**3GPP TSG-CT WG3 Meeting #128 *C3-232362***

**Bratislava, Slovakia, 22nd - 26th May, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.514** | **CR** | **0528** | **rev** | **-** | **Current version:** | **18.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Policy Control for L4S | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | S2-2306241 to TS 23.503 agreed in SA2#156-E specified:  - Clause 6.1.3.22:  In addition to the QoS Reference or the individual QoS parameters described above, the AF may provide further parameters associated with the Flow Description, e.g. parameters that describe traffic characteristics as described in clause 6.1.3.23 or 6.1.3.23a and Indication of ECN marking for L4S.  If the AF provides an explicit indication (i.e. Indication of ECN marking for L4S) that the UL and/or DL of the service data flow supports ECN marking for L4S or the PCF decides, based on local configuration, that the service data flow supports ECN marking for L4S, then the PCF may explicitly, or implicitly (based on PCF/SMF local configuration), indicate to the SMF to enable for ECN marking for L4S. The PCF decision may be taken, based on local configuration in PCF and SMF and L4S traffic detection result. If L4S support is detected on the UL and/or DL traffic of the service data flow, the QoS flow is enabled with ECN marking for L4S, see clause 5.37.3 of TS 23.501 [2].  The explicit indication of ECN marking for L4S support needs to be brought to stage 3.  S2.2306189 to TS 23.501 agreed in SA2#156-E specified:  When serving PSA UPF or NG-RAN is changed e.g., due to inter-NG-RAN handover or PSA UPF relocation, target NG-RAN and PSA UPF should keep the current congestion exposure method. However, if not available (e.g., ECN marking for L4S is not used anymore in 5GS), it should be notified to AF.  The notification about the unavailability and availability again of 5GS support for ECN marking for L4S needs to be brought to stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The MediaComponent and MediaComponentRm data types are extended with a new IE, the ecnL4sSuppInd attribute that explicitly indicates whether the ECN marking for L4S is supported for the UL, the DL or both, the UL and the DL  A new enumeration, UplinkDownlinkSupport, is defined to represent whether an indication applies to the UL, the DL or both, UL and DL.  A new event, ECN\_L4S\_SUPP, and a new data type, EcnL4sSupport, is defined to support the notification about changes in 5GS of support of ECN marking for L4S.  Service procedures and OpenAPI file are updated accordingly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The explicit indication of ECN marking for L4S support is not supported. Notifications about ECN marking for L4S support in 5GS are not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.2, 4.2.2.1, (new) 4.2.2.42, 4.2.3.1, (new) 4.2.3.40, 4.2.5.1, (new) 4.2.5.24, 5.6.1, 5.6.2.7, 5.6.2.9, 5.6.2.26, (new)5.6.2.51, 5.6.3.7, (new) 5.6.3.25, (new) 5.6.3.25, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS 23.503 CR 0897  TS 23.501 CR 4219  TS 23.503 CR 1048 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR impacts the OpenAPI file with a backwards compatible feature | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5G-RG 5G Residential Gateway

AF Application Function

ARP Allocation and Retention Priority

ATSSS Access Traffic Steering, Switching and Splitting

BBF Broadband Forum

BSSID Basic Service Set IDentifier

CHEM Coverage and Handoff Enhancements using Multimedia error robustness feature

CHF Charging Function

DCCF Data Collection Coordination Function

DEI Drop Eligible Indicator

DetNet Deterministic Networking

DNAI DN Access Identifier

DNN Data Network Name

DS-TT Device-side TSN translator

DSL Digital Subscriber Line

DTS Data Transport Service

EAS Edge Application Server

ECN Explicit Congestion Notification

ePDG evolved Packet Data Gateway

E-UTRA Evolved Universal Terrestrial Radio Access

FLUS Framework for Live Uplink Streaming

FN-RG Fixed Network Residential Gateway

GEO Geosynchronous Orbit

GPSI Generic Public Subscription Identifier

HFC Hybrid Fiber-Coaxial

H-PCF PCF in the HPLMN

IMS IP-Multimedia Subsystem

JSON JavaScript Object Notation

L4S Low Latency Low Loss Scalable Throughput

LEO Low Earth Orbit

MA Multi-Access

MCPTT Mission Critical Push to Talk Service

MCVideo Mission Critical Video

MEO Medium Earth Orbit

MPS Multimedia Priority Service

MTU Maximum Transmission Unit

NEF Network Exposure Function

NID Network Identifier

NR New Radio

NRF Network Repository Function

NWDAF Network Data Analytics Function

NW-TT Network-side TSN translator

PCC Policy and Charging Control

PCF Policy Control Function

PCP Priority Code Point

P-CSCF Proxy Call Session Control Function

PEI Permanent Equipment Identifier

PMIC Port Management Information Container

PON Passive Optical Network

PRA Presence Reporting Area

PSA PDU Session Anchor

QoS Quality of Service

RFSP RAT Frequency Selection Priority

RTCP Real Time Control Protocol

RTP Real Time Protocol

SDF Service Data Flow

SDP Session Description Protocol

SFC Service Function Chaining

SIP Session Initiation Protocol

SMF Session Management Function

S-NSSAI Single Network Slice Selection Assistance Information

SNPN Stand-alone Non-Public Network

SSID Service Set IDentifier

SUPI Subscription Permanent Identifier

TNAP Trusted Non-3GPP Access Point

TSC Time Sensitive Communication

TSCAI Time Sensitive Communication Assistance Information

TSCTSF Time Sensitive Communication and Time Synchronization Function

TSN Time Sensitive Networking

UDR Unified Data Repository

UMIC User plane node Management Information Container

UPF User Plane Function

URSP UE Route Selection Policy

VID VLAN Identifier

VLAN Virtual Local Area Network

V-PCF PCF in the VPLMN

W-5GAN Wireline 5G Access Network

W-5GBAN Wireline 5G BBF Access Network

W-5GCAN Wireline 5G Cable Access Network

W-AGF Wireline Access Gateway Function

\*\*\* Next Change \*\*\*

#### 4.2.2.1 General

The Npcf\_PolicyAuthorization\_Create service operation authorizes the request from the NF service consumer, and optionally communicates with Npcf\_SMPolicyControl service to determine and install the policy according to the information provided by the NF service consumer.

The Npcf\_PolicyAuthorization\_Create service operation creates an application session context in the PCF.

The following procedures using the Npcf\_PolicyAuthorization\_Create service operation are supported:

- Initial provisioning of service information.

- Gate control.

- Initial Background Data Transfer policy indication.

- Initial provisioning of sponsored connectivity information.

- Subscription to Service Data Flow QoS notification control.

- Subscription to Service Data Flow Deactivation.

- Initial provisioning of traffic routing information.

- Subscription to resources allocation outcome.

- Invocation of Multimedia Priority Services.

- Support of content versioning.

- Request of access network information.

- Initial provisioning of service information status.

- Provisioning of signalling flow information.

- Support of resource sharing.

- Indication of Emergency traffic.

- Invocation of MCPTT.

- Invocation of MCVideo.

- Priority sharing indication.

- Subscription to out of credit notification.

- Subscription to Service Data Flow QoS Monitoring information.

- Provisioning of TSCAI input information and TSC QoS related data.

- Provisioning of TSC user plane node management information and port management information.

- P-CSCF restoration enhancements.

- Support of CHEM feature.

- Support of FLUS feature.

- Subscription to EPS Fallback report.

- Subscription to TSC user plane node related events.

- Initial provisioning of required QoS information.

- Support of QoSHint feature.

- Subscription to reallocation of credit notification.

- Subscription to satellite backhaul category changes.

- Subscription to the report of extra UE addresses.

- Provisioning of the indication of ECN marking for L4S support.

\*\*\* Next Change \*\*\*

#### 4.2.2.42 Provisioning of the indication of ECN marking for L4S support

When the "XRM\_5G" feature is supported, this procedure is used by a NF service consumer to explicitly indicate that the UL and/or DL service data flow of a media component supports ECN marking for L4S support.

The NF service consumer may include in the HTTP POST request message described in clause 4.2.2.2, within the corresponding media component(s) entries of the "medComponents" attribute, the "ecnL4sSuppInd" attribute set to "UL", "DL" or "UL\_DL" to indicate respectively whether the UL, the DL, or both, UL and DL, service data flow(s) supports ECN marking for L4S support.

The NF service consumer shall also subscribe to receive notifications from the PCF when the ECN marking for L4S support is not available or available again in 5GS by including within the "evSubsc" attribute the "events" attribute with the "event" attribute set to "ECN\_L4S\_SUPP".

The PCF may indicate to the SMF to enable for ECN marking for L4S support following the procedures specified in clause 4.2.6.21.3 of 3GPP TS 29.512 [8].

\*\*\* Next Change \*\*\*

#### 4.2.3.1 General

The Npcf\_PolicyAuthorization\_Update service operation provides updated application level information from the NF service consumer and optionally communicates with the Npcf\_SMPolicyControl service to determine and install the policy according to the information provided by the NF service consumer.

The Npcf\_PolicyAuthorization\_Update service operation updates an application session context in the PCF.

The following procedures using the Npcf\_PolicyAuthorization\_Update service operation are supported:

- Modification of service information.

- Gate control.

- Background Data Transfer policy indication at policy authorization update.

- Modification of sponsored connectivity information.

- Modification of Subscription to Service Data Flow QoS notification control.

- Modification of Subscription to Service Data Flow Deactivation.

- Update of traffic routing information.

- Modification of subscription to resources allocation outcome.

- Modification of Multimedia Priority Services.

- Support of content versioning.

- Request of access network information.

- Modification of service information status.

- Support of SIP forking.

- Provisioning of signalling flow information.

- Support of resource sharing.

- Modification of MCPTT.

- Modification of MCVideo.

- Priority sharing indication.

- Modification of subscription to out of credit notification.

- Modification of Subscription to Service Data Flow QoS Monitoring Information.

- Update of TSCAI Input Information and TSC QoS related data.

- Provisioning of TSC user plane node management information and port management information.

- Support of CHEM feature.

- Support of FLUS feature.

- Subscription to EPS Fallback report.

- Modification of required QoS information.

- Support of QoSHint feature.

- Modification of subscription to reallocation of credit notification.

- Modification of subscription to satellite backhaul category changes.

- Modification of the subscription to the report of extra UE addresses.

- Provisioning of the indication of ECN marking for L4S support.

\*\*\* Next Change \*\*\*

#### 4.2.3.40 Provisioning of the indication of ECN marking for L4S support

When the "XRM\_5G" feature is supported, this procedure is used by a NF service consumer to provide the explicit indication of whether the UL and/or DL service data flow of a new media component supports ECN marking for L4S.

The NF service consumer shall include in the HTTP PATCH request message described in clause 4.2.3.2, in the "ascReqData" attribute, in the corresponding new media component(s) entries of the "medComponents" attribute, the "ecnL4sSuppInd" attribute with the indication of ECN marking for L4S support as described in clause 4.2.2.42. The NF service consumer shall also subscribe to receive notifications when the ECN marking for L4S support is not available or available again as described in clause 4.2.2.42, if not previously subscribed.

As result of this action, the PCF may indicate to the SMF to enable for ECN marking for L4S support for the service data flow of the new media component(s) following the procedures specified in clause 4.2.6.21.3 of 3GPP TS 29.512 [8].

\*\*\* Next Change \*\*\*

#### 4.2.5.1 General

The Npcf\_PolicyAuthorization\_Notify service operation enables notification to NF service consumers that the previously subscribed event for the existing application session context occurred or that the application session context is no longer valid.

The following procedures using the Npcf\_PolicyAuthorization\_Notify service operation are supported:

- Notification about application session context event.

- Notification about application session context termination.

- Notification about Service Data Flow QoS notification control.

- Notification about service data flow deactivation.

- Reporting usage for sponsored data connectivity.

- Notification of resources allocation outcome.

- Reporting access network information.

- Notification of signalling path status.

- Notification about out of credit.

- Notification about TSC user plane node management information and/or port management information, Individual Application Session Context exists.

- Notification about Service Data Flow QoS Monitoring control.

- Report of EPS Fallback.

- Notification about TSC user plane node Information, no Individual Application Session Context exists.

- Notification about reallocation of credit.

