**3GPP TSG-CT WG3 Meeting #132e *C3-240125***

**Electronic, 22 - 24 January, 2024 (revision of C3-240nn1)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.513** | **CR** | **0518** | **rev** | **-** | **Current version:** | **18.4.0** |  |
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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:*** | Completion of PDU Set handling functionality | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 2024-01-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | TS 23.503, Clause 6.2.2.4 and TS 23.501 clause 5.7.1 describe the PDU Set QoS parameters as QoS parameters of the SDF / QoS flow, i.e. as part of the QoS data of the PCC rule.  The PDU Set QoS parameters of the PCC rule are locally configured in the PCF, can be derived from the QoS reference, or mapped from the received AF values. This information is missing in clause 7.3.3.  The SMF binds the PCC rule with PDU Set QoS information in a separate QoS flow and adds the received PDU Set QoS parameters to the QoS profile information of the QoS flow. This information is missing in table 7.4.1. | | | | | | | | |
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| ***Summary of change:*** | | Update of table 7.3.3 to indicate the PCF derivation of the PDU Set QoS parameters and protocol description included in the PCC rule  Update of table 7.4.1 to specify PDU Set QoS mapping in the SMF | | | | | | | | |
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| ***Consequences if not approved:*** | | Missing information about PDU Set QoS mapping in the PCF and in the SMF. | | | | | | | | |
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| ***Clauses affected:*** | | 7.3.3, 7.4.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

### 7.3.3 PCF Interworking with an AF supporting N5 interface

When the AF interworks with the PCF using the N5 interface, the session binding in the PCF shall be associated to an IP session or an Ethernet session, and the PCF shall derive QoS parameters for the related data flows.

Table 7.3.3-1: Rules for derivation of the Maximum Authorized Data Rates, Authorized Guaranteed Data Rates, Maximum Authorized QoS Class and other authorized QoS parameters per service data flow or bidirectional combination of service data flows in the PCF

