**3GPP TSG-CT WG3 Meeting #142 *C3-253104***

**Gothenburg, SE, 25 - 29 August 2025 (Revision of C3-253xxx)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0954** | **rev** |  | **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:*** | DurationMillisec introduction | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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:*** | | Duration in terms of Milliseconds is required in many of the north bound APIs. It is important to have the common data type which is similar to DurationSec. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | DurationMillisec, DurationMillisecRm are introduced in the information applicable to several APIs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The lack of common datat type for Northbound API and each specification has to redefine the same data type. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.1.1, 5.2.1.3.2, 5.14.2.1.1, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduces a backward compatible feature to the following APIs:  1) TS29122\_CommonData.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 5.2.1.1 Introduction

This clause defines structured data types, simple data types and enumerations that are applicable to several APIs defined in the present specification and can be referenced from data structures defined in the subsequent clauses. In addition, data types that are defined in OpenAPI Specification [27] can also be referenced from data structures defined in the subsequent clauses.

NOTE: As a convention, data types in the present specification are written with an upper-case letter in the beginning. Parameters are written with a lower-case letter in the beginning. As an exception, data types that are also defined in OpenAPI Specification [27] can use a lower-case case letter in the beginning for consistency.

Table 5.2.1.1-1 lists these common data types.

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description |  |
| AccumulatedUsage | 5.2.1.2.7 | Represents an accumulated usage. |  |
| Acknowledgement | 5.2.1.2.4 | Represents a successful acknowledgement of a notification. |  |
| Bandwidth | 5.2.1.3.2 | Represents an integer indicating a bandwidth in bits per second. |  |
| BdtReferenceId | 5.2.1.3.2 | Represents a BDT Reference ID. |  |
| Binary | 5.2.1.3.2 | String with format "binary" as defined in the OpenAPI Specification. |  |
| Bytes | 5.2.1.3.2 | String with format "byte" as defined in the OpenAPI Specification. |  |
| ConfigResult | 5.2.1.2.15 | Represents one configuration processing result for a group's members. |  |
| DateTime | 5.2.1.3.2 | String with format "date-time" as defined in OpenAPI Specification. |  |
| DateTimeRm | 5.2.1.3.2 | Represents the same as the DateTime data type, but with the "nullable: true" property. |  |
| DateTimeRo | 5.2.1.3.2 | Represents the same as the DateTime data type, but with the "readOnly=true" property. |  |
| DayOfWeek | 5.2.1.3.2 | Integer between 1 and 7 denoting a weekday. 1 shall indicate Monday, and the subsequent weekdays shall be indicated with the next higher numbers. 7 shall indicate Sunday. |  |
| DurationMilliSec | 5.2.1.3.2 | Unsigned integer identifying a period of time in units of milliseconds. |  |
| DurationMilliSecRm | 5.2.1.3.2 | Represents the same as the DurationMilliSec data type, but with the "nullable: true" property. |  |
| DurationMilliSecRo | 5.2.1.3.2 | Represents the same as the DurationMilliSec data type, but with the "readOnly=true" property.. |  |
| DurationMicroSec | 5.2.1.3.2 | Unsigned integer identifying a period of time in units of microseconds. |  |
| DurationMicroSecRm | 5.2.1.3.2 | Represents the same as the DurationMicroSec data type, but with the "nullable: true" property. |  |
| DurationMicroSecRo | 5.2.1.3.2 | Represents the same as the DurationMicroSec data type, but with the "readOnly=true" property. |  |
| DurationNanoSec | 5.2.1.3.2 | Unsigned integer identifying a period of time in units of nanoseconds. |  |
| DurationNanoSecRm | 5.2.1.3.2 | Represents the same as the DurationNanoSec data type, but with the "nullable: true" property. |  |
| DurationNanoSecRo | 5.2.1.3.2 | Represents the same as the DurationNanoSec data type, but with the "readOnly=true" property. |  |
| DurationMin | 5.2.1.3.2 | Unsigned integer identifying a period of time in units of minutes. |  |
| DurationSec | 5.2.1.3.2 | Unsigned integer identifying a period of time in units of seconds. |  |
| DurationSecRm | 5.2.1.3.2 | Represents the same as the DurationSec data type, but with the "nullable: true" property. |  |
| DurationSecRo | 5.2.1.3.2 | Represents the same as the DurationSec data type, but with the "readOnly=true" property. |  |
| Event | 5.2.1.3.3 | Represents a bearer event. |  |
| EventReport | 5.2.1.2.6 | Represents an event report. |  |
| EthFlowInfo | 5.2.1.2.18 | Represents flow Ethernet flow information |  |
| ExternalGroupId | 5.2.1.3.2 | Represents an external group identifier. |  |
| ExternalId | 5.2.1.3.2 | Represents an external identifier. |  |
| FlowInfo | 5.2.1.2.8 | Represents IP flow information. |  |
| InvalidParam | 5.2.1.2.13 | Represents the description of invalid parameters, for a request rejected due to invalid parameters. |  |
| Ipv4Addr | 5.2.1.3.2 | Represents an IPv4 address. |  |
| Ipv4AddrRo | 5.2.1.3.2 | Represents the same as the Ipv4Addr data type, but with the "readOnly=true" property. |  |
| Ipv6Addr | 5.2.1.3.2 | Represents an IPv6 address. |  |
| Ipv6AddrRo | 5.2.1.3.2 | Represents the same as the Ipv6Addr data type, but with the "readOnly=true" property. |  |
| Link | 5.2.1.3.2 | Represents a link towards a referenced resource. |  |
| LinkRm | 5.2.1.3.2 | Represents the same as the Link data type, but with the "nullable: true" property. |  |
| LocationArea | 5.2.1.2.11 | Represents a user location area. |  |
| LocationArea5G | 5.2.1.2.17 | Represents a user location area when the UE is attached to 5G. |  |
| Mcc | 5.2.1.3.2 | Represents a Mobile Country Code. |  |
| Mnc | 5.2.1.3.2 | Represents a Mobile Network Code. |  |
| Msisdn | 5.2.1.3.2 | Represents an MSISDN. |  |
| NotificationData | 5.2.1.2.5 | Represents the information to be conveyed in a bearer level event(s) notification. |  |
| PlmnId | 5.2.1.2.14 | Represents the identifier of a PLMN. |  |
| Port | 5.2.1.3.2 | Unsigned integer with valid values between 0 and 65535 representing a port. |  |
| PortRo | 5.2.1.3.2 | Represents the same as the Port data type, but with the "readOnly=true" property. |  |
| ProblemDetails | 5.2.1.2.12 | Represents additional information and details on an error response. |  |
| ResourceId | 5.2.1.3.2 | Represents an identifier of a resource within a resource URI. |  |
| ResultReason | 5.2.1.3.4 | Represents a failure result reason. |  |
| ScsAsId | 5.2.1.3.2 | Represents an SCS/AS identifier. |  |
| SponsorInformation | 5.2.1.2.1 | Represents a sponsor information. |  |
| TestNotification | 5.2.1.2.9 | Represents a notification that can be sent to test whether a chosen notification mechanism works. |  |
| TimeOfDay | 5.2.1.3.2 | Represents a time in a day. |  |
| TimeWindow | 5.2.1.2.3 | Represents a time window identified by a start time and a stop time. |  |
| Uri | 5.2.1.3.2 | Represents a URI. |  |
| UsageThreshold | 5.2.1.2.2 | Represents a usage threshold. |  |
| UsageThresholdRm | 5.2.1.2.16 | Represents the same as the UsageThreshold data type but with the "nullable: true" property. |  |
| Volume | 5.2.1.3.2 | Unsigned integer identifying a volume in units of bytes. |  |
| VolumeRm | 5.2.1.3.2 | Represents the same as the Volume data type, but with the "nullable: true" property. |  |
| WebsockNotifConfig | 5.2.1.2.10 | Represents the configuration information for the delivery of notifications over Websockets. |  |

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

##### 5.2.1.3.2 Simple data types

The reused datatypes defined in OpenAPI Specification [27] listed in table 5.2.1.3.2-1 and the simple data types defined in table 5.2.1.3.2-2 apply to several T8 APIs.