- Notification of MPS for DTS outcome.

- Notification about application detection information.

- Notification about satellite backhaul category changes.

- Notification about UP path change enforcement failure.

- Notification about PDU session established/terminated events.

- Notification about extra UE addresses.

- Notification about 5GS support for Policy Control for L4S.

\*\*\* Next Change \*\*\*

#### 4.2.5.24 Notification about 5GS support for Policy Control for L4S.

When the "XRM\_5G" feature is supported, the NF service consumer provided the explicit indication of ECN marking for L4S support for the provided UL and/or DL SDF(s) as described in clauses 4.2.2.42 and 4.2.3.40, and the PCF gets the knowledge that there is a change of the5GS support for ECN marking for L4S for the indicated SDF(s), the PCF, may notify the NF service consumer about the change of 5GS support by including the "EventsNotification" data type in the body of the HTTP POST request as described in clause 4.2.5.2.

The PCF shall include within the "evNotifs" attribute an event entry of the "AfEventNotification" data type with the matched event, "ECN\_L4S\_SUPP", in the "event" attribute and the "ecnL4sReports" array. In each entry of the "ecnL4sReports" array, the PCF shall include the indication that ECN marking for L4S is not available or is available again within the "notifType" attribute and the SDFs that are impacted as consequence of change of 5GS availability condition for ECN marking for L4S encoded in the "flows" attribute.

When the NF service consumer receives the HTTP POST request, it shall acknowledge the request by sending a "204 No Content" response to the PCF.

\*\*\* Next Change \*\*\*

### 5.6.1 General

This clause specifies the application data model supported by the API.

Table 5.6.1-1 specifies the data types defined for the Npcf\_PolicyAuthorization service based interface protocol.

Table 5.6.1-1: Npcf\_PolicyAuthorization specific Data Types

| Data type | Section defined | Description | Applicability |
| --- | --- | --- | --- |
| AcceptableServiceInfo | 5.6.2.30 | Acceptable maximum requested bandwidth. |  |
| AccessNetChargingIdentifier | 5.6.2.32 | Contains the access network charging identifier. | IMS\_SBI |
| AfAppId | 5.6.3.2 | Contains an AF application identifier. |  |
| AfEvent | 5.6.3.7 | Represents an event to notify to the NF service consumer. |  |
| AfEventNotification | 5.6.2.11 | Represents the notification of an event. |  |
| AfEventSubscription | 5.6.2.10 | Represents the subscription to events. |  |
| AfNotifMethod | 5.6.3.8 | Represents the notification methods that can be subscribed for an event. |  |
| AfRequestedData | 5.6.3.18 | Represents the information the NF service consumer requested to be exposed. | IMS\_SBI |
| AfRoutingRequirement | 5.6.2.13 | Describes the routing requirements for the application traffic flows. | InfluenceOnTrafficRouting |
| AfRoutingRequirementRm | 5.6.2.24 | This data type is defined in the same way as the "AfRoutingRequirement" data type, but with the OpenAPI "nullable: true" property. | InfluenceOnTrafficRouting |
| AfSfcRequirement | 5.6.2.49 | Describes the requirements to steer the traffic to a pre-configured chain of service functions on N6-LAN. | SFC |
| AlternativeServiceRequirementsData | 5.6.2.47 | Contains alternative QoS related parameter sets. | AltSerReqsWithIndQoS |
| AnGwAddress | 5.6.2.20 | Carries the control plane address of the access network gateway. |  |
| AppDetectionReport | 5.6.2.44 | Indicates the start or stop of the detected application traffic and the detected AF application identifier. | ApplicationDetectionEvents |
| AppDetectionNotifType | 5.6.3.23 | Represents the types of reports bound to the notification of application detection information. | ApplicationDetectionEvents |
| AppSessionContext | 5.6.2.2 | Represents an Individual Application Session Context resource. |  |
| AppSessionContextReqData | 5.6.2.3 | Represents the Individual Application Session Context resource data received in an HTTP POST request message. |  |
| AppSessionContextRespData | 5.6.2.4 | Represents the Individual Application Session Context resource data produced by the server and returned in an HTTP response message. |  |
| AppSessionContextUpdateData | 5.6.2.5 | Describes the modifications to the "ascReqData" property of an Individual Application Session Context resource. |  |
| AppSessionContextUpdateDataPatch | 5.6.2.43 | Describes the modifications to an Individual Application Session Context resource | PatchCorrection |
| AspId | 5.6.3.2 | Contains an identity of an application service provider. | SponsoredConnectivity |
| CodecData | 5.6.3.2 | Contains a codec related information. |  |
| ContentVersion | 5.6.3.2 | Represents the version of a media component. | MediaComponentVersioning |
| EcnL4sNotifType | 5.6.3.25 | Indicates whether the ECN marking for L4S support for the indicated SDFs is "NOT\_AVAILABLE" or "AVAILABLE" again. | XRM\_5G |
| EcnL4sSupport | 5.6.2.51 | Indicates whether the ECN marking for L4S is available in 5GS for the indicated service data flows. | XRM\_5G |
| EthFlowDescription | 5.6.2.17 | Defines a packet filter for an Ethernet flow. |  |
| EventsNotification | 5.6.2.9 | Describes the notification about the events occurred within an Individual Application Session Context resource. |  |
| EventsSubscPutData | 5.6.2.42 | Identifies the events the application subscribes to within an Events Subscription sub-resource data. It may also include the attributes of the notification about the events already met at the time of subscription.  It is represented as a non-exclusive list of two data types: EventsSubscReqData and EventsNotification. |  |
| EventsSubscReqData | 5.6.2.6 | Identifies the events the application subscribes to within an Individual Application Session Context resource. |  |
| EventsSubscReqDataRm | 5.6.2. 25 | This data type is defined in the same way as the "EventsSubscReqData" data type, but with the OpenAPI "nullable: true" property. |  |
| ExtendedProblemDetails | 5.6.2.29 | Data type that extends ProblemDetails. |  |
| FlowDescription | 5.6.3.2 | Defines a packet filter for an IP flow. |  |
| Flows | 5.6.2.21 | Identifies the flows related to a media component. |  |
| FlowStatus | 5.6.3.12 | Describes whether the IP flow(s) are enabled or disabled. |  |
| FlowUsage | 5.6.3.14 | Describes the flow usage of the flows described by a media subcomponent. |  |
| MediaComponent | 5.6.2.7 | Contains service information for a media component of an AF session. |  |
| MediaComponentRm | 5.6.2.26 | This data type is defined in the same way as the "MediaComponent" data type, but with the OpenAPI "nullable: true" property. |  |
| MediaComponentResourcesStatus | 5.6.3.13 | Indicates whether the media component is active or inactive. |  |
| MediaSubComponent | 5.6.2.8 | Contains the requested bitrate and filters for the set of IP flows identified by their common flow identifier. |  |
| MediaSubComponentRm | 5.6.2.27 | This data type is defined in the same way as the "MediaSubComponent" data type, but with the OpenAPI "nullable: true" property. |  |
| MediaType | 5.6.3.3 | Indicates the media type of a media component. |  |
| MpsAction | 5.6.3.22 | Indicates whethe it is an invocation, a revocation or an invocation with authorization of the MPS for DTS service. | MPSforDTS |
| MultiModalId | 5.6.3.2 | Contains a multi-modal service identifier. | XRM\_5G |
| OutOfCreditInformation | 5.6.2.33 | Indicates the service data flows without available credit and the corresponding termination action. | IMS\_SBI |
| PcfAddressingInfo | 5.6.2.46 | Contains PCF address information. |  |
| PcscfRestorationRequestData | 5.6.2.36 | Indicates P-CSCF restoration. | PCSCF-Restoration-Enhancement |
| PduSessionEventNotification | 5.6.2.45 | Indicates PDU session information for the established/terminated PDU session. |  |
| PduSessionStatus | 5.6.3.24 | Indicates whether the PDU session is established or terminated. |  |
| PduSessionTsnBridge | 5.6.2.40 | Contains the TSC user plane node Information and DS-TT port and/or NW-TT ports management information of a new detected TSC user plane node in the context of a new PDU session. | TimeSensitiveNetworking |
| PeriodicityRange | 5.6.2.48 | Contains the acceptable lower bound and upper bound of the periodicity of the start two bursts in reference to the external GM. | EnTSCAC |
| PreemptionControlInformation | 5.6.3.19 | Pre-emption control information. | MCPTT-Preemption |
| PreemptionControlInformationRm | 5.6.3.21 | This data type is defined in the same way as the "PreemptionControlInformation" data type, but with the OpenAPI "nullable: true" property. | MCPTT-Preemption |
| PrioritySharingIndicator | 5.6.3.20 | Priority sharing indicator. | PrioritySharing |
| QosMonitoringInformation | 5.6.2.34 | QoS monitoring information (e.g. UL, DL or round trip packet delay). | QoSMonitoring |
| QosMonitoringInformationRm | 5.6.2.41 | This data type is defined in the same way as the "QosMonitoringInformation" data type, but with the OpenAPI "nullable: true" property. | QoSMonitoring |
| QosMonitoringReport | 5.6.2.37 | Contains QoS monitoring reporting information. | QoSMonitoring |
| QosNotificationControlInfo | 5.6.2.15 | Indicates whether the QoS targets related to certain media component are not guaranteed or are guaranteed again. |  |
| QosNotifType | 5.6.3.9 | Indicates type of notification for QoS Notification Control. |  |
| RequiredAccessInfo | 5.6.3.15 | Indicates the access network information required for an AF session. | NetLoc |
| ReservPriority | 5.6.3.4 | Indicates the reservation priority. |  |
| ResourcesAllocationInfo | 5.6.2.14 | Indicates the status of the PCC rule(s) related to certain media component. |  |
| ServAuthInfo | 5.6.3.5 | Indicates the result of the Policy Authorization service request from the NF service consumer. |  |
| ServiceInfoStatus | 5.6.3.16 | Preliminary or final service information status. | IMS\_SBI |
| ServiceUrn | 5.6.3.2 | Service URN. | IMS\_SBI |
| SipForkingIndication | 5.6.3.17 | Describes if several SIP dialogues are related to an "Individual Application Session Context" resource. | IMS\_SBI |
| SpatialValidity | 5.6.2.16 | Describes the spatial validity of an NF service consumer request for influencing traffic routing. | InfluenceOnTrafficRouting |
| SpatialValidityRm | 5.6.2.28 | This data type is defined in the same way as the "SpatialValidity" data type, but with the OpenAPI "nullable: true" property. | InfluenceOnTrafficRouting |
| SponId | 5.6.3.2 | Contains an Identity of a sponsor. | SponsoredConnectivity |
| SponsoringStatus | 5.6.3.6 | Represents whether sponsored data connectivity is enabled or disabled/not enabled. | SponsoredConnectivity |
| TemporalValidity | 5.6.2.22 | Indicates the time interval during which the NF service consumer request is to be applied. | InfluenceOnTrafficRouting |
| TerminationCause | 5.6.3.10 | Indicates the cause for requesting the deletion of the Individual Application Session Context resource. |  |
| TerminationInfo | 5.6.2.12 | Includes information related to the termination of the Individual Application Session Context resource. |  |
| TosTrafficClass | 5.6.3.2 | Contains the IPv4 Type-of-Service or the IPv6 Traffic-Class field and the ToS/Traffic Class mask field. |  |
| TosTrafficClassRm | 5.6.3.2 | This data type is defined in the same way as the "TosTrafficClass" data type, but with the OpenAPI "nullable: true" property. |  |
| TscPriorityLevel | 5.6.3.2 | Priority of TSC Flows | TimeSensitiveNetworking |
| TscPriorityLevelRm | 5.6.3.2 | This data type is defined in the same way as the "TscPriorityLevel" data type, but with the OpenAPI "nullable: true" property | TimeSensitiveNetworking |
| TscaiInputContainer | 5.6.2.39 | TSCAI Input information container. | TimeSensitiveNetworking |
| TsnQosContainer | 5.6.2.35 | TSC traffic QoS parameters. | TimeSensitiveNetworking |
| TsnQosContainerRm | 5.6.2.38 | This data type is defined in the same way as the "TsnQosContainer" data type, but with the OpenAPI "nullable: true" property. | TimeSensitiveNetworking |
| UeIdentityInfo | 5.6.2.31 | Represents 5GS-Level UE Identities. | IMS\_SBI |
| UplinkDownlinkSupport | 5.6.3.25 | Represents whether a capability is supported for the UL, the DL or both UL and DL service data flows | XRM\_5G |

Table 5.6.1-2 specifies data types re-used by the Npcf\_PolicyAuthorization service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Npcf\_PolicyAuthorization service based interface.

