**3GPP TSG CT WG3 Meeting #142 *C3-253580***

**Goteborg, Sweden, 25 – 29 August, 2025 (Revision of C3-253393)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.514** | **CR** | **0792** | **rev** | **1** | **Current version:** | **19.3.0** |  |
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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:*** | Complete error handling for the AF requested multiplexed media flows | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM\_Ph2 | | | | |  | ***Date:*** | | | 2025-6-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In TS 23.503, it specified:  - When the AF request includes media flows with an uplink direction and the UE has not indicated support for (S)RTP Multiplexed Media Identification Information in IP Packet Filters, the PCF may, based on operator configuration, reject the AF request indicating lack of UE support for (S)RTP Multiplexed Media Identification or generate PCC rules and notify the AF that the differentiated QoS handling for multiplexed media flows is not supported by the UE.  So the PCF can reject the AF request with an indication about the UE capability, or notify the AF about the UE capability about the differentiated QoS handling for multiplexed media flows.  However, how the PCF rejects or notifies the AF request with an indication about the UE capability is not implemented for the multiplexed media identification information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the rejection handling when the UE does not indicate its support for multiplexed media identification information.  Add the notification handling when the UE does not indicate its support for multiplexed media identification information. | | | | | | | | |
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| ***Consequences if not approved:*** | | The rejections/notifications in the response to the AF is not complete for the multiplexed media identification information and not fulfill the SA2 requirement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.2.2, 4.2.2.47, 4.2.3.2, 4.2.3.46, 5.6.3.5, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces backward compatible feature to the following APIs:  TS29514\_Npcf\_PolicyAuthorization.yaml  TS29122\_AsSessionWithQoS.yaml  TS29122\_ChargeableParty.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 4.2.2.2 Initial provisioning of service information

This procedure is used to set up an AF application session context for the service as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [4].

Figure 4.2.2.2-1 illustrates the initial provisioning of service information.



Figure 4.2.2.2-1: Initial provisioning of service information

When a new AF application session context is being established and media information for this application session context is available at the NF service consumer and the related media requires PCC control, the NF service consumer shall invoke the Npcf\_PolicyAuthorization\_Create service operation by sending the HTTP POST request to the resource URI representing the "Application Sessions" collection resource of the PCF, as shown in figure 4.2.2.2-1, step 1.

The NF service consumer shall include in the "AppSessionContext" data type in the content of the HTTP POST request a partial representation of the "Individual Application Session Context" resource by providing the "AppSessionContextReqData" data type. The "Individual Application Session Context" resource and the "Events Subscription" sub-resource are created as described below.

The NF service consumer shall provide in the body of the HTTP POST request:

- for IP type PDU sessions, the IP address (IPv4 or IPv6) of the UE in the "ueIpv4" or "ueIpv6" attribute; and

- for Ethernet type PDU sessions, the MAC address of the UE in the "ueMac" attribute.

For Ethernet type PDU sessions, if the "TimeSensitiveNetworking" or "TimeSensitiveCommunication" feature is supported, the "ueMac" attribute containing the MAC address of the DS-TT port as received from the PCF during the reporting of TSC user plane node information as defined in clause 4.2.5.16.

NOTE 1: The determination of the DS-TT port MAC address is specified in clause 5.28.2 of 3GPP TS 23.501 [2]. The DS-TT port MAC address is used as identifier of the PDU session related to the reported TSC user plane node information.

For IP type PDU sessions, if the "TimeSensitiveCommunication" feature is supported, the "ueIpv4" or "ueIpv6" attribute containing the IPv4 or IPv6 address of the UE as received from the PCF during the reporting of user plane node information as defined in clause 4.2.5.16.

NOTE 2: The IP address of the PDU session is used as identifier of the PDU session related to the reported TSC user plane node information.

The NF service consumer shall provide the corresponding service information in the "medComponents" attribute, if available. The NF service consumer shall indicate to the PCF for each media component included within the "medComponents" attribute whether the media component service data flow(s) (IP or Ethernet) should be enabled or disabled with the "fStatus" attribute. The service data flow filters (IP or Ethernet) that identify the traffic of the media component, if available, shall be provided within the media subcomponent(s) elements included in the "medSubComps" attribute (one uplink and/or downlink service data flow filter per media subcomponent). If the "EnQoSMon" feature is supported, the NF service consumer may include the attribute "evSubsc" in the "MediaSubComponent" data type for QoS monitoring for each media component. Either the "evSubsc" in "MediaSubComponent" data type or attribute "evSubsc" in "AppSessionContextReqData" data type may be provided to subscribe to notifications for a specific event.

NOTE 3: The NF service consumer could provide more than one "MediaSubComponent" data type (within one or more media components) if the same or different events applies to different single-modal data flow.

An IP flow description is based on the definition of the packet filter for an IP flow (direction, IP source and destination address, protocol, and source and destination port) as defined by "FlowDescription" data type, the type of service or traffic class as defined in the "tosTrCl" attribute and, when the feature "DetNet" is supported, the flow label and the IPsec SPI as defined in the "flowLabel" and "spi" attributes respectively.

An Ethernet flow description is based on the definition of the packet filter for an Ethernet flow (direction, Ethertype, source and destination MAC address, vlan tags, IP flow description (when Ethertype is IP) and source and destination MAC address range) as specified by "EthFlowDescription" data type.

If the "AuthorizationWithRequiredQoS" feature as defined in clause 5.8 is supported, the AF may provide within the MediaComponent data structure required QoS information as specified in clause 4.2.2.32.

The AF may include the AF application identifier in the "afAppId" attribute into the body of the HTTP POST request in order to indicate the particular service that the AF session belongs to.

The AF application identifier may be provided at both "AppSessionContextReqData" data type level, and "MediaComponent" data type level. When provided at both levels, the AF application identifier provided at "MediaComponent" data type level shall have precedence.

The AF application identifier at the "AppSessionContextReqData" data type level may be used to trigger the PCF to indicate to the SMF/UPF to perform the application detection based on the operator's policy as defined in 3GPP TS 29.512 [8].

If the "IMS\_SBI" feature is supported, the NF service consumer may include the AF charging identifier in the "afChargId" attribute for charging correlation purposes.

If the "TimeSensitiveNetworking" or "TimeSensitiveCommunication" feature is supported the NF service consumer may provide TSC information as specified in clauses 4.2.2.24 and 4.2.2.25.

If the "MultiMedia" feature is supported, the NF service consumer may provide the multi-modal service identifier in the "multiModalId" attribute for multi-modal communication purpose in clause 4.2.2.37.

If the "PDUSetHandling" feature is supported, the NF service consumer may provide PDU set handling related data as specified in clause 4.2.2.39.