Table 5.2.1.3.2-1: Reused OpenAPI data types

|  |  |
| --- | --- |
| Type name | Description |
| boolean | As defined in OpenAPI Specification [27], i.e. either value "true" or value "false" as defined in IETF RFC 7159 [5]. |
| integer | As defined in OpenAPI Specification [27]. |
| number | As defined in OpenAPI Specification [27]. |
| string | As defined in OpenAPI Specification [27]. |
| NOTE: Data type names defined in OpenAPI Specification [27] do not follow the convention to start with capital letters otherwise used in this specification. | |

Table 5.2.1.3.2-2: Simple data types applicable to several APIs

|  |  |  |  |
| --- | --- | --- | --- |
| Type name | | Description | |
| Bandwidth | | Integer indicating a bandwidth in bits per second. | |
| BdtReferenceId | | String identifying a BDT Reference ID as defined in clause 5.3.3 of 3GPP TS 29.154 [9]. | |
| Binary | | String with format "binary" as defined in OpenAPI Specification [27]. | |
| Bytes | | String with format "byte" as defined in OpenAPI Specification [27], i.e, base64-encoded characters. | |
| DayOfWeek | | Integer between and including 1 and 7 denoting a weekday. "1" shall indicate "Monday", and the subsequent weekdays shall be indicated with the next higher numbers. "7" shall indicate "Sunday". | |
| DateTime | | String with format "date-time" as defined in OpenAPI Specification [27]. | |
| DateTimeRm | | String with format "date-time" as defined in OpenAPI [27] with "nullable: true" property. | |
| DateTimeRo | | String with format "date-time" as defined in OpenAPI [27] with "readOnly: true" property. | |
| DurationMilliSec | Unsigned integer identifying a period of time in units of milliseconds. | |
| DurationMilliSecRm | Unsigned integer identifying a period of time in units of milliseconds with "nullable: true" property. | |
| DurationMilliSecRo | Unsigned integer identifying a period of time in units of milliseconds with "readOnly: true" property. | |
| DurationMicroSec | Unsigned integer identifying a period of time in units of microseconds. | |
| DurationMicroSecRm | Unsigned integer identifying a period of time in units of milcroseconds with "nullable: true" property. | |
| DurationMicroSecRo | Unsigned integer identifying a period of time in units of microseconds with "readOnly: true" property. | |
| DurationNanoSec | Unsigned integer identifying a period of time in units of nanoseconds. | |
| DurationNanoSecRm | Unsigned integer identifying a period of time in units of nanoseconds with "nullable: true" property. | |
| DurationNanoSecRo | Unsigned integer identifying a period of time in units of nanoseconds with "readOnly: true" property. | |
| DurationSec | | Unsigned integer identifying a period of time in units of seconds. | |
| DurationSecRm | | Unsigned integer identifying a period of time in units of seconds with "nullable: true" property. | |
| DurationSecRo | | Unsigned integer identifying a period of time in units of seconds with "readOnly: true" property. | |
| DurationMin | | Unsigned integer identifying a period of time in units of minutes. | |
| ExternalId | | String containing a local identifier followed by "@" and a domain identifier. Both the local identifier and the domain identifier shall be encoded as strings that do not contain any "@" characters. See clause 4.6.2 of 3GPP TS 23.682 [2] for more information. | |
| ExternalGroupId | | String containing a local identifier followed by "@" and a domain identifier. Both the local identifier and the domain identifier shall be encoded as strings that do not contain any "@" characters. See clauses 4.6.2 and 4.6.3 of 3GPP TS 23.682 [2] for more information. | |
| Ipv4Addr | | String identifying an Ipv4 address formatted in the "dotted decimal" notation as defined in IETF RFC 1166 [28]. | |
| Ipv6Addr | | String identifying an Ipv6 address formatted according to clause 4 in IETF RFC 5952 [29]. The mixed Ipv4 Ipv6 notation according to clause 5 of IETF RFC 5952 [29] shall not be used. | |
| Ipv4AddrRo | | String identifying an Ipv4 address formatted in the "dotted decimal" notation as defined in IETF RFC 1166 [28], with "readOnly: true" property. | |
| Ipv6AddrRo | | String identifying an Ipv6 address formatted according to clause 4 in IETF RFC 5952 [29], with "readOnly: true" property. The mixed Ipv4 Ipv6 notation according to clause 5 of IETF RFC 5952 [29] shall not be used. | |
| Link | | String formatted according to IETF RFC 3986 [7] identifying a referenced resource. | |
| LinkRm | | String formatted according to IETF RFC 3986 [7] identifying a referenced resource, but with the "nullable: true" property. | |
| Mcc | | String encoding a Mobile Country Code part of the PLMN, comprising 3 digits, as defined in 3GPP TS 38.413 [54]. | |
| Mnc | | String encoding a Mobile Network Code part of the PLMN, comprising 2 or 3 digits, as defined in 3GPP TS 38.413 [54]. | |
| Msisdn | | String formatted according to clause 3.3 of 3GPP TS 23.003 [14] that describes an MSISDN. | |
| Port | | Unsigned integer with valid values between 0 and 65535. | |
| PortRo | | Unsigned integer with valid values between 0 and 65535, with "readOnly: true" property. | |
| ResourceId | | String chosen by the SCEF to serve as an identifier in a resource URI. | |
| ScsAsId | | String that identifies an SCS/AS. | |
| TimeOfDay | | String with format "partial-time" or "full-time" as defined in clause 5.6 of IETF RFC 3339 [15].  Examples: "20:15:00", "20:15:00-08:00" (for 8 hours behind UTC). | |
| Uri | | String providing an URI formatted according to IETF RFC 3986 [7]. | |
| Volume | | Unsigned integer identifying a volume in units of bytes. | |
| VolumeRm | | Unsigned integer identifying a volume in units of bytes with "nullable: true" property. | |

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

##### 5.14.2.1.1 Introduction

This clause defines data structures to be used in resource representations, including subscription resources.

Table 5.14.2.1.1-1 specifies data types re-used by the AsSessionWithQoS API from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the AsSessionWithQoS API.