| Authorized QoS Parameter | Derivation from service information (NOTE 4) |
| --- | --- |
| **Maximum Authorized Data Rate DL (Max\_DR\_DL) and UL (Max\_DR\_UL)** | IF operator special policy exists THEN  Max\_DR\_UL:= as defined by operator specific algorithm;  Max\_DR\_DL:= as defined by operator specific algorithm;  (NOTE 8, 9 and 10)  ELSE IF afAppId attribute of MediaComponent data type demands application  specific data rate handling THEN  Max\_DR\_UL:= as defined by application specific algorithm;  Max\_DR\_DL:= as defined by application specific algorithm;  ELSE IF codecs attribute of MediaComponent data type provides Codec  information for a codec that is supported by a specific algorithm  (NOTE 5) THEN  Max\_DR\_UL:= as defined by specific algorithm;  Max\_DR\_DL:= as defined by specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information set THEN  Max\_DR\_UL:= as configured by operator  Max\_DR\_DL:= as configured by operator;  ELSE  IF not RTCP flow(s) according to flowUsage attribute of  MediaSubComponent data type THEN  IF fStatus attribute indicates "REMOVED" THEN  Max\_DR\_UL:= 0;  Max\_DR\_DL:= 0;  ELSE  IF Uplink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF marBwUl attribute is present THEN  Max\_DR\_UL:= marBwUl value;  ELSE  Max\_DR\_UL:= as set by the operator;  ENDIF;  ELSE  Max\_DR\_UL:= 0;  ENDIF;  IF Downlink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF marBwDl attribute is present THEN  Max\_DR\_DL:= marBwDl value;  ELSE  Max\_DR\_DL:= as set by the operator;  ENDIF;  ELSE  Max\_DR\_DL:= 0;  ENDIF;  ENDIF;  ELSE /\* RTCP IP flow(s) \*/  IF fStatus attribute indicates "REMOVED" THEN  Max\_DR\_UL:= 0;  Max\_DR\_DL:= 0;  ELSE  IF Uplink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF marBwUl attribute is present within the MediaSubComponent data  type THEN  Max\_DR\_UL:= marBwUl;  ELSEIF marBwUl attribute is present within the MediaComponent  data type THEN  Max\_DR\_UL:= 0.05 \* marBwUl value;  ELSE  Max\_DR\_UL:= as set by the operator;  ENDIF;  ELSE  Max\_DR\_UL:= 0;  ENDIF;  IF Downlink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF marBwDl attribute is present within the MediaSubComponent data  type THEN  Max\_DR\_DL:= marBwDl;  ELSEIF marBwDl attribute is present within the MediaComponent  data type THEN  Max\_DR\_DL:= 0.05 \* marBwDl value;  ELSE  Max\_DR\_DL:= as set by the operator;  ENDIF;  ELSE  Max\_DR\_DL:= 0;  ENDIF;  ENDIF;  ENDIF;  ENDIF; |
| **Authorized Guaranteed Data Rate DL (Gua\_DR\_DL) and UL (Gua\_DR\_UL)** | IF operator special policy exists THEN  Gua\_DR\_UL:= as defined by operator specific algorithm;  Gua\_DR\_DL:= as defined by operator specific algorithm;  ELSE IF afAppId attribute of MediaComponent data type demands application  specific data rate handling THEN  Gua\_DR\_UL:= as defined by application specific algorithm;  Gua\_DR\_DL:= as defined by application specific algorithm;  ELSE IF codecs attribute of MediaComponent data type provides Codec  information for a codec that is supported by a specific algorithm  (NOTE 5) THEN  Gua\_DR\_UL:= as defined by specific algorithm;  Gua\_DR\_DL:= as defined by specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information set THEN  Gua\_DR\_UL:= as configured by operator  Gua\_DR\_DL:= as configured by operator;  ELSE IF the altSerReqs attribute of MediaComponent data type corresponds to a list of pre-defined QoS information set THEN for each pre-defined QoS information set:  Gua\_DR\_UL:= as configured by operator;  Gua\_DR\_DL:= as configured by operator; (NOTE 16)  ELSE IF the altSerReqsData attribute of MediaComponent data type corresponds to a list of alternative service requirements that include Requested Alternative QoS parameter Set(s) THEN for each QoS information set:  Gua\_DR\_UL:= gbrUl value;  Gua\_DR\_DL:= gbrDl value (NOTE 16);  ELSE  IF fStatus attribute indicates "REMOVED" THEN  Gua\_DR\_UL:= 0;  Gua\_DR\_DL:= 0;  ELSE  IF Uplink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF mirBwUl attribute is present THEN  Gua\_DR\_UL:= mirBwUl value;  ELSE IF corresponding operator policy exists  Gua\_DR\_UL:= as set by the operator;  ELSE  Gua\_DR\_UL:= Max\_DR\_UL;  ENDIF;  ELSE  Gua\_DR\_UL:= 0;  ENDIF;  IF Downlink Flow Description is supplied within the fDescs attribute  of the MediaSubComponent data type THEN  IF mirBwDl attribute is present THEN  Gua\_DR\_DL:= mirBwDl value;  ELSE IF corresponding operator policy exists  Gua\_DR\_DL:= as set by the operator;  ELSE  Gua\_DR\_DL:= Max\_DR\_DL;  ENDIF;  ELSE  Gua\_DR\_DL:= 0;  ENDIF;  ENDIF;  ENDIF; |
| **Authorized 5G QoS Identifier (5QI)**  **(see NOTE 1, 2, 3, 7 ,12, 14, 17 and 19)** | IF an operator special policy exists THEN  5QI:= as defined by operator specific algorithm; (NOTE 18)  ELSE IF mpsId attribute demands MPS specific QoS Class handling THEN  5QI:= as defined by MPS specific algorithm (NOTE 11);  ELSE IF mcsId attribute demands MCS specific QoS Class handling THEN  5QI:= as defined by MCS specific algorithm (NOTE 13);  ELSE IF afAppId attribute of MediaComponent data type demands application specific QoS Class  handling THEN  5QI:= as defined by application specific algorithm;  ELSE IF flusId attribute demands specific QoS Class handling THEN  5QI:= as defined by specific algorithm; (NOTE 15)  ELSE IF codecs attribute of MediaComponent data type provides Codec  information for a codec that is supported by a specific algorithm THEN  5QI:= as defined by specific algorithm; (NOTE 5)  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information set THEN  5QI:= as configured by operator;  ELSE  /\* The following 5QI derivation is an example of how to obtain the 5QI  values in a 5GS network \*/  IF the medType attribute of MediaComponent data type is present THEN  CASE medType value OF  "audio": 5QI := 1;  "video": 5QI := 2;  "application": 5QI := 1 OR 2;  OTHERWISE: 5QI := 9; /\*e.g. for TCP-based generic traffic \*/  ENDIF;  ENDIF;  ENDIF; |
| **Authorized Packet Delay Budget (PDB) for Alternative QoS parameter Sets** | IF the altSerReqs attribute of MediaComponent data type corresponds to a list of pre-defined QoS information set THEN for each pre-defined QoS information set:  PDB:= as configured by operator; (NOTE 16)  ELSE IF the altSerReqsData attribute of MediaComponent data type corresponds to a list of alternative service requirements that include Requested Alternative QoS parameter Set(s) THEN for each QoS information set:  PDB:= pdb value;  ENDIF; |