If the "PowerSaving" feature is supported, the NF service consumer may provide UL and/or DL traffic periodicity and/or DL protocol description as described in clause 4.2.2.42.

The NF service consumer may also include the "evSubsc" attribute of "EventsSubscReqData" data type to request the notification of certain user plane events. The NF service consumer shall include the events to subscribe to in the "events" attribute, and the notification URI where to address the Npcf\_PolicyAuthorization\_Notify service operation in the "notifUri" attribute. The events subscription is provisioned in the "Events Subscription" sub-resource.

The AF shall also include the "notifUri" attribute in the "AppSessionContextReqData" data type to indicate the URI where the PCF can request to the AF the deletion of the "Individual Application Session Context" resource.

If the PCF cannot successfully fulfil the received HTTP POST request due to the internal PCF error or due to the error in the HTTP POST request, the PCF shall send the HTTP error response as specified in clause 5.7.

Otherwise, when the PCF receives the HTTP POST request from the NF service consumer, the PCF shall apply session binding as described in 3GPP TS 29.513 [7]. To allow the PCF to identify the PDU session for which the HTTP POST request applies, the NF service consumer shall provide in the body of the HTTP POST request:

- for IP type PDU session, either the "ueIpv4" attribute or "ueIpv6" attribute containing the IPv4 or the IPv6 address applicable to an IP flow or IP flows towards the UE; and

- for Ethernet type PDU session, the "ueMac" attribute containing the UE MAC address applicable to an Ethernet flow or Ethernet flows towards the UE.

The NF service consumer may provide DNN in the "dnn" attribute, SUPI in the "supi" attribute, GPSI in the "gpsi" attribute, the S-NSSAI in the "sliceInfo" attribute if available for session binding. The NF service consumer may also provide the domain identity in the "ipDomain" attribute.

NOTE 4: The "ipDomain" attribute is helpful in the following scenario: Within a network slice, there are several separate IP address domains, with SMF/UPF(s) that allocate Ipv4 IP addresses out of the same private address range to UE PDU sessions. The same IP address can thus be allocated to UE PDU sessions served by SMF/UPF(s) in different address domains. If one PCF controls several SMF/UPF(s) in different IP address domains, the UE IP address is thus not sufficient for the session binding. A NF service consumer can serve UEs in different IP address domains, either by having direct IP interfaces to those domains, or by having interconnections via NATs in the user plane between the UPF and the NF service consumer. If a NAT is used, the NF service consumer obtains the IP address allocated to the UE PDU session via application level signalling and supplies it for the session binding to the PCF in the "ueIpv4" attribute. The NF service consumer supplies an "ipDomain" attribute denoting the IP address domain behind the NAT in addition. The NF service consumer can derive the appropriate value from the source address (allocated by the NAT) of incoming user plane packets. The value provided in the "ipDomain" attribute is operator configurable.

NOTE 5: The "sliceInfo" attribute is helpful in the scenario where multiple network slices are deployed in the same DNN, and the same IPv4 address may be allocated to UE PDU sessions in different network slices. If one PCF controls several network slices, the UE IP address is not sufficient for the session binding. The NF service consumer supplies "sliceInfo" attribute denoting the network slice that allocated the IPv4 address of the UE PDU session. How the NF service consumer derives S-NSSAI is out of the scope of this specification.

NOTE 6: When the scenario described in NOTE 3 applies and the NF service consumer is a P-CSCF it is assumed that the P-CSCF has direct IP interfaces to the different IP address domains and that no NAT is located between the UPF and P-CSCF. How a non-IMS NF service consumer obtains the UE private IP address to be provided to the PCF is out of scope of the present release; it is unspecified how to support applications that use a protocol that does not retain the original UE's private IP address.

NOTE 7: As described in 3GPP TS 29.513 [7], in order to have a successful session binding, all attributes must match, if provided.

If the PCF fails in executing session binding, the PCF shall reject the Npcf\_PolicyAuthorization\_Create service operation with an HTTP "500 Internal Server Error" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "PDU\_SESSION\_NOT\_AVAILABLE".

If the request contains the "medComponents" attribute the PCF shall store the received service information. The PCF shall process the received service information according to the operator policy and may decide whether the request is accepted or not. The PCF may take the priority information within the "resPrio" attribute into account when making this decision.

If the service information provided in the body of the HTTP POST request is rejected (e.g., the subscribed guaranteed bandwidth for a particular user is exceeded, the authorized data rate in that slice for a UE is exceeded), the PCF shall reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure that:

- shall contain the ProblemDetails data structure containing the "cause" attribute set to the "REQUESTED\_SERVICE\_NOT\_AUTHORIZED" application error indicating the cause of the rejection; and

- may contain the acceptable QoS parameters within the "acceptableServInfo" attribute.

If the PCF detects that a temporary network failure has occurred (e.g. the SGW has failed as defined in clause B.3.3.3 or B.3.4.9 of 3GPP TS 29.512 [8]) and the AF initiates an Npcf\_PolicyAuthorization\_Create service operation, the PCF shall reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "TEMPORARY\_NETWORK\_FAILURE".

If the service information provided in the HTTP POST request is rejected due to a temporary condition in the network (e.g. the NWDAF reported the network slice selected for the PDU session is congested), the PCF may reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "REQUESTED\_SERVICE\_TEMPORARILY\_NOT\_AUTHORIZED". The PCF may also provide a retry interval within the "Retry-After" HTTP header field. When the NF service consumer receives the retry interval within the "Retry-After" HTTP header field, the NF service consumer shall not send the same service information to the PCF again (for the same application session context) until the retry interval has elapsed. The "Retry-After" HTTP header is described in 3GPP TS 29.500 [5] clause 5.2.2.2.

If the service information is invalid or in sufficient for the PCF to perform the requested action, e.g. invalid media type or invalid QoS reference, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "INVALID\_SERVICE\_INFORMATION".

If the IP flow descriptions cannot be handled by the PCF because the restrictions defined in clause 5.3.8 of 3GPP TS 29.214 [20] are not observed, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including ProblemDetails data structure with the the "cause" attribute set to "FILTER\_RESTRICTIONS".

If the AF provided the same AF charging identifier for a new Individual Application Session Context that is already in use for the other ongoing Individual Application Session, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "DUPLICATED\_AF\_SESSION".

NOTE 8: When the PCF supports data rate control per network slice and/or data rate control per network slice for a UE as specified in 3GPP TS 29.512 [8] and the authorized data rate for any of those cases in a slice is exceeded due to the bandwidth demands of the new service information, it is also possible to accept the request based on operator policies. In this case the derived PCC rule(s) belonging to the authorized GBR service data flows can include a different MBR and/or have a different charging than the one applicable if the data rate is not exceeded as specified in 3GPP TS 29.512 [8].