Table 5.14.2.1.1-1: AsSessionWithQoS API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AcceptableServiceInfo | 3GPP TS 29.514 [52] | Acceptable service information. |  |
| AlternativeServiceRequirementsData | 3GPP TS 29.514 [52] | Contains alternative QoS related parameters and a reference to them. | AltQosWithIndParams\_5G, MultiMedia |
| AverWindow | 3GPP TS 29.571 [45] | Averaging Window. | EnQoSMon, GMEC |
| AverWindowRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "AverWindow" data type, but with the OpenAPI "nullable: true" property. | EnQoSMon, GMEC |
| BatOffsetInfo | 3GPP TS 29.514 [52] | Contains the offset of the BAT and the optionally adjusted periodicity. | EnTSCAC |
| BitRate | 3GPP TS 29.571 [45] | String representing a bit rate that shall be formatted as follows:  Pattern: '^\d+(\.\d+)? (bps|Kbps|Mbps|Gbps|Tbps)$'  Examples:  "125 Mbps", "0.125 Gbps", "125000 Kbps" | EnQoSMon, ListUE\_5G, MultiMedia |
| BitRateRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "BitRate" data type, but with the OpenAPI "nullable: true" property. | EnQoSMon, ListUE\_5G, MultiMedia |
| CapabilityReport | 3GPP TS 29.514 [52] | Indicates the capability is supported or not for the corresponding capability type. | QoSMonCapRepo |
| Dnn | 3GPP TS 29.571 [45] | Identifies a DNN. |  |
|  |  |  |  |
|  |  |  |  |
| EthFlowDescription | 3GPP TS 29.514 [52] | Defines a packet filter for an Ethernet flow.(NOTE 1) | EthAsSessionQoS\_5G, GMEC |
| EventsSubscReqData | 3GPP TS 29.514 [52] | Identifies the events the application subscribes to. | EnQoSMon |
| EventsSubscReqDataRm | 3GPP TS 29.514 [52] | This data type is defined in the same way as the "EventsSubscReqData" data type, but with the OpenAPI "nullable: true" property | EnQoSMon |
| ExtMaxDataBurstVol | 3GPP TS 29.571 [45] | Unsigned integer indicating Maximum Data Burst Volume (see clauses 5.7.3.7 and 5.7.4 of 3GPP TS 23.501 [8]), expressed in Bytes.  Minimum = 4096. Maximum = 2000000. |  |
| ExtMaxDataBurstVolRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "ExtMaxDataBurstVol" data type, but with the OpenAPI "nullable: true" property. |  |
| Gpsi | 3GPP TS 29.571 [45] | Represents a GPSI. | GMEC |
| IpAddr | 3GPP TS 29.571 [45] | UE IP Address. | ListUE\_5G |
| MacAddr48 | 3GPP TS 29.571 [45] | MAC Address. | EthAsSessionQoS\_5G, enNB |
| MediaType | 3GPP TS 29.514 [52] | Indicates the media type of a single-modal data flow of a multi-modal service. | MultiMedia |
| MultiModalId | 3GPP TS 29.514 [52] | Represents multi-modal service identifier. | MultiMedia |
| MpxMediaInfo | 3GPP TS 29.514 [52] | Provides Multiplexed Media Information. | MpxMedia |
| NotifCapType | 3GPP TS 29.514 [52] | Indicates which QoS Monitoring capability report is applied. | QoSMonCapRepo |
| OnPathN6SigInfo | 3GPP TS 29.514 [52] | Represents the on-path N6 signaling information, with the OpenAPI "nullable: true" property. | OnPathN6MediaInfo |
| PacketDelBudget | 3GPP TS 29.571 [45] | Unsigned integer indicating Packet Delay Budget (see clauses 5.7.3.4 and 5.7.4 of 3GPP TS 23.501 [8])), expressed in milliseconds.  Minimum = 1. | TSC\_5G, RTLatency |
| PacketDelBudgetRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "PacketDelBudget" data type, but with the OpenAPI "nullable: true" property. | TSC\_5G,  RTLatency |
| PacketErrRate | 3GPP TS 29.571 [45] | String representing Packet Error Rate (see clauses 5.7.3.5 and 5.7.4 of 3GPP TS 23.501 [8]), expressed as a "*scalar* x 10-k" where the scalar and the *exponent k are each encoded as one decimal digit*.  Pattern: '^([0-9]E-[0-9])$'  Examples:  Packer Error Rate 4x10-6 shall be encoded as "4E-6".  Packer Error Rate 10-2 shall be encoded as "1E-2". | ExtQoS\_5G |
| PacketErrRateRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "PacketErrRate" data type, but with the OpenAPI "nullable: true" property. | ExtQoS\_5G |
| PdvMonitoringReport | 3GPP TS 29.514 [52] | Represents a PDV monitoring report. | EnQoSMon |
| PeriodicityInfo | 3GPP TS 29.514 [52] | Indicates the time period between the start of the two data bursts in Uplink and/or Downlink direction. | PowerSaving |
| PduSetQosPara | 3GPP TS 29.571 [45] | Represents the PDU Set level QoS parameters. | PDUSetHandling |
| PduSetQosParaRm | 3GPP TS 29.571 [45] | Represents the PDU Set level QoS parameters to be modified. | PDUSetHandling |
| PlmnIdNid | 3GPP TS 29.571 [45] | Identifies the network: the PLMN Identifier (the mobile country code and the mobile network code) or the SNPN Identifier (the PLMN Identifier and the NID). | enNB\_5G |
| ProtocolDescription | 3GPP TS 29.571 [45] | Represents Protocol description of the media flow | PDUSetHandling, PowerSaving  TrafficCharChange |
| ProtocolDescriptionRm | 3GPP TS 29.571 [45] | Represents the same as the "ProtocolDescription" data type, but with the OpenAPI "nullable: true" property. | PDUSetHandling, PowerSaving  TrafficCharChange |
| RateLimitRepo | 3GPP TS 29.514 [52] | Indicates the uplink/downlink data rate limitation information for the Non-GBR data flows. | RateLimitReport |
| RatType | 3GPP TS 29.571 [45] | Identifies the RAT Type. | enNB\_5G |
| ReportingFrequency | 3GPP TS 29.512 [8] | Indicates the frequency for the reporting, such as event triggered and/or periodic. (NOTE 2) |  |
| RequestedQosMonitoringParameter | 3GPP TS 29.512 [8] | Indicates the QoS information to be measured, e.g.UL packet delay, DL packet delay or round trip packet delay between the UE and the UPF is to be monitored when the QoS Monitoring for packet delay is enabled for the service data flow. (NOTE 2) |  |
| RttFlowReference | 3GPP TS 29.514 [52] | Identifies which Application Session Media Components contribute to the RT Latency requirement for two service data flows. | RTLatency |
| RttFlowReferenceRm | 3GPP TS 29.514 [52] | This data type is defined in the same way as the "RttFlowReference" data type, but with the OpenAPI "nullable: true" property. | RTLatency |
| ServAuthInfo | 3GPP TS 29.514 [52] | The authorization result of a request for QoS / QoS monitoring. | EnQoSMon |
| Snssai | 3GPP TS 29.571 [45] | Identifies the S-NSSAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [45] | Used to negotiate the applicability of the optional features defined in table 5.14.4-1. |  |
| TemporalInValidity | 3GPP TS 29.565 [72] | Represents the temporal invalidity related information. | GMEC |
| TscaiInputContainer | 3GPP TS 29.514 [52] | TSCAI Input information container. | TSC\_5G, MultiMedia, GMEC |
| TscPriorityLevel | 3GPP TS 29.514 [52] | Represents priority of TSC Flows. | TSC\_5G |
| TscPriorityLevelRm | 3GPP TS 29.514 [52] | Represents the same as the TscPriorityLevel data type, but with the OpenAPI "nullable: true" property. | TSC\_5G |
| Uinteger | 3GPP TS 29.571 [45] | Unsigned Integer, i.e. only value 0 and integers above 0 are permissible.  Minimum = 0. |  |
| UintegerRm | 3GPP TS 29.571 [45] | This data type is defined in the same way as the "Uinteger" data type, but with the OpenAPI "nullable: true" property. |  |
| UplinkDownlinkSupport | 3GPP TS 29.514 [52] | Provides L4S support information. | L4S, GMEC |
| NOTE 1: In order to support a set of MAC addresses with a specific range in the traffic filter, feature MacAddressRange\_5G as specified in clause 5.14.4 shall be supported.  NOTE 2: In order to support QoS Monitoring, feature QoSMonitoring\_5G as specified in clause 5.14.4 shall be supported. | | |  |

Table 5.14.2.1.1-2 specifies the data types defined for the AsSessionWithQoS API.

Table 5.14.2.1.1-2: AsSessionWithQoS API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| AdditionInfoAsSessionWithQos | 5.14.2.1.11 | Describes additional error information specific for this API. |  |
| AsSessionWithQoSSubscription | 5.14.2.1.2 | Represents an individual AS session with required QoS subscription resource. |  |
| AsSessionWithQoSSubscriptionPatch | 5.14.2.1.3 | Represents parameters to modify an AS session with specific QoS subscription. |  |
| AsSessionMediaComponent | 5.14.2.1.13 | Represents media component data for a multi-modal service. It contains service data flow information for a single modal data flow of a multi-modal service. | MultiMedia |
| AsSessionMediaComponentRm | 5.14.2.1.14 | Represents the same as the AsSessionMediaComponent data type but with the "nullable: true" property. | MultiMedia |
| MultiModalFlows | 5.14.2.1.15 | Represents flow information within a single-modal data flow for a multi-modal service. | MultiMedia |
| ProblemDetailsAsSessionWithQos | 5.14.2.1.12 | ProblemDetails as defined in clause 5.2.12.12 extended with specific error information for this API, as described in AdditionInfoAsSessionWithQos. |  |
| QosMonitoringInformation | 5.14.2.1.6 | Represents QoS monitoring information. | QoSMonitoring\_5G, ListUE\_5G |
| QosMonitoringInformationRm | 5.14.2.1.7 | Represents the same as the QosMonitoringInformation data type but with the "nullable: true" property.  The "nullable: true" property is applicable only if the "EnQoSMon" feature is supported. | QoSMonitoring\_5G, ListUE\_5G |
| QosMonitoringReport | 5.14.2.1.8 | Represents a QoS monitoring report. | QoSMonitoring\_5G, ListUE\_5G |
| TscQosRequirement | 5.14.2.1.9 | Represents QoS requirements for time sensitive communication. | TSC\_5G, GMEC |
| TscQosRequirementRm | 5.14.2.1.10 | Represents the same as the TscQosRequirement data type but with the "nullable: true" property. | TSC\_5G, GMEC |
| UserPlaneEvent | 5.14.2.2.3 | Represents the user plane event. | enNB, GMEC |
| UserPlaneEventReport | 5.14.2.1.5 | Represents an event report for user plane. | enNB, GMEC |
| UserPlaneNotificationData | 5.14.2.1.4 | Represents the parameters to be conveyed in a user plane event(s) notification. | enNB, GMEC |
| UeAddInfo | 5.14.2.1.16 | Represents the UE address information. | ListUE\_5G |

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

# A.2 Data Types applicable to several APIs

For the purpose of referencing entities in the Open API file defined in this Annex, it shall be assumed that this Open API file is contained in a physical file named "TS29122\_CommonData.yaml".