Table 5.6.1-2: Npcf\_PolicyAuthorization re-used Data Types

| Data type | | Reference | | Comments | | Applicability | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| AccNetChargingAddress | | 3GPP TS 29.512 [8] | | Indicates the IP address of the network entity within the access network performing charging. | | IMS\_SBI | |
| AccessType | | 3GPP TS 29.571 [12] | | The identification of the type of access network. | |  | |
| AccumulatedUsage | | 3GPP TS 29.122 [15] | | Accumulated Usage. | | SponsoredConnectivity | |
| AdditionalAccessInfo | | 3GPP TS 29.512 [8] | | Indicates the combination of additional Access Type and RAT Type for MA PDU session | | ATSSS | |
| AfSigProtocol | | 3GPP TS 29.512 [8] | | Represents the protocol used for signalling between the UE and the NF service consumer. | | ProvAFsignalFlow | |
| ApplicationChargingId | | 3GPP TS 29.571 [12] | | Application provided charging identifier allowing correlation of charging information. | | IMS\_SBI | |
| BdtReferenceId | | 3GPP TS 29.122 [15] | | Identifies transfer policies. | |  | |
| BitRate | | 3GPP TS 29.571 [12] | | Specifies bitrate in kbits per second. | |  | |
| BitRateRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "BitRate" data type, but with the OpenAPI "nullable: true" property. | |  | |
| BridgeManagementContainer | | 3GPP TS 29.512 [8] | | Contains TSC user plane node management information. | | TimeSensitiveNetworking | |
| Bytes | | 3GPP TS 29.571 [12] | | String with format "byte". | |  | |
| ChargingId | | 3GPP TS 29.571 [12] | | Charging identifier allowing correlation of charging information. | | IMS\_SBI | |
| DateTime | | 3GPP TS 29.571 [12] | | String with format "date-time" as defined in OpenAPI Specification [11]. | | InfluenceOnTrafficRouting, TimeSensitiveNetworking | |
| Dnn | | 3GPP TS 29.571 [12] | | Data Network Name. | |  | |
| DurationSec | | 3GPP TS 29.571 [12] | | Identifies a period of time in units of seconds. | | TimeSensitiveNetworking, EnhancedSubscriptionToNotification,  SimultConnectivity | |
| DurationSecRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "DurationSec" data type, but with the OpenAPI "nullable: true" property. | | SimultConnectivity | |
| EasIpReplacementInfo | | 3GPP TS 29.571 [12] | | Contains EAS IP replacement information for a Source and a Target EAS. | | EASIPreplacement | |
| FinalUnitAction | | 3GPP TS 32.291 [22] | | Indicates the action to be taken when the user's account cannot cover the service cost. | |  | |
| Float | | 3GPP TS 29.571 [12] | | Number with format "float" as defined in OpenAPI Specification [11]. | | FLUS | |
| FloatRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "Float" data type, but with the OpenAPI "nullable: true" property. | | FLUS | |
| FlowDirection | | 3GPP TS 29.512 [8] | | Flow Direction. | |  | |
| Fqdn | | 3GPP TS 29.571 [12] | | Contains a FQDN | |  | |
| ExtMaxDataBurstVol | | 3GPP TS 29.571 [12] | | Maximum Burst Size. | | TimeSensitiveNetworking | |
| ExtMaxDataBurstVolRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "ExtMaxDataBurstVol" data type, but with the OpenAPI "nullable: true" property | | TimeSensitiveNetworking | |
| Gpsi | | 3GPP TS 29.571 [12] | | Identifies the GPSI. | |  | |
| Ipv4Addr | | 3GPP TS 29.571 [12] | | Identifies an IPv4 address. | |  | |
| Ipvd4AddrMask | | 3GPP TS 29.571 [12] | | IPv4 address mask | | ExtraUEaddrReport | |
| Ipv6Addr | | 3GPP TS 29.571 [12] | | Identifies an IPv6 address. | |  | |
| IpEndPoint | | 3GPP TS 29.510 [27] | | Contains a NF IPv4 and/or IPv6 end points. | |  | |
| MacAddr48 | | 3GPP TS 29.571 [12] | | MAC Address. | |  | |
| Metadata | | 3GPP TS 29.571 [12] | | This datatype contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF. | | SFC | |
| NetLocAccessSupport | | 3GPP TS 29.512 [8] | | Indicates the access network does not support the report of the requested access network information. | | NetLoc | |
| NullValue | | 3GPP TS 29.571 [12] | | JSON's null value, used as an explicit value of an enumeration. | | MCPTT-Preemption | |
| PacketDelBudget | | 3GPP TS 29.571 [12] | | Packet Delay Budget. | | TimeSensitiveNetworking | |
| PacketDelBudgetRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "PacketDelBudget" data type, but with the OpenAPI "nullable: true" property | | TimeSensitiveNetworking | |
| PacketErrRate | | 3GPP TS 29.571 [12] | | 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 | |
| PacketErrRateRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "PacketErrRate" data type, but with the OpenAPI "nullable: true" property. | | ExtQoS | |
| PacketLossRateRm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "PacketLossRate" data type, but with the OpenAPI "nullable: true" property. | | CHEM | |
| Pei | | 3GPP TS 29.571 [12] | | Identifies the PEI. | | IMS\_SBI | |
| PlmnIdNid | | 3GPP TS 29.571 [12] | | 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). | |  | |
| PreemptionCapability | | 3GPP TS 29.571 [12] | | Pre-emption capability. | | MCPTT-Preemption | |
| PreemptionVulnerability | | 3GPP TS 29.571 [12] | | Pre-emption vulnerability. | | MCPTT-Preemption | |
| PreemptionCapabilityRm | | 3GPP TS 29.571 [12] | | It is defined in the same way as the "PreemptionCapability" data type, but with the OpenAPI "nullable: true" property. | | MCPTT-Preemption | |
| PreemptionVulnerabilityRm | | 3GPP TS 29.571 [12] | | It is defined in the same way as the "PreemptionVulnerability" data type, but with the OpenAPI "nullable: true" property. | | MCPTT-Preemption | |
| PresenceInfo | | 3GPP TS 29.571 [12] | | Represents an area of interest, e.g. a Presence Reporting Area. | | InfluenceOnTrafficRouting | |
| PortManagementContainer | | 3GPP TS 29.512 [8] | | Contains port management information for a related port. | | TimeSensitiveNetworking | |
| ProblemDetails | | 3GPP TS 29.571 [12] | | Contains a detailed information about an error. | |  | |
| RanNasRelCause | | 3GPP TS 29.512 [8] | | Indicates RAN and/or NAS release cause code information. | | RAN-NAS-Cause | |
| RedirectResponse | | 3GPP TS 29.571 [12] | | Contains redirection related information. | | ES3XX | |
| RequestedQosMonitoringParameter | | 3GPP TS 29.512 [8] | | Indicate the QoS information to be monitored, 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. | | QoSMonitoring | |
| RatType | | 3GPP TS 29.571 [12] | | RAT Type. | |  | |
| RouteToLocation | | 3GPP TS 29.571 [12] | | Identifies routes to locations of applications. | | InfluenceOnTrafficRouting | |
| SatelliteBackhaulCategory | | 3GPP TS 29.571 [12] | | Indicates the satellite or non-satellite backhaul category | | SatelliteBackhaul | |
| Snssai | | 3GPP TS 29.571 [12] | | Identifies the S-NSSAI. | |  | |
| Supi | | 3GPP TS 29.571 [12] | | Identifies the SUPI. | |  | |
| SupportedFeatures | | 3GPP TS 29.571 [12] | | Used to negotiate the applicability of the optional features defined in table 5.8-1. | |  | |
| TimeWindow | | 3GPP TS 29.122 [15] | | Time window identified by a start time and a stop time. | | EnTSCAC | |
| TrafficCorrelationInfo | | 3GPP TS 29.522 [55] | | Contains the information for traffic correlation. | | CommonEASDNAI | |
| TimeZone | | 3GPP TS 29.571 [12] | | Time Zone. | | NetLoc | |
| TsnBridgeInfo | | 3GPP TS 29.512 [8] | | TSC user plane node information. | | TimeSensitiveNetworking | |
| Uint32 | | 3GPP TS 29.571 [12] | | Unsigned 32-bit integers, i.e. only value 0 and 32-bit integers above 0 are permissible. | | ResourceSharing | |
| Uint32Rm | | 3GPP TS 29.571 [12] | | This data type is defined in the same way as the "Uint32" data type, but with the OpenAPI "nullable: true" property. | | ResourceSharing | |
| Uinteger | | 3GPP TS 29.571 [12] | | Unsigned Integer, i.e. only value 0 and integers above 0 are permissible.  Minimum = 0. | | TimeSensitiveNetworking | |
| UpPathChgEvent | | 3GPP TS 29.512 [8] | | Contains the subscription information to be delivered to SMF for the UP path management events. | | InfluenceOnTrafficRouting | |
| Uri | | 3GPP TS 29.571 [12] | | String providing an URI. | |  | |
| UsageThreshold | | 3GPP TS 29.122 [15] | | Usage Thresholds. | | SponsoredConnectivity | |
| UsageThresholdRm | | 3GPP TS 29.122 [15] | | This data type is defined in the same way as the "UsageThreshold" data type, but with the OpenAPI "nullable: true" property. | | SponsoredConnectivity | |
| UserLocation | | 3GPP TS 29.571 [12] | | User Location(s). | | NetLoc | |