If the "SignalingPathValidation" feature is supported, and the "User-Agent" HTTP header field indicates that the NF type of the NF that originated the request is "NEF" or "AF", and the PCF detects that the TSCTSF is the NF type required for the request (e.g., the PCF triggered a notification about TSC user plane node information towards the TSCTSF as described in clause 4.2.15.16), the PCF shall reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "INVALID\_SIGNALING\_PATH". When the NEF/AF receives this error from the PCF, the NEF/AF selects the TSCTSF for this request, as specified in 3GPP TS 29.522 [54].

If the "VPLMNErrorRep" feature is supported and the required QoS information provided by the AF as specified in clause 4.2.2.32 is not supported in the current serving PLMN where the UE is registered, the PCF may reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "REQUEST\_QOS\_NOT\_SUPPORTED\_IN\_PLMN" indicating the cause of the rejection.

If the "TrafficCharChange" feature is supported and the expedited data transfer with reflective QoS indication is provided by the AF as specified in clause 4.2.2.48, and the UE has not indicated support for reflective QoS as specified in 3GPP TS 29.512 [8], the PCF shall reject the request and indicate in an HTTP "403 Forbidden" response message the cause for the rejection including the "cause" attribute set to "REFLECTIVE\_QOS\_NOT\_SUPPORTED\_IN\_UE".

If the "MpxMedia" feature is supported, the AF request includes media flows with an uplink direction and the SMF has not indicated UE support for (S)RTP Multiplexed Media Identification to the PCF as specified in 3GPP TS 29.512 [8], the PCF may, based on operator configuration, reject the request and indicate in an HTTP "403 Forbidden" response message the cause for the rejection including the "cause" attribute set to "MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE".

To allow the PCF and SMF/UPF to perform PCC rule authorization and QoS flow binding for the described service data flows, the NF service consumer shall supply:

- for IP type PDU session, both source and destination IP addresses and port numbers in the "fDescs" attribute within the "medSubComps" attribute, if such information is available; and

- for Ethernet type PDU session, the Ethernet Packet filters in the "ethfDescs" attribute within the "medSubComps" attribute, if such information is available.

The NF service consumer may specify the ToS traffic class (i.e. ToS (IPv4) or TC (IPv6) value) within the "tosTrCl" attribute for the described service data flows together with the "fDescs" attribute.

NOTE 9: A ToS/TC value can be useful when another packet filter attribute is needed to differentiate between packet flows. For example, packet flows encapsulated and encrypted by a tunnelling protocol can be differentiated by the ToS/TC value of the outer header if appropriately set by the application. To use ToS/TC for service data flow detection, network configuration needs to ensure there is no ToS/TC re-marking applied along the path from the application to the PSA UPF and the specific ToS/TC values are managed properly to avoid potential collision with other usage (e.g., paging policy differentiation).

The NF service consumer may include the "resPrio" attribute at the "AppSessionContextReqData" data type level to assign a priority to the AF Session as well as include the "resPrio" attribute at the "MediaComponent" data type level to assign a priority to the service data flow. The presence of the "resPrio" attribute in both levels does not constitute a conflict as they each represent different types of priority. The reservation priority at the "AppSessionContextReqData" data type level provides the relative priority for an AF session while the reservation priority at the "MediaComponent" data type level provides the relative priority for a service data flow within a session. If the "resPrio" attribute is not specified, the requested priority is PRIO\_1.

The PCF shall check whether the received service information requires PCC rules to be created and provisioned as specified in 3GPP TS 29.513 [7]. Provisioning of PCC rules to the SMF shall be carried out as specified at 3GPP TS 29.512 [8].

Based on the received subscription information from the NF service consumer, the PCF may create a subscription to event notifications for a related PDU session from the SMF, as described in 3GPP TS 29.512 [8].

If the PCF created an "Individual Application Session Context" resource, the PCF shall send to the NF service consumer a "201 Created" response to the HTTP POST request, as shown in figure 4.2.2.2-1, step 2. The PCF shall include in the "201 Created" response:

- a Location header field; and

- an "AppSessionContext" data type in the content.

The Location header field shall contain the URI of the created individual application session context resource i.e. "{apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}".

When "Events Subscription" sub-resource is created in this procedure, the NF service consumer shall build the sub-resource URI by adding the path segment "/events-subscription" at the end of the URI path received in the Location header field.

The "AppSessionContext" data type the content shall contain the representation of the created "Individual Application Session Context" resource and may include the "Events Subscription" sub-resource.

The PCF shall include in the "evsNotif" attribute:

- if the NF service consumer subscribed to the event "PLMN\_CHG" in the HTTP POST request, the "event" attribute set to "PLMN\_CHG" and the "plmnId" attribute including the PLMN Identifier or the SNPN Identifier if the PCF has previously requested to be updated with this information in the SMF;

NOTE 10: The SNPN Identifier consists of the PLMN Identifier and the NID.

NOTE 11: Handover between non-equivalent SNPNs, and between SNPN and PLMN is not supported. When the UE is operating in SNPN access mode, the trigger reports changes of equivalent SNPNs.

- if the NF service consumer subscribed to the event "ACCESS\_TYPE\_CHANGE" in the HTTP POST request, the "event" attribute set to "ACCESS\_TYPE\_CHANGE" and:

i. the "accessType" attribute including the access type, and the "ratType" attribute including the RAT type when applicable for the notified access type; and

ii. if the "ATSSS" feature is supported, the "addAccessInfo" attribute with the additional access type information if available, where the access type is encoded in the "accessType" attribute, and the RAT type is encoded in the "ratType" attribute when applicable for the notified access type; and

NOTE 12: For a MA PDU session, if the "ATSSS" feature is not supported by the NF service consumer the PCF includes the "accessType" attribute and the "ratType" attribute with a currently active combination of access type and RAT type (if applicable for the notifed access type). When both 3GPP and non-3GPP accesses are available, the PCF includes the information corresponding to the 3GPP access.

iii. the "anGwAddr" attribute including access network gateway address when available,

if the PCF has previously requested to be updated with this information in the SMF;

- if the "IMS\_SBI" feature is supported and if the NF service consumer subscribed to the "CHARGING\_CORRELATION" event in the HTTP POST request, the "event" attribute set to "CHARGING\_CORRELATION" and may include the "anChargIds" attribute containing the access network charging identifier(s) and the "anChargAddr" attribute containing the access network charging address; and

- if the "UEUnreachable" feature is supported and the NF service consumer subscribed to the "UE\_REACH\_STATUS\_CH" event in the HTTP POST request, the "event" attribute set to "UE\_REACH\_STATUS\_CH" together with the "ueReachStatus" attribute containing the corresponding UE status, and in case the "ueReachStatus" attribute is set to "UNREACHABLE", optionally the "retryAfter" attribute if available and the PCF has previously requested this information to the SMF.

The NF service consumer subscription to other specific events using the Npcf\_PolicyAuthorization\_Create request is described in the related clauses. Notification of events when the applicable information is not available in the PCF when receiving the Npcf\_PolicyAuthorization\_Create request is described in clause 4.2.5.

The acknowledgement towards the NF service consumer should take place before or in parallel with any required PCC rule provisioning towards the SMF.

NOTE 13: The behaviour when the NF service consumer does not receive the HTTP response message, or when it arrives after the internal timer waiting for it has expired, or when it arrives with an indication different than a success indication, are outside the scope of this specification and based on operator policy.

\*\*\* Next Changes \*\*\*

#### 4.2.2.47 Provisioning of the Multiplexed Media Identification Information

When the "MpxMedia" feature is supported, the NF service consumer may specify the Multiplexed Media Identification Information for the Uplink or Downlink IP flows within the "mpxMediaInfos" attribute to uniquely identify each media flow of multiplexed media.

NOTE: Data traffic of different media components with different QoS requirements could be multiplexed on the same end-to-end transport layer connection. Multiplexed Media Identification Information can be useful when another packet filter attribute is needed to differentiate between the multiplexed media flows.

If the PCF has not received UE support for (S)RTP Multiplexed Media Identification from SMF, the PCF may, based on local configuration, generate a successful response to the NF service consumer and set "servAuthInfo" attribute to MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE in the HTTP response message to the NF service consumer to indicate that the requested differentiated QoS for multiplexed media flows is not supported in the UE.

The PCF shall reply to the NF service consumer as described in clause 4.2.2.2.

As result of this action, the PCF shall determine the PCC rules and provide to the SMF as described in 3GPP TS 29.512 [8].

\*\*\* Next Changes \*\*\*

#### 4.2.3.2 Modification of service information

This procedure is used to modify an existing application session context as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [4] when the feature "PatchCorrection" is supported.

Figure 4.2.3.2-1 illustrates the modification of service information using HTTP PATCH method.



Figure 4.2.3.2-1: Modification of service information using HTTP PATCH

The NF service consumer may modify the application session context information at any time (e.g. due to an AF session modification or internal NF service consumer trigger) and invoke the Npcf\_PolicyAuthorization\_Update service operation by sending the HTTP PATCH request message to the resource URI representing the "Individual Application Session Context" resource, as shown in figure 4.2.3.2-1, step 1, with the modifications to apply.

The JSON body within the PATCH request shall include the "AppSessionContextUpdateDataPatch" data type and shall be encoded according to "JSON Merge Patch", as defined in IETF RFC 7396 [21]. The modifications to apply are encoded within the attributes of the "ascReqData" attribute, as described below and in subsequent clauses.

The NF service consumer may include the updated service information in the "medComponents" attribute of the "ascReqData" attribute. The NF service consumer may update the service data flow filter(s) (IP or Ethernet) that identify the traffic of the media component by replacing, within the concerned media subcomponent(s), the previously provided value(s) with the updated one(s).

If the "AuthorizationWithRequiredQoS" feature as defined in clause 5.8 is supported, the NF service consumer may provide within the MediaComponentRm data structure an update of the required QoS information as specified in clause 4.2.3.30.

The NF service consumer may include in the "ascReqData" attribute an AF application identifier in the "afAppId" attribute to trigger the PCF to indicate to the SMF/UPF to perform the application detection based on the operator's policy as defined in 3GPP TS 29.512 [8].

If the "TimeSensitiveNetworking" or "TimeSensitiveCommunication" feature is supported, the NF service consumer may provide TSC user plane node related information as specified in clauses 4.2.3.24 and 4.2.3.25.

If the "PDUSetHandling" feature is supported, the NF service consumer may update PDU set handling related data as specified in clause 4.2.3.36.

If the "PowerSaving" feature is supported, the NF service consumer may update the UL and/or DL traffic periodicity and/or DL protocol description as described in clause 4.2.3.41.

The NF service consumer may also create, modify or remove events subscription information by sending the HTTP PATCH request message to the resource URI representing the "Individual Application Session Context" resource.

The NF service consumer shall create event subscription information by including in the "ascReqData" attribute the "evSubsc" attribute of "EventsSubscReqDataRm" data type with the corresponding list of events to subscribe to; and the "notifUri" attribute with the notification URI where the PCF shall send the notifications.

The NF service consumer shall update existing event subscription information by including in the "ascReqData" attribute an updated value of the "evSubsc" attribute of the "EventsSubscReqDataRm" data type as follows:

- The "events" attribute shall include the new complete list of subscribed events.

- When the NF service consumer requests to update the additional information related to an event (e.g. the NF service consumer needs to provide new thresholds to the PCF in the "usgThres" attribute related to the "USAGE\_REPORT" event) the NF service consumer shall include the additional information, which shall completely replace the previously provided one.

NOTE 1: Note that when the NF service consumer requests to remove an event, this event is not included in the "events" attribute.

NOTE 2: When an event is included in the "events" attribute and its related additional information is set to null, the PCF considers the subscription to this event is active, but the related procedures stop applying.

NOTE 3: When an event is removed from the "events" attribute but its related information is not set to null, the PCF considers the subscription to this event is terminated, the related additional information is removed, and the related procedures stop applying.

The NF service consumer shall remove existing event subscription information by setting to null the "evSubsc" attribute included in the "ascReqData" attribute.

If the "EnQoSMon" feature is supported, the NF service consumer may include attribute "evSubsc" in "MediaSubComponentRm" data type for QoS monitoring for each media component. Either the attribute "evSubsc" in "MediaSubComponentRm" data type or attribute "evSubsc" in "AppSessionContextReqDataRm" data type may be provided to subscribe to notifications for a specific event. An event subscription modification shall not create simultaneous subscriptions, for the provided event, within the media subcomponent and within the application session context.

The NF service consumer shall update the existing event subscription information of each media component by updating the value of the "evSubsc" attribute in "MediaSubComponentRm" data type.

The NF service consumer shall remove the existing event subscription information of each media component by setting to null the "evSubsc" attribute in "MediaSubComponentRm" data type.

Events with "notifMethod" set to "ONE\_TIME" shall only apply at the time the NF service consumer requests their subscription. Once the event report is performed, the subscription to this event is automatically terminated in the PCF and the related information is removed. The presence of a one-time event, together with its related additional information when applicable, during an update procedure shall represent the recreation of the subscription to this event in the PCF.

NOTE 4: The "notifUri" attribute within the EventsSubscReqData data structure can be modified to request that subsequent notifications are sent to a new NF service consumer.

If the PCF cannot successfully fulfil the received HTTP PATCH request due to the internal PCF error or due to the error in the HTTP PATCH request, the PCF shall send the HTTP error response as specified in clause 5.7.

If the feature "ES3XX" is supported, and the PCF determines the received HTTP PATCH request needs to be redirected, the PCF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [5].

Otherwise, the PCF shall process the received service information according the operator policy and may decide whether the HTTP request message is accepted or not.

If the updated service information is not acceptable (e.g., the subscribed guaranteed bandwidth for a particular user is exceeded, the authorized data rate in that slice for the UE is exceeded), the PCF shall reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure that:

- shall contain the ProblemDetails data structure containing the "cause" attribute set to the "REQUESTED\_SERVICE\_NOT\_AUTHORIZED" application error indicating the cause of the rejection; and

- may contain the acceptable QoS parameters within the "acceptableServInfo" attribute.

If the PCF detects that a temporary network failure has occurred (e.g. the SGW has failed as defined in clause B.3.3.3 or B.3.4.9 of 3GPP TS 29.512 [8]) and the AF initiates an Npcf\_PolicyAuthorization\_Update service operation, the PCF shall reject the request with an HTTP "403 Forbidden" response including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "TEMPORARY\_NETWORK\_FAILURE".

If the service information provided in the HTTP PATCH request is rejected due to a temporary condition in the network (e.g. the NWDAF reported the network slice selected for the PDU session is congested), the PCF may reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "REQUESTED\_SERVICE\_TEMPORARILY\_NOT\_AUTHORIZED". The PCF may also provide a retry interval within the "Retry-After" HTTP header field. When the NF service consumer receives the retry interval within the "Retry-After" HTTP header field, the NF service consumer shall not send the same service information to the PCF again (for the same application session context) until the retry interval has elapsed. The "Retry-After" HTTP header is described in 3GPP TS 29.500 [5] clause 5.2.2.2.

If the service information is invalid or in sufficient for the PCF to perform the requested action, e.g. invalid media type or invalid QoS reference, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "INVALID\_SERVICE\_INFORMATION".

If the IP flow descriptions cannot be handled by the PCF because the restrictions defined in clause 5.3.8 of 3GPP TS 29.214 [20] are not observed, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "FILTER\_RESTRICTIONS".

If the AF provided the same AF charging identifier for a new Individual Application Session Context that is already in use for the other ongoing Individual Application Session, the PCF shall reject the request with an HTTP "400 Bad Request" status code with the response body including the ProblemDetails data structure with the "cause" attribute set to "DUPLICATED\_AF\_SESSION".

NOTE 5: When the PCF supports data rate control per network slice and/or data rate control per network slice for a UE as specified in 3GPP TS 29.512 [8] and the authorized data rate in a slice is exceeded due to the bandwidth demands of the modified service information, it is also possible to accept the request based on operator policies. In this case the derived PCC rule(s) belonging to the authorized GBR service data flows can include a different MBR and/or have a different charging than the one applicable if the data rate is not exceeded as specified in 3GPP TS 29.512 [8].

If the "VPLMNErrorRep" feature is supported and the required QoS, provided by the AF in the updated information, is not supported in the current serving PLMN where the UE is registered, the PCF may reject the request with an HTTP "403 Forbidden" status code with the response body including the ExtendedProblemDetails data structure containing the ProblemDetails data structure with the "cause" attribute set to "REQUEST\_QOS\_NOT\_SUPPORTED\_IN\_PLMN" indicating the cause of the rejection.

If the "TrafficCharChange" feature is supported and the expedited data transfer with reflective QoS indication is provided by the AF in the updated information as specified in clause 4.2.3.47, and the UE has not indicated support for reflective QoS as specified in 3GPP TS29.512 [8], the PCF shall reject the request and indicate in an HTTP "403 Forbidden" response message the cause for the rejection including the "cause" attribute set to "REFLECTIVE\_QOS\_NOT\_SUPPORTED\_IN\_UE".

If the "MpxMedia" feature is supported, the AF request includes media flows with an uplink direction in the updated information as specified in clause 4.2.3.46 and the SMF has not indicated UE support for (S)RTP Multiplexed Media Identification to the PCF as specified in 3GPP TS 29.512 [8], the PCF may, based on operator configuration, reject the request and indicate in an HTTP "403 Forbidden" response message the cause for the rejection including the "cause" attribute set to "MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE".

If the request is accepted, the PCF shall update the service information with the new information received. Due to the updated service information, the PCF may need to create, modify or delete the related PCC rules as specified in 3GPP TS 29.513 [7] and provide the updated information towards the SMF following the corresponding procedures specified in 3GPP TS 29.512 [8].

Based on the received subscription information from the NF service consumer, the PCF may create a subscription to event notifications or may modify the existing subscription to event notifications, for a related PDU session from the SMF, as described in 3GPP TS 29.512 [8].

The PCF shall reply with the HTTP response message to the NF service consumer and may include the "AppSessionContext" data type content with the representation of the modified "Individual Application Session Context" resource and may include the "Events Subscription" sub-resource.

The PCF shall include in the "evsNotif" attribute:

- if the NF service consumer subscribed to the "PLMN\_CHG" event in the HTTP PATCH request, the "event" attribute set to "PLMN\_CHG" and the "plmnId" attribute including the PLMN Identifier or the SNPN Identifier if the PCF has previously requested to be updated with this information in the SMF;

NOTE 6: The SNPN Identifier consists of the PLMN Identifier and the NID.

NOTE 7: Handover between non-equivalent SNPNs, and between SNPN and PLMN is not supported. When the UE is operating in SNPN access mode, the trigger reports changes of equivalent SNPNs.

- if the NF service consumer subscribed to the event "ACCESS\_TYPE\_CHANGE" event in the HTTP PATCH request, the "event" attribute set to "ACCESS\_TYPE\_CHANGE" and:

i. the "accessType" attribute including the access type, and the "ratType" attribute including the RAT type when applicable for the notified access type; and

ii. if the "ATSSS" feature is supported, the "addAccessInfo" attribute with the additional access type information if available, where the access type is encoded in the "accessType" attribute, and the RAT type is encoded in the "ratType" attribute when applicable for the notified access type; and

NOTE 8: For a MA PDU session, if the "ATSSS" feature is not supported by the NF service consumer, the PCF includes the "accessType" attribute and the "ratType" attribute with a currently active combination of access type and RAT type (if applicable for the notifed access type). When both 3GPP and non-3GPP accesses are available, the PCF includes the information corresponding to the 3GPP access.

iii. the "anGwAddr" attribute including access network gateway address when available,

if the PCF has previously requested to be updated with this information in the SMF;

- if the "IMS\_SBI" feature is supported and if the NF service consumer subscribed to the "CHARGING\_CORRELATION" event in the HTTP PATCH request, the "event" attribute set to "CHARGING\_CORRELATION" and may include the "anChargIds" attribute containing the access network charging identifier(s) and the "anChargAddr" attribute containing the access network charging address; and

- if the "UEUnreachable" feature is supported and the NF service consumer subscribed to the "UE\_REACH\_STATUS\_CH" event in the HTTP PATCH request, the "event" attribute set to "UE\_REACH\_STATUS\_CH" together with the "ueReachStatus" attribute containing the corresponding UE status, and in case the "ueReachStatus" attribute is set to "UNREACHABLE", optionally the "retryAfter" attribute if available and the PCF has previously requested this information to the SMF.

