**3GPP TSG CT WG3 Meeting #142 *C3-253xxx***

**Goteborg, SE, 25th – 29th August, 2025 was C3-253357**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.525** | **CR** | **0404** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | |
| ***Title:*** | Updates to complete the support of providing the CHF Group ID | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei, China Telecom, Ericsson, Verizon | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | TEI19, 5GS\_Ph1-CT | | | | |  | ***Date:*** | | 2025-08-xx |
|  |  | | | |  | |  | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | |
| ***Reason for change:*** | | | As per the reply LSs from SA2 in S2-2505936 (and the related agreed CR#1558 to TS 23.503 in S2-2506094) and SA5 in S5-253101, the CHF group ID information is defined as a seprate additional information outside of the charging information (i.e., CHF address information).  This needs hence to be reflected in stage 3. | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Address the above-detailed necessary updates/corrections. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The above-detailed necessary updates/corrections are not addressed and the new functionality to provide the CHF Group ID to the SMF is not completed in stage 3. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 4.2.2.7, 5.6.1, 5.6.2.2, 5.8, 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 backwards compatible new feature and corrections to the OpenAPI descriptions of the following APIs:   * TS29525\_Npcf\_UEPolicyControl.yaml | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

\* \* \* \* Start of changes \* \* \* \*

#### 4.2.2.7 Provisioning of charging related information

This functionality applies to non-roaming and roaming scenarios. In non-roaming scenarios the NF service consumer corresponds to the AMF, and in the roaming scenario the NF service consumer corresponds to the V-PCF or the AMF.

When the "SLAMUP" feature is supported, the PCF may provide the NF service consumer with the charging function information for the UE, i.e. the CHF address(es), and if available, the associated CHF instance ID(s) and CHF set ID(s), during the UE Policy Association establishment based on the operator policy.

The (H-)PCF may retrieve the charging function information as described in 3GPP TS 29.512 [27], clause 4.2.2.3.1.

In order to provision the (H-)CHF information to the NF service consumer, the (H-)(V-)PCF shall include within the PolicyAssociation data structure the "chfInfo" attribute containing the CHF address information. When the "SLAMUP" feature is supported, the "ChargingInformation" data type shall include the primary (H-)CHF address, within the "primaryChfAddress" attribute and, if available, the secondary (H-)CHF address, within the "secondaryChfAddress" attribute.

When the PCF is aware that the (H-)CHF supports redundancy based on NF Set concepts as described in 3GPP TS 29.500 [5] (e.g. based on configuration), the "chfInfo" attribute shall include the (H-)CHF address, encoded within the"primaryChfAddress" attribute and the (H-)CHF instance, encoded within the "primaryChfInstanceId" attribute, and primary (H-)CHF set id, encoded within the "primaryChfSetId". The primary (H-)CHF information may be also complemented by secondary (H-)CHF information, if available.

The (V-)PCF provided (H-)CHF information shall overwrite any predefined (H-)CHF information configured at the AMF.

If there is no home operator policy indicating that the same (H-)CHF shall be selected by the (H-)PCF for the UE and by the AMF, then no charging information is provisioned by the (H-)PCF, and the AMF shall select the charging information as follows:

1. In non-roaming scenarios, the charging information is selected as specified in 3GPP TS 32.256 [44], clause 5.1.3.

2. In roaming scenarios, the charging information is selected as specified in 3GPP TS 32.256 [44], clause 5.1.5.2.

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

### 5.6.1 General

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

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

Table 5.6.1-1: Npcf\_UEPolicyControl specific Data Types

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data type | | Section defined | | Description | | Applicability | |
| A2xCapability | | 5.6.3.12 | | Indicates the A2X capabilities | | A2X | |
| LboRoamingInformation | | 5.6.2.10 | | LBO roaming information for a DNN and S-NSSAI | | VPLMNSpecificURSP | |
| N1N2MessTransferErrorReply | | 5.6.3.8 | | Error the V-PCF may send to the H-PCF when the V-PCF receives from the AMF an error to the N1N2MessageTransfer request. | | EnErrorHandