**3GPP TSG-CT3 Meeting #120-e *C3-221203***

**E-Meeting, 17th – 25th February 2022 (Revision of C3-22xxxx)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.512** | **CR** | 0908 | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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:*** | UE-initiated resource modification support for interworking scenario | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | en5GPccSer17 | | | | |  | ***Date:*** | | | 2022-02-25 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | UE-initiated resource modification support for interworking scenario is not defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | UE-initiated resource modification support for interworking scenario is defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE cannot initiate the resource modification in the interworking scenario. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, B.3.4.x(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[4] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[5] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[6] 3GPP TS 23.503: "Policy and Charging Control Framework for the 5G System; Stage 2".

[7] 3GPP TS 29.513: "5G System; Policy and Charging Control signalling flows and QoS parameter mapping; Stage 3".

[8] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[9] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[10] OpenAPI: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[11] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[12] 3GPP TS 29.508: "5G System; Session Management Event Exposure Service; Stage 3".

[13] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane of EPC Nodes".

[14] Void.

[15] 3GPP TS 29.519: "5G System; Usage of the Unified Data Repository service for Policy Control Data, Application Data and Structured Data for Exposure; Stage 3".

[16] 3GPP TS 23.228: "IP multimedia subsystem; Stage 2".

[17] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".

[18] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point 5".

[19] 3GPP TS 32.291: "5G System; Charging service; Stage 3".

[20] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[21] 3GPP TS 23.380: "IMS Restoration Procedures".

[22] 3GPP TS 29.502: "5G System; Session Management Services; Stage 3".

[23] 3GPP TS 29.212: "Policy and Charging Control (PCC); Reference points".

[24] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[25] 3GPP TS 29.507: "5G System; Access and Mobility Policy Control Service; Stage 3".

[26] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[27] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

[28] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[29] 3GPP TS 29.510: "Network Function Repository Services; Stage 3".

[30] 3GPP TS 32.290: "5G system; Services, operations and procedures of charging using Service Based Interface (SBI)".

[31] IETF RFC 7807: "Problem Details for HTTP APIs".

[32] 3GPP TS 29.122: "T8 reference point for Northbound APIs".

[33] 3GPP TS 23.527: "5G System; Restoration Procedures".

[34] 3GPP TS 29.503: "5G System; Unified Data Management Services; Stage 3".

[35] 3GPP TS 32.255: "Charging management; 5G data connectivity domain charging; stage 2".

[36] 3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".

[37] 3GPP TS 29.274: "3GPP Evolved Packet System (EPS); Evolved General Packet Radio Service (GPRS) Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

[38] 3GPP TR 21.900: "Technical Specification Group working methods".

[39] 3GPP TS 29.521: "5G System; Binding Support Management Service; Stage 3".

[40] 3GPP TS 29.524: "Cause codes mapping between 5GC interfaces; Stage 3".

[41] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification".

[42] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

[43] 3GPP TS 24.193: "Access Traffic Steering, Switching and Splitting (ATSSS); Stage 3".

[44] 3GPP TS 24.519: "Time-Sensitive Networking (TSN) Application Function (AF) to Device-Side TSN Translator (DS-TT) and Network-Side TSN Translator (NW-TT) protocol aspects; Stage 3".

[45] IEEE 802.1Q: "Virtual Bridged Local Area Networks".

[46] 3GPP TS 29.551: "5G System; Packet Flow Description Management Service; Stage 3".

[47] BBF TR-456: "AGF Functional Requirements".

[48] CableLabs WR-TR-5WWC-ARCH: "5G Wireless Wireline Converged Core Architecture".

[49] 3GPP TS 24.539: "5G System (5GS); Network to TSN translator (TT) protocol aspects; Stage 3".

[50] 3GPP TS 29.564: "5G System; User Plane Function Services; Stage 3".

[51] 3GPP TS 29.520: "5G System; Network Data Analytics Services; Stage 3".

[x] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3".

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

### B.3.4.x UE initiates a resource modification support

In the case that the UE initiates a resource allocation procedure as defined in subclause 6.5.3 or UE initiates a resource modification procedure as defined in subclause 6.5.4 of 3GPP 3GPP TS 24.301 [x], the SMF+PGW shall within the SmPolicyUpdateContextData data structure include the "RES\_MO\_RE" within the "repPolicyCtrlReqTriggers" attribute and shall include the UE request of specific QoS handling for selected SDF within the "ueInitResReq" attribute. Within the UeInitiatedResourceRequest data structure, the SMF+PGW shall include the "ruleOp" attribute, "packFiltInfo" attribute and "reqQos" attribute if applicable as follows:

- When the UE requests to "Create new TFT", the SMF+PGW shall include the "ruleOp" attribute set to "CREATE\_PCC\_RULE", the "packFiltInfo" attribute and "reqQos" attribute containing the requested QoS for the new PCC rule. Each PacketFilterInfo instance shall contain one packet filter provided by the UE. If the PCF authorizes the request, the PCF shall create a new PCC rule by including the new packet filters within the service data flow template of the PCC rule.

- When the UE requests to "Add packet filters to existing TFT", SMF+PGW shall include the "ruleOp" attribute set to "MODIFY\_PCC\_RULE\_AND\_ADD\_PACKET\_FILTERS", the "pccRuleId" attribute including the PCC rule identifier corresponding the packet filter identifier provided by the UE and the "packFiltInfo" attribute. Each PacketFilterInfo instance shall contain one packet filter requested for addition. If the UE request includes the modified QoS information the SMF+PGW shall also include the "reqQos" attribute to indicate the updated QoS for the affected PCC rule(s). If the PCF authorizes the request, the PCF shall update the PCC rule by adding the new packet filters to the service data flow template of the PCC rule.

- When the UE requests to "Replace packet filters in existing TFT", SMF+PGW shall include the "ruleOp" attribute set to "MODIFY\_PCC\_RULE\_AND\_REPLACE\_PACKET\_FILTERS", the "pccRuleId" attribute including the PCC rule identifier corresponding the packet filter identifier provided by the UE and the "packFiltInfo" attribute. Each PacketFilterInfo instance shall within the "packFiltId" attribute include the replaced packet filter identifier assigned by the PCF corresponding to the packet filter identifier received from the UE and one packet filter requested for addition. If the UE request includes the modified QoS information the SMF+PGW shall also include the "reqQos" attribute to indicate the updated QoS for the affected PCC rule. If the PCF authorizes the request, the PCF shall update PCC rule by replacing the existing packet filter with the new packet filter within the service data flow template of the PCC rule.

- When the UE requests to "Delete packet filters from existing TFT", SMF+PGW shall include the "ruleOp" attribute set to "MODIFY\_PCC\_RULE\_AND\_DELETE\_PACKET\_FILTERS", the "pccRuleId" attribute including the PCC rule identifier corresponding the paceket filter identifier provided by the UE and the "packFiltInfo" attribute. Each PacketFilterInfo instance shall within the "packFiltId" attribute include the removed packet filter identifier assigned by the PCF corresponding to the packet filter identifier received from the UE. If the UE request includes modified QoS information the SMF+PGW shall also include the "reqQos" attribute to indicate the updated QoS for the affected PCC rule(s). If the PCF authorizes the request, the PCF shall update PCC rule by removing the corresponding packet filters from the service data flow template of the PCC rule.

- When the UE requests to "No TFT operation", SMF+PGW shall include the "ruleOp" attribute set to "MODIFY\_PCC\_RULE\_WITHOUT\_MODIFY\_PACKET\_FILTERS", the "pccRuleId" attribute including the PCC rule identifier corresponding the paceket filter identifier provided by the UE and the modified QoS information within the "reqQos" attribute.

- When the UE requests to "Delete existing TFT", the SMF+PGW shall include the "ruleOp" attribute set to "DELETE\_PCC\_RULE", the "pccRuleId" attribute including the PCC rule identifier corresponding the packet filter identifier provided by the UE and the "packFiltInfo" attribute. The PCF shall remove the PCC rule when the PCF receives the request according to the PCC rule identifier.

NOTE 1: The UE can only modify or delete packet filters that the UE has introduced and associated resources. The packet filter identifiers contained in the FlowInformation data structure are only used for packet filters created by the UE.

The SMF+PGW shall calculate the requested GBR, for a GBR QCI, as the sum of the previously authorized GBR for the affected PCC rule, adjusted with the difference between the requested GBR for the EPS bearer and previously negotiated GBR for the EPS bearer. For the UE request to "Create new TFT", the GBR as requested by the UE for those filters shall be used.

If the request covers all the PCC rules with a bearer binding to the same bearer, then the SMF+PGW may request a change to the QCI for existing packet filters.

For the purpose of creating or modifying a packet filter, replacing and modifying packet filter, within the UeInitiatedResourceRequest instance, the SMF+PGW shall include the precedence information of the packet filter within the "precedence" attribute, and within each PacketFilterInfo instance, the SMF+PGW shall include the "packFiltCont" attribute, "tosTrafficClass" attribute, "spi" attribute, "flowLabel" attribute and "flowDirection" attribute set to the value(s) describing the packet filter provided by the UE.

NOTE 2: The UE signalling with the network is governed by the applicable NAS signalling TS. The NAS 3GPP TS for a specific access may restrict the UE possibilities to make requests compared to what is stated above.

If the PCF authorizes the request from the UE, the PCF shall construct a PCC rule(s) based on the UeInitiatedResourceRequest data structure. For "CREATE\_PCC\_RULE" or "MODIFY\_PCC\_RULE\_AND\_ADD\_PACKET\_FILTERS" operation, the PCF shall within the FlowInformation data structure include the assigned packet filter identifier within the "packFiltId" attribute. When the SMF+PGW derives the TFT based on the PCC rule, the SMF+PGW shall assign a new packet filter identifier for each added packet filter and keep the mapping between the packet filter identifier for the packet filter within the PCC rule and TFT sento the UE.

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