\*\*\* Next Change \*\*\*

#### 5.6.2.7 Type MediaComponent

Table 5.6.2.7-1: Definition of type MediaComponent

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| afAppId | AfAppId | O | 0..1 | Contains information that identifies the particular service the AF session belongs to. |  |
| afRoutReq | AfRoutingRequirement | O | 0..1 | Indicates the AF traffic routing requirements. | InfluenceOnTrafficRouting |
| afSfcReq | AfSfcRequirement | O | 0..1 | Indicates the AF requirements on steering traffic to a pre-configured chain of service functions on N6-LAN. | SFC |
| qosReference | string | O | 0..1 | Identifies a pre-defined QoS information. | AuthorizationWithRequiredQoS |
| altSerReqs | array(string) | O | 1..N | Ordered list of alternative service requirements that include a set of QoS references. The lower the index of the array for a given entry, the higher the priority.(NOTE 1) | AuthorizationWithRequiredQoS |
| altSerReqsData | array(AlternativeServiceRequirementsData) | O | 1..N | Ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 1) | AltSerReqsWithIndQoS |
| disUeNotif | boolean | O | 0..1 | Indicates to disable QoS flow parameters signalling to the UE when the SMF is notified by the NG-RAN of changes in the fulfilled QoS situation when it is included and set to "true". The fulfilled situation is either the QoS profile or an Alternative QoS Profile. The default value "false" shall apply, if the attribute is not present and has not been supplied previously. | DisableUENotification |
| contVer | ContentVersion | O | 0..1 | Represents the content version of a media component. | MediaComponentVersioning |
| desMaxLatency | Float | O | 0..1 | Indicates a maximum desirable transport level packet latency in milliseconds. | FLUS, QoSHint |
| desMaxLoss | Float | O | 0..1 | Indicates the maximum desirable transport level packet loss rate in percent (without "%" sign). | FLUS, QoSHint |
| flusId | string | O | 0..1 | Indicates that the media component is used for FLUS media.  It is derived from the media level attribute "a=label:" (see IETF RFC 4574 [50]) obtained from the SDP body. It contains the string after "a=label:" starting with "flus" and may be followed by more characters as described in 3GPP TS 26.238 [51]. | FLUS |
| medCompN | integer | M | 1 | Identifies the media component number, and it contains the ordinal number of the media component. |  |
| medSubComps | map(MediaSubComponent) | O | 1..N | Contains the requested bitrate and filters for the set of service data flows identified by their common flow identifier. The key of the map is the attribute "fNum". |  |
| medType | MediaType | O | 0..1 | Indicates the media type of the service. |  |
| marBwUl | BitRate | O | 0..1 | Maximum requested bandwidth for the Uplink. |  |
| marBwDl | BitRate | O | 0..1 | Maximum requested bandwidth for the Downlink. |  |
| maxPacketLossRateDl | PacketLossRateRm | O | 0..1 | Indicates the downlink maximum rate for lost packets that can be tolerated for the service data flow. | CHEM |
| maxPacketLossRateUl | PacketLossRateRm | O | 0..1 | Indicates the uplink maximum rate for lost packets that can be tolerated for the service data flow. | CHEM |
| maxSuppBwDl | BitRate | O | 0..1 | Maximum supported bandwidth for the Downlink. | IMS\_SBI |
| maxSuppBwUl | BitRate | O | 0..1 | Maximum supported bandwidth for the Uplink. | IMS\_SBI |
| minDesBwDl | BitRate | O | 0..1 | Minimum desired bandwidth for the Downlink. | IMS\_SBI |
| minDesBwUl | BitRate | O | 0..1 | Minimum desired bandwidth for the Uplink. | IMS\_SBI |
| mirBwUl | BitRate | O | 0..1 | Minimum requested bandwidth for the Uplink. |  |
| mirBwDl | BitRate | O | 0..1 | Minimum requested bandwidth for the Downlink. |  |
| fStatus | FlowStatus | O | 0..1 | Indicates whether the status of the service data flows is enabled, or disabled. |  |
| preemptCap | PreemptionCapability | O | 0..1 | Defines whether the media flow may get resources that were already assigned to another media flow with a lower priority level. It may be included together with "prioSharingInd" for ARP decision. | MCPTT-Preemption |
| preemptVuln | PreemptionVulnerability | O | 0..1 | Defines whether the media flow may lose the resources assigned to it in order to admit a media flow with higher priority level. It may be included together with "prioSharingInd" for ARP decision. | MCPTT-Preemption |
| prioSharingInd | PrioritySharingIndicator | O | 0..1 | Indicates that the media flow is allowed to use the same ARP as media flows belonging to other "Individual Application Session Context" resources bound to the same PDU session. | PrioritySharing |
| resPrio | ReservPriority | O | 0..1 | Indicates the reservation priority. |  |
| rrBw | BitRate | O | 0..1 | Indicates the maximum required bandwidth in bits per second for RTCP receiver reports within the session component as specified in IETF RFC 3556 [37]. The bandwidth contains all the overhead coming from the IP-layer and the layers above, i.e. IP, UDP and RTCP. | IMS\_SBI |
| rsBw | BitRate | O | 0..1 | Indicates the maximum required bandwidth in bits per second for RTCP sender reports within the session component as specified in IETF RFC 3556 [37]. The bandwidth contains all the overhead coming from the IP-layer and the layers above, i.e. IP, UDP and RTCP. | IMS\_SBI |
| sharingKeyDl | Uint32 | O | 0..1 | Identifies which media components share resources in the downlink direction.  If resource sharing applies between media components across "Individual Application Session Context" resources for the same PDU session, the same value of the "sharingKeyDl" attribute shall be used. If resource sharing does not apply among media components across "Individual Application Session Context" resources for the same PDU session, a different value for the "sharingKeyDl" attribute shall be used. | ResourceSharing |
| sharingKeyUl | Uint32 | O | 0..1 | Identifies which media components share resources in the uplink direction.  If resource sharing applies between media components across "Individual Application Session Context" resources for the same PDU session, the same value of the "sharingKeyUl" attribute shall be used. If resource sharing does not apply among media components across "Individual Application Session Context" resources for the same PDU session, a different value for the "sharingKeyUl" attribute shall be used. | ResourceSharing |
| codecs | array(CodecData) | O | 1..2 | Indicates the codec data. |  |
| tsnQos | TsnQoSContainer | O | 0..1 | Transports QoS parameters for TSC traffic. | TimeSensitiveNetworking |
| tscaiInputUl | TscaiInputContainer | O | 0..1 | Transports TSCAI input parameters for TSC traffic at the ingress interface of the DS-TT/UE (uplink flow direction). (NOTE 2) | TimeSensitiveNetworking |
| tscaiInputDl | TscaiInputContainer | O | 0..1 | Transports TSCAI input parameters for TSC traffic at the ingress of the NW-TT (downlink flow direction). (NOTE 2) | TimeSensitiveNetworking |
| tscaiTimeDom | Uinteger | O | 0..1 | Indicates the (g)PTP domain that the (TSN)AF is located in. | TimeSensitiveCommunication |
| capBatAdaptation | boolean | O | 0..1 | 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.  (NOTE 2) | EnTSCAC |
| ecnL4sSuppInd | UplinkDownlinkSupport | O | 0..1 | Indicates whether ECN marking for L4S support is supported for the UL, the DL or both, UL and DL. | XRM\_5G |
| NOTE 1: The attributes "altSerReqs" and "altSerReqsData" are mutually exclusive. Of the two, only the attribute "altSerReqs" may be provided if the attribute "qosReference" is provided, while only the attribute "altSerReqsData" may be provided if the attribute "qosReference" is not provided.  NOTE 2: The "burstArrivalTimeWnd" attribute, within the "tscaiInputUl" and/or "tscaiInputDl" attributes, and the "capBatAdaptation attribute are mutually exclusive. | | | | | |

All IP flows within a "MediaSubComponent" data type are permanently disabled by supplying "FlowStatus" data type with a deletion indication.

Bandwidth information and the "fStatus" attribute provided within the MediaComponent applies to all those IP flows within the media component, for which no corresponding information is being provided within the "medSubComps" attribute. As defined in 3GPP TS 29.513 [7], the bandwidth information within the media component level "marBwUl" and "marBwDl" attributes applies separately to each media subcomponent except for media subcomponents with a "flowUsage" attribute with the value "RTCP". The mapping of bandwidth information for RTCP media subcomponent is defined in 3GPP TS 29.513 [7] clause 7.3.3.

\*\*\* Next Change \*\*\*

#### 5.6.2.9 Type EventsNotification

Table 5.6.2.9-1: Definition of type EventsNotification

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| adReports | array(AppDetectionReport) | C | 0..1 | Includes the detected application report. It shall be present when the notified event is "APP\_DETECTION". | ApplicationDetectionEvents |
| accessType | AccessType | C | 0..1 | Includes the access type. It shall be present when the notified event is "ACCESS\_TYPE\_CHANGE". |  |
| addAccessInfo | AdditionalAccessInfo | O | 0..1 | Indicates the additional combination of Access Type and RAT Type available for MA PDU session. It may be present when the notified event is "ACCESS\_TYPE\_CHANGE" and the PDU session is a Multi-Access PDU session. | ATSSS |
| relAccessInfo | AdditionalAccessInfo | O | 0..1 | Indicates the released combination of Access Type and RAT Type previously available for MA PDU session. It may be present when the notified event is "ACCESS\_TYPE\_CHANGE" and the PDU session is a Multi-Access PDU session. | ATSSS |
| anChargAddr | AccNetChargingAddress | O | 0..1 | Includes the access network charging address. It shall be present if available when the notified event is "CHARGING\_CORRELATION". | IMS\_SBI |
| anChargIds | array(AccessNetChargingIdentifier) | C | 1..N | Includes the access network charging identifier(s). It shall be present when the notified event is "CHARGING\_CORRELATION". | IMS\_SBI |
| anGwAddr | AnGwAddress | O | 0..1 | Access network Gateway Address. It carries the IP address of the ePDG used as IPSec tunnel endpoint with the UE for EPC/ePDG and 5GS interworking. It shall be present, if applicable, when the notified event is "ACCESS\_TYPE\_CHANGE". |  |
| ecnL4sReports | array(EcnL4sSupport) | C | 1..N | ECN marking for L4S support information. It shall be present when the notified event is "ECN\_L4S\_SUPP". | XRM\_5G |
| evSubsUri | Uri | M | 1 | The Events Subscription URI. Identifies the Events Subscription sub-resource that triggered the notification.  (NOTE 1) |  |
| evNotifs | array(AfEventNotification) | M | 1..N | Notifications about individual events. |  |
| failedResourcAllocReports | array(ResourcesAllocationInfo) | C | 1..N | Indicates the status of the PCC rule(s) related to certain failed media components. It shall be included when the event trigger is "FAILED\_RESOURCES\_ALLOCATION". |  |
| succResourcAllocReports | array(ResourcesAllocationInfo) | O | 1..N | Indicates the alternative service requirement the NG-RAN can guarantee to certain media components. It may be included when the event trigger is "SUCCESSFUL\_RESOURCES\_ALLOCATION". | AuthorizationWithRequiredQoS |
| noNetLocSupp | NetLocAccessSupport | O | 0..1 | Indicates the access network does not support the report of the requested access network information. | NetLoc |
| outOfCredReports | array(OutOfCreditInformation) | C | 1..N | Out of credit information per service data flow. It shall be present when the notified event is "OUT\_OF\_CREDIT". | IMS\_SBI |
| plmnId | PlmnIdNid | C | 0..1 | PLMN Identifier or the SNPN Identifier.  It shall be present when the notified event is "PLMN\_CHG" or, if location information is required but is not available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE".  (NOTE 2) |  |
| qncReports | array(QosNotificationControlInfo) | C | 1..N | QoS notification control information. It shall be present when the notified event is "QOS\_NOTIF". |  |
| qosMonReports | array(QosMonitoringReport) | C | 1..N | QoS Monitoring reporting information. It shall be present when the notified event is "QOS\_MONITORING". | QoSMonitoring |
| ranNasRelCauses | array(RanNasRelCause) | C | 1..N | RAN-NAS release cause. It shall be present if available when the notified event is "RAN\_NAS\_CAUSE". | RAN-NAS-Cause |
| ratType | RatType | O | 0..1 | RAT type. It shall be present, if applicable, when the notified event is "ACCESS\_TYPE\_CHANGE". |  |
| satBackhaulCategory | SatelliteBackhaulCategory | C | 0..1 | Indicates the satellite or non-satellite backhaul category of the PDU session. It shall be present, if applicable, when the notified event is "SAT\_CATEGORY\_CHG". | SatelliteBackhaul |
| ueLoc | UserLocation | O | 0..1 | E-UTRA, or NR, and/or non-3GPP trusted and untrusted access user location information. "n3gppTai" and "n3IwfId" attributes within the "N3gaLocation" data type shall not be supplied. It shall be present if required and available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE".  (NOTE 3) (NOTE 4) | NetLoc, RAN-NAS-Cause |
| ueLocTime | DateTime | O | 0..1 | Contains the NTP time at which the UE was last known to be in the location.  (NOTE 3) | NetLoc |
| ueTimeZone | TimeZone | O | 0..1 | UE time zone.  It shall be present if required and available when the notified event is "ANI\_REPORT". It shall be present if available when the notified event is "RAN\_NAS\_CAUSE". | NetLoc, RAN-NAS-Cause |
| usgRep | AccumulatedUsage | C | 0..1 | Indicates the measured volume and/or time for sponsored data connectivity. It shall be present when the notified event is "USAGE\_REPORT". | SponsoredConnectivity |
| tsnBridgeManCont | BridgeManagementContainer | O | 0..1 | Transports TSC user plane node management information. | TimeSensitiveNetworking |
| tsnPortManContDstt | PortManagementContainer | O | 0..1 | Transports port management information for the DS-TT port. | TimeSensitiveNetworking |
| tsnPortManContNwtts | array(PortManagementContainer) | O | 1..N | Transports port management information for one or more NW-TT ports. | TimeSensitiveNetworking |
| ipv4AddrList | array(Ipv4AddrMask) | O | 1..N | List of Framed Route information of IPv4. | ExtraUEaddrReport |
| ipv6PrefixList | array(Ipv6Prefix) | O | 1..N | List of Framed Route information of IPv6 or list of IPv6 address prefixes of the served UE. | ExtraUEaddrReport |
| NOTE 1: Either the complete resource URI included in the "evSubsUri" attribute or the "apiSpecificResourceUriPart" component (see clause 5.1) of the resource URI included in the "evSubsUri" attribute may be used by the NF service consumer for the identification of the Individual Application Session Context resource related to the notification.  NOTE 2: The SNPN Identifier consists of the PLMN Identifier and the NID.  NOTE 3: Whether the "ueLoc" attribute also encodes the age of location is implementation specific.  NOTE 4: When the "ueLoc" attribute contains both, the 3GPP and the non-3GPP UE location, the "ueLocTime" attribute contains the age of the last known 3GPP UE location. | | | | | |

\*\*\* Next Change \*\*\*

#### 5.6.2.26 Type MediaComponentRm

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

- with the OpenAPI "nullable: true" property; and

- the removable attributes "afRoutReq" is defined with the removable data type "AfRoutingRequirementRm"; "maxPacketLossRateDl" and "maxPacketLossRateUl" are defined with the removable data type "PacketLossRateRm"; "medSubComps" is defined with the removable data type "MediaSubComponentRm"; "preemptCap" is defined with the removable data type "PreemptionCapabilityRm"; "preemptVuln" is defined with the removable data type "PreemptionVulnerabilityRm"; "marBwDl", "marBwUl", "minDesBwDl", "minDesBwUl", "mirBwDl", "mirBwUl", "maxSuppBwDl", "maxSuppBwUl", "rrBw", "rsBw" are defined with the removable data type "BitRateRm"; "sharingKeyDl", "sharingKeyUl", and "tsnQos" are defined with the removable data types "Uint32Rm" and "TsnQosContainerRm"; the removable attributes "desMaxLatency" and "desMaxLoss" are defined with the removable data type "FloatRm"; the removable attribute "flusId" is defined as nullable in the OpenAPI.