NOTE: For the purpose of referencing the error status codes in the Open API file defined in this Annex, this Open API file contains all the mandatory status codes as defined in table 5.2.6-1, all the API specific error status codes defined for T8 APIs, in addition, some error status codes not used in the current release of this specification but for the purpose of referencing by other specifications.

openapi: 3.0.0

info:

title: TS 29.122 Common Data Types

version: 1.3.0

description: |

Data types applicable to several APIs.

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externalDocs:

description: 3GPP TS 29.122 V18.6.0 T8 reference point for Northbound APIs

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.122/'

paths: {}

components:

schemas:

SponsorInformation:

description: Represents a sponsor information.

type: object

properties:

sponsorId:

type: string

description: It indicates Sponsor ID.

aspId:

type: string

description: It indicates Application Service Provider ID.

required:

- sponsorId

- aspId

UsageThreshold:

description: Represents a usage threshold.

type: object

properties:

duration:

$ref: '#/components/schemas/DurationSec'

totalVolume:

$ref: '#/components/schemas/Volume'

downlinkVolume:

$ref: '#/components/schemas/Volume'

uplinkVolume:

$ref: '#/components/schemas/Volume'

UsageThresholdRm:

description: >

Represents the same as the UsageThreshold data type but with the nullable:true property.

type: object

properties:

duration:

$ref: '#/components/schemas/DurationSecRm'

totalVolume:

$ref: '#/components/schemas/VolumeRm'

downlinkVolume:

$ref: '#/components/schemas/VolumeRm'

uplinkVolume:

$ref: '#/components/schemas/VolumeRm'

nullable: true

TimeWindow:

description: Represents a time window identified by a start time and a stop time.

type: object

properties:

startTime:

$ref: '#/components/schemas/DateTime'

stopTime:

$ref: '#/components/schemas/DateTime'

required:

- startTime

- stopTime

Acknowledgement:

description: Represents a successful acknowledgement of a notification.

type: object

properties:

details:

type: string

description: A human-readable explanation specific to this successful acknowledgement

required:

- details

NotificationData:

description: >

Represents the information to be conveyed in a bearer level event(s) notification.

type: object

properties:

transaction:

$ref: '#/components/schemas/Link'

eventReports:

type: array

items:

$ref: '#/components/schemas/EventReport'

minItems: 1

description: Contains the reported event and applicable information

required:

- transaction

- eventReports

EventReport:

description: Represents an event report.

type: object

properties:

event:

$ref: '#/components/schemas/Event'

accumulatedUsage:

$ref: '#/components/schemas/AccumulatedUsage'

flowIds:

type: array

items:

type: integer

minItems: 1

description: Identifies the IP flows that were sent during event subscription

required:

- event

AccumulatedUsage:

description: Represents an accumulated usage.

type: object

properties:

duration:

$ref: '#/components/schemas/DurationSec'

totalVolume:

$ref: '#/components/schemas/Volume'

downlinkVolume:

$ref: '#/components/schemas/Volume'

uplinkVolume:

$ref: '#/components/schemas/Volume'

FlowInfo:

description: Represents IP flow information.

type: object

properties:

flowId:

type: integer

description: Indicates the IP flow identifier.

flowDescriptions:

type: array

items:

type: string

description: >

Indicates the packet filters of the IP flow. Refer to clause 5.3.8 of 3GPP TS 29.214 for

encoding. It shall contain UL and/or DL IP flow description.

minItems: 1

maxItems: 2

tosTC:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TosTrafficClass'

required:

- flowId

TestNotification:

description: >

Represents a notification that can be sent to test whether a chosen notification mechanism

works.

type: object

properties:

subscription:

$ref: '#/components/schemas/Link'

required:

- subscription

WebsockNotifConfig:

description: >

Represents the configuration information for the delivery of notifications over Websockets.

type: object

properties:

websocketUri:

$ref: '#/components/schemas/Link'

requestWebsocketUri:

type: boolean

description: Set by the SCS/AS to indicate that the Websocket delivery is requested.

LocationArea:

description: Represents a user location area.

type: object

properties:

cellIds:

type: array

items:

type: string

minItems: 1

description: >

Indicates a list of Cell Global Identities of the user which identifies the cell the UE

is registered.

enodeBIds:

type: array

items:

type: string

minItems: 1

description: Indicates a list of eNodeB identities in which the UE is currently located.

routingAreaIds:

type: array

items:

type: string

minItems: 1

description: >

Identifies a list of Routing Area Identities of the user where the UE is located.

trackingAreaIds:

type: array

items:

type: string

minItems: 1

description: >

Identifies a list of Tracking Area Identities of the user where the UE is located.

geographicAreas:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

minItems: 1

description: Identifies a list of geographic area of the user where the UE is located.

civicAddresses:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'

minItems: 1

description: Identifies a list of civic addresses of the user where the UE is located.

LocationArea5G:

description: Represents a user location area when the UE is attached to 5G.

type: object

properties:

geographicAreas:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

minItems: 0

description: Identifies a list of geographic area of the user where the UE is located.

civicAddresses:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'

minItems: 0

description: Identifies a list of civic addresses of the user where the UE is located.

nwAreaInfo:

$ref: 'TS29554\_Npcf\_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

ProblemDetails:

description: Represents additional information and details on an error response.

type: object

properties:

type:

$ref: '#/components/schemas/Uri'

title:

type: string

description: >

A short, human-readable summary of the problem type. It should not change from occurrence

to occurrence of the problem.

status:

type: integer

description: The HTTP status code for this occurrence of the problem.

detail:

type: string

description: A human-readable explanation specific to this occurrence of the problem.

instance:

$ref: '#/components/schemas/Uri'

cause:

type: string

description: >

A machine-readable application error cause specific to this occurrence of the problem.

This IE should be present and provide application-related error information, if

available.

invalidParams:

type: array

items:

$ref: '#/components/schemas/InvalidParam'

minItems: 1

description: >

Description of invalid parameters, for a request rejected due to invalid parameters.

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

InvalidParam:

description: >

Represents the description of invalid parameters, for a request rejected due to invalid

parameters.

type: object

properties:

param:

type: string

description: Attribute's name encoded as a JSON Pointer, or header's name.

reason:

type: string

description: A human-readable reason, e.g. "must be a positive integer".

required:

- param

PlmnId:

description: Represents the identifier of a PLMN.

type: object

properties:

mcc:

$ref: '#/components/schemas/Mcc'

mnc:

$ref: '#/components/schemas/Mnc'

required:

- mcc

- mnc

ConfigResult:

description: Represents one configuration processing result for a group's members.

type: object

properties:

externalIds:

type: array

items:

$ref: '#/components/schemas/ExternalId'

minItems: 1

description: Each element indicates an external identifier of the UE.

msisdns:

type: array

items:

$ref: '#/components/schemas/Msisdn'

minItems: 1

description: >

Each element identifies the MS internal PSTN/ISDN number allocated for the UE.

resultReason:

$ref: '#/components/schemas/ResultReason'

required:

- resultReason

oneOf:

- required: [externalIds]

- required: [msisdns]

Bandwidth:

type: integer

minimum: 0

description: integer indicating a bandwidth in bits per second.

BdtReferenceId:

type: string

description: string identifying a BDT Reference ID as defined in clause 5.3.3 of 3GPP TS 29.154.

Binary:

type: string

description: string with format "binary" as defined in OpenAPI Specification.

Bytes:

type: string

description: >

String with format "byte" as defined in OpenAPI Specification, i.e, base64-encoded

characters.

