**3GPP TSG-CT WG3 Meeting #108-eC3-201436**

**E-Meeting, 19th – 28th February 2020 *(revision of C3-201187)***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.514** | **CR** | **0182** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Configuration of one or more NW-TT port management information containers | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Vertical\_LAN | | | | |  | ***Date:*** | | | 10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | 6 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | SA2 agreed in [S2-2001504](https://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_136AH_Incheon/Docs/S2-2001504.zip) that there might be one or more NW-TT ports where to forward the egress traffic of a PDU session.  Then, one or more NW-TT port management information containers can be configured for a PDU session in a 5GS Bridge. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clause 4.2.2.25 and 4.2.3.25 are updated to support the forwarding of one or more NW-TT port management information containers.  Clauses 5.6.2.4 and 5.6.2.19 is updated accordingly.  A.2 OpenAPI file is updated accordingly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incomplete and incorrect TSN networking specification | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.2.25, 4.2.3.25, 5.6.1, 5.6.2.3, 5.6.2.5, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.501 CR 2070 | | |
| ***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:*** | |  | | | | | | | | |

**Additional discussion(if needed):W**

**Proposed changes:**

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

#### 4.2.2.25 Provisioning of port management information

If the "TimeSensitiveNetworking" feature is supported the AF may provide port management information containers for the DS-TT port and/or the NW-TT ports to configure the 5G system as a TSN bridge by invoking the Npcf\_PolicyAuthorization\_Create service operation to the PCF.

The AF may include in the "AppSessionContextReqData" data type the DS-TT port management information container encoded in the attribute "tsnPortManContDstt" and/or the one or more NW-TT port management information containers encoded in the "tsnPortManContNwtts" attribute, if available, for the DS-TT port and NW-TT ports allocated for a PDU session. The port management information containers are encoded in the "PortManagementContainer" data type, that includes the port management information in the "portManCont" attribute and the related TSN port MAC address and port number in the "portIdentifier" attribute.

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

#### 4.2.3.25 Provisioning of port management information

If the "TimeSensitiveNetworking" feature is supported the AF may provide port management information containers for the DS-TT port and/or the NW-TT ports to update the configuration of the 5G system as a TSN bridge by invoking the Npcf\_PolicyAuthorization\_Update service operation to the PCF.

The AF shall use the HTTP PATCH method as described in subclause 4.2.3.2 to modify the "Individual Application Session Context" resource holding the DS-TT port and NW-TT ports management information containers.

The AF may include in the "AppSessionContextUpdateData" data type the DS-TT port management information container encoded in the "tsnPortManContDstt" and/or the one or more NW-TT port management information containers encoded in the "tsnPortManContNwtts", if available.

\*\*\* 3rd Change \*\*\*

### 5.6.1 General

This subclause 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 |
| AfEvent | 5.6.3.7 | Represents an event to notify to the AF. |  |
| 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 AF 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 |
| AnGwAddress | 5.6.2.20 | Carries the control plane address of the access network gateway. |  |
| 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 an Individual Application Session Context resource. |  |
| ContentVersion | 5.6.3.2 | Represents the version of a media component. | MediaComponentVersioning |
| 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. |  |
| EventsSubscReqData | 5.6.2.6 | Identifies the events the application subscribes to within an Individual Application Session Context resource. |  |
| EventsSubscReqDataRm | 5.6.2.6.25 | 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 | 5.6.2.6.26 | 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. |  |
| OutOfCreditInformation | 5.6.2.33 | Indicates the service data flows without available credit and the corresponding termination action. | IMS\_SBI |
| PcscfRestorationRequestData | 5.6.2.36 | Indicates P-CSCF restoration. | PCSCF-Restoration-Enhancement |
| 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 for UL, DL or round trip delay. | 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 |
| 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 AF. |  |
| 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 AF 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 AF 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. |  |
| TsnQoSContainer | 5.6.2.35 | TSN QoS parameters. | TimeSensitiveNetworking |
| UeIdentityInfo | 5.6.2.31 | Represents 5GS-Level UE Identities. | IMS\_SBI |

