**3GPP TSG CT WG3 Meeting #137 *C3-245509***

**Hefei, CN, 14 - 18 October, 2024 (Revision of C3-245250)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **4** | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | QoS monitoring capability report Editors note removal | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | |  |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | It is fine to add QoS monitoring capability report per feature as some of the feature may not be supported itself like EnQoSMon related features.  Editor's Note: Whether the QoS Monitoring Capability report can be applied separately to different QoS monitoring types (e.g. packet delay, congestion, pdv, etc.) is FFS.  There is no need to differentiate between the flows for QoS monitoring capability report  Editor's Note: Whether the QoSMonCapRepo feature can be applied per flow or not is FFS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | capReport attribute is added within QoS monitoring report.  The editor’s notes are removed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | There are open items related to QoS monitoring reporting report pending. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.2.46, 4.2.3.45, 4.2.6.15, 5.6.2.9, 5.6.2.37, 5.6.2.41, 5.6.2.60 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 descriptions defined in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 4.2.2.46 Subscription to the report of network support for QoS Monitoring

The QoS monitoring capabilities in the network may change, e.g. when the serving NG-RAN is changed (e.g., QoS monitoring is not supported in the target NG-RAN while it was supported in the source NG-RAN). When the feature "QoSMonCapRepo" is supported, the NF service consumer may subscribe to receive notifications from the PCF of whether the requested QoS monitoring policy is not supported or is supported again by including within the "evSubsc" attribute the "events" attribute with the "event" attribute set to "QOS\_MON\_CAP\_REPO" as described in clause 4.2.2.2.

\* \* \* \* Next changes \* \* \* \*

#### 4.2.3.45 Modification of the subscription to the report of network support for QoS Monitoring

When the feature "QoSMonCapRepo" is supported, the NF service consumer may subscribe to receive notifications from the PCF of whether the requested QoS monitoring policy is not supported or is supported again as described in clauses 4.2.2.46 and 4.2.6.15, and may delete the subscription to QoS monitoring by providing within the "evSubsc" attribute the "events" attribute without event information for the "QOS\_MON\_CAP\_REPO" event as described in clause 4.2.3.2.

\* \* \* \* Next changes \* \* \* \*

#### 4.2.6.15 Subscription to the report of network support for QoS Monitoring

When the feature "QoSMonCapRepo" is supported, the NF service consumer may subscribe to receive notifications from the PCF of whether the requested QoS monitoring policy is not supported or is supported again by including within the "events" array an entry with the "event" attribute set to "QOS\_MON\_CAP\_REPO". The NF service consumer may delete a subscription to QoS monitoring support report by providing the "events" array and omitting an entry with the "event" attribute set to "QOS\_MON\_CAP\_REPO".

The PCF shall reply to the NF service consumer as described in clause 4.2.6.2.

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.37 Type QosMonitoringReport

Table 5.6.2.37-1: Definition of type QosMonitoringReport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| flows | array(Flows) | C | 1..N | Identification of the flows. It shall be included if "MediaComponentVersioning" feature is supported. When "MediaComponentVersioning" feature is not supported, if no flows are provided, the packet delay applies for all flows within the AF session. |  |
| ulDelays | array(integer) | O | 1..N | Uplink packet delay in units of milliseconds. (NOTE) |  |
| dlDelays | array(integer) | O | 1..N | Downlink packet delay in units of milliseconds. (NOTE) |  |
| rtDelays | array(integer) | O | 1..N | Round trip delay in units of milliseconds. (NOTE)  If the "EnQoSMon" feature is supported and the "RT\_DELAY\_TWO\_QOS\_FLOWS" event is subscribed, it indicates the round trip delay of multiple QoS flows. |  |
| pdmf | boolean | O | 0..1 | Packet delay measurement failure indicator. When set to true, it indicates that a packet delay failure has occurred.  Default value is false if omitted. | PacketDelayFailureReport  EnQoSMon |
| ulDataRate | BitRate | O | 0..1 | Average data throughput in uplink direction. | EnQoSMon |
| dlDataRate | BitRate | O | 0..1 | Average data throughput in downlink direction]. | EnQoSMon |
| ulConInfo | array(Uinteger) | O | 1..N | Percentage of congestion information in uplink direction.It may be present when the event "QOS\_MONITORING" is subscribed.  (NOTE) | EnQoSMon |
| dlConInfo | array(Uinteger) | O | 1..N | Percentage of congestion information in downlink direction. It may be present when the event "QOS\_MONITORING" is subscribed.  (NOTE) | EnQoSMon |
| capReport | NotifCap | M | 1 | Indicates whether the QoS monitoring capability report support for the indicated flow(s) is "NOT\_SUPPORTED" or "SUPPORTED" again. | QoSMonCapRepo |
| NOTE: In this release of the specification one element may be included in the array, as specified in clause 4.2.5.14. | | | | | |

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.41 Type QosMonitoringInformationRm

This data type is defined in the same way as the "QosMonitoringInformation" data type, but:

- with the OpenAPI "nullable: true" property;

- the removable attributes "repThreshDatRateDl" and "repThreshDatRateUl" are defined with the removable data type "BitRateRm" and the removable attributes "conThreshDl" and "conThreshUl" are defined with the removable data type "UintegerRm"; and

- the attributes "repThreshDl", "repThreshUl" and "repThreshRp" are defined with the OpenAPI "nullable: true" property.

Table 5.6.2.41-1: Definition of type QosMonitoringInformationRm

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| repThreshDl | integer | O | 0..1 | Indicates the threshold in units of milliseconds for DL packet delay. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION".  Minimum = 0.  (NOTE) |  |
| repThreshUl | integer | O | 0..1 | Indicates the threshold in units of milliseconds for UL packet delay. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION".  Minimum = 0.  (NOTE) |  |
| repThreshRp | integer | O | 0..1 | Indicates the threshold in units of milliseconds for round trip packet delay.  If the "EnQoSMon" feature is supported and the "RT\_DELAY\_TWO\_QOS\_FLOWS" event is subscribed, it indicates the round trip delay of multiple QoS flows.  Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION".  Minimum = 0.  (NOTE) |  |
| repThreshDatRateDl | BitRateRm | O | 0..1 | Indicates the threshold for DL data rate. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION". | EnQoSMon |
| repThreshDatRateUl | BitRateRm | O | 0..1 | Indicates the threshold for UL data rate. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION". | EnQoSMon |
| conThreshDl | UintegerRm | O | 0..1 | Indicates the downlink threshold percentage of congestion reporting. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION". | EnQoSMon |
| conThreshUl | UintegerRm | O | 0..1 | Indicates the uplink threshold percentage of congestion reporting. Only applicable when the "notifMethod" attribute is not supplied or the "notifMethod" is supplied and set to "EVENT\_DETECTION". | EnQoSMon |
| capReport | NotifCap | M | 1 | Indicates whether the QoS monitoring capability report is "NOT\_SUPPORTED" or "SUPPORTED" again. | QoSMonCapRepo |
| NOTE: If the "EnQoSMon" feature is supported, "repThreshDl" attribute, the "repThreshUl" attribute and/or the "repThreshRp" attribute may be set to value null, otherwise they shall not be set to value null. | | | | | |

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.60 Type CapabilityReportFlow

Table 5.6.2.60-1: Definition of type CapabilityReportFlow

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| flows | array(Flows) | O | 1..N | Identification of the flows. If no flows are provided, the notification in the "notifType" applies for all flows within the AF session. |  |
| capReport | NotifCap | M | 1 | Indicates whether the network support for the indicated flow(s) is "NOT\_SUPPORTED" or "SUPPORTED" again. |  |

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