DayOfWeek:

type: integer

minimum: 1

maximum: 7

description: >

integer between and including 1 and 7 denoting a weekday. 1 shall indicate Monday, and the

subsequent weekdays shall be indicated with the next higher numbers. 7 shall indicate

Sunday.

DateTime:

format: date-time

type: string

description: string with format "date-time" as defined in OpenAPI.

DateTimeRm:

format: date-time

type: string

description: >

string with format "date-time" as defined in OpenAPI with "nullable=true" property.

nullable: true

DateTimeRo:

format: date-time

type: string

description: >

string with format "date-time" as defined in OpenAPI with "readOnly=true" property.

readOnly: true

DurationMilliSec:

type: integer

minimum: 0

description: Unsigned integer identifying a period of time in units of milliseconds.

DurationMilliSecRm:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of milliseconds with "nullable=true"

property.

nullable: true

DurationMilliSecRo:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of milliseconds with "readOnly=true"

property.

readOnly: true

DurationMicroSec:

type: integer

minimum: 0

description: Unsigned integer identifying a period of time in units of microseconds.

DurationMicroSecRm:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of microseconds with "nullable=true"

property.

nullable: true

DurationMicroSecRo:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of microseconds with "readOnly=true"

property.

readOnly: true

DurationNanoSec:

type: integer

minimum: 0

description: Unsigned integer identifying a period of time in units of nanoseconds.

DurationNanoSecRm:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of nanoseconds with "nullable=true"

property.

nullable: true

DurationNanoSecRo:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of nanoseconds with "readOnly=true"

property.

readOnly: true

DurationSec:

type: integer

minimum: 0

description: Unsigned integer identifying a period of time in units of seconds.

DurationSecRm:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of seconds with "nullable=true"

property.

nullable: true

DurationSecRo:

type: integer

minimum: 0

description: >

Unsigned integer identifying a period of time in units of seconds with "readOnly=true"

property.

readOnly: true

DurationMin:

type: integer

format: int32

minimum: 0

description: Unsigned integer identifying a period of time in units of minutes.

ExternalId:

type: string

description: >

string containing a local identifier followed by "@" and a domain identifier. Both the local

identifier and the domain identifier shall be encoded as strings that do not contain any "@"

characters. See Clause 4.6.2 of 3GPP TS 23.682 for more information.

ExternalGroupId:

type: string

description: >

string containing a local identifier followed by "@" and a domain identifier. Both the local

identifier and the domain identifier shall be encoded as strings that do not contain any "@"

characters. See Clauses 4.6.2 and 4.6.3 of 3GPP TS 23.682 for more information.

Ipv4Addr:

type: string

description: >

string identifying a Ipv4 address formatted in the "dotted decimal" notation as defined in

IETF RFC 1166.

Ipv6Addr:

type: string

description: >

string identifying a Ipv6 address formatted according to clause 4 in IETF RFC 5952.

The mixed Ipv4 Ipv6 notation according to clause 5 of IETF RFC 5952 shall not be used.

Ipv4AddrRo:

type: string

description: >

string identifying a Ipv4 address formatted in the "dotted decimal" notation

as defined in IETF RFC 1166, with "readOnly=true" property.

readOnly: true

Ipv6AddrRo:

type: string

description: >

string identifying a Ipv6 address formatted according to clause 4 in IETF RFC 5952,

with "readOnly=true" property. The mixed Ipv4 Ipv6 notation according to clause 5 of

IETF RFC 5952 shall not be used.

readOnly: true

Link:

type: string

description: string formatted according to IETF RFC 3986 identifying a referenced resource.

LinkRm:

type: string

description: >

String formatted according to IETF RFC 3986 identifying a referenced resource,

but with the nullable property set to true.

nullable: true

Mcc:

type: string

description: >

String encoding a Mobile Country Code part of the PLMN, comprising 3 digits,

as defined in 3GPP TS 38.413.

Mnc:

type: string

description: >

String encoding a Mobile Network Code part of the PLMN, comprising 2 or 3 digits,

as defined in 3GPP TS 38.413.

Msisdn:

type: string

description: >

string formatted according to clause 3.3 of 3GPP TS 23.003 that describes an MSISDN.

Port:

type: integer

description: Unsigned integer with valid values between 0 and 65535.

minimum: 0

maximum: 65535

PortRo:

type: integer

description: >

Unsigned integer with valid values between 0 and 65535, with "readOnly=true" property.

minimum: 0

maximum: 65535

readOnly: true

ResourceId:

type: string

description: string chosen by the SCEF to serve as identifier in a resource URI.

ScsAsId:

type: string

description: string that identifies an SCS/AS.

TimeOfDay:

type: string

description: >

String with format partial-time or full-time as defined in clause 5.6 of IETF RFC 3339.

Examples, 20:15:00, 20:15:00-08:00 (for 8 hours behind UTC).

Uri:

type: string

description: string providing an URI formatted according to IETF RFC 3986.

Volume:

type: integer

format: int64

minimum: 0

description: Unsigned integer identifying a volume in units of bytes.

VolumeRm:

type: integer

format: int64

minimum: 0

description: >

Unsigned integer identifying a volume in units of bytes with "nullable=true" property.

nullable: true

EthFlowInfo:

description: Represents Ethernet flow information.

type: object

properties:

flowId:

type: integer

description: Indicates the Ethernet flow identifier.

ethFlowDescriptions:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

description: >

Indicates the packet filters of the Ethernet flow. It shall contain UL and/or DL

Ethernet flow description.

minItems: 1

maxItems: 2

required:

- flowId

Event:

anyOf:

- type: string

enum:

- SESSION\_TERMINATION

- LOSS\_OF\_BEARER

- RECOVERY\_OF\_BEARER

- RELEASE\_OF\_BEARER

- USAGE\_REPORT

- FAILED\_RESOURCES\_ALLOCATION

- SUCCESSFUL\_RESOURCES\_ALLOCATION

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration and is not used to encode

content defined in the present version of this API.

description: |

Represents the event reported by the SCEF.

Possible values are:

- SESSION\_TERMINATION: Indicates that Rx session is terminated.

- LOSS\_OF\_BEARER : Indicates a loss of a bearer.

- RECOVERY\_OF\_BEARER: Indicates a recovery of a bearer.

- RELEASE\_OF\_BEARER: Indicates a release of a bearer.

- USAGE\_REPORT: Indicates the usage report event.

- FAILED\_RESOURCES\_ALLOCATION: Indicates the resource allocation is failed.

- SUCCESSFUL\_RESOURCES\_ALLOCATION: Indicates the resource allocation is successful.

ResultReason:

anyOf:

- type: string

enum:

- ROAMING\_NOT\_ALLOWED

- OTHER\_REASON

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents a failure result reason.

Possible values are:

- ROAMING\_NOT\_ALLOWED: Identifies the configuration parameters are not allowed by roaming

agreement.

- OTHER\_REASON: Identifies the configuration parameters are not configured due to other

reason.

#

# HTTP responses

#

responses:

'307':

description: Temporary Redirect

headers:

Location:

description: 'An alternative URI of the resource.'

required: true

schema:

type: string

'308':

description: Permanent Redirect

headers:

Location:

description: 'An alternative URI of the resource.'

required: true

schema:

type: string

'400':

description: Bad request

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'401':

description: Unauthorized

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'404':

description: Not Found

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'406':

description: Not Acceptable

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'409':

description: Conflict

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'411':

description: Length Required

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'412':

description: Precondition Failed

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'413':

description: Content Too Large

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'414':

description: URI Too Long

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'415':

description: Unsupported Media Type

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'429':

description: Too Many Requests

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'500':

description: Internal Server Error

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

'503':

description: Service Unavailable

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetails'

default:

description: Generic Error

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

# A.14 AsSessionWithQoS API

openapi: 3.0.0

info:

title: 3gpp-as-session-with-qos

version: 1.4.0-alpha.4

description: |

API for setting us an AS session with required QoS.