- the removable attributes "qosReference", "altSerReqs" and "afSfcReq" are defined as nullable.

Table 5.6.2.26-1: Definition of type MediaComponentRm

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| afAppId | AfAppId | O | 0..1 | Contains information that identifies the particular service the AF session belongs to. |  |
| afRoutReq | AfRoutingRequirementRm | O | 0..1 | Indicates the AF traffic routing requirements. | InfluenceOnTrafficRouting |
| afSfcReq | AfSfcRequirement | O | 0..1 | Indicates the AF requirements on steering traffic to a pre-configured chain of service functions on N6-LAN. | SFC |
| qosReference | string | O | 0..1 | Identifies a pre-defined QoS information. | AuthorizationWithRequiredQoS |
| altSerReqs | array(string) | O | 1..N | Ordered list of alternative service requirements that include a set of QoS references. The lower the index of the array for a given entry, the higher the priority. (NOTE 1) | AuthorizationWithRequiredQoS |
| altSerReqsData | array(AlternativeServiceRequirementsData) | O | 1..N | Ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 1) | AltSerReqsWithIndQoS |
| disUeNotif | boolean | O | 0..1 | Indicates to disable QoS flow parameters signalling to the UE when the SMF is notified by the NG-RAN of changes in the fulfilled QoS situation when it is included and set to "true". The fulfilled situation is either the QoS profile or an Alternative QoS Profile. The default value "false" shall apply, if the attribute is not present and has not been supplied previously. | DisableUENotification |
| contVer | ContentVersion | O | 0..1 | Represents the content version of a media component. | MediaComponentVersioning |
| desMaxLatency | FloatRm | O | 0..1 | Indicates a maximum desirable transport level packet latency in milliseconds. | FLUS, QoSHint |
| desMaxLoss | FloatRm | O | 0..1 | Indicates the maximum desirable transport level packet loss rate in percent (without "%" sign). | FLUS, QoSHint |
| flusId | string | O | 0..1 | Indicates that the media component is used for FLUS media.  It is derived from the media level attribute "a=label:" (see IETF RFC 4574 [50]) obtained from the SDP body. It contains the string after "a=label:" starting with "flus" and may be followed by more characters as described in 3GPP TS 26.238 [51]. | FLUS |
| maxPacketLossRateDl | PacketLossRateRm | O | 0..1 | Indicates the downlink maximum rate for lost packets that can be tolerated for the service data flow. | CHEM |
| maxPacketLossRateUl | PacketLossRateRm | O | 0..1 | Indicates the uplink maximum rate for lost packets that can be tolerated for the service data flow. | CHEM |
| medCompN | integer | M | 1 | Identifies the media component number, and it contains the ordinal number of the media component. |  |
| medSubComps | map(MediaSubComponentRm) | O | 1..N | Contains the requested bitrate and filters for the set of service data flows identified by their common flow identifier. The key of the map is the attribute "fNum". |  |
| medType | MediaType | O | 0..1 | Indicates the media type of the service. |  |
| marBwUl | BitRateRm | O | 0..1 | Maximum requested bandwidth for the Uplink. |  |
| marBwDl | BitRateRm | O | 0..1 | Maximum requested bandwidth for the Downlink. |  |
| maxSuppBwDl | BitRateRm | O | 0..1 | Maximum supported bandwidth for the Downlink. | IMS\_SBI |
| maxSuppBwUl | BitRateRm | O | 0..1 | Maximum supported bandwidth for the Uplink. | IMS\_SBI |
| minDesBwDl | BitRateRm | O | 0..1 | Minimum desired bandwidth for the Downlink. | IMS\_SBI |
| minDesBwUl | BitRateRm | O | 0..1 | Minimum desired bandwidth for the Uplink. | IMS\_SBI |
| mirBwUl | BitRateRm | O | 0..1 | Minimum requested bandwidth for the Uplink. |  |
| mirBwDl | BitRateRm | O | 0..1 | Minimum requested bandwidth for the Downlink. |  |
| fStatus | FlowStatus | O | 0..1 | Indicates whether the status of the service data flows is enabled, or disabled. |  |
| preemptCap | PreemptionCapabilityRm | O | 0..1 | Defines whether the media flow may get resources that were already assigned to another media flow with a lower priority level. | MCPTT-Preemption |
| preemptVuln | PreemptionVulnerabilityRm | O | 0..1 | Defines whether the media flow may lose the resources assigned to it in order to admit a media flow with higher priority level. | MCPTT-Preemption |
| prioSharingInd | PrioritySharingIndicator | O | 0..1 | Indicates that the media flow is allowed to use the same ARP as media flows belonging to other "Individual Application Session Context" resources bound to the same PDU session. | PrioritySharing |
| resPrio | ReservPriority | O | 0..1 | Indicates the reservation priority. |  |
| rrBw | BitRateRm | O | 0..1 | Indicates the maximum required bandwidth in bits per second for RTCP receiver reports within the session component as specified in IETF RFC 3556 [37]. The bandwidth contains all the overhead coming from the IP-layer and the layers above, i.e. IP, UDP and RTCP. | IMS\_SBI |
| rsBw | BitRateRm | O | 0..1 | Indicates the maximum required bandwidth in bits per second for RTCP sender reports within the session component as specified in IETF RFC 3556 [37]. The bandwidth contains all the overhead coming from the IP-layer and the layers above, i.e. IP, UDP and RTCP. | IMS\_SBI |
| codecs | array(CodecData) | O | 1..2 | Indicates the codec data. |  |
| sharingKeyDl | Uint32Rm | O | 0..1 | Identifies which media components share resources in the downlink direction.  If resource sharing applies between media components across "Individual Application Session Context" resources for the same PDU session, the same value of the "sharingKeyDl" attribute shall be used. If resource sharing does not apply among media components across "Individual Application Session Context" resources for the same PDU session, a different value for the "sharingKeyDl" attribute shall be used.  If resource sharing does no longer apply for this media component, the "sharingKeyDl" attribute shall be set to "null". | ResourceSharing |
| sharingKeyUl | Uint32Rm | O | 0..1 | Identifies which media components share resources in the uplink direction.  If resource sharing applies between media components across "Individual Application Session Context" resources for the same PDU session, the same value of the "sharingKeyUl" attribute shall be used. If resource sharing does not apply among media components across "Individual Application Session Context" resources for the same PDU session, a different value for the "sharingKeyUl" attribute shall be used.  If resource sharing does no longer apply for this media component, the "sharingKeyUl" attribute shall be set to "null". | ResourceSharing |
| tsnQos | TsnQoSContainerRm | O | 0..1 | Transports QoS parameters for TSC traffic. | TimeSensitiveNetworking |
| tscaiInputUl | TscaiInputContainer | O | 0..1 | Transports TSCAI input parameters for TSC traffic at the ingress interface of the DS-TT/UE (uplink flow direction). | TimeSensitiveNetworking |
| tscaiInputDl | TscaiInputContainer | O | 0..1 | Transports TSCAI input parameters for TSC traffic at the ingress of the NW-TT (downlink flow direction). | TimeSensitiveNetworking |
| tscaiTimeDom | Uinteger | O | 0..1 | Indicates the (g)PTP domain that the (TSN)AF is located in. | TimeSensitiveCommunication |
| capBatAdaptation | boolean | O | 0..1 | 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.  (NOTE 2) | EnTSCAC |
| ecnL4sSuppInd | UplinkDownlinkSupport | O | 0..1 | When provided, it represents an explicit indication of whether ECN marking for L4S support is supported for the UL, the DL or both, UL and DL.  It may be present when the media component is initially provided. | XRM\_5G |
| NOTE 1: The attributes "altSerReqs" and "altSerReqsData" are mutually exclusive.  NOTE 2: The "burstArrivalTimeWnd" attribute, within the "tscaiInputUl" and/or "tscaiInputDl" attributes, and the "capBatAdaptation" attribute are mutually exclusive. | | | | | |

\*\*\* Next Change \*\*\*

#### 5.6.2.51 Type EcnL4sSupport

Table 5.6.2.51-1: Definition of type EcnL4sSupport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifType | EcnL4SNotifType | M | 1 | Indicates whether the ECN marking for L4S for the indicated SDFs are "NOT\_AVAILABLE" or "AVAILABLE" again. |  |
| flows | array(Flows) | C | 1..N | Identification of the flows. If no flows are provided, the notification in the "notifType" applies for all flows within the AF session. |  |

\*\*\* Next Change \*\*\*

#### 5.6.3.7 Enumeration: AfEvent

The enumeration "AfEvent" represents the traffic events the PCF can notify to the NF service consumer.

Table 5.6.3.7-1: Enumeration AfEvent

| Enumeration value  (NOTE 1) | Description | Applicability |
| --- | --- | --- |
| ACCESS\_TYPE\_CHANGE | Access type change. |  |
| ANI\_REPORT | Access Network Information Report requested. | NetLoc |
| APP\_DETECTION | Application detection report is requested. | ApplicationDetectionEvents |
| CHARGING\_CORRELATION | Access Network Charging Correlation Information. | IMS\_SBI |
| UP\_PATH\_CHG\_FAILURE | Indicates that the enforcement of the AF required routing requirements (i.e. DNAI change) failed. | RoutingReqOutcome |
| ECN\_L4S\_SUPP | Indicates whether ECN marking for L4S is not available or available again in 5GS. | XRM\_5GS |
| EPS\_FALLBACK | Indicates the rejection of the establishment of the QoS flow for the requested voice media type in 5GS and the subsequent fallback to EPS. | EPSFallbackReport |
| EXTRA\_UE\_ADDR | Indicates the report of extra IP addresses or address ranges allocated for the given PDU session resulting from framed routes or IPv6 prefix delegation. | ExtraUEaddrReport |
| FAILED\_QOS\_UPDATE | Indicates that the invocation/revocation indication included in the mpsAction requested by the NF service consumer has failed. | MPSforDTS |
| FAILED\_RESOURCES\_ALLOCATION | Indicates that one or more of the SDFs of an Individual Application Session Context are deactivated at the SMF. It also indicates that the resources requested for a particular service information cannot be successfully allocated.  (NOTE 2) |  |
| OUT\_OF\_CREDIT | Out of credit.  (NOTE 2) | IMS\_SBI |
| PDU\_SESSION\_STATUS | Indicates the status of the PDU session (established/terminated). It only applies to notifications to the PCF for a UE as specified in clause 4.2.5.22. |  |
| PLMN\_CHG | This trigger indicates PLMN change. |  |
| QOS\_NOTIF | The GBR QoS targets of a SDF are not guaranteed or are guaranteed again. |  |
| QOS\_MONITORING | Indicates PCF to enable Qos Monitoring for the Service Data Flow. | QoSMonitoring |
| RAN\_NAS\_CAUSE | This trigger indicates RAN-NAS release cause information is available in the PCF from the SMF.  This event does not require explicit subscription. | RAN-NAS-Cause |
| REALLOCATION\_OF\_CREDIT | Credit has been reallocated after a former out of credit indication.  (NOTE 2) | IMS\_SBI, ReallocationOfCredit |
| SAT\_CATEGORY\_CHG | Indicates that the SMF has detected a change between different satellite backhaul category, or non-satellite backhaul. | SatelliteBackhaul |
| SUCCESSFUL\_QOS\_UPDATE | Indicates that the invocation/revocation indication included in the mpsAction requested by the NF service consumer has been successful. | MPSforDTS |
| SUCCESSFUL\_RESOURCES\_ALLOCATION | Indicates that the resources requested for particular service information have been successfully allocated.  (NOTE 2) |  |
| TSN\_BRIDGE\_INFO | 5GS Bridge information (UMIC and/or PMIC(s)) received by the PCF from the SMF. | TimeSensitiveNetworking |
| USAGE\_REPORT | Volume and/or time usage for sponsored data connectivity. | SponsoredConnectivity |
| UE\_TEMPORARILY\_UNAVAILABLE | UE is temporary unavailable. | UEUnreachable |
| NOTE 1: The subscription to events applies at AF session level, i.e., to all the media components/subcomponents of the Individual Application Session Context resource, unless otherwise specified in the AF event definition.  NOTE 2: To ensure the event reports the requested information for all the media components of the Individual Application Session Context resource, the event should be subscribed during the initial provisioning of the service information. When the event is subscribed after the initial provisioning of the service information, it is unknown the status for the unmodified service information previously provisioned, and in this case, only future status changes may be reported. | | | |