| **Authorized Packet Error Rate (PER) for Alternative QoS parameter Sets** | IF the altSerReqs attribute of MediaComponent data type corresponds to a list of pre-defined QoS information set THEN for each pre-defined QoS information set:  PER:= as configured by operator; (NOTE 16)  ENDIF; |
| **Authorized PDU Set Delay Budget DL and UL** | IF an operator special policy exists THEN  PSDB\_UL:= as defined by operator specific algorithm;  PSDB\_DL:= as defined by operator specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information for the PDU set THEN  PSDB\_UL:= as configured by operator;  PSDB\_DL:= as configured by operator;  ELSE IF pduSetQosUl attribute demands PDUSet Delay Budget handling THEN  PSDB\_UL:= pduSetDelayBudget value;  ELSE IF pduSetQosDl attribute demands PDUSet Delay Budget handling THEN  PSDB\_DL:= pduSetDelayBudget value;  ENDIF; |
| **Authorized PDU Set Error Rate DL and UL** | IF an operator special policy exists THEN  PSER\_UL:= as defined by operator specific algorithm;  PSER\_DL:= as defined by operator specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information for the PDU set THEN  PSER\_UL:= as configured by operator;  PSER\_DL:= as configured by operator;  ELSE IF pduSetQosUl attribute demands PDUSet Error Rate handling THEN  PSER\_UL:= pduSetErrRate value;  ELSE IF pduSetQosDl attribute demands PDUSet Error Rate handling THEN  PSER\_DL:= pduSetErrRate value;  ENDIF; |
| **Authorized PDU Set Integrated Handling Information** | IF an operator special policy exists THEN  PSIHI\_UL:= as defined by operator specific algorithm;  PSIHI\_DL:= as defined by operator specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information for the PDU set THEN  PSIHI\_UL:= as configured by operator;  PSIHI\_DL:= as configured by operator;  ELSE IF pduSetQosUl attribute demands PDUSet Integrated Handling Information handling THEN  PSIHI\_UL:= pduSetHandlingInfo value;  ELSE IF pduSetQosDl attribute demands PDUSet Integrated Handling Information handling THEN  PSIHI\_DL:= pduSetHandlingInfo value;  ENDIF; |
| **Authorized Protocol Description Information** | IF an operator special policy exists THEN  Protocol Description UL := as defined by operator specific algorithm;  Protocol Description DL := as defined by operator specific algorithm;  ELSE IF protoDesc attribute demands protocol description handling THEN  Protocol Description UL := protoDesc value;  Protocol Description DL := protoDesc value;  ENDIF; |
| NOTE 1: The 5QI assigned to a RTCP IP flow is the same as for the corresponding RTP media IP flow.  NOTE 2: When audio or video IP flow(s) are removed from a session, the 5QI shall keep the originally assigned value.  NOTE 3: When audio or video IP flow(s) are added to a session, the PCF shall derive the 5QI taking into account the already existing media IP flow(s) within the session.  NOTE 4: The encoding of the service information is defined in 3GPP TS 29.514 [10].  NOTE 5: 3GPP TS 26.234 [19], 3GPP TS 26.114 [14], 3GPP2 C.S0046 [20], and 3GPP2 C.S0055 [21] contain examples of QoS parameters for codecs of interest. The support of any codec specific algorithm in the PCF is optional.  NOTE 6: Authorized Guaranteed Data Rate DL and UL shall not be derived for non-GBR 5QI values.  NOTE 7: Recommended 5QI values for standardised 5QI characteristics are shown in table 5.7.4-1 in 3GPP TS 23.501 [2].  NOTE 8: The PCF may be configured with operator specific preconditions for setting the Authorized Guaranteed Data Rate lower than the corresponding Maximum Authorized Data Rate.  NOTE 9: For certain services (e.g. DASH services according to 3GPP TS 26.247 [17]), the AF may also provide a minimum required bandwidth so that the PCF can derive an Authorized Guaranteed Data Rate lower than the Maximum Authorized Data Rate.  NOTE 10: The PCF shall assign an Authorized Guaranteed Data Rate UL/DL value within the limit supported by the serving network.  NOTE 11: The MPS specific algorithm shall consider various inputs, including the received mpsId and resPrio attributes, for deriving the 5QI.  NOTE 12: The PCF may authorize a non-standardized 5QI with explicitly signalled QoS characteristics as defined in clause 4.2.6.6.3 of 3GPP TS 29.512 [9] or may assign QoS characteristics (e.g. Priority Level, Averaging Window, and Maximum Data Burst Volume) to be used instead of the default QoS characteristics associated with a standardised 5QI value as shown in table 5.7.4-1 in 3GPP TS 23.501 [2].  NOTE 13: The MCS specific algorithm shall consider various inputs, including the received mcsId and resPrio attributes, for deriving the 5QI.  NOTE 14: In a network where SRVCC is enabled, the 5QI=1 shall be used for IMS services in accordance to 3GPP TS 23.216 [44]. Non-IMS services using 5QI=1 may suffer service interruption and/or inconsistent service experience if SRVCC is triggered. Triggering SRVCC for WebRTC IMS session will cause service interruption and/or inconsistent service experience when using 5QI=1. Operator policy (e.g. use of specific AF application identifier) may be used to avoid using 5QI 1 for a voice service, e.g. WebRTC IMS session.  NOTE 15: The "live" uplink streaming algorithm may consider various inputs, including the received flusId attribute, desMaxLatency attribute, desMaxLoss attribute, afAppId attribute and medType attribute for deriving the 5QI. When desMaxLatency attribute and/or desMaxLoss attribute are present, non-authority 5QI mapping may be done according to table 5.7.4-1 in 3GPP TS 23.501 [2].  NOTE 16: The PCF may authorize one or more alternative parameter set(s) if the alternative QoS reference(s) or Requested Alternative QoS parameter Set(s) is received.  NOTE 17: The algorithm to support applications with specific QoS hints (e.g. loss and/or latency demands) may consider various inputs, including the received desMaxLatency attribute, desMaxLoss attribute and afAppId attribute for deriving the 5QI, as shown in table E.0 in 3GPP TS 26.114 [14]. Non-authority 5QI mapping may be done according to table 5.7.4-1 in 3GPP TS 23.501 [2].  NOTE 18: Operator specific policies may consider access information for policy decision. E.g., in a network where the PDU session can be carried over NR satellite access or satellite backhaul, the PCF may take this information into account (together with any delay requirements provided by the AF) to determine the applicable policy decision, as e.g. the 5QI value.  NOTE 19: 3GPP TS 26.114 [14] contains examples on how 5QI may be derived for data channel media type | |