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externalDocs:

description: 3GPP TS 29.122 V19.3.0 T8 reference point for Northbound APIs

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.122/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-as-session-with-qos/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 5.2.4 of 3GPP TS 29.122.

paths:

/{scsAsId}/subscriptions:

get:

summary: Read all or queried active subscriptions for the SCS/AS.

operationId: FetchAllASSessionWithQoSSubscriptions

tags:

- AS Session with Required QoS Subscriptions

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: ip-addrs

in: query

description: The IP address(es) of the requested UE(s).

required: false

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

minItems: 1

- name: ip-domain

in: query

description: >

The IPv4 address domain identifier. The attribute may only be provided if IPv4 address

is included in the ip-addrs query parameter.

required: false

schema:

type: string

- name: mac-addrs

in: query

description: The MAC address(es) of the requested UE(s).

required: false

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

minItems: 1

responses:

'200':

description: OK.

content:

application/json:

schema:

type: array

items:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Creates a new subscription resource.

operationId: CreateASSessionWithQoSSubscription

tags:

- AS Session with Required QoS Subscriptions

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

requestBody:

description: Request to create a new subscription resource

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

callbacks:

notificationDestination:

'{$request.body#/notificationDestination}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/UserPlaneNotificationData'

responses:

'204':

description: No Content (successful notification)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: Created (Successful creation of subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetailsAsSessionWithQos'

headers:

Retry-After:

description: >

Indicates the time the AF has to wait before making a new request. It can be a

non-negative integer (decimal number) indicating the number of seconds the AF

has to wait before making a new request or an HTTP-date after which the AF can

retry a new request.

schema:

type: string

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{scsAsId}/subscriptions/{subscriptionId}:

get:

summary: Read an active subscriptions for the SCS/AS and the subscription Id.

operationId: FetchIndASSessionWithQoSSubscription

tags:

- Individual AS Session with Required QoS Subscription

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Updates/replaces an existing subscription resource.

operationId: UpdateIndASSessionWithQoSSubscription

tags:

- Individual AS Session with Required QoS Subscription

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

requestBody:

description: Parameters to update/replace the existing subscription

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

responses:

'200':

description: OK (Successful update of the subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'204':

description: No Content (Successful update of the subscription)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetailsAsSessionWithQos'

headers:

Retry-After:

description: >

Indicates the time the AF has to wait before making a new request. It can be a

non-negative integer (decimal number) indicating the number of seconds the AF

has to wait before making a new request or an HTTP-date after which the AF can

retry a new request.

schema:

type: string

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

summary: Updates/replaces an existing subscription resource.

operationId: ModifyIndASSessionWithQoSSubscription

tags:

- Individual AS Session with Required QoS Subscription

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscriptionPatch'

responses:

'200':

description: OK. The subscription was modified successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'204':

description: No Content. The subscription was modified successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

description: Forbidden

content:

application/problem+json:

schema:

$ref: '#/components/schemas/ProblemDetailsAsSessionWithQos'

headers:

Retry-After:

description: >

Indicates the time the AF has to wait before making a new request. It can be a

non-negative integer (decimal number) indicating the number of seconds the AF

has to wait before making a new request or an HTTP-date after which the AF can

retry a new request.

schema:

type: string

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Deletes an already existing subscription.

operationId: DeleteIndASSessionWithQoSSubscription

tags:

- Individual AS Session with Required QoS Subscription

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing subscription)

'200':

description: OK (Successful deletion of the existing subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/UserPlaneNotificationData'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

AsSessionWithQoSSubscription:

description: Represents an individual AS session with required QoS subscription resource.

type: object

properties:

self:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

dnn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

snssai:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

exterAppId:

type: string

description: Identifies the external Application Identifier.

extGroupId:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'

gpsi:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describe the data flow which requires QoS.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

enEthFlowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/EthFlowInfo'

minItems: 1

description: >

Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow

idenifer and the corresponding UL and/or DL flows.

listUeAddrs:

type: array

items:

$ref: '#/components/schemas/UeAddInfo'

minItems: 1

description: Identifies the list of UE address.

multiModalId:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/MultiModalId'

protoDescUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescription'

protoDescDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescription'

qosReference:

type: string

description: Identifies a pre-defined QoS information

altQoSReferences:

type: array

items:

type: string

minItems: 1

description: >

Identifies an ordered list of pre-defined QoS information. The lower the index of the

array for a given entry, the higher the priority.

altQosReqs:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData'

minItems: 1

description: >

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.

disUeNotif:

description: >

Indicates whether the QoS flow parameters signalling to the UE when the SMF is notified

by the NG-RAN of changes in the fulfilled QoS situation is disabled (true) or

not (false). Default value is false. The fulfilled situation is either the QoS profile

or an Alternative QoS Profile.

type: boolean

ueIpv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

ipDomain:

type: string

ueIpv6Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

macAddr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

sponsorInfo:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/SponsorInformation'

qosMonInfo:

$ref: '#/components/schemas/QosMonitoringInformation'

pdvMon:

$ref: '#/components/schemas/QosMonitoringInformation'

qosDuration:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

qosInactInt:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

directNotifInd:

type: boolean

description: >

Indicates whether the direct event notification is requested (true) or not (false) for

the provided and/or previously provided QoS monitoring parameter(s).

tscQosReq:

$ref: '#/components/schemas/TscQosRequirement'

l4sInd:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/UplinkDownlinkSupport'

requestTestNotification:

type: boolean

description: >

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.

tempInValidity:

$ref: 'TS29565\_Ntsctsf\_QoSandTSCAssistance.yaml#/components/schemas/TemporalInValidity'

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

events:

description: >

Represents the list of user plane event(s) to which the SCS/AS requests to subscribe to.

type: array

items:

$ref: '#/components/schemas/UserPlaneEvent'

minItems: 1

multiModDatFlows:

type: object

additionalProperties:

$ref: '#/components/schemas/AsSessionMediaComponent'

minProperties: 1

description: >

Contains media component data for a single-modal data flow(s).

The key of the map is the medCompN attribute.

pduSetQosDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosPara'

pduSetQosUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosPara'

rTLatencyInd:

type: boolean

description: >

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.

pdb:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudget'

periodUl:

$ref: '#/components/schemas/DurationMilliSec'

periodDl:

$ref: '#/components/schemas/DurationMilliSec'

qosMonDatRate:

$ref: '#/components/schemas/QosMonitoringInformation'

avrgWndw:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AverWindow'

servAuthInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/ServAuthInfo'

qosMonConReq:

$ref: '#/components/schemas/QosMonitoringInformation'

avlBitRateMon:

$ref: '#/components/schemas/QosMonitoringInformation'

qosMonCapRepoTypes:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/NotifCapType'

minItems: 1

description: >

Contains the type(s) of QoS Monitoring capability report is applied.

listUeConsDtRt:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

minItems: 1

description: >

Identifies the list of UE addresses subject for Consolidated Data Rate monitoring.

datBurstSizeInd:

type: boolean

description: >

Indicates the Data Burst Size marking for the DL service data flow is supported, when

it is included and set to "true". The default value is "false" if omitted.

timetoNextBurstInd:

type: boolean

description: >

Indicates the Time to Next Burst for the DL service data flow is supported, when it is

included and set to "true". The default value is "false" if omitted.

onPathN6SigInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

description: >

Expedited Transfer Indication for the downlink traffic to enable expedited data transfer

with reflective QoS for the Non-GBR service data flow. "true": the expedited data

transfer of larger payload for XR application is enabled in the flow. "false": the

expedited data transfer of larger payload for XR application is not enabled in the flow.

The default value is "false" if omitted.

required:

- notificationDestination

AsSessionWithQoSSubscriptionPatch:

description: Represents parameters to modify an AS session with specific QoS subscription.

type: object

properties:

exterAppId:

type: string

description: Identifies the external Application Identifier.

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describe the IP data flow which requires QoS.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

enEthFlowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/EthFlowInfo'

minItems: 1

description: >

Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow

idenifer and the corresponding UL and/or DL flows.

listUeAddrs:

type: array

items:

$ref: '#/components/schemas/UeAddInfo'

minItems: 1

description: Identifies the list of UE address.

qosReference:

type: string

description: Pre-defined QoS reference

altQoSReferences:

type: array

items:

type: string

minItems: 1

description: >

Identifies an ordered list of pre-defined QoS information. The lower the index of the

array for a given entry, the higher the priority.

altQosReqs:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData'

minItems: 1

description: >

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.

disUeNotif:

type: boolean

description: >

Indicates whether the QoS flow parameters signalling to the UE when the SMF is notified

by the NG-RAN of changes in the fulfilled QoS situation is disabled (true) or

not (false). The fulfilled situation is either the QoS profile or an Alternative QoS

Profile.