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 |
| AfSigProtocol | 3GPP TS 29.512 [8] | Represents the protocol used for signalling between the UE and the AF. | 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. |  |
| Bytes | 3GPP TS 29.571 [12] | String with format "byte". | TimeSensitiveNetworking |
| 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 |
| Dnai | 3GPP TS 29.571 [12] | Data network access identifier. | InfluenceOnTrafficRouting |
| Dnn | 3GPP TS 29.571 [12] | Data Network Name. |  |
| FinalUnitAction | 3GPP TS 32.291 [22] | Indicates the action to be taken when the user's account cannot cover the service cost. |  |
| FlowDirection | 3GPP TS 29.512 [8] | Flow Direction. |  |
| Gpsi | 3GPP TS 29.571 [12] | Identifies the GPSI. |  |
| Ipv4Addr | 3GPP TS 29.571 [12] | Identifies an IPv4 address. |  |
| Ipv6Addr | 3GPP TS 29.571 [12] | Identifies an IPv6 address. |  |
| MacAddr48 | 3GPP TS 29.571 [12] | MAC Address. |  |
| 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 |
| PlmnId | 3GPP TS 29.571 [12] | PLMN mobile country code and mobile network code. |  |
| 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 TSN port. | TimeSensitiveNetworking |
| RanNasRelCause | 3GPP TS 29.512 [8] | Indicates RAN and/or NAS release cause code information. | RAN-NAS-Cause |
| RatType | 3GPP TS 29.571 [12] | RAT Type. |  |
| 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. |  |
| TimeZone | 3GPP TS 29.571 [12] | Time Zone. | NetLoc |
| TsnBridgeInfo | 3GPP TS 29.512 [8] | TSN bridge information. | TimeSensitiveNetworking |
| TsnPortIdentifier | 3GPP TS 29.512 [8] | TSN port information. | TimeSensitiveNetworking |
| Uinteger | 3GPP TS 29.571 [12] | Unsigned Integer, i.e. only value 0 and integers above 0 are permissible. In an OpenAPI Specification [11] schema, the format shall be designated as "Uinteger". |  |
| 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 |
| 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. | NetLoc |