\*\*\* Next Change \*\*\*

#### 5.6.3.25 Enumeration: UplinkDownlinkSupport

The enumeration "UplinkDownlinkSupport" represents whether a capability is supported for the UL, the DL or both, UL and DL.

Table 5.6.3.25-1: Enumeration UplinkDownlinkSupport

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| UL | Supported for the UL. |  |
| DL | Supported for the DL. |  |
| UL\_DL | Supported for the UL and the DL |  |

\*\*\* Next Change \*\*\*

#### 5.6.3.26 Enumeration: EcnL4sNotifType

The enumeration "EcnL4sNotifType" represents unavailability or availability again of the ECN marking for L4S support in 5GS.

Table 5.6.3.26-1: Enumeration EcnL4sNotifType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| AVAILABLE | The ECN marking for L4S of one or more SDFs is available again. |  |
| NOT\_AVAILABLE | The ECN marking for L4S of one or more SDFs is not available. |  |

\*\*\* Next Change \*\*\*

# A.2 Npcf\_PolicyAuthorization API

openapi: 3.0.0

info:

title: Npcf\_PolicyAuthorization Service API

version: 1.3.0-alpha.2

description: |

PCF Policy Authorization Service.

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externalDocs:

description: 3GPP TS 29.514 V18.1.0; 5G System; Policy Authorization Service; Stage 3.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.514/'

servers:

- url: '{apiRoot}/npcf-policyauthorization/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

security:

- {}

- oAuth2ClientCredentials:

- npcf-policyauthorization

paths:

/app-sessions:

post:

summary: Creates a new Individual Application Session Context resource

operationId: PostAppSessions

tags:

- Application Sessions (Collection)

security:

- {}

- oAuth2ClientCredentials:

- npcf-policyauthorization

- oAuth2ClientCredentials:

- npcf-policyauthorization

- npcf-policyauthorization:policy-auth-mgmt

requestBody:

description: Contains the information for the creation the resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created individual application session context resource,

according to the structure

{apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}

or the URI of the created events subscription sub-resource,

according to the structure

{apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}

/events-subscription

required: true

schema:

type: string

'303':

description: >

See Other. The result of the HTTP POST request would be equivalent to the existing

Application Session Context.

headers:

Location:

description: >

Contains the URI of the existing individual Application Session Context resource.

required: true

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

description: Forbidden

content:

application/problem+json:

schema:

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

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:

anyOf:

- type: integer

- type: string

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

terminationRequest:

'{$request.body#/ascReqData/notifUri}/terminate':

post:

requestBody:

description: >

Request of the termination of the Individual Application Session Context.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

eventNotification:

'{$request.body#/ascReqData/evSubsc/notifUri}/notify':

post:

requestBody:

description: Notification of an event occurrence in the PCF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

detected5GsBridgeForPduSession:

'{$request.body#/ascReqData/evSubsc/notifUri}/new-bridge':

post:

requestBody:

description: Notification of a new TSC user plane node detected in the PCF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

eventNotificationPduSession:

'{$request.body#/ascReqData/evSubsc/notifUri}/pdu-session':

post:

requestBody:

description: Notification of PDU session established or terminated.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/app-sessions/pcscf-restoration:

post:

summary: "Indicates P-CSCF restoration and does not create an Individual Application Session Context"

operationId: PcscfRestoration

tags:

- PCSCF Restoration Indication

requestBody:

description: PCSCF Restoration Indication.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The deletion is confirmed without returning additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/app-sessions/{appSessionId}:

get:

summary: "Reads an existing Individual Application Session Context"

operationId: GetAppSession

tags:

- Individual Application Session Context (Document)

security:

- {}

- oAuth2ClientCredentials:

- npcf-policyauthorization

- oAuth2ClientCredentials:

- npcf-policyauthorization

- npcf-policyauthorization:policy-auth-mgmt

parameters:

- name: appSessionId

description: String identifying the resource.

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

patch:

summary: "Modifies an existing Individual Application Session Context"

operationId: ModAppSession

tags:

- Individual Application Session Context (Document)

security:

- {}

- oAuth2ClientCredentials:

- npcf-policyauthorization

- oAuth2ClientCredentials:

- npcf-policyauthorization

- npcf-policyauthorization:policy-auth-mgmt

parameters:

- name: appSessionId

description: String identifying the resource.

in: path

required: true

schema:

type: string

requestBody:

description: Modification of the resource.

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

Successful modification of the resource and a representation of that resource is

returned.

content:

application/json:

schema:

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

'204':

description: The successful modification.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

description: Forbidden

content:

application/problem+json:

schema:

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

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:

anyOf:

- type: integer

- type: string

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

eventNotification:

'{$request.body#/ascReqData/evSubsc/notifUri}/notify':

post:

requestBody:

description: Notification of an event occurrence in the PCF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/app-sessions/{appSessionId}/delete:

post:

summary: "Deletes an existing Individual Application Session Context"

operationId: DeleteAppSession

tags:

- Individual Application Session Context (Document)

security:

- {}

- oAuth2ClientCredentials:

- npcf-policyauthorization

- oAuth2ClientCredentials:

- npcf-policyauthorization

- npcf-policyauthorization:policy-auth-mgmt

parameters:

- name: appSessionId

description: String identifying the Individual Application Session Context resource.

in: path

required: true

schema:

type: string

requestBody:

description: >

Deletion of the Individual Application Session Context resource, req notification.

required: false

content:

application/json:

schema:

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

responses:

'200':

description: The deletion of the resource is confirmed and a resource is returned.

content:

application/json:

schema:

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

'204':

description: The deletion is confirmed without returning additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/app-sessions/{appSessionId}/events-subscription:

put:

summary: "creates or modifies an Events Subscription subresource"

operationId: updateEventsSubsc

tags:

- Events Subscription (Document)

parameters:

- name: appSessionId

description: String identifying the Events Subscription resource.

in: path

required: true

schema:

type: string

requestBody:

description: Creation or modification of an Events Subscription resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

The creation of the Events Subscription resource is confirmed and its representation is

returned.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created Events Subscription resource,

according to the structure

{apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}/

events-subscription

required: true

schema:

type: string

'200':

description: >

The modification of the Events Subscription resource is confirmed its representation is

returned.

content:

application/json:

schema:

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

'204':

description: >

The modification of the Events Subscription subresource is confirmed without returning

additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

eventNotification:

'{$request.body#/notifUri}/notify':

post:

requestBody:

description: >

Contains the information for the notification of an event occurrence in the PCF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

delete:

summary: deletes the Events Subscription subresource

operationId: DeleteEventsSubsc

tags:

- Events Subscription (Document)

parameters:

- name: appSessionId

description: String identifying the Individual Application Session Context resource.

in: path

required: true

schema:

type: string

responses:

'204':

description: >

The deletion of the of the Events Subscription sub-resource is confirmed without

returning additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

npcf-policyauthorization: Access to the Npcf\_PolicyAuthorization API

npcf-policyauthorization:policy-auth-mgmt: >

Access to service operations applying to PCF Policy Authorization for creation,

updation, deletion, retrieval.

schemas:

AppSessionContext:

description: Represents an Individual Application Session Context resource.

type: object

properties:

ascReqData:

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

ascRespData:

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

evsNotif:

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

AppSessionContextReqData:

description: Identifies the service requirements of an Individual Application Session Context.

type: object

required:

- notifUri

- suppFeat

oneOf:

- required: [ueIpv4]

- required: [ueIpv6]

- required: [ueMac]

properties:

afAppId:

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

afChargId:

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

afReqData:

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

afRoutReq:

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

afSfcReq:

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

aspId:

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

bdtRefId:

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

dnn:

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

evSubsc:

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

mcpttId:

description: Indication of MCPTT service request.

type: string

mcVideoId:

description: Indication of MCVideo service request.

type: string

medComponents:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains media component information. The key of the map is the medCompN attribute.

ipDomain:

type: string

mpsAction:

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

mpsId:

description: Indication of MPS service request.

type: string

mcsId:

description: Indication of MCS service request.

type: string

preemptControlInfo:

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

resPrio:

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

servInfStatus:

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

notifUri:

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

servUrn:

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

sliceInfo:

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

sponId:

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

sponStatus:

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

supi:

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

gpsi:

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

suppFeat:

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

ueIpv4:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

ueIpv6:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

ueMac:

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

tsnBridgeManCont:

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

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

multiModalId:

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

AppSessionContextRespData:

description: >

Describes the authorization data of an Individual Application Session Context created by

the PCF.

type: object

properties:

servAuthInfo:

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

ueIds:

type: array

items:

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

minItems: 1

suppFeat:

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

AppSessionContextUpdateDataPatch:

description: >

Identifies the modifications to an Individual Application Session Context and/or the

modifications to the sub-resource Events Subscription.

type: object

properties:

ascReqData:

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

AppSessionContextUpdateData:

description: >

Identifies the modifications to the "ascReqData" property of an Individual Application

Session Context which may include the modifications to the sub-resource Events Subscription.

type: object

properties:

afAppId:

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

afRoutReq:

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

afSfcReq:

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

aspId:

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

bdtRefId:

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

evSubsc:

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

mcpttId:

description: Indication of MCPTT service request.

type: string

mcVideoId:

description: Indication of modification of MCVideo service.

type: string

medComponents:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains media component information. The key of the map is the medCompN attribute.

mpsAction:

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

mpsId:

description: Indication of MPS service request.

type: string

mcsId:

description: Indication of MCS service request.

type: string

preemptControlInfo:

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

resPrio:

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

servInfStatus:

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

sipForkInd:

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

sponId:

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

sponStatus:

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

tsnBridgeManCont:

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

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

EventsSubscReqData:

description: Identifies the events the application subscribes to.

type: object

required:

- events

properties:

events:

type: array

items:

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

minItems: 1

notifUri:

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

reqQosMonParams:

type: array

items:

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

minItems: 1

qosMon:

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

reqAnis:

type: array

items:

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

minItems: 1

usgThres:

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

notifCorreId:

type: string

afAppIds:

type: array

items:

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

minItems: 1

directNotifInd:

type: boolean

EventsSubscReqDataRm:

description: >

This data type is defined in the same way as the EventsSubscReqData data type, but with

the OpenAPI nullable property set to true.

type: object

required:

- events

properties:

events:

type: array

items:

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

notifUri:

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

reqQosMonParams:

type: array

items:

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

minItems: 1

qosMon:

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

reqAnis:

type: array

items:

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

minItems: 1

usgThres:

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

notifCorreId:

type: string

directNotifInd:

type: boolean

nullable: true

nullable: true

MediaComponent:

description: Identifies a media component.

type: object

required:

- medCompN

allOf:

- not:

required: [altSerReqs,altSerReqsData]

- not:

required: [qosReference,altSerReqsData]

properties:

afAppId:

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

afRoutReq:

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

afSfcReq:

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

qosReference:

type: string

disUeNotif:

type: boolean

altSerReqs:

type: array

items:

type: string

minItems: 1

altSerReqsData:

type: array

items:

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

minItems: 1

description: >

Contains alternative service requirements that include individual QoS parameter sets.

contVer:

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

codecs:

type: array

items:

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

minItems: 1

maxItems: 2

desMaxLatency:

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

desMaxLoss:

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

flusId:

type: string

fStatus:

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

marBwDl:

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

marBwUl:

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

maxPacketLossRateDl:

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

maxPacketLossRateUl:

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

maxSuppBwDl:

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

maxSuppBwUl:

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

medCompN:

type: integer

medSubComps:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the requested bitrate and filters for the set of service data flows identified

by their common flow identifier. The key of the map is the fNum attribute.

medType:

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

minDesBwDl:

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

minDesBwUl:

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

mirBwDl:

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

mirBwUl:

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

preemptCap:

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

preemptVuln:

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

prioSharingInd:

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

resPrio:

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

rrBw:

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

rsBw:

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

sharingKeyDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

sharingKeyUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

tsnQos:

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

tscaiInputDl:

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

tscaiInputUl:

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

tscaiTimeDom:

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

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.

ecnL4sSuppInd:

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

MediaComponentRm:

description: >

This data type is defined in the same way as the MediaComponent data type, but with the

OpenAPI nullable property set to true.

type: object

required:

- medCompN

not:

required: [altSerReqs,altSerReqsData]

properties:

afAppId:

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

afRoutReq:

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

afSfcReq:

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

qosReference:

type: string

nullable: true

altSerReqs:

type: array

items:

type: string

minItems: 1

nullable: true

altSerReqsData:

type: array

items:

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

minItems: 1

description: >

Contains removable alternative service requirements that include individual QoS

parameter sets.

nullable: true

disUeNotif:

type: boolean

contVer:

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

codecs:

type: array

items:

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

minItems: 1

maxItems: 2

desMaxLatency:

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

desMaxLoss:

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

flusId:

type: string

nullable: true

fStatus:

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

marBwDl:

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

marBwUl:

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

maxPacketLossRateDl:

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

maxPacketLossRateUl:

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

maxSuppBwDl:

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

maxSuppBwUl:

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

medCompN:

type: integer

medSubComps:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the requested bitrate and filters for the set of service data flows identified

by their common flow identifier. The key of the map is the fNum attribute.

medType:

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

minDesBwDl:

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

minDesBwUl:

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

mirBwDl:

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

mirBwUl:

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

preemptCap:

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

preemptVuln:

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

prioSharingInd:

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

resPrio:

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

rrBw:

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

rsBw:

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

sharingKeyDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32Rm'

sharingKeyUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32Rm'

tsnQos:

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

tscaiInputDl:

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

tscaiInputUl:

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

tscaiTimeDom:

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

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.

ecnL4sSuppInd:

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

nullable: true

MediaSubComponent:

description: Identifies a media subcomponent.

type: object

required:

- fNum

properties:

afSigProtocol:

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

ethfDescs:

type: array

items:

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

minItems: 1

maxItems: 2

fNum:

type: integer

fDescs:

type: array

items:

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

minItems: 1

maxItems: 2

fStatus:

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

marBwDl:

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

marBwUl:

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

tosTrCl:

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

flowUsage:

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

MediaSubComponentRm:

description: >

This data type is defined in the same way as the MediaSubComponent data type, but with the

OpenAPI nullable property set to true. Removable attributes marBwDl and marBwUl are defined

with the corresponding removable data type.

type: object

required:

- fNum

properties:

afSigProtocol:

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

ethfDescs:

type: array

items:

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

minItems: 1

maxItems: 2

nullable: true

fNum:

type: integer

fDescs:

type: array

items:

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

minItems: 1

maxItems: 2

nullable: true

fStatus:

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

marBwDl:

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

marBwUl:

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

tosTrCl:

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

flowUsage:

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

nullable: true

EventsNotification:

description: Describes the notification of a matched event.

type: object

required:

- evSubsUri

- evNotifs

properties:

adReports:

type: array

items:

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

minItems: 1

description: Includes the detected application report.

accessType:

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

addAccessInfo:

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

relAccessInfo:

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

anChargAddr:

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

anChargIds:

type: array

items:

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

minItems: 1

anGwAddr:

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

ecnL4sReports:

type: array

items:

$ref: '#/components/schemas/EcnL4sSupport'

minItems: 1

evSubsUri:

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

evNotifs:

type: array

items:

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

minItems: 1

failedResourcAllocReports:

type: array

items:

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

minItems: 1

succResourcAllocReports:

type: array

items:

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

minItems: 1

noNetLocSupp:

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

outOfCredReports:

type: array

items:

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

minItems: 1

plmnId:

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

qncReports:

type: array

items:

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

minItems: 1

qosMonReports:

type: array

items:

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

minItems: 1

ranNasRelCauses:

type: array

items:

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

minItems: 1

description: Contains the RAN and/or NAS release cause.

ratType:

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

satBackhaulCategory:

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

ueLoc:

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

ueLocTime:

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

ueTimeZone:

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

usgRep:

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

tsnBridgeManCont:

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

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

ipv4AddrList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4AddrMask'

minItems: 1

ipv6PrefixList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

minItems: 1

AfEventSubscription:

description: Describes the event information delivered in the subscription.

type: object

required:

- event

properties:

event:

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

notifMethod:

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

repPeriod:

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

waitTime:

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

AfEventNotification:

description: Describes the event information delivered in the notification.

type: object

required:

- event

properties:

event:

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

flows:

type: array

items:

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

minItems: 1

retryAfter:

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

TerminationInfo:

description: >

Indicates the cause for requesting the deletion of the Individual Application Session

Context resource.

type: object

required:

- termCause

- resUri

properties:

termCause:

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

resUri:

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

AfRoutingRequirement:

description: Describes AF requirements on routing traffic.

type: object

properties:

appReloc:

type: boolean

routeToLocs:

type: array

items:

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

minItems: 1

spVal:

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

tempVals:

type: array

items:

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

minItems: 1

upPathChgSub:

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

addrPreserInd:

type: boolean

simConnInd:

type: boolean

description: >

Indicates whether simultaneous connectivity should be temporarily maintained for the

source and target PSA.

simConnTerm:

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

easIpReplaceInfos:

type: array

items:

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

minItems: 1

description: Contains EAS IP replacement information.

easRedisInd:

type: boolean

description: Indicates the EAS rediscovery is required.

maxAllowedUpLat:

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

tfcCorreInfo:

$ref: 'TS29522\_TrafficInfluence.yaml#/components/schemas/TrafficCorrelationInfo'

AfSfcRequirement:

description: Describes AF requirements on steering traffic to N6-LAN.

type: object

properties:

sfcDlId:

type: string

description: Reference to a pre-configured SFC policy for downlink traffic.

nullable: true

sfcUlId:

type: string

description: Reference to a pre-configured SFC policy for uplink traffic.

nullable: true

spVal:

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

metadata:

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

nullable: true

SpatialValidity:

description: Describes explicitly the route to an Application location.

type: object

required:

- presenceInfoList

properties:

presenceInfoList:

type: object

additionalProperties:

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

minProperties: 1

description: >

Defines the presence information provisioned by the AF. The praId attribute within the

PresenceInfo data type is the key of the map.

SpatialValidityRm:

description: >

This data type is defined in the same way as the SpatialValidity data type, but with the

OpenAPI nullable property set to true.

type: object

required:

- presenceInfoList

properties:

presenceInfoList:

type: object

additionalProperties:

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

minProperties: 1

description: >

Defines the presence information provisioned by the AF. The praId attribute within the

PresenceInfo data type is the key of the map.

nullable: true

AfRoutingRequirementRm:

description: >

This data type is defined in the same way as the AfRoutingRequirement data type, but with

the OpenAPI nullable property set to true and the spVal and tempVals attributes defined as

removable.

type: object

properties:

appReloc:

type: boolean

routeToLocs:

type: array

items:

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

minItems: 1

nullable: true

spVal:

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

tempVals:

type: array

items:

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

minItems: 1

nullable: true

upPathChgSub:

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

addrPreserInd:

type: boolean

nullable: true

simConnInd:

type: boolean

nullable: true

description: >

Indicates whether simultaneous connectivity should be temporarily maintained for the

source and target PSA.

simConnTerm:

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

easIpReplaceInfos:

type: array

items:

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

minItems: 1

description: Contains EAS IP replacement information.

nullable: true

easRedisInd:

type: boolean

description: Indicates the EAS rediscovery is required.

maxAllowedUpLat:

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

tfcCorreInfo:

$ref: 'TS29522\_TrafficInfluence.yaml#/components/schemas/TrafficCorrelationInfo'

nullable: true

AnGwAddress:

description: Describes the address of the access network gateway control node.

type: object

anyOf:

- required: [anGwIpv4Addr]

- required: [anGwIpv6Addr]

properties:

anGwIpv4Addr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

anGwIpv6Addr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

Flows:

description: Identifies the flows.

type: object

required:

- medCompN

properties:

contVers:

type: array

items:

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

minItems: 1

fNums:

type: array

items:

type: integer

minItems: 1

medCompN:

type: integer

EthFlowDescription:

description: Identifies an Ethernet flow.

type: object

required:

- ethType

properties:

destMacAddr:

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

ethType:

type: string

fDesc:

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

fDir:

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

sourceMacAddr:

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

vlanTags:

type: array

items:

type: string

minItems: 1

maxItems: 2

srcMacAddrEnd:

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

destMacAddrEnd:

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

ResourcesAllocationInfo:

description: Describes the status of the PCC rule(s) related to certain media components.

type: object

properties:

mcResourcStatus:

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

flows:

type: array

items:

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

minItems: 1

altSerReq:

type: string

description: >

Indicates whether NG-RAN supports alternative QoS parameters. The default value false

shall apply if the attribute is not present. It shall be set to false to indicate that

the lowest priority alternative QoS profile could not be fulfilled.

TemporalValidity:

description: Indicates the time interval(s) during which the AF request is to be applied.

type: object

properties:

startTime:

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

stopTime:

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

QosNotificationControlInfo:

description: >

Indicates whether the QoS targets for a GRB flow are not guaranteed or guaranteed again.

type: object

required:

- notifType

properties:

notifType:

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

flows:

type: array

items:

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

minItems: 1

altSerReq:

type: string

description: >

Indicates the alternative service requirement NG-RAN can guarantee. When it is omitted

and the notifType attribute is set to NOT\_GUAARANTEED it indicates that the lowest

priority alternative alternative service requirement could not be fulfilled by NG-RAN.

altSerReqNotSuppInd:

type: boolean

description: >

When present and set to true it indicates that Alternative Service Requirements are not

supported by NG-RAN.