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThresholdRm'

qosMonInfo:

$ref: '#/components/schemas/QosMonitoringInformationRm'

pdvMon:

$ref: '#/components/schemas/QosMonitoringInformationRm'

directNotifInd:

type: boolean

description: >

Indicates whether the direct event notification is requested (true) or not (false) for

the provided QoS monitoring parameter(s).

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

tscQosReq:

$ref: '#/components/schemas/TscQosRequirementRm'

l4sInd:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/UplinkDownlinkSupport'

tempInValidity:

$ref: 'TS29565\_Ntsctsf\_QoSandTSCAssistance.yaml#/components/schemas/TemporalInValidity'

events:

description: >

Represents the updated list of user plane event(s) to which the SCS/AS requests to

subscribe to.

type: array

items:

$ref: '#/components/schemas/UserPlaneEvent'

minItems: 1

multiModDatFlows:

type: object

additionalProperties:

$ref: '#/components/schemas/AsSessionMediaComponentRm'

minProperties: 1

description: >

Contains media component data for a single-modal data flow(s).

The key of the map is the medCompN attribute.

pduSetQosDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosParaRm'

pduSetQosUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosParaRm'

rTLatencyInd:

type: boolean

nullable: true

description: >

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".

pdb:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudgetRm'

protoDescUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescriptionRm'

protoDescDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescriptionRm'

periodUl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSecRm'

periodDl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSecRm'

qosDuration:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'

qosInactInt:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'

qosMonDatRate:

$ref: '#/components/schemas/QosMonitoringInformationRm'

avrgWndw:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AverWindowRm'

qosMonConReq:

$ref: '#/components/schemas/QosMonitoringInformationRm'

avlBitRateMon:

$ref: '#/components/schemas/QosMonitoringInformationRm'

qosMonCapRepoTypes:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/NotifCapType'

minItems: 1

description: >

Contains the type(s) of QoS Monitoring capability report is applied.

listUeConsDtRt:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

minItems: 1

description: >

Identifies the list of UE addresses subject for Consolidated Data Rate monitoring.

datBurstSizeInd:

type: boolean

nullable: true

description: >

Indicates the Data Burst Size marking for the DL service data flow is supported, when

it is included and set to "true".

timetoNextBurstInd:

type: boolean

nullable: true

description: >

Indicates the Time to Next Burst for the DL service data flow is supported, when it is

included and set to "true". The default value is "false" if omitted.

onPathN6SigInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

nullable: true

description: >

Expedited Transfer Indication for the downlink traffic to enable expedited data transfer

with reflective QoS for the Non-GBR service data flow. "true": the expedited data

transfer of larger payload for XR application is enabled in the flow. "false":

the expedited data transfer of larger payload for XR application is not enabled in the

flow.

QosMonitoringInformation:

description: Represents QoS monitoring information.

type: object

properties:

reqQosMonParams:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/RequestedQosMonitoringParameter'

minItems: 1

repFreqs:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/ReportingFrequency'

minItems: 1

repThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

repThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

repThreshRp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

conThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

conThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

waitTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

repPeriod:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

repThreshDatRateDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

repThreshDatRateUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

consDataRateThrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

consDataRateThrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

avlBitrateUlThrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

minItems: 1

description: Indicates a list of thresholds for uplink available bitrate reporting.

avlBitrateDlThrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

minItems: 1

description: Indicates a list of thresholds for downlink available bitrate reporting.

required:

- reqQosMonParams

- repFreqs

QosMonitoringInformationRm:

description: >

Represents the same as the QosMonitoringInformation data type but with

the nullable:true property.

type: object

properties:

reqQosMonParams:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/RequestedQosMonitoringParameter'

minItems: 1

repFreqs:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/ReportingFrequency'

minItems: 1

repThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

repThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

repThreshRp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

conThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

conThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

waitTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'

repPeriod:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'

repThreshDatRateDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

repThreshDatRateUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

consDataRateThrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

consDataRateThrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

avlBitrateUlThrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

minItems: 1

description: Indicates a list of thresholds for uplink available bitrate reporting.

avlBitrateDlThrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

minItems: 1

description: Indicates a list of thresholds for downlink available bitrate reporting.

nullable: true

QosMonitoringReport:

description: Represents a QoS monitoring report.

type: object

properties:

ulDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

dlDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

rtDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

pdmf:

type: boolean

description: Represents the packet delay measurement failure indicator.

ulDataRate:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

dlDataRate:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

ulAggrDataRate:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

dlAggrDataRate:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

ulConInfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

dlConInfo:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

UserPlaneNotificationData:

description: Represents the parameters to be conveyed in a user plane event(s) notification.

type: object

properties:

transaction:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

eventReports:

type: array

items:

$ref: '#/components/schemas/UserPlaneEventReport'

minItems: 1

description: Contains the reported event and applicable information

required:

- transaction

- eventReports

UserPlaneEventReport:

description: Represents an event report for user plane.

type: object

properties:

event:

$ref: '#/components/schemas/UserPlaneEvent'

accumulatedUsage:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/AccumulatedUsage'

flowIds:

type: array

items:

type: integer

minItems: 1

description: >

Identifies the affected flows that were sent during event subscription. It might be

omitted when the reported event applies to all the flows sent during the subscription.

multiModFlows:

type: array

items:

$ref: '#/components/schemas/MultiModalFlows'

minItems: 1

description: >

Identifies the the flow filters for the single-modal data flows thatwere sent

during event subscription.

It may be omitted when the reported event applies to all the

single-modal data flows sent during the subscription.

appliedQosRef:

type: string

description: >

The currently applied QoS reference. Applicable for event QOS\_NOT\_GUARANTEED or

SUCCESSFUL\_RESOURCES\_ALLOCATION.

altQosNotSuppInd:

type: boolean

description: >

When present and set to true it indicates that the Alternative QoS profiles are not

supported by the access network. Applicable for event QOS\_NOT\_GUARANTEED.

plmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

qosMonReports:

type: array

items:

$ref: '#/components/schemas/QosMonitoringReport'

minItems: 1

description: Contains the QoS Monitoring Reporting information

pdvMonReports:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/PdvMonitoringReport'

minItems: 1

description: Contains the PDV Monitoring Reporting information

ratType:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

batOffsetInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/BatOffsetInfo'

rttMonReports:

type: array

items:

$ref: '#/components/schemas/QosMonitoringReport'

minItems: 1

description: Contains the round trip delay over two SDFs reporting information

qosMonDatRateReps:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/QosMonitoringReport'

minItems: 1

description: >

Contains QoS Monitoring for data rate information. It shall be present when the notified

event is "QOS\_MONITORING" and data rate measurements are available.

aggrDataRateRpts:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/QosMonitoringReport'

minItems: 1

description: >

Contains QoS Monitoring for aggregated data rate information. It shall be present when

the notified event is "QOS\_MONITORING" and data rate measurements are available.

qosMonConInfoReps:

type: array

items:

$ref: '#/components/schemas/QosMonitoringReport'

minItems: 1

description: >

Contains QoS Monitoring for congestion information. It shall be present when the

notified event is "QOS\_MONITORING" and congestion measurements are available.

qosMonCapRepos:

type: object

additionalProperties:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/CapabilityReport'

minProperties: 1

description: >

QoS Monitoring notification can be performed or not. It shall be present when

the notified event is "QOS\_MON\_CAP\_REPO".The key of of the map is the attribute

"capType".

rateLimitRepo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/RateLimitRepo'

required:

- event

TscQosRequirement:

description: Represents QoS requirements for time sensitive communication.

type: object

properties:

reqGbrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

reqGbrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

reqMbrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

reqMbrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

maxTscBurstSize:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtMaxDataBurstVol'

req5Gsdelay:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudget'

reqPer:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketErrRate'

priority:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscPriorityLevel'

tscaiTimeDom:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

tscaiInputDl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'

tscaiInputUl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'

capBatAdaptation:

type: boolean

description: >

Indicates the capability for AF to adjust the burst sending time, when it is supported

and set to "true". The default value is "false" if omitted.

