**3GPP TSG-SA5 Meeting #154 *S5-241620rev1***

Changsha, China, 15 - 19 April 2024

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **32.255** | **CR** | **0521** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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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:***  | Rel-18 CR 32.255 Clarification to NS replacement charging |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | eNS\_Ph3\_CH |  | ***Date:*** | 2024-04-17 |
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| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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:*** | It is not obvious which is the serving network slice for the current PDU session, if both S-NSSAI and Alternative S-NSSAI are provided.By investigating the procedures in TS 23.502, the serving network slice for the PDU session is the Alternative S-NSSAI when both are provided. This should be clarified to avoid misunderstanding.The PDU session release in the NS replacement scenario contains two situations, which should be described as well.1. Release the PDU session that is served by the (primary) S-NSSAI, following the normal PDU session release per Clause 5.2.2.2.4. 2. Release the PDU session that is served by the Alternative S-NSSAI. |
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| ***Summary of change:*** | 1. Clarify the procedures in the NS replacement charging.2. Add a new procedure dedicated for the PDU session release using Alternative S-NSSAI. |
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| ***Consequences if not approved:*** | The network slice replacement charging is not complete. |
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| ***Clauses affected:*** | 5.2.2.23.2, 5.2.2.23.3.2, 5.2.2.23.3.3, 5.2.2.23.x (new) |
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|  | **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:*** |  |

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| **First change** |

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##### 5.2.2.23.2 PDU session establishment using Alternative S-NSSAI

The Network Slice Replacement procedure for a new PDU session establishment charging is based on figure 5.2.2.2.2-1 PDU session establishment, with following additions:

3: the SMF receives from the AMF, both the S-NSSAI and Alternative S-NSSAI.

9ch-a. If Network Slice Replacement charging is supported, the SMF includes the S-NSSAI to be replaced and the Alternative S-NSSAI in the Charging Data Request[initial] to CHF. When both the S-NSSAI and Alternative S-NSSAI are provided in the request, the serving network slice for the PDU session is the Alternative S-NSSAI.

11: The alternative S-NSSAI is included in the PDU session establishment accept message conveyed from the SMF to AMF.

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| **Next change** |

###### 5.2.2.23.3.2 Existing PDU session to be re-established - SSC mode 2 or SSC mode 1

The Network Slice Replacement procedure for an existing PDU session charging when the SMF determines the PDU Session is to be re-established and the PDU Session is of SSC mode 2 or SSC mode 1.

The existing PDU session is released based on figure 5.2.2.2.4-1 PDU Session Release.

The new PDU session using Alternative S-NSSAI is established with procedures specified in clause 5.2.2.23.2.

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| **Next change** |

###### 5.2.2.23.3.3 Existing PDU session to be re-established - SSC mode 3

The Network Slice Replacement procedure for an existing PDU session charging when the SMF determines the PDU Session is to be re-established and the PDU Session is of SSC mode 3, is based on figure 5.2.2.5.2.1 PDU session Charging SSC Mode 3, with following additions:

1: The SMF determines that the PDU session associated with the S-NSSAI , is to be re-established on the Alternative S-NSSAI

2-3: The SMF includes the Alternative S-NSSAI in the PDU Session Modification Command to the UE and a cause value indicating that a PDU Session re-establishment on the Alternative S-NSSAI is required.

4 to 4ch-b. Same steps with additions per clause 5.2.2.23.2. as for PDU session establishment using alternative S-NSSAI.

6 to 6ch-b. Same steps per Figure 5.2.2.2.4-1 for PDU session release for the existing PDU session.

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| **Next change** |

##### 5.2.2.23.x PDU session release using Alternative S-NSSAI

The Network Slice Replacement procedure for the charging of releasing the PDU session that uses alternative S-NSSAI is based on figure 5.2.2.2.4-1 PDU session release, with following additions:

2ch-a. If Network Slice Replacement charging is supported and the PDU session is currently using alternative-S-NSSAI, the SMF includes both the S-NSSAI and Alternative S-NSSAI in the Charging Data Request [Termination] to CHF. The Alternative S-NSSAI is the serving network slice for the current PDU session.

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| **End of change** |