subclause 5.5.2.3.5.

The AMF shall trigger the SMF to release locally the PDU session(s) over the indicated access(es), if any, for the UE and enter state 5GMM-DEREGISTERED-INITIATED.



Figure 5.5.2.3.1.1: Network-initiated de-registration procedure

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