**3GPP TSG-CT WG3 Meeting #130 *C3-234264r1***

**Xiamen, China, 9 - 13 October, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.122** | **CR** | **0760** | **rev** | **1** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** | associate attributes with corresponding NOTE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | AIMLsys, NBI18 | | | | |  | ***Date:*** | | | 2023-9-29 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | 1. NOTE 9 of Table 5.14.2.1.2-1 relates to exterAppId and flowInfo attributes, but NOTE 10 are wrongly marked to these attributes instead. 2. NOTE 8 of Table 5.14.2.1.3-1 relates to exterAppId attribute, but is not marked to exterAppId attribute. 3. NOTE 4 relates to qosReference attribute, but is not marked to this attribute. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In the description of exterAppId and flowInfo attributes in 5.14.2.1.2, refer to NOTE 9 instead of NOTE 10.  In the description of exterAppId attribute in 5.14.2.1.3, refer to NOTE 8.  Mark NOTE 4 to qosReference attribute in 5.14.2.1.3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Attributes are not associated with corresponding NOTEs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.14.2.1.2, 5.14.2.1.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 have any impact in the OpenAPI specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 5.14.2.1.2 Type: AsSessionWithQoSSubscription

This type represents an AS session request with specific QoS for the service provided by the SCS/AS to the SCEF via T8 interface. The structure is used for subscription request and response.