The NF service consumer subscription to other specific events using the Npcf\_PolicyAuthorization\_Update request is described in the related clauses. Notification of events when the applicable information is not available in the PCF when receiving the Npcf\_PolicyAuthorization\_Update request is described in clause 4.2.5.

The HTTP response message towards the NF service consumer should take place before or in parallel with any required PCC rule provisioning towards the SMF.

If the PCF does not have an existing application session context for the application session context being modified (such as after a PCF failure), the PCF shall reject the HTTP request message with the HTTP response message with the applicable rejection cause.

\*\*\* Next Changes \*\*\*

#### 4.2.3.46 Modification of the Multiplexed Media Identification Information

When the "MpxMedia" feature is supported, the NF service consumer may include in the HTTP PATCH request message described in clause 4.2.3.2, in the "ascReqData" attribute, in the corresponding "medSubComponent" entries of the "medComponents" attribute, the "mpxMediaInfos" attributes with the Multiplexed Media Identification Information.

If the PCF has not received UE support for (S)RTP Multiplexed Media Identification from SMF, the PCF may, based on local configuration, generate a successful response to the NF service consumer and set "servAuthInfo" attribute to MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE in the HTTP response message to the NF service consumer to indicate that the requested differentiated QoS for multiplexed media flows is not supported in the UE.

As a result of this action, the PCF shall update the policies for the multiplexed media flows to the SMF as described in 3GPP TS 29.512 [8].

\*\*\* Next Changes \*\*\*

#### 5.6.3.5 Enumeration: ServAuthInfo

The enumeration "ServAuthInfo" represents the result of the Npcf\_PolicyAuthorization service request from the NF service consumer.

Table 5.6.3.5-1: Enumeration ServAuthInfo

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| TP\_NOT\_KNOWN | Indicates the transfer policy is not known. |  |
| TP\_EXPIRED | Indicates the transfer policy has expired. |  |
| TP\_NOT\_YET\_OCURRED | Indicates the time window of the transfer policy has not yet occurred. |  |
| ROUT\_REQ\_NOT\_AUTHORIZED | Indicates the AF influence on traffic routing request is not allowed for the concerned PDU session. | RoutingReqOutcome |
| DIRECT\_NOTIF\_NOT\_POSSIBLE | Indicates that direct notification for QoS monitoring is not applied. | EnQoSMon |
| MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE | Indicates the AF requested differentiated QoS for multiplexed media flows is not supported in the UE. | MpxMedia |

\*\*\* Next Changes \*\*\*

# A.2 Npcf\_PolicyAuthorization API

openapi: 3.0.0

info:

title: Npcf\_PolicyAuthorization Service API

version: 1.4.0-alpha.4

description: |

PCF Policy Authorization Service.

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externalDocs:

description: 3GPP TS 29.514 V19.3.0; 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'

afHdrReq:

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

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.

multiModalId:

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

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'

qosDuration:

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

qosInactInt:

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

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

tscNotifUri:

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

tscNotifCorreId:

type: string

description: >

Correlation identifier for TSC management information notifications.

AppSessionContextRespData:

description: >

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

the PCF.

type: object

properties:

servAuthInfo:

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

directNotifReports:

type: array

items:

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

minItems: 1

description: >

QoS monitoring parameter(s) that cannot be directly notified for the indicated flows.

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'

afHdrReq:

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

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'

qosDuration:

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

qosInactInt:

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

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

tscNotifUri:

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

tscNotifCorreId:

type: string

description: >

Correlation identifier for TSC management information notifications.

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'

qosMonDatRate:

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

pdvReqMonParams:

type: array

items:

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

minItems: 1

pdvMon:

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

congestMon:

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

rttMon:

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

avlBitRateMon:

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

rttFlowRef:

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

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

description: >

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

the provided QoS monitoring parameters.

Default value is false.

avrgWndw:

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

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'

minItems: 1

notifUri:

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

reqQosMonParams:

type: array

nullable: true

items:

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

minItems: 1

qosMon:

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

qosMonDatRate:

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

pdvReqMonParams:

type: array

nullable: true

items:

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

minItems: 1

pdvMon:

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

congestMon:

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

rttMon:

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

rttFlowRef:

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

avlBitRateMon:

$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

description: >

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

the provided and/or previously provided QoS monitoring parameters.

avrgWndw:

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

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'

afHdrReq:

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

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".

rTLatencyInd:

type: boolean

description: >

Indicates the service data flow needs to meet the Round-Trip (RT) latency requirement of

the service, when it is included and set to "true".

pdb:

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

rTLatencyIndCorreId:

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

pduSetQosDl:

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

pduSetQosUl:

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

protoDescDl:

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

protoDescUl:

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

periodUl:

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

periodDl:

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

l4sInd:

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

datBurstSizeInd:

type: boolean

description: >

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

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

timetoNextBurstInd:

type: boolean

description: >

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

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

onPathN6SigInfo:

$ref: '#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

description: >

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

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

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

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

The default value is "false" if omitted.

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'

afHdrReq:

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

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.

rTLatencyInd:

type: boolean

nullable: true

description: >

Indicates the service data flow needs to meet the Round-Trip (RT) latency requirement of

the service, when it is included and set to "true". The default value is "false" if

omitted.

pdb:

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

rTLatencyIndCorreId:

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

pduSetQosDl:

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

pduSetQosUl:

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

protoDescDl:

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

protoDescUl:

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

periodUl:

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

periodDl:

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

l4sInd:

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

datBurstSizeInd:

type: boolean

nullable: true

description: >

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

present and set to "true".

timetoNextBurstInd:

type: boolean

nullable: true

description: >

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

included and set to "true".

onPathN6SigInfo:

$ref: '#/components/schemas/OnPathN6SigInfo'

expTranInd:

type: boolean

nullable: true

description: >

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

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

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

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

flow.

nullable: true

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

addInfoFlowDescs:

type: array

items:

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

minItems: 1

maxItems: 2

description: >

Represents additional flow description information (flow label and IPsec SPI)

per Uplink and/or Downlink IP flows.