\*\*\* 4th Change \*\*\*

#### 5.6.2.3 Type AppSessionContextReqData

Table 5.6.2.3-1: Definition of type AppSessionContextReqData

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| afAppId | AfAppId | O | 0..1 | AF application identifier. |  |
| afChargId | ApplicationChargingId | O | 0..1 | AF charging identifier. This information may be used for charging correlation with QoS flow. | IMS\_SBI |
| afReqData | AfRequestedData | O | 0..1 | Represents the AF requested data to be exposed. | IMS\_SBI |
| afRoutReq | AfRoutingRequirement | C | 0..1 | Indicates the AF traffic routing requirements. It shall be included if Influence on Traffic Routing feature is supported. | InfluenceOnTrafficRouting |
| aspId | AspId | C | 0..1 | Application service provider identity. It shall be included if "SponsoredConnectivity" feature is supported. | SponsoredConnectivity |
| bdtRefId | BdtReferenceId | O | 0..1 | Reference to a transfer policy negotiated for background data traffic. |  |
| dnn | Dnn | C | 0..1 | Data Network Name. It shall be present when the "afRoutReq" attribute is present. |  |
| evSubsc | EventsSubscReqData | O | 0..1 | Identifies the events the application subscribes to at creation of an Individual Application Session Context resource. |  |
| ipDomain | string | O | 0..1 | Indicates the IPv4 address domain information that assists session binding. |  |
| mcpttId | string | O | 0..1 | Indicates that the created Individual Application Session Context resource relates to an MCPTT session prioritized call.  It includes either one of the namespace values used for MCPTT (see IETF RFC 8101 [42]) and it may include the name of the MCPTT service provider. | MCPTT |
| mcVideoId | string | O | 0..1 | Indicates that the created Individual Application Session Context resource relates to an MCVideo session prioritized call.  It includes either one of the namespace values used for MCPTT (see IETF RFC 8101 [42]) and it may include the name of the MCVideo service provider. | MCVideo |
| medComponents | map(MediaComponent) | O | 1..N | Media Component information. The key of the map is the attribute "medCompN". |  |
| mpsId | string | O | 0..1 | Indicates that the created Individual Application Session Context resource relates to an MPS service. It contains the national variant for MPS service name. |  |
| mcsId | string | O | 0..1 | Indicates that the created Individual Application Session Context resource relates to an MCS service. It contains the national variant for MCS service name. |  |
| preemptControlInfo | PreemptionControlInformation | O | 0..1 | Pre-emption control information. | MCPTT-Preemption |
| resPrio | ReservPriority | O | 0..1 | Indicates the reservation priority. |  |
| servInfStatus | ServiceInfoStatus | O | 0..1 | Indicates whether the service information is preliminary or final.  When the attribute is not provided the default value is "FINAL". | IMS\_SBI |
| notifUri | Uri | M | 1 | Notification URI for Application Session Context termination requests. |  |
| servUrn | ServiceUrn | O | 0..1 | Service URN. | IMS\_SBI |
| sliceInfo | Snssai | O | 0..1 | Identifies the S-NSSAI. |  |
| sponId | SponId | C | 0..1 | Sponsor identity. It shall be included if "SponsoredConnectivity" feature is supported. | SponsoredConnectivity |
| sponStatus | SponsoringStatus | O | 0..1 | Indication of whether sponsored connectivity is enabled or disabled/not enabled.  The absence of the attribute indicates that the sponsored connectivity is enabled. | SponsoredConnectivity |
| supi | Supi | O | 0..1 | Subscription Permanent Identifier. |  |
| gpsi | Gpsi | O | 0..1 | Generic Public Subscription Identifier. |  |
| suppFeat | SupportedFeatures | M | 1 | This IE represents a list of Supported features used as described in subclause 5.8.  It shall be supplied by the NF service consumer in the POST request that requests a creation of an Individual Application Session Context resource. |  |
| ueIpv4 | Ipv4Addr | C | 0..1 | The IPv4 address of the served UE. |  |
| ueIpv6 | Ipv6Addr | C | 0..1 | The IPv6 address of the served UE. |  |
| ueMac | MacAddr48 | C | 0..1 | The MAC address of the served UE. |  |
| tsnPortManContDstt | PortManagementContainer | O | 0..1 | Transports TSN port management information for the DS-TT port. | TimeSensitiveNetworking |
| tsnPortManContNwtts | array(PortManagementContainer) | O | 1..N | Transports TSN port management information for one or more NW-TT ports. | TimeSensitiveNetworking |
| NOTE: Only one of the served UE addressing parameters (the IPv4 address or the IPv6 address or MAC address) shall always be included. | | | | | |