Table 5.14.2.1.2-1: Definition of type AsSessionWithQoSSubscription

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | Cardinality | Description | Applicability (NOTE 1) |
| self | Link | 0..1 | Link to the resource "Individual AS Session with Required QoS Subscription".  This parameter shall be supplied by the SCEF in HTTP responses. |  |
| dnn | Dnn | 0..1 | Identifies a DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. (NOTE 3) |  |
| snssai | Snssai | 0..1 | Identifies an S-NSSAI. (NOTE 3) |  |
| supportedFeatures | SupportedFeatures | 0..1 | Used to negotiate the supported optional features of the API as described in clause 5.2.7.  This attribute shall be provided in the POST request and in the response of successful resource creation. |  |
| notificationDestination | Link | 1 | Contains the URL to receive the notification bearer level event(s) from the SCEF. |  |
| exterAppId | string | 0..1 | Identifies the external Application Identifier. (NOTE 2) (NOTE 9) (NOTE 11) | AppId  ListUE\_5G  GMEC\_5G |
| extGroupId | ExternalGroupId | 0..1 | Identifies a group of UE(s).  (NOTE 10) | GMEC\_5G |
| gpsi | Gpsi | 0..1 | Identifies a UE using its GPSI.  (NOTE 10) | GMEC\_5G |
| flowInfo | array(FlowInfo) | 0..N | Describe the IP data flow which requires QoS.  (NOTE 2) (NOTE 7) (NOTE 9) (NOTE 11) |  |
| ethFlowInfo | array(EthFlowDescription) | 0..N | Identifies Ethernet packet flows.  (NOTE 2) (NOTE 6) (NOTE 11) | EthAsSessionQoS\_5G  GMEC\_5G |
| enEthFlowInfo | array(EthFlowInfo) | 0..N | Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow identifier and the corresponding UL and/or DL flows.  (NOTE 2) (NOTE 6) (NOTE 11) | EnEthAsSessionQoS\_5G  GMEC\_5G |
| qosReference | string | 0..1 | Identifies a pre-defined QoS information. (NOTE 4) (NOTE 5) |  |
| altQoSReferences | array(string) | 0..N | Identifies an ordered list of pre-defined QoS information. The lower the index of the array for a given entry, the higher the priority. (NOTE 4) | AlternativeQoS\_5G |
| altQosReqs | array(AlternativeServiceRequirementsData) | 0..N | Identifies an ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 4) | AltQosWithIndParams\_5G |
| disUeNotif | boolean | 0..1 | Indicates whether to disable QoS flow parameters signalling to the UE when the SMF is notified by the NG-RAN of changes in the fulfilled QoS situation. The fulfilled situation is either the QoS profile or an Alternative QoS Profile.  - true: the QoS flow parameters signalling to the UE is disabled;  - false (default): the QoS flow parameters signalling to the UE is not disabled. | DisableUENotification\_5G |
| ueIpv4Addr | Ipv4Addr | 0..1 | The Ipv4 address of the UE.  (NOTE 2) |  |
| ipDomain | string | 0..1 | The IPv4 address domain identifier.  The attribute may only be provided if the ueIpv4Addr attribute is present. |  |
| ueIpv6Addr | Ipv6Addr | 0..1 | The Ipv6 address of the UE.  (NOTE 2) |  |
| macAddr | MacAddr48 | 0..1 | Identifies the MAC address.  (NOTE 2) | EthAsSessionQoS\_5G |
| listUeAddrs | array(IpAddr) | 1..N | Identifies the list of UE address.  (NOTE 9) | ListUE\_5G |
| usageThreshold | UsageThreshold | 0..1 | Time period and/or traffic volume in which the QoS is to be applied. |  |
| sponsorInfo | SponsorInformation | 0..1 | Indicates a sponsor information |  |
| qosMonInfo | QosMonitoringInformation | 0..1 | Qos Monitoring information. It can be present when the event "QOS\_MONITORING" is subscribed. | QoSMonitoring\_5G |
| directNotifInd | boolean | 0..1 | Indicates whether the direct event notification is requested.  - true: the direct event notification is requested;  - false (default): the direct event notification is not requested. | ExposureToEAS |
| tscQosReq | TscQosRequirement | 0..1 | Contains the QoS requirements for time sensitive communication. (NOTE 5) | TSC\_5G  XRM\_5G |
| requestTestNotification | boolean | 0..1 | Set to true by the SCS/AS to request the SCEF to send a test notification as defined in clause 5.2.5.3. Set to false or omitted otherwise. | Notification\_test\_event |
| websockNotifConfig | WebsockNotifConfig | 0..1 | Configuration parameters to set up notification delivery over Websocket protocol as defined in clause 5.2.5.4. | Notification\_websocket |
| events | array(UserPlaneEvent) | 0..N | Corresponds to the list of user plane event(s) to which the SCS/AS requests to subscribe to. | enNB |
| multiModalId | MultiModalId | 0..1 | Multi-modal Service Identifier, as defined in 3GPP TS 29.514 [52]. | XRM\_5G |
| multiModDatFlows | map(AsSessionMediaComponent) | 0..N | Each element of the map represents Media Component data for a single-modal data flow(s) of a multimodal service. The key of the map is the attribute "medCompN". (NOTE 8) | XRM\_5G |
| l4sInfo | UplinkDownlinkSupport | 0..1 | Provides L4S support information. | XRM\_5G |