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'

evSubsc:

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

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

addInfoFlowDescs:

type: array

items:

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

minItems: 1

maxItems: 2

nullable: true

description: >

Represents additional flow description information (flow label and IPsec SPI)

per Uplink and/or Downlink IP flows.

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'

evSubsc:

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

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'

l4sReports:

type: array

items:

$ref: '#/components/schemas/L4sSupport'

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

qosMonDatRateReps:

type: array

items:

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

minItems: 1

pdvMonReports:

type: array

items:

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

minItems: 1

congestReports:

type: array

items:

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

minItems: 1

rttMonReports:

type: array

items:

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

minItems: 1

qosMonCapRepos:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the QoS monitoring is supported or not. It shall be present when

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

"capType".

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'

urspEnfRep:

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

sscMode:

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

ueReqDnn:

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

ueReqPduSessionType:

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

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

batOffsetInfo:

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

ueReachStatus:

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

retryAfter:

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

servSatId:

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

rateLimitRepo:

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

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'

qosMonParamType:

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

capTypes:

type: array

items:

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

minItems: 1

description: >

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

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'

outcomeSub:

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

simConnFailSub:

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

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: 'TS29519\_Application\_Data.yaml#/components/schemas/TrafficCorrelationInfo'

candDnaiInd:

type: boolean

description: Indicates whether candidate DNAI(s) are requested to be reported.

n6DelayInd:

type: boolean

description: >

Indication of whether the N6 delay measurement is requested to be considered or not.

The N6 delay measurement is requested to be considered if it is set to true.

The N6 delay measurement is not requested to be considered if it is set to false.

The default value is false.

AfSfcRequirement:

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

type: object

properties:

sfcIdDl:

type: string

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

nullable: true

sfcIdUl:

type: string

description: Reference to a pre-configured SFC 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'

simConnFailSub:

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

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: 'TS29519\_Application\_Data.yaml#/components/schemas/TrafficCorrelationInfo'

candDnaiInd:

type: boolean

description: Indicates whether candidate DNAI(s) are requested to be reported.

n6DelayInd:

type: boolean

description: >

Indication of whether the N6 delay measurement is requested to be considered or not.

The N6 delay measurement is requested to be considered if it is set to true.

The N6 delay measurement is not requested to be considered if it is set to false.

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

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 QoS parameters 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'

mirBwUl:

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

mirBwDl:

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

tsnQos:

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

addAccQosCombs:

type: array

items:

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

minItems: 1

description: Contains additional combinations of acceptable service information.

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

repThreshDatRateUl:

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

repThreshDatRateDl:

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

conThreshDl:

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

conThreshUl:

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

avlBitrateUlThrs:

type: array

items:

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

minItems: 1

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

avlBitrateDlThrs:

type: array

items:

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

minItems: 1

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

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

nullable: true

repThreshUl:

type: integer

nullable: true

repThreshRp:

type: integer

nullable: true

repThreshDatRateUl:

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

repThreshDatRateDl:

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

conThreshDl:

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

conThreshUl:

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

avlBitrateUlThrs:

type: array

items:

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

minItems: 1

avlBitrateDlThrs:

type: array

items:

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

minItems: 1

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.

ulConInfo:

type: array

items:

type: integer

minItems: 1

dlConInfo:

type: array

items:

type: integer

minItems: 1

ulDataRate:

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

dlDataRate:

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

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 related events information.

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'

averWindow:

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

maxDataBurstVol:

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

pduSetQosDl:

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

pduSetQosUl:

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

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 range (which is formulated as lower bound and upper bound of

the periodicity of the start twobursts in reference to the external GM) or

acceptable periodicity value(s) (which is formulated as a list of values for

the periodicity).

type: object

oneOf:

- required: [lowerBound, upperBound]

- required: [periodicVals]

properties:

lowerBound:

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

upperBound:

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

periodicVals:

type: array

items:

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

minItems: 1

addPeriodicVals:

type: array

items:

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

minItems: 1

BatOffsetInfo:

description: >

Indicates the offset of the BAT and the optionally adjusted periodicity.

type: object

required:

- ranBatOffsetNotif

properties:

ranBatOffsetNotif:

type: integer

description: >

Indicates the BAT offset of the arrival time of the data burst in units

of milliseconds.

adjPeriod:

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

flows:

type: array

items:

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

minItems: 1

description: >

Identification of the flows. If no flows are provided, the BAT offset applies

for all flows of the AF session.

PdvMonitoringReport:

description: Packet Delay Variation reporting information.

type: object

properties:

flows:

type: array

items:

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

minItems: 1

description: Identification of the flows.

ulPdv:

type: integer

description: Uplink packet delay variation in units of milliseconds.

dlPdv:

type: integer

description: Downlink packet delay variation in units of milliseconds.

rtPdv:

type: integer

description: Round trip packet delay variation in units of milliseconds.

AddFlowDescriptionInfo:

description: Contains additional flow description information.

type: object

properties:

spi:

type: string

description: >

4-octet string representing the security parameter index of the IPSec packet

in hexadecimal representation.

flowLabel:

type: string

description: >

3-octet string representing the IPv6 flow label header field in hexadecimal

representation.

flowDir:

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

L4sSupport:

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/L4sNotifType'

flows:

type: array

items:

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

minItems: 1

DirectNotificationReport:

description: >

Represents the QoS monitoring parameters that cannot be directly notified for

the indicated flows.

type: object

required:

- qosMonParamType

properties:

qosMonParamType:

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

flows:

type: array

items:

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

minItems: 1

RttFlowReference:

description: >

Contains the shared key with the media subcomponent that shares the subscription to

round trip time measurements in the complementary direction.

type: object

required:

- sharedKey

properties:

flowDir:

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

sharedKey:

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

RttFlowReferenceRm:

description: >

It is defined as the RttFlowRerence data type but with the OpenAPI nullable true property.

type: object

required:

- sharedKey

properties:

flowDir:

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

sharedKey:

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

nullable: true

CapabilityReport:

description: Contains capability support information.

type: object

properties:

capReport:

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

capType:

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

required:

- capReport

- capType

AfHeaderHandlingControlInfo:

description: Describes AF requirements on handling of payload headers.

type: object

required:

- hDetectionReference

properties:

hDetectionReference:

description: Indication of header detection reference.

type: string

hDetectionSuppInfo:

description: Indication of transparent dynamic information.

type: string

nullable: true

notifUri:

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

notifId:

type: string

nullable: true

spVal:

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

tempVals:

type: array

items:

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

minItems: 1

nullable: true

hHndlgUl:

type: array

items:

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

minItems: 1

nullable: true

description: >

Contains the list of header handling action request parameters in the uplink

direction.

hHndlgDl:

type: array

items:

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

minItems: 1

nullable: true

description: >

Contains the list of header handling action request parameters in the downlink

direction.

nullable: true

HeaderHandlingActionRequest:

description: >

Represents the header handling action request.

properties:

hHndlgCtrlRef:

type: string

hHndlgAction:

type: array

items:

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

minItems: 1

hInfo:

type: string

hVal:

type: string

hHndlgCond:

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

hHndlgRep:

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

OnPathN6SigInfo:

description: >

Represents the on path N6 signaling information.

nullable: true

properties:

onPathN6Method:

$ref: '#/components/schemas/OnPathN6Method'

asProxyAddr:

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

required:

- onPathN6Method

HeaderHandlingReporting:

description: >

Indicates that reporting is requested for the performed Header Handling Action.

properties:

notifFlag:

type: boolean

description: >

Indicates whether reporting is requested for the performed Header Handling Action.