TscQosRequirementRm:

description: >

Represents the same as the TscQosRequirement data type but with the nullable:true property.

type: object

properties:

reqGbrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

reqGbrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

reqMbrDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

reqMbrUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

maxTscBurstSize:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtMaxDataBurstVolRm'

req5Gsdelay:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudgetRm'

reqPer:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketErrRateRm'

priority:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscPriorityLevelRm'

tscaiTimeDom:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

tscaiInputDl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'

tscaiInputUl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'

capBatAdaptation:

type: boolean

description: >

Indicates the capability for AF to adjust the burst sending time, when it is supported

and set to "true". The default value is "false" if omitted.

nullable: true

AdditionInfoAsSessionWithQos:

description: Describes additional error information specific for this API.

type: object

properties:

acceptableServInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AcceptableServiceInfo'

ProblemDetailsAsSessionWithQos:

description: Extends ProblemDetails to also include the acceptable service info.

allOf:

- $ref: 'TS29122\_CommonData.yaml#/components/schemas/ProblemDetails'

- $ref: '#/components/schemas/AdditionInfoAsSessionWithQos'

AsSessionMediaComponent:

description: >

Representmedia component data for a single-modal data flow of a multi-modal service.

type: object

required:

- medCompN

allOf:

- not:

required: [altSerReqs,altSerReqsData]

- not:

required: [qosReference,altSerReqsData]

properties:

flowInfos:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

nullable: true

description: >

Contains the IP data flow(s) description for a single-modal data flow.

qosReference:

type: string

disUeNotif:

type: boolean

altSerReqs:

type: array

items:

type: string

minItems: 1

description: >

Contains alternative service requirements that include QoS references set

altSerReqsData:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData'

minItems: 1

description: >

Contains alternative service requirements that include individual QoS parameter sets.

marBwDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

marBwUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

medCompN:

type: integer

medType:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/MediaType'

mirBwDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

mirBwUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

rTLatencyInd:

type: boolean

description: >

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.

pdb:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudget'

rTLatencyIndCorreId:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/RttFlowReference'

pduSetQosDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosPara'

pduSetQosUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosPara'

l4sInd:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/UplinkDownlinkSupport'

protoDescDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescription'

protoDescUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescription'

periodUl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSec'

periodDl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSec'

evSubsc:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EventsSubscReqData'

datBurstSizeInd:

type: boolean

description: >

Indicates the Data Burst Size marking for the DL service data flow is supported, when

it is included and set to "true". The default value is "false" if omitted.

timetoNextBurstInd:

type: boolean

description: >

Indicates the Time to Next Burst for the DL service data flow is supported, when it is

included and set to "true". The default value is "false" if omitted.

onPathN6SigInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

description: >

Expedited Transfer Indication for the downlink traffic to enable expedited data transfer

with reflective QoS for the Non-GBR service data flow. "true": the expedited data

transfer of larger payload for XR application is enabled in the flow. "false": the

expedited data transfer of larger payload for XR application is not enabled in the flow.

The default value is "false" if omitted.

AsSessionMediaComponentRm:

description: >

Represents the AsSessionMediaComponent data type with nullable information.

type: object

required:

- medCompN

allOf:

- not:

required: [altSerReqs,altSerReqsData]

- not:

required: [qosReference,altSerReqsData]

properties:

flowInfos:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

nullable: true

description: >

Contains the IP data flow(s) description for a single-modal data flow.

qosReference:

type: string

nullable: true

altSerReqs:

type: array

items:

type: string

minItems: 1

description: >

Contains removable alternative service requirements that include set of QoS references

nullable: true

altSerReqsData:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData'

minItems: 1

description: >

Contains removable alternative service requirements that include individual QoS

parameter sets.

nullable: true

disUeNotif:

type: boolean

nullable: true

marBwDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

marBwUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

medCompN:

type: integer

medType:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/MediaType'

mirBwDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

mirBwUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRateRm'

rTLatencyInd:

type: boolean

nullable: true

description: >

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.

pdb:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudgetRm'

rTLatencyIndCorreId:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/RttFlowReferenceRm'

pduSetQosDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosParaRm'

pduSetQosUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSetQosParaRm'

l4sInd:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/UplinkDownlinkSupport'

protoDescDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescriptionRm'

protoDescUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ProtocolDescriptionRm'

periodUl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSecRm'

periodDl:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/DurationMilliSecRm'

evSubsc:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EventsSubscReqDataRm'

datBurstSizeInd:

type: boolean

nullable: true

description: >

Indicates the Data Burst Size marking for the DL service data flow is supported, when

it is included and set to "true".

timetoNextBurstInd:

type: boolean

nullable: true

description: >

Indicates the Time to Next Burst for the DL service data flow is supported, when it is

included and set to "true".

onPathN6SigInfo:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

nullable: true

description: >

Expedited Transfer Indication for the downlink traffic to enable expedited data transfer

with reflective QoS for the Non-GBR service data flow. "true": the expedited data

transfer of larger payload for XR application is enabled in the flow. "false":

the expedited data transfer of larger payload for XR application is not enabled in the

flow.

nullable: true

MultiModalFlows:

description: Represents a flow information within a single-modal data flow.

type: object

properties:

medCompN:

type: integer

description: >

It contains the ordinal number of the single-modal data flow. Identifies the

single-modal data flow.

flowIds:

type: array

items:

type: integer

minItems: 1

description: >

Identifies the affected flow(s) within the single-modal data flow

(identified by the medCompN attribute).

It may be omitted when all flows are affected.

required:

- medCompN

UeAddInfo:

description: Represent the UE address information.

properties:

ueIpAddr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

portNumber:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Port'

UserPlaneEvent:

anyOf:

- type: string

enum:

- SESSION\_TERMINATION

- LOSS\_OF\_BEARER

- RECOVERY\_OF\_BEARER

- RELEASE\_OF\_BEARER

- USAGE\_REPORT

- FAILED\_RESOURCES\_ALLOCATION

- QOS\_GUARANTEED

- QOS\_NOT\_GUARANTEED

- QOS\_MONITORING

- SUCCESSFUL\_RESOURCES\_ALLOCATION

- ACCESS\_TYPE\_CHANGE

- PLMN\_CHG

- L4S\_NOT\_AVAILABLE

- L4S\_AVAILABLE

- BAT\_OFFSET\_INFO

- RT\_DELAY\_TWO\_QOS\_FLOWS

- PACK\_DELAY\_VAR

- QOS\_MON\_CAP\_REPO

- RATE\_LIMIT\_INFO\_REPO

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: |

Represents the user plane event.

Possible values are:

- SESSION\_TERMINATION: Indicates that Rx session is terminated.

- LOSS\_OF\_BEARER : Indicates a loss of a bearer.

- RECOVERY\_OF\_BEARER: Indicates a recovery of a bearer.

- RELEASE\_OF\_BEARER: Indicates a release of a bearer.

- USAGE\_REPORT: Indicates the usage report event.

- FAILED\_RESOURCES\_ALLOCATION: Indicates the resource allocation is failed.

- QOS\_GUARANTEED: The QoS targets of one or more SDFs are guaranteed again.

- QOS\_NOT\_GUARANTEED: The QoS targets of one or more SDFs are not being guaranteed.

- QOS\_MONITORING: Indicates a QoS monitoring event.

- SUCCESSFUL\_RESOURCES\_ALLOCATION: Indicates the resource allocation is successful.

- ACCESS\_TYPE\_CHANGE: Indicates an Access type change.

- PLMN\_CHG: Indicates a PLMN change.

- L4S\_NOT\_AVAILABLE: The ECN marking for L4S of one or more SDFs is not available.

- L4S\_AVAILABLE: The ECN marking for L4S of one or more SDFs is available again.

- BAT\_OFFSET\_INFO: Indicates the network provided BAT offset and the optionally adjusted

periodicity.

- RT\_DELAY\_TWO\_QOS\_FLOWS: Indicates round-trip delay on UL and DL flows over two QoS flows.

- PACK\_DELAY\_VAR: Indicates Packet Delay Variation is enabled for the SDF.

- QOS\_MON\_CAP\_REPO: Indicates whether the QoS Monitoring can be performed or not.

- RATE\_LIMIT\_INFO\_REPO: Indicates whether support of reporting rate limitation information.

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