AcceptableServiceInfo:

description: Indicates the maximum bandwidth that shall be authorized by the PCF.

type: object

properties:

accBwMedComps:

type: object

additionalProperties:

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

description: >

Indicates the maximum bandwidth that shall be authorized by the PCF for each media

component of the map. The key of the map is the media component number.

minProperties: 1

marBwUl:

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

marBwDl:

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

UeIdentityInfo:

description: Represents 5GS-Level UE identities.

type: object

anyOf:

- required: [gpsi]

- required: [pei]

- required: [supi]

properties:

gpsi:

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

pei:

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

supi:

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

AccessNetChargingIdentifier:

description: Describes the access network charging identifier.

type: object

oneOf:

- required: [accNetChaIdValue]

- required: [accNetChargIdString]

properties:

accNetChaIdValue:

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

accNetChargIdString:

type: string

description: A character string containing the access network charging identifier.

flows:

type: array

items:

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

minItems: 1

OutOfCreditInformation:

description: >

Indicates the SDFs without available credit and the corresponding termination action.

type: object

required:

- finUnitAct

properties:

finUnitAct:

$ref: 'TS32291\_Nchf\_ConvergedCharging.yaml#/components/schemas/FinalUnitAction'

flows:

type: array

items:

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

minItems: 1

QosMonitoringInformation:

description: >

Indicates the QoS Monitoring information to report, i.e. UL and/or DL and or round trip delay.

type: object

properties:

repThreshDl:

type: integer

repThreshUl:

type: integer

repThreshRp:

type: integer

PduSessionTsnBridge:

description: >

Contains the new TSC user plane node information and may contain the DS-TT port and/or

NW-TT port management information.

type: object

required:

- tsnBridgeInfo

properties:

tsnBridgeInfo:

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

tsnBridgeManCont:

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

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

ueIpv4Addr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

dnn:

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

snssai:

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

ipDomain:

type: string

description: IPv4 address domain identifier.

ueIpv6AddrPrefix:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

QosMonitoringInformationRm:

description: >

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

with the OpenAPI nullable property set to true.

type: object

properties:

repThreshDl:

type: integer

repThreshUl:

type: integer

repThreshRp:

type: integer

nullable: true

PcscfRestorationRequestData:

description: Indicates P-CSCF restoration.

type: object

oneOf:

- required: [ueIpv4]

- required: [ueIpv6]

properties:

dnn:

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

ipDomain:

type: string

sliceInfo:

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

supi:

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

ueIpv4:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

ueIpv6:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

QosMonitoringReport:

description: QoS Monitoring reporting information.

type: object

properties:

flows:

type: array

items:

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

minItems: 1

ulDelays:

type: array

items:

type: integer

minItems: 1

dlDelays:

type: array

items:

type: integer

minItems: 1

rtDelays:

type: array

items:

type: integer

minItems: 1

pdmf:

type: boolean

description: Represents the packet delay measurement failure indicator.

TsnQosContainer:

description: Indicates TSC Traffic QoS.

type: object

properties:

maxTscBurstSize:

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

tscPackDelay:

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

maxPer:

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

tscPrioLevel:

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

TsnQosContainerRm:

description: Indicates removable TSC Traffic QoS.

type: object

properties:

maxTscBurstSize:

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

tscPackDelay:

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

maxPer:

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

tscPrioLevel:

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

nullable: true

TscaiInputContainer:

description: Indicates TSC Traffic pattern.

type: object

properties:

periodicity:

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

burstArrivalTime:

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

surTimeInNumMsg:

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

surTimeInTime:

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

burstArrivalTimeWnd:

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

periodicityRange:

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

nullable: true

AppDetectionReport:

description: >

Indicates the start or stop of the detected application traffic and the application

identifier of the detected application traffic.

type: object

required:

- adNotifType

- afAppId

properties:

adNotifType:

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

afAppId:

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

PduSessionEventNotification:

description: >

Indicates PDU session information for the concerned established/terminated PDU session.

type: object

required:

- evNotif

properties:

evNotif:

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

supi:

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

ueIpv4:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

ueIpv6:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

ueMac:

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

status:

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

pcfInfo:

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

dnn:

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

snssai:

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

gpsi:

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

PcfAddressingInfo:

description: Contains PCF address information.

type: object

properties:

pcfFqdn:

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

pcfIpEndPoints:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/IpEndPoint'

minItems: 1

description: IP end points of the PCF hosting the Npcf\_PolicyAuthorization service.

bindingInfo:

type: string

description: contains the binding indications of the PCF.

AlternativeServiceRequirementsData:

description: Contains an alternative QoS related parameter set.

type: object

required:

- altQosParamSetRef

properties:

altQosParamSetRef:

type: string

description: Reference to this alternative QoS related parameter set.

gbrUl:

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

gbrDl:

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

pdb:

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

per:

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

EventsSubscPutData:

description: >

Identifies the events the application subscribes to within an Events Subscription

sub-resource data. It may contain the notification of the already met events.

anyOf:

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

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

PeriodicityRange:

description: >

Contains the acceptable lower bound and upper bound of the periodicity of the start two

bursts in reference to the external GM.

type: object

required:

- lowerBound

- upperBound

properties:

lowerBound:

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

upperBound:

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

EcnL4sSupport:

description: >

Indicates whether the ECN marking for L4S support is not available or available

again in 5GS.

type: object

required:

- notifType

properties:

notifType:

$ref: '#/components/schemas/EcnL4sNotifType'

flows:

type: array

items:

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

minItems: 1

#

# EXTENDED PROBLEMDETAILS

#

ExtendedProblemDetails:

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

allOf:

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

- type: object

properties:

acceptableServInfo:

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

#

# SIMPLE DATA TYPES

#

AfAppId:

description: Contains an AF application identifier.

type: string

AspId:

description: Contains an identity of an application service provider.

type: string

CodecData:

description: Contains codec related information.

type: string

ContentVersion:

description: Represents the content version of some content.

type: integer

FlowDescription:

description: Defines a packet filter of an IP flow.

type: string

SponId:

description: Contains an identity of a sponsor.

type: string

ServiceUrn:

description: Contains values of the service URN and may include subservices.

type: string

TosTrafficClass:

description: >

2-octet string, where each octet is encoded in hexadecimal representation. The first octet

contains the IPv4 Type-of-Service or the IPv6 Traffic-Class field and the second octet

contains the ToS/Traffic Class mask field.

type: string

TosTrafficClassRm:

description: >

This data type is defined in the same way as the TosTrafficClass data type, but with the

OpenAPI nullable property set to true.

type: string

nullable: true

MultiModalId:

description: >

This data type contains a multi-modal service identifier.

type: string

TscPriorityLevel:

description: Represents the priority level of TSC Flows.

type: integer

minimum: 1

maximum: 8

TscPriorityLevelRm:

description: >

This data type is defined in the same way as the TscPriorityLevel data type, but with the

OpenAPI nullable property set to true.

type: integer

minimum: 1

maximum: 8

nullable: true

#

# ENUMERATIONS DATA TYPES

#

MediaType:

description: Indicates the media type of a media component.

anyOf:

- type: string

enum:

- AUDIO

- VIDEO

- DATA

- APPLICATION

- CONTROL

- TEXT

- MESSAGE

- OTHER

- 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.

MpsAction:

description: >

Indicates whether it is an invocation, a revocation or an invocation with authorization of

the MPS for DTS service.

anyOf:

- type: string

enum:

- DISABLE\_MPS\_FOR\_DTS

- ENABLE\_MPS\_FOR\_DTS

- AUTHORIZE\_AND\_ENABLE\_MPS\_FOR\_DTS

- 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.

ReservPriority:

description: Indicates the reservation priority.

anyOf:

- type: string

enum:

- PRIO\_1

- PRIO\_2

- PRIO\_3

- PRIO\_4

- PRIO\_5

- PRIO\_6

- PRIO\_7

- PRIO\_8

- PRIO\_9

- PRIO\_10

- PRIO\_11

- PRIO\_12

- PRIO\_13

- PRIO\_14

- PRIO\_15

- PRIO\_16

- 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.

ServAuthInfo:

description: Indicates the result of the Policy Authorization service request from the AF.

anyOf:

- type: string

enum:

- TP\_NOT\_KNOWN

- TP\_EXPIRED

- TP\_NOT\_YET\_OCURRED

- ROUT\_REQ\_NOT\_AUTHORIZED

- 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.

SponsoringStatus:

description: Indicates whether sponsored data connectivity is enabled or disabled/not enabled.

anyOf:

- type: string

enum:

- SPONSOR\_DISABLED

- SPONSOR\_ENABLED

- 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.

AfEvent:

description: Represents an event to notify to the AF.

anyOf:

- type: string

enum:

- ACCESS\_TYPE\_CHANGE

- EXTRA\_UE\_ADDR

- ANI\_REPORT

- APP\_DETECTION

- CHARGING\_CORRELATION

- EPS\_FALLBACK

- FAILED\_QOS\_UPDATE

- FAILED\_RESOURCES\_ALLOCATION

- OUT\_OF\_CREDIT

- PDU\_SESSION\_STATUS

- PLMN\_CHG

- QOS\_MONITORING

- QOS\_NOTIF

- RAN\_NAS\_CAUSE

- REALLOCATION\_OF\_CREDIT

- SAT\_CATEGORY\_CHG

- SUCCESSFUL\_QOS\_UPDATE

- SUCCESSFUL\_RESOURCES\_ALLOCATION

- TSN\_BRIDGE\_INFO

- UP\_PATH\_CHG\_FAILURE

- USAGE\_REPORT

- UE\_TEMPORARILY\_UNAVAILABLE

- ECN\_L4S\_SUPP

- 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.

AfNotifMethod:

description: Represents the notification methods that can be subscribed for an event.

anyOf:

- type: string

enum:

- EVENT\_DETECTION

- ONE\_TIME

- PERIODIC

- PDU\_SESSION\_RELEASE

- 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.

QosNotifType:

description: Indicates the notification type for QoS Notification Control.

anyOf:

- type: string

enum:

- GUARANTEED

- NOT\_GUARANTEED

- 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.

TerminationCause:

description: >

Indicates the cause behind requesting the deletion of the Individual Application Session

Context resource.

anyOf:

- type: string

enum:

- ALL\_SDF\_DEACTIVATION

- PDU\_SESSION\_TERMINATION

- PS\_TO\_CS\_HO

- INSUFFICIENT\_SERVER\_RESOURCES

- INSUFFICIENT\_QOS\_FLOW\_RESOURCES

- SPONSORED\_DATA\_CONNECTIVITY\_DISALLOWED

- 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.

MediaComponentResourcesStatus:

description: Indicates whether the media component is active or inactive.

anyOf:

- type: string

enum:

- ACTIVE

- INACTIVE

- 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.

FlowUsage:

description: Describes the flow usage of the flows described by a media subcomponent.

anyOf:

- type: string

enum:

- NO\_INFO

- RTCP

- AF\_SIGNALLING

- 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.

FlowStatus:

description: Describes whether the IP flow(s) are enabled or disabled.

anyOf:

- type: string

enum:

- ENABLED-UPLINK

- ENABLED-DOWNLINK

- ENABLED

- DISABLED

- REMOVED

- 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.

RequiredAccessInfo:

description: Indicates the access network information required for an AF session.

anyOf:

- type: string

enum:

- USER\_LOCATION

- UE\_TIME\_ZONE

- 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.

SipForkingIndication:

description: >

Indicates whether several SIP dialogues are related to an "Individual Application Session

Context" resource.

anyOf:

- type: string

enum:

- SINGLE\_DIALOGUE

- SEVERAL\_DIALOGUES

- 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.

AfRequestedData:

description: Represents the information that the AF requested to be exposed.

anyOf:

- type: string

enum:

- UE\_IDENTITY

- 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.

ServiceInfoStatus:

description: Represents the preliminary or final service information status.

anyOf:

- type: string

enum:

- FINAL

- PRELIMINARY

- 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.

PreemptionControlInformation:

description: Represents Pre-emption control information.

anyOf:

- type: string

enum:

- MOST\_RECENT

- LEAST\_RECENT

- HIGHEST\_BW

- 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.

PrioritySharingIndicator:

description: Represents the Priority sharing indicator.

anyOf:

- type: string

enum:

- ENABLED

- DISABLED

- 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.

PreemptionControlInformationRm:

description: >

This data type is defined in the same way as the PreemptionControlInformation data type, but

with the OpenAPI nullable property set to true.

anyOf:

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

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

AppDetectionNotifType:

description: Indicates the notification type for Application Detection Control.

anyOf:

- type: string

enum:

- APP\_START

- APP\_STOP

- 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.

PduSessionStatus:

description: Indicates whether the PDU session is established or terminated.

anyOf:

- type: string

enum:

- ESTABLISHED

- TERMINATED

- 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.

UplinkDownlinkSupport:

description: >

Represents whether an indication or capability is supported for the UL, the DL or both,

UL and DL.

anyOf:

- type: string

enum:

- UL

- DL

- UL\_DL

- 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.

EcnL4sNotifType:

description: Indicates the notification type for ECN marking for L4S support in 5GS.

anyOf:

- type: string

enum:

- AVAILABLE

- NOT\_AVAILABLE

- 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.

\* \* \* \* End of changes \* \* \* \*