| pduSetQos | PduSetQosPara | 0..1 | Contains the PDU Set QoS Parameters which are used to support PDU Set based QoS handling. | XRM\_5G |
| rTLatencyInd | boolean | 0..1 | Indicates the service data flow needs to meet the Round-Trip (RT) latency requirement of the service, when it is included and set to "true". The default value is "false" if omitted. | XRM\_5G |
| pduSetProtDesc | ProtoDesc | 0..1 | Protocol description for PDU Set identification in UPF | XRM\_5G |
| periodInfo | PeriodicityInfo | 0..1 | Indicates the time period between the start of the two data bursts in Uplink and/or Downlink direction. | XRM\_5G |
| pdvMon | QosMonitoringInformation | 0..1 | Contains the Packet Delay Variation information for the subscribed report.It shall be present when the event "PACK\_DELAY\_VAR" is subscribed. | XRM\_5G |
| qosDuration | DurationSec | 0..1 | Contains the QoS duration to transfer data traffic transmission (e.g., AI/ML transmission). The minimum value of the QoS duration shall be 60 sec. | QoSTiming\_5G |
| qosInactInt | DurationSec | 0..1 | Contains the QoS inactivity interval for the given data traffic transmission (e.g., AI/ML transmission). The minimum value of the QoS inactivity interval shall be 60 sec. | QoSTiming\_5G |
| rttMon | QosMonitoringInformation | 0..1 | Contains the round-trip delay over two service data flow information for the subscribed report.  It shall be provided for "RT\_DELAY\_TWO\_QOS\_FLOWS" event. | XRM\_5G |
| qosMonDatRate | QosMonitoringInformation | 0..1 | Qos Monitoring information. It shall be present when the event "QOS\_MONITORING" is subscribed and data rate measurements are required. | XRM\_5G |
| avrgWndw | AverWindow | 0..1 | Averaging window for the calculation of the data rate for the service data flow. It may be present when the "qosMonDatRate" attribute is present. | XRM\_5G |
| servAuthInfo | ServAuthInfo | 0..1 | Indicates the authorization result for the QoS monitoring request.  Supplied by the NEF. | XRM\_5G |
| qosMonConReq | QosMonitoringInformation | 0..1 | Contains the requirements of the congestion information (ECN marking percentage) monitoring and reporting. It shall be present when the event "QOS\_MONITORING" is subscribed and congestion information measurements are required. | XRM\_5G |
| NOTE 1: Properties marked with a feature as defined in clause 5.14.4 are applicable as described in clause 5.2.7. If no features are indicated, the related property applies for all the features.  NOTE 2: When the GMEC\_5G feature is not supported, one of "ueIpv4Addr", "ueIpv6Addr" or "macAddr" or “listUEAddrs” shall be included. If ipv4 or ipv6 address is provided, IP flow information shall be provided. If MAC address is provided and the AppId feature is not supported, Ethernet flow information (either "ethFlowInfo", or if the feature EnEthAsSessionQoS\_5G is supported, "enEthFlowInfo") shall be provided. If the AppId feature is supported, one of IP flow information, Ethernet flow information (if EthAsSessionQoS\_5G and/or EnEthAsSessionQoS\_5G is supported) or External Application Identifier shall be provided.  NOTE 3: The property is only applicable for the NEF.  NOTE 4: The attributes "altQoSReferences" and "altQosReqs" are mutually exclusive. The attributes "qosReference" and "altQosReqs" are also mutually exclusive.  NOTE 5: The attributes "reqGbrDl", "reqGbrUl", "reqMbrDl", "reqMbrUl", "maxTscBurstSize", "req5Gsdelay", "reqPer" (if the ExtQoS\_5G feature is supported), and "priority" within the "tscQosReq" attribute may be provided only if the "qosReference" attribute is not provided.  NOTE 6: When the Ethernet flow information is provided and, the EthAsSessionQoS\_5G and EnEthAsSessionQoS\_5G features are supported, either the "ethFlowInfo" or the "enEthFlowInfo" shall be provided, but not both simultenously.  NOTE 7: The "tosTC" attribute of the "flowInfo" attribute may only be present if the "ToSTC\_5G" feature is supported.  NOTE 8: The attributes "exterAppId", "flowInfo", "ethFlowInfo", "enEthFlowInfo", "qosReference", "altQoSReferences", "altQosReqs", "tscQosReq", "qosMonInfo" may be provided only if the "multiModDatFlows" attribute is not provided.  NOTE 9: When the "ListUE\_5G" feature is supported, the "listUEAddrs" attribute shall be provided, and either "exterAppId" attribute or "flowInfo" attribute shall be provided.  NOTE 10: When the GMEC\_5G feature is supported, the "extGroupId" attribute and the "gpsi" attribute are mutually exclusive. Either one of them shall be provided. If either the "gpsi" attribute or the "extGroupId" attribute are present, then neither the "ueIpv4Addr" attribute, the "ueIpv6Addr" attribute nor the "macAddr" attribute shall be included.  NOTE 11: When the GMEC\_5G feature is supported, either the "exterAppId" attribute, "flowInfo" attribute or Ethernet flow information (either "ethFlowInfo" attribute or "enEthFlowInfo" attribute) shall be provided. | | | | |