\*\*\* 5th Change \*\*\*

#### 5.6.2.5 Type AppSessionContextUpdateData

Table 5.6.2.5-1: Definition of type AppSessionContextUpdateData

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| afAppId | AfAppId | O | 0..1 | AF application identifier. |  |
| afRoutReq | AfRoutingRequirementRm | O | 0..1 | Indicates the AF traffic routing requirements. | InfluenceOnTrafficRouting |
| aspId | AspId | O | 0..1 | Application service provider identity. | SponsoredConnectivity |
| bdtRefId | BdtReferenceId | O | 0..1 | Reference to a transfer policy negotiated for background data traffic. |  |
| evSubsc | EventsSubscReqDataRm | O | 0..1 | Identifies the events the application subscribes to at modification of an Individual Application Session Context resource. |  |
| mcpttId | string | O | 0..1 | Indicates that the updated Individual Application Session Context resource relates to an MCPTT session prioritized call.  It includes either one of the namespace values used for MCPTT (see IETF RFC 8101 [42]) and it may include the name of the MCPTT service provider. | MCPTT |
| mcVideoId | string | O | 0..1 | Indicates that the updated Individual Application Session Context resource relates to an MCVideo session prioritized call.  It includes either one of the namespace values used for MCPTT (see IETF RFC 8101 [42]) and it may include the name of the MCVideo service provider. | MCVideo |
| medComponents | map(MediaComponentRm) | O | 1..N | Media Component information. |  |
| mpsId | string | O | 0..1 | Indicates that the modified Individual Application Session Context resource relates to an MPS service. It contains the national variant for MPS service name. |  |
| mcsId | string | O | 0..1 | Indicates that the updated Individual Application Session Context resource relates to an MCS service. It contains the national variant for MCS service name. |  |
| preemptControlInfo | PreemptionControlInformationRm | O | 0..1 | Preemption control information. | MCPTT-Preemption |
| resPrio | ReservPriority | O | 0..1 | Indicates the reservation priority. |  |
| servInfStatus | ServiceInfoStatus | O | 0..1 | Indicates whether the service information is preliminary or final. | IMS\_SBI |
| sipForkInd | SipForkingIndication | O | 0..1 | Describes if several SIP dialogues are related to an "Individual Application Session Context" resource. | IMS\_SBI |
| sponId | SponId | O | 0..1 | Sponsor identity. | SponsoredConnectivity |
| sponStatus | SponsoringStatus | O | 0..1 | Indication of whether sponsored connectivity is enabled or disabled/not enabled. | SponsoredConnectivity |
| tsnPortManContDstt | PortManagementContainer | O | 0..1 | Transports TSN port management information for the DS-TT port. | TimeSensitiveNetworking |
| tsnPortManContNwtts | array(PortManagementContainer) | O | 1..N | Transports TSN port management information for one or more NW-TT ports. | TimeSensitiveNetworking |

\*\*\* 6th Change \*\*\*

# A.2 Npcf\_PolicyAuthorization API

openapi: 3.0.0

info:

title: Npcf\_PolicyAuthorization Service API

version: 1.1.0.alpha-4

description: |

PCF Policy Authorization Service.

© 2019, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

All rights reserved.

externalDocs:

description: 3GPP TS 29.514 V16.3.0; 5G System; Policy Authorization Service;Stage 3.

url: 'http://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 subclause 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)

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. The HTTP response shall contain a Location header field set to the URI of the existing individual Application Session Context resource

'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'

'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

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'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'

'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.

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged

'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'

'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: false

content:

application/json:

schema:

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

responses:

'204':

description: The deletion is confirmed without returning additional data.

'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'

'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)

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'

'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'

'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)

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/AppSessionContextUpdateData'

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

'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'

'503':

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

default:

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

callbacks:

eventNotification:

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

post:

requestBody:

description: Notification of an event occurrence in the PCF.

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged

'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'

'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)

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.

'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'

'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:

anyOf:

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

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

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 of the Events Subscription resource is confirmed its representation is returned.

content:

application/json:

schema:

anyOf:

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

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

'204':

description: The modification of the Events Subscription subresource is confirmed without returning additional data.

'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'

'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.

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'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'

'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.

'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'

'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

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'

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

ipDomain:

type: string

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'

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

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'

AppSessionContextUpdateData:

description: Identifies the modifications to an Individual Application Session Context and may include the modifications to the sub-resource Events Subscription.

type: object

properties:

afAppId:

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

afRoutReq:

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

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

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'

tsnPortManContDstt:

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

tsnPortManContNwtts:

type: array

items:

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

minItems: 1

tsnPortIdentifierDstt:

$ref: 'TS29512\_CommonData.yaml#/components/schemas/TsnPortIdentifier'

tsnPortIdentifierNwtt:

$ref: 'TS29512\_CommonData.yaml#/components/schemas/TsnPortIdentifier'

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'

qosMon:

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

reqAni:

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

usgThres:

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

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'

reqAni:

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

usgThres:

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

nullable: true

MediaComponent:

description: Identifies a media component.

type: object

required:

- medCompN

properties:

afAppId:

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

afRoutReq:

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

qosReference:

type: string

altSerReqs:

type: array

items:

type: string

minItems: 1

contVer:

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

codecs:

type: array

items:

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

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'

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

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'

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

properties:

afAppId:

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

afRoutReq:

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

contVer:

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

codecs:

type: array

items:

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

minItems: 1

maxItems: 2

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

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'

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:

accessType:

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

anChargAddr:

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

anChargIds:

type: array

items:

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

minItems: 1

anGwAddr:

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

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

noNetLocSupp:

type: boolean

outOfCredReports:

type: array

items:

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

minItems: 1

plmnId:

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

qncReports:

type: array

items:

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

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'

ueLoc:

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

ueTimeZone:

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

usgRep:

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

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'

pduSessRel:

type: boolean

notifCorreId:

type: string

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

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 the event information delivered in the subscription

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

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

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

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

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

required:

- mcResourcStatus

properties:

mcResourcStatus:

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

flows:

type: array

items:

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

minItems: 1

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

gfbrUl:

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

gfbrDl:

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

altSerReq:

type: string

#

AcceptableServiceInfo:

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

type: object

properties:

accBwMedComps:

type: object

additionalProperties:

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

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

required:

- accNetChaIdValue

properties:

accNetChaIdValue:

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

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

#

#

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'

#

# 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

#

# ENUMERATIONS DATA TYPES

#

MediaType:

anyOf:

- type: string

enum:

- AUDIO

- VIDEO

- DATA

- APPLICATION

- CONTROL

- TEXT

- MESSAGE

- OTHER

- type: string

#

ReservPriority:

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

#

ServAuthInfo:

anyOf:

- type: string

enum:

- TP\_NOT\_KNOWN

- TP\_EXPIRED

- TP\_NOT\_YET\_OCURRED

- type: string

#

SponsoringStatus:

anyOf:

- type: string

enum:

- SPONSOR\_DISABLED

- SPONSOR\_ENABLED

- type: string

#

AfEvent:

anyOf:

- type: string

enum:

- ACCESS\_TYPE\_CHANGE

- ANI\_REPORT

- CHARGING\_CORRELATION

- FAILED\_RESOURCES\_ALLOCATION

- OUT\_OF\_CREDIT

- PLMN\_CHG

- QOS\_MONITORING

- QOS\_NOTIF

- RAN\_NAS\_CAUSE

- SUCCESSFUL\_RESOURCES\_ALLOCATION

- USAGE\_REPORT

- type: string

#

AfNotifMethod:

anyOf:

- type: string

enum:

- EVENT\_DETECTION

- ONE\_TIME

- PERIODIC

- type: string

#

QosNotifType:

anyOf:

- type: string

enum:

- GUARANTEED

- NOT\_GUARANTEED

- type: string

#

TerminationCause:

anyOf:

- type: string

enum:

- ALL\_SDF\_DEACTIVATION

- PDU\_SESSION\_TERMINATION

- PS\_TO\_CS\_HO

- type: string

#

MediaComponentResourcesStatus:

anyOf:

- type: string

enum:

- ACTIVE

- INACTIVE

- type: string

#

#

FlowUsage:

anyOf:

- type: string

enum:

- NO\_INFO

- RTCP

- AF\_SIGNALLING

- type: string

FlowStatus:

anyOf:

- type: string

enum:

- ENABLED-UPLINK

- ENABLED-DOWNLINK

- ENABLED

- DISABLED

- REMOVED

- type: string

#

RequiredAccessInfo:

anyOf:

- type: string

enum:

- USER\_LOCATION

- UE\_TIME\_ZONE

- type: string

#

SipForkingIndication:

anyOf:

- type: string

enum:

- SINGLE\_DIALOGUE

- SEVERAL\_DIALOGUES

- type: string

#

AfRequestedData:

anyOf:

- type: string

enum:

- UE\_IDENTITY

- type: string

#

ServiceInfoStatus:

anyOf:

- type: string

enum:

- FINAL

- PRELIMINARY

- type: string

#

PreemptionControlInformation:

anyOf:

- type: string

enum:

- MOST\_RECENT

- LEAST\_RECENT

- HIGHEST\_BW

- type: string

#

PrioritySharingIndicator:

anyOf:

- type: string

enum:

- ENABLED

- DISABLED

- type: string

#

PreemptionControlInformationRm:

anyOf:

- type: string

enum:

- MOST\_RECENT

- LEAST\_RECENT

- HIGHEST\_BW

- type: string

nullable: true

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