The PCF should per ongoing session store the Authorized QoS parameters for each service data flow or bidirectional combination of service data flows (as described within a medComponents attribute).

If the PCF provides a QoS information associated to a PCC rule it may apply the rules in table 7.3.3-2 to combine the Authorized QoS per service data flow or bidirectional combination of service data flows (as derived according to table 7.3.3-1) for all service data flows described by the corresponding PCC rule.

If the PCF provides a QoS information associated to a PDU session (i.e. QoS flow with default QoS rule), it may apply the rules in table 7.3.3-2 to combine the Authorized QoS per service data flow or bidirectional combination of service data flows (as derived according to table 7.3.3-1) for all service data flows allowed to be transported within the PDU session. It is recommended that the rules in table 7.3.3-2 are applied for all service data flows with corresponding AF session. The PCF may increase the authorized QoS further to take into account the requirements of predefined PCC rules without ongoing AF sessions.

NOTE 1: For home-routed scenarios, if the "VPLMN-QoS-Control" feature as defined in 3GPP TS 29.512 [9] is supported, if the PCF applies the rules in table 7.3.2-2 to calculate the authorized QoS to be transported within the PDU session, the PCF can adapt the authorized QoS associated to the PDU session to take into account the values that can be accepted by the VPLMN.

NOTE 2: QoS Information related to Maximum Authorized UL/DL Data Rate provided at PDU session level is not derived based on mapping tables in this clause, but based on subscription and operator specific policies.

NOTE 3: ARP is always calculated at PCC rule level according to table 7.3.3-2.

Table 7.3.3-2: Rules for calculating the Maximum Authorized/Guaranteed Data Rates,  
5QI and ARP in the PCF

|  |  |
| --- | --- |
| Authorized QoS Parameter | Calculation Rule |
| **Maximum Authorized Data Rate DL and UL** | Maximum Authorized Data Rate DL/UL is the sum of all Maximum Authorized Data Rate DL/UL for all the service data flows or bidirectional combinations of service data flows (as according to table 7.3.3-1). |
| **Guaranteed Authorized Data Rate DL and UL** | Guaranteed Authorized Data Rate DL/UL is the sum of all Guaranteed Authorized Data Rate DL/UL for all the service data flows or bidirectional combinations of service data flows (as according to table 7.3.3-1). (NOTE 3) |
| **5QI** | 5QI = MAX [needed QoS parameters per service data flow or bidirectional combination of service data flows (as operator's defined criteria) among all the service data flows or bidirectional combinations of service data flows.] |
| **ARP** | IF an operator special policy exists THEN  ARP:= as defined by operator specific algorithm;  ELSE IF mpsId attribute demands MPS specific ARP handling THEN  ARP:= as defined by MPS specific algorithm (NOTE 2);  ELSE IF mcsId attribute demands MCS specific ARP handling THEN  ARP:= as defined by MCS specific algorithm (NOTE 4);  ELSE IF afAppId attribute of MediaComponent data type demands application specific ARP  handling THEN  ARP:= as defined by application specific algorithm;  ELSE IF resPrio attribute of MediaComponent data type demands application specific ARP handling THEN  ARP:= as defined by application specific algorithm;  ELSE IF the qosReference attribute of MediaComponent data type corresponds to a pre-defined QoS information set THEN  ARP:= as configured by operator  ENDIF;  (NOTE 1) |
| NOTE 1: The ARP priority levels 1-8 should only be assigned to resources for services that are authorized to receive prioritized treatment within an operator domain.  NOTE 2: The MPS specific algorithm shall consider various inputs, including the received mpsId and resPrio attributes, for deriving the ARP.  NOTE 3: The PCF may check that the Guaranteed Authorized Data Rate DL/UL does not exceed the limit supported by the serving network to minimize the risk of rejection of the bearer by the serving network.  NOTE 4: The MCS specific algorithm shall consider various inputs, including the received mcsId and resPrio attributes, for deriving the ARP. | |

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

### 7.4.1 QoS parameter mapping Functions in 5GC

Table 7.4.1.1: Rules for derivation of the Authorized QoS Parameters per QoS flow  
from the Authorized QoS Parameters in SMF

|  |  |
| --- | --- |
| Authorized QoS Parameter per QoS flow (NOTE) | Derivation from Authorized QoS Parameters |
| **Maximum Authorized Bandwidth DL and UL per QoS flow** | Maximum Authorized Bandwidth DL/UL per QoS flow = Sum of Maximum Authorized Data Rate DL/UL for all PCC rules bound to that Qos flow.  For PCC rules which are bound to the same QoS flow and have the same sharing key value, the highest MBR value among those PCC rules may be used as input for calculating the common MBR value based on internal logic as defined in clause 4.2.6.2.8 of 3GPP TS 29.512 [9]. |
| **Guaranteed Authorized Data Rate DL and UL per QoS flow** | Guaranteed Authorized Data Rate DL/UL per QoS flow = Sum of Guaranteed Authorized Data Rate DL/UL for all PCC rules bound to that QoS flow.  For PCC rules which are bound to the same QoS flow and have the same sharing key value, the highest GBR value among those PCC rules shall be used as input for calculating the common GBR value as defined in clause 4.2.6.2.8 of 3GPP TS 29.512 [9]. |
| **Session-AMBR DL and UL** | For all non-GBR QoS flows, Session-AMBR DL/UL is applied. |
| **5QI** | 5QI from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV is used. |
| **ARP** | ARP from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV  is used. |
| **QNC** | QNC from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV  is used. |
| **Priority Level (PL)** | PL from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV  is used. |
| **Averaging Window (AW)** | AW from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV  is used. Applicable for GBR or delay critical GBR QoS flow. |
| **Maximum Data Burst Volume (MDBV)** | MDBV from PCC rules having the same value combination of 5QI/ARP/QNC/PL/AW/MDBV  is used. Applicable for delay critical GBR QoS flow. |
| **RQI** | RQI from PCC rules is used per service data flow. Applicable for non-GBR QoS flows. |
| **Maximum Packet Loss Rate DL and UL per QoS flow** | Maximum packet loss rate DL/UL among all PCC rules bound to that QoS flow. Applicable for GBR QoS flows. |
| **Alternative QoS Profiles** | Alternative QoS profiles per QoS flow = Alternative QoS Parameter Sets of the PCC rule. The PCC rule is bound to a new QoS flow and no other PCC rule is bound to the QoS flow. Applicable for GBR QoS flows. |
| **PDU Set QoS parameter(s)** | The UL and/or DL PDU Set QoS parameter(s) per QoS flow = PDU Set QoS parameter(s) of the PCC rule. The PCC rule is bound to a new QoS flow and no other PCC rule bound to the QoS flow. Applicable for GBR and non-GBR QoS flows. |
| NOTE: For unstructured PDU session type, only default 5QI and ARP of the QoS Flow associated with the default QoS rule, and Session-AMBR are applicable. | |

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