Editor’s note: It is FFS whether other IEs within the "tscQosReq" attribute than "req5Gsdealy" attribute can apply for multi-modal communication services.

Editor’s Note: Whether a new data structure for list of UE is needed or not is FFS.

Editor’s Note: Whether the rttMon attribute is needed or the qosMonInfo attribute can be used instead to convey both, packet delay and RTT measurements information requires further discussion.

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

Editor’s Note: It is FFS whether the QoS monitoring requirements for congestion measurements are different than the ones for packet delay, i.e., it is FFS whether reporting period and reporting frequency apply, or different criteria needs to be applied.

\*\*\* 2nd Change \*\*\*

##### 5.14.2.1.3 Type: AsSessionWithQoSSubscriptionPatch

This type represents an AS session request with specific QoS for the service provided by the SCS/AS to the SCEF via T8 interface. The structure is used for PATCH request.

Table 5.14.2.1.3-1: Definition of type AsSessionWithQoSSubscriptionPatch

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | Cardinality | Description | Applicability (NOTE 1) |
| exterAppId | string | 0..1 | Identifies the external Application Identifier. (NOTE 2) (NOTE 8) | AppId  ListUE\_5G |
| flowInfo | array(FlowInfo) | 0..N | Describe the data flow which requires QoS. (NOTE 2)(NOTE 5) (NOTE 8) |  |
| ethFlowInfo | array(EthFlowDescription) | 0..N | Describes Ethernet packet flows. (NOTE 2) | EthAsSessionQoS\_5G |
| enEthFlowInfo | array(EthFlowInfo) | 0..N | Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow identifier and the corresponding UL and/or DL flows.  (NOTE 2) | EnEthAsSessionQoS\_5G |
| listUeAddrs | array(IpAddr) | 0..N | Identifies the list of UE address (NOTE 8) | ListUE\_5G |
| qosReference | string | 0..1 | Pre-defined QoS reference. (NOTE 3) (NOTE 4) |  |
| altQoSReferences | array(string) | 0..N | Identifiers an ordered list of pre-defined QoS information. The lower the index of the array for a given entry, the higher the priority. (NOTE 3) | AlternativeQoS\_5G |
| altQosReqs | array(AlternativeServiceRequirementsData) | 1..N | Identifies an ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 3) | AltQosWithIndParams\_5G |
| disUeNotif | boolean | 0..1 | Indicates whether to disable QoS flow parameters signalling to the UE when the SMF is notified by the NG-RAN of changes in the fulfilled QoS situation. The fulfilled situation is either the QoS profile or an Alternative QoS Profile.  - true: the QoS flow parameters signalling to the UE is disabled;  - false: the QoS flow parameters signalling to the UE is not disabled. | DisableUENotification\_5G |
| usageThreshold | UsageThresholdRm | 0..1 | Time period and/or traffic volume in which the QoS is to be applied. |  |
| qosMonInfo | QosMonitoringInformationRm | 0..1 | Qos Monitoring information. It can be present when the event "QOS\_MONITORING" is subscribed. | QoSMonitoring\_5G |
| directNotifInd | boolean | 0..1 | Indicates whether the direct event notification is requested.  - true: the direct event notification is requested;  - false: the direct event notification is not requested. | ExposureToEAS |
| tscQosReq | TscQosRequirementRm | 0..1 | Contains the QoS requirements for time sensitive communication. (NOTE 4) | TSC\_5G  XRM\_5G |
| notificationDestination | Link | 0..1 | Contains the URL to receive the notification event(s) from the SCEF. |  |
| events | array(UserPlaneEvent) | 0..N | Corresponds to the list of user plane event(s) to which the SCS/AS requests to subscribe to. | enNB |
| multiModalId | MultiModalId | 0..1 | Multi-modal Service Identifier, as defined in 3GPP TS 29.514 [52]. | XRM\_5G |
| multiModDatFlows | map(AsSessionMediaComponentRm) | 0..N | Each element of the map represents Media Component data for a single-modal data flow(s) of a multimodal service. The key of the map is the attribute "medCompN". (NOTE 6) | XRM\_5G |