True indicates a reporting is requested.

False indicates a reporting is not requested.

repSuggInfo:

$ref: 'TS29564\_Nupf\_EventExposure.yaml#/components/schemas/ReportingSuggestionInformation'

oneTimeInd:

type: boolean

description: >

Indicates whether the reporting of a first occurrence of the action per packet flow

is enough.

True indicates that the reporting applies to the first occurrence.

False indicates that the reporting applies to all occurrences.

RateLimitRepo:

description: >

Contains the rate limit information for the non-GRB flows.

properties:

rateLimitRepoUl:

type: array

items:

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

minItems: 1

description: >

Indicates the maximum uplink data rate authorized for the non-GBR service data flow(s)

as indicated in the attribute "flows". If no flows are provided, the maximum data rate

applies for all the flows.

rateLimitRepoDl:

type: array

items:

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

minItems: 1

description: >

Indicates the maximum downlink data rate authorized for the non-GBR service data flow(s)

as indicated in the attribute "flows". If no flows are provided, the maximum data rate

applies for all the flows.

flows:

type: array

items:

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

minItems: 1

description: Identifications of the non-GBR service data flows.

#

# 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

DurationMilliSec:

description: Indicates the time interval in units of milliseconds.

type: integer

DurationMilliSecRm:

description: >

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

OpenAPI nullable property set to true.

type: integer

MaxDataBurstVol:

type: integer

minimum: 1

maximum: 2000000

nullable: true

description: Unsigned integer indicating Maximum Data Burst Volume value.

#

# 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 or Messaging service.

anyOf:

- type: string

enum:

- DISABLE\_MPS\_FOR\_DTS

- ENABLE\_MPS\_FOR\_DTS

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

- AUTHORIZE\_AND\_ENABLE\_MPS\_FOR\_AF\_SIGNALLING

- DISABLE\_MPS\_FOR\_MESSAGING\_FOR\_AF\_SIGNALLING

- ENABLE\_MPS\_FOR\_MESSAGING\_FOR\_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.

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

- DIRECT\_NOTIF\_NOT\_POSSIBLE

- MPX\_MEDIA\_NOT\_SUPPORTED\_IN\_UE

- 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

- ANI\_REPORT

- APP\_DETECTION

- CHARGING\_CORRELATION

- EPS\_FALLBACK

- EXTRA\_UE\_ADDR

- FAILED\_QOS\_UPDATE

- FAILED\_RESOURCES\_ALLOCATION

- OUT\_OF\_CREDIT

- PDU\_SESSION\_STATUS

- PLMN\_CHG

- QOS\_MONITORING

- QOS\_MON\_CAP\_REPO

- 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\_REACH\_STATUS\_CH

- BAT\_OFFSET\_INFO

- URSP\_ENF\_INFO

- PACK\_DEL\_VAR

- L4S\_SUPP

- RT\_DELAY\_TWO\_QOS\_FLOWS

- RATE\_LIMIT\_INFO\_REPO

- 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

- 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:

anyOf:

- type: string

enum:

- GUARANTEED

- NOT\_GUARANTEED

- NOT\_GUARANTEED\_DL

- NOT\_GUARANTEED\_UL

- type: string

description: >

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

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

description: |

Indicates the notification type for QoS Notification Control.

Possible values are:

- GUARANTEED: The QoS targets of one or more SDFs are guaranteed. When ExtQoS\_v2 feature

is enabled, The QoS targets of one or more SDFs are guaranteed again in both DL and UL

directions.

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

ExtQoS\_v2 feature is enabled, The QoS targets of one or more SDFs are not being

guaranteed in both DL and UL directions.

- NOT\_GUARANTEED\_DL: The QoS targets of one or more SDFs are not being guaranteed in DL

directions.

- NOT\_GUARANTEED\_UL: The QoS targets of one or more SDFs are not being guaranteed in DL

directions.

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

- REQUEST\_QOS\_NOT\_SUPPORTED\_IN\_PLMN

- UE\_ADDR\_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.

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

- UE\_SAT\_INFO

- 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.

L4sNotifType:

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.

NotifCap:

description: Indicates whether the notified capability is supported or not supported.

anyOf:

- type: string

enum:

- SUPPORTED

- NOT\_SUPPORTED

- 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.

HeaderHandlingAction:

anyOf:

- type: string

enum:

- DETECT

- REMOVE

- REPLACE

- INSERT

- type: string

description: >

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

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

description: |

Represents the type of header handling actions.

Possible values are:

- DETECT: Indicates that the request is for the detection of a header field.

- REMOVE: Indicates that the request is for the removal of a header field.

- REPLACE: Indicates that the request is for the replacement of information in a header

field.

- INSERT: Indicates that the request is for the addition of a header field.

HeaderHandlingCond:

anyOf:

- type: string

enum:

- EVERY\_MATCH

- FIRST\_MATCH

- type: string

description: >

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

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

description: |

Represents the condition to apply header handling actions.

Possible values are:

- EVERY\_MATCH: Indicates that the header handling action is applied to every match.

- FIRST\_MATCH: Indicates that the header handling action is applied only to the first

match.

OnPathN6Method:

anyOf:

- type: string

enum:

- CONNECT\_UDP

- type: string

description: >

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

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

description: |

Represents the method of on-path N6 signaling.

Possible values are:

- CONNECT\_UDP: Indicates that the method connect UDP is supported for on-path N6 signaling

NotifCapType:

anyOf:

- type: string

enum:

- PACKET\_DELAY

- CONGESTION

- AVAILABLE\_BITRATE

- type: string

description: >

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

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

description: |

Indicates which type of QoS Monitoring capability report is applied.

Possible values are:

- PACKET\_DELAY: Indication the Packet delay monitoring capability is monitored.

- CONGESTION: Indication the Congestion information monitoring capability is monitored.

- AVAILABLE\_BITRATE: Indication the Available bitrate monitoring capability is monitored.

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