**3GPP TSG-CT WG3 Meeting #135C3-243537**

**Hyderabad, IN, 27 - 31 May, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.512** | **CR** |  | **rev** | **1** | **Current version:** | **18.5.1** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Handling of usage monitoring in S-NSSAI replacement scenarios | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS\_Ph3 | | | | |  | ***Date:*** | | | 2024-04-29 |
|  |  | | | |  | |  | | |  |
| ***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 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | According to the agreed CR in the last SA2 meeting, S2-2405702, the PCF:   * will decide based on operator policies whether the usage monitoring applies for the replaced or the new S-NSSAI in use. * When the usage monitoring applies for the new S-NSSAI in use, the PCF shall disable usage monitoring for the PDU session and for all the PCC Rules. * When the usage monitoring applies for the new S-NSSAI in use, the PCF shall retrieve from the UDR the allowed usage and store the remaining usage for the replaced S-NSSAI.   These new impacts need to be covered in this specification. | | | | | | | | |
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| ***Summary of change:*** | | Usage monitoring procedures are modified:   * PCF can interact with the UDR not only at SM Policy Association establishment but also at SM Policy Association modification when the PCF is aware of a new S-NSSAI and usage monitoring applies for that one. * PCF shall interact with the UDR to update the remaining usage for the replaced S-NSSAI when there is a replacement of S-NSSAI and the PCF decides to apply usage monitoring to the new S-NSSAI. * PCF may disable usage monitoring in the SMF for the replaced S-NSSAI when there is a replacement of S-NSSAI and the PCF decides to apply usage monitoring to the new S-NSSAI. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unspecified impacts for usage monitoring in S-NSSAI replacement scenarios may bring interoperability issues. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.6.5.3.4 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS 23.503 CR#1289 | | |
| ***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 does not have any impact in the Npcf\_SMPolicyControl API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

###### 4.2.6.5.3.4 Usage Monitoring during Network Slice Replacement

When the "NetSliceRepl" fetaure is supported and the PCF receives the Alternative S-NSSAI in the Npcf\_SMPolicyControl\_Create, the PCF receives a change report from the initial S-NSSAI to the Alternative S-NSSAI, or the PCF receives a change report from the Alternative S-NSSAI back to the initial S-NSSAI in the Npcf\_SMPolicy Control\_Update request:

- the provisions of clause 4.2.6.5.3.1 shall apply with the following differences:

- the PCF shall decide based on operator policies to perform usage monitoring based on either the initial S-NSSAI or the Alternative S-NSSAI, and may based on that retrieve information from the UDR about the total allowed usage for the initial S-NSSAI and DNN combination or Alternative S-NSSAI and DNN combination, respectively;

- if the PCF decides to perform usage monitoring based on the Alternative S-NSSAI:

- if Npcf\_SMPolicyControl\_Update request was received with the Alternative S-NSSAI to report a change from the initial S-NSSAI to the Alternative S-NSSAI:

- the PCF shall disable the usage monitoring data for the initial S-NSSAI and DNN combination, if applicable,as defined in clause 4.2.6.5.3.2;

- the PCF may enable the usage monitoring data for the monitoring key of the session rule(s) associated to the PDU session and for the monitoring key(s) for the PCC Rule(s) applicable for the Alternative S-NSSAI and DNN combination using the procedures defined in clauses 4.2.6.3.1 and 4.2.6.2.1 respectively;- if the Npcf\_SMPolicyControl\_Update request was received without the Alternative S-NSSAI to report a change from the Alternative S-NSSAI back to the initial S-NSSAI:

- the PCF shall disable the usage monitoring data for the Alternative S-NSSAI and DNN combination, if applicable, as defined in clause 4.2.6.5.3.2; and

- the PCF may enable the usage monitoring data for the monitoring key of the session rule(s) associated to the PDU session and for the monitoring key(s) for the PCC Rules applicable for the initial S-NSSAI and DNN combination using the procedures defined in clauses 4.2.6.3.1 and 4.2.6.2.1 respectively;

and

- if the PCF decides to perform usage monitoring for the initial S-NSSAI and DNN combination, the PCF shall continue the ongoing usage monitoring for that combination;

and

- the provisions of clause 4.2.6.5.3.2 shall apply with the following differences:

- the PCF shall decide based on operator policies to perform usage monitoring based on either the initial S-NSSAI or the Alternative S-NSSAI;

- if the PCF decides to perform usage monitoring based on the Alternative S-NSSAI:

- if Npcf\_SMPolicyControl\_Update request was received with the Alternative S-NSSAI to report a change from the initial S-NSSAI to the Alternative S-NSSAI:

- the PCF shall disable the usage monitoring data for the monitoring key of the session rule(s) associated to the PDU session and for the monitoring key(s) for the PCC rule(s) corresponding to the initial S-NSSAI and DNN combination, if applicable; and

- the PCF shall update the usage monitoring information related to the initial S-NSSAI and DNN combination in the UDR as defined in 3GPP TS 29.519 [15];and

- if the Npcf\_SMPolicyControl\_Update request was received without the Alternative S-NSSAI to report a change from the Alternative S-NSSAI back to the initial S-NSSAI:

- the PCF shall disable the usage monitoring data for the Alternative S-NSSAI and DNN combination, if applicable, as defined in clause 4.2.6.5.3.2; and

- the PCF shall update the usage monitoring information related to the Alternative S-NSSAI in the UDR as defined in 3GPP TS 29.519 [15].

and

- if the PCF decides to perform usage monitoring for the initial S-NSSAI and DNN combination, the PCF shall continue the ongoing usage monitoring for that combination.

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