**3GPP TSG-CT WG3 Meeting #142 *C3-253467***

**Gothenburg, SE, 25 - 29 August 2025 (Revision of C3-253104)**

|  |
| --- |
| *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** |

|  |
| --- |
|  |
| ***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 canbe 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, PowerSavingTrafficCharChange |
| ProtocolDescriptionRm | 3GPP TS 29.571 [45] | Represents the same as the "ProtocolDescription" data type, but with the OpenAPI "nullable: true" property. | PDUSetHandling, PowerSavingTrafficCharChange |
| 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

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