| l4sInfo | UplinkDownlinkSupport | 0..1 | Provides L4S support information. | XRM\_5G |
| pduSetQos | PduSetQosParaRm | 0..1 | Contains the PDU Set QoS Parameters which are used to support PDU Set based QoS handling. | XRM\_5G |
| rTLatencyInd | boolean | 0..1 | Indicates the service data flow needs to meet the Round-Trip (RT) latency requirement of the service, when it is included and set to "true". The default value is "false" if omitted. | XRM\_5G |
| pduSetProtDesc | ProtoDesc | 0..1 | Protocol description for PDU Set identification in UPF | XRM\_5G |
| periodInfo | PeriodicityInfo | 0..1 | Indicates the time period between the start of the two data bursts in Uplink and/or Downlink direction. | XRM\_5G |
| pdvMon | QosMonitoringInformationRm | 0..1 | Packet Delay Variation information for the subscribed report. | XRM\_5G |
| qosDuration | DurationSecRm | 0..1 | Contains the QoS duration to transfer data transmission (e.g., AI/ML transmission). The minimum value of the QoS duration shall be 60 sec.. | QoSTiming\_5G |
| qosInactInt | DurationSecRm | 0..1 | Contains the QoS inactivity interval for the given data transfer transmission (e.g., AI/ML transmission). The minimum value of the QoS inactivity interval shall be 60 sec. | QoSTiming\_5G |
| rttMon | QosMonitoringInformationRm | 0..1 | Contains the round-trip delay over two QoS flows information for the subscribed report.  It shall be provided for "RT\_DELAY\_TWO\_QOS\_FLOWS" event. | XRM\_5G |
| qosMonDatRate | QosMonitoringInformationRm | 0..1 | Qos Monitoring information. It shall be present when the event "QOS\_MONITORING" is subscribed and data rate measurements are modified. | XRM\_5G |
| avrgWndw | AverWindowRm | 0..1 | Averaging window for the calculation of the data rate for the service data flow. | XRM\_5G |
| qosMonConReq | QosMonitoringInformationRm | 0..1 | Contains the requirements of the congestion information (ECN marking percentage) monitoring and reporting. It shall be present when the event "QOS\_MONITORING" is subscribed and congestion information measurements are required. | XRM\_5G |
| NOTE 1: Properties marked with a feature as defined in clause 5.14.4 are applicable as described in clause 5.2.7. If no features are indicated, the related property applies for all the features.  NOTE 2: One of "exterAppId", "flowInfo" or either "ethFlowInfo" or "enEthFlowInfo" may be provided.  NOTE 3 The attributes "altQoSReferences" and "altQosReqs" are mutually exclusive. The attributes "qosReference" and "altQosReqs" are also mutually exclusive.  NOTE 4: The attributes "reqGbrDl", "reqGbrUl", "reqMbrDl", "reqMbrUl", "maxTscBurstSize", "req5Gsdelay", "reqPer" (if the ExtQoS\_5G feature is supported), and "priority" within the "tscQosReq" attribute may be provided only if the "qosReference" attribute is not provided.  NOTE 5: The "tosTC" attribute of the "flowInfo" attribute may only be present if the "ToSTC\_5G" feature is supported.  NOTE 6: The attributes "exterAppId", "flowInfo", "ethFlowInfo", "enEthFlowInfo", "qosReference", "altQoSReferences", "altQosReqs", "tscQosReq", "qosMonInfo" may be provided only if the "multiModDatFlows" attribute is not provided.  NOTE 8: When the "ListUE\_5G" feature is supported, the "listUEAddrs" attribute may be provided, and/or either "exterAppId" attribute or "flowInfo" attribute may be provided. | | | | |

Editor’s note: It is FFS whether other IEs within the "tscQosReq" attribute than "req5Gsdealy" attribute can apply for multi-modal communication services.

Editor’s Note: Whether a new data structure for list of UE is needed or not is FFS.

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

Editor’s Note: It is FFS whether the QoS monitoring requirements for congestion measurements are different than the ones for packet delay, i.e., it is FFS whether reporting period and reporting frequency apply, or different criteria needs to be applied.

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