**3GPP TSG-CT WG3 Meeting #125 *C3-225325***

**Toulouse, France, 14th - 18th, November, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.514** | **CR** | **<CR#>** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *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:*** | Correction to functionality of PCF | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT, TEI18 | | | | |  | ***Date:*** | | | 2022-11-18 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The functionality of the PCF defined in 29.514 is related with the policy and charging control for a PDU session. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Move the functionality related with policy control for UE policy and AM policy into a NOTE. Add the the reference of 29.507 and 29.525. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 4.1.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | The CR does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* Start of Changes \* \* \* \*

# 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 23.503: "Policy and Charging Control Framework for the 5G System; Stage 2".

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

[6] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

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

[8] 3GPP TS 29.512: "5G System; Session Management Policy Control Service; Stage 3".

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

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

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

[12] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[13] 3GPP TS 29.508: "5G System; Session Management Event Exposure Service; Stage 3".

[14] 3GPP TS 29.554: "5G System; Background Data Transfer Policy Control Service; Stage 3".

[15] 3GPP TS 29.122: "T8 reference point for Northbound APIs".

[16] IEEE 802.3-2015: "IEEE Standard for Ethernet".

[17] IEEE 802.1Q-2014: "Bridges and Bridged Networks".

[18] IETF RFC 7042: "IANA Considerations and IETF Protocol and Documentation Usage for IEEE 802 Parameters".

[19] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

[20] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".

[21] IETF RFC 7396: "JSON Merge Patch".

[22] 3GPP TS 32.291: "5G System; Charging service; Stage 3".

[23] 3GPP TS 22.153: "5G System; "Multimedia Priority Service".

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

[25] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

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

[27] 3GPP TS 29.510: "5G System; Network Function Repository Services; Stage 3".

[28] 3GPP TR 21.900: "Technical Specification Group working methods".

[29] 3GPP TS 24.292: "IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Stage 3".

[30] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia telephony; Media handling and interaction".

[31] IETF RFC 5761: "Multiplexing RTP Data and Control Packets on a Single Port".

[32] 3GPP TS 24.229: "IP Multimedia Call Control Protocol based on SIP and SDP; Stage 3".

[33] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[34] IETF RFC 5031: "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services".

[35] IETF RFC 5009: "Private Header (P-Header) Extension to the Session Initiation Protocol (SIP) for Authorization of Early Media".

[36] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[37] IETF RFC 3556: "Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP) Bandwidth".

[38] IETF RFC 3959 (December 2004): "The Early Session Disposition Type for the Session Initiation Protocol (SIP)".

[39] 3GPP TS 23.380: "IMS Restoration Procedures".

[40] 3GPP TS 23.167: "IP Multimedia Subsystem (IMS) emergency sessions".

[41] 3GPP TS 24.379: "Mission Critical Push To Talk (MCPTT) call control; Protocol specification".

[42] IETF RFC 8101: "IANA Registration of New Session Initiation Protocol (SIP), Resource-Priority Namespace for Mission Critical Push To Talk Service".

[43] 3GPP TS 24.281: "Mission Critical Video (MCVideo) signalling control; Protocol specification".

[44] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

[45] 3GPP TS 22.179: "Mission Critical Push to Talk (MCPTT) over LTE; Stage 1".

[46] 3GPP TS 22.280: "Mission Critical (MC) services common requirements".

[47] 3GPP TS 22.281: "Mission Critical (MC) video over LTE".

[48] 3GPP TS 22.282: "Mission Critical (MC) data over LTE".

[49] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[50] IETF RFC 4574: "The Session Description Protocol (SDP) Label Attribute".

[51] 3GPP TS 26.238: "Uplink Streaming".

[52] IETF RFC 6733: "Diameter Base Protocol".

[53] 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".

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

[y] 3GPP TS 29.525: "UE Policy Control Service; Stage 3".

\* \* \* \* Next change \* \* \* \*

#### 4.1.3.1 Policy Control Function (PCF)

The PCF (Policy Control Function) performs:

- policy and charging control for service data flows;

- access and mobility policy decisions for the control of e.g. the UE Service Area Restrictions and RAT/RFSP control; and

- UE Policy for the Access network discovery and selection policy and UE Route Selection Policy (URSP).

- PDU Session related policy control;

- PDU Session event reporting to the AF.

NOTE: The PCF performs the access and mobility policy control, e.g. the UE Service Area Restrictions and RAT/RFSP control, as defined in 3GPP TS 29.507 [x] and UE Policy control, e.g. the Access network discovery and selection policy and UE Route Selection Policy (URSP) control, as defined in 3GPP TS 29.525 [y].

The policy and charging control for service data flows enable the PCF to provide network control regarding the service data flow detection, gating, QoS and flow based charging (except credit management) towards the SMF/UPF.

The PCF receives session and media related information from the Npcf\_PolicyAuthorization service consumers and notifies them of subscribed traffic plane events.

The PCF may receive from the NF service consumers the request to monitor the requested service and media information and notifies them of the UL/DL/round-trip delay of the requested flows.

The PCF may receive service routing requirements and the indication of receiving notifications about user plane path changes from the Npcf\_PolicyAuthorization service consumers.

The PCF may receive from the NF service consumers the specific required QoS and a prioritized list of alternative QoS profiles and notifies them about the QoS target the access network guarantees.

The PCF checks that the service information provided by the NF service consumer is consistent with the operator defined policy rules before storing the service information.

The PCF uses the received service information and the subscription information when it applies as basis for the policy and charging control decisions.

The PCF derives PCC rules and provisions them to the SMF via the Npcf\_SMPolicyControl service and subscribes to traffic plane events via policy control request triggers as described in 3GPP TS 29.512 [8].

In 5GS interworking with external time sensitive networks (e.g.TSN network), the PCF:

- notifies the NF service consumer (i.e. TSN AF or TSCTSF) about the TSC user plane node and DS-TT port information corresponding to a PDU session;

- enables the NF service consumer (i.e. TSN AF or TSCTSF) configures the TSC user plane node and ports by forwarding TSC user plane node management containers and port management containers to the SMF as described in 3GPP TS 29.512 [8];

- notifies the NF service consumer (i.e. TSN AF or TSCTSF) about updated TSC user plane node configuration and port configuration by forwarding TSN bridge management containers and port management containers received from the SMF; and

- uses the received QoS and TSC assistance information to derive the policy information delivered in the PCC rule to the SMF as described in 3GPP TS 29.512 [8].

\* \* \* \* End of change \* \* \* \*