**3GPP TSG CT WG3 Meeting #132e *C3-240068r1***

**Electronic, 22 - 24 January, 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.514** | **CR** | **0583** | **rev** | **1** | **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:*** | indirect feature negotiation for EnQoSMon | | | | | | | | | |
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| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 2024-1-15 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
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| ***Reason for change:*** | | Similar to QoSMonitoring feature, EnQoSMon feature also needs to be indirecltly negotiated between AF/NEF and SMF via PCF. | | | | | | | | |
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| ***Summary of change:*** | | 4.2.2.23 is updated to state that the NF service consumer may include the "3gpp-Sbi-Consumer-Info" custom HTTP header to indicate the support of "EnQoSMon" feature by the NF service consumer over the Nsmf\_EventExposure service. | | | | | | | | |
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| ***Consequences if not approved:*** | | It’s unclear how the EnQoSMon feature is negotiated between AF/NEF and SMF. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.2.23 | | | | | | | | |
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|  | | **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 ... | | |
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| ***Other comments:*** | | This CR does not have any impact in the OpenAPI specification. | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

#### 4.2.2.23 Subscriptions to Service Data Flow QoS Monitoring Information

The subscription to Service Data Flow QoS monitoring information is used by a NF service consumer to receive a notification about the real-time measurements of QoS parameters for a QoS Flow, e.g. packet delay between UPF and UE, when the "QoSMonitoring" feature is supported.

The NF service consumer shall use the "EventsSubscReqData" data type as described in clause 4.2.2.2 and shall include:

- the requested QoS monitoring parameter(s) to be measured (i.e. DL, UL and/or round trip packet delay, if the feature "XRM\_5G" is supported, , and/or the UL and/or DL data rate information) within the "reqQosMonParams" attribute;

- an entry of the "AfEventSubscription" data type per requested notification method in the "events" attribute with:

a) the "event" attribute set to the value "QOS\_MONITORING"; and

b) the "notifMethod" attribute set to the value "EVENT\_DETECTION" or "PERIODIC"; and

c) when the "notifMethod" attribute is set to the value "PERIODIC", the periodic time for reporting and, if the feature "PacketDelayFailureReport" or "EnQoSMon" is supported, the maximum period with no QoS measurement results reported within the "repPeriod" attribute; and

d) when the "notifMethod" attribute is set to the value "EVENT\_DETECTION", the minimum waiting time between subsequent reports within the "waitTime" attribute and, if the feature "PacketDelayFailureReport" or "EnQoSMon" is supported, the maximum period with no QoS measurement results reported within the "repPeriod" attribute;

- when the "notifMethod" attribute set to the value "EVENT\_DETECTION":

1. For QoS monitoring of packet delay, the "qosMon" attribute, with the required QoS Monitoring information:

a) the delay threshold for downlink with the "repThreshDl" attribute;

b) the delay threshold for uplink with the "repThreshUl" attribute; and/or

c) the delay threshold for round trip with the "repThreshRp" attribute.

When the feature "XRM\_5G" is supported, for QoS monitoring for congestion information, the "congestMon" attribute with:

a) the delay threshold for downlink with the "conThreshDl" attribute; and/or

b) the delay threshold for uplink with the "conThreshUl" attribute.

2. When the feature "XRM\_5G" is supported, for QoS monitoring of data rate, the "qosMonDatRate" attribute with;

a) the data rate threshold for downlink within the "repThreshDatRateDl" attribute; and/or

b) the data rate threshold for the uplink within the "repThreshDatRateUl" attribute.

Editor’s note: Whether the applicable reporting frequency for the Data Rate QoS monitoring can be event triggered and/or periodic is FFS.

The NF service consumer may include in "EventsSubscReqData" data type the notification correlation identifier assigned by the AF within the "notifCorreId" attribute and, if the feature "ExposureToEAS" or "EnQoSMon" is supported, the "directNotifInd" attribute set to true to indicate direct event notification of QoS Monitoring data from the UPF.

For data rate monitoring, the AF may include an averaging window within the "avrgWndw" attribute.

The NF service consumer may include the "3gpp-Sbi-Consumer-Info" custom HTTP header as described in clause 6.6.2 of 3GPP TS 29.500 [5] to indicate the support of one or more QoS monitoring features (e.g. "QoSMonitoring" feature and/or "EnQoSMon" feature) by the NF service consumer over the Nsmf\_EventExposure service as described in 3GPP TS 29.508[13].

The NF service consumer shall include more than one "AfEventSubscription" data type within the "EventsSubscReqData" data type if more than one notification method is required.

The PCF shall reply to the AF as described in clause 4.2.2.2.

If the AF provided an indication of direct event notification in the request and PCF determines that the direct notification of QoS Monitoring reports applies (i.e. the AF request does not include QoS parameter measurements that are derived by PCF), the PCF behaves as specified in 3GPP TS 29.512 [8].

If the AF provided an indication of direct event notification and PCF determines that the direct notification of QoS Monitoring reports does not apply (i.e. the AF request includes QoS parameter measurements that are derived by PCF as specified in clause 4.2.2.41 (AF request for monitoring packet delay variation), and clause 4.2.2.44 (AF request for monitoring round trip packet delay when UL and DL are on different service data flows)), the PCF generates a successful response to the AF and indicates that direct event notification is not possible by including within the "servAuthInfo" attribute the value "DIRECT\_NOTIF\_NOT\_POSSIBLE". In this case, the PCF shall not indicate direct notification in the QoS Monitoring policy provided to the SMF and instead subscribe to receive QoS Monitoring reports from SMF as specified in 3GPP TS 29.512 [8].

As result of this action, the PCF shall set the appropriate subscription to QoS Monitoring information for the corresponding PCC rule(s) as described in 3GPP TS 29.512 [8].

Editor’s note: It is FFS whether new data type structure is needed for QoS monitoring control for multi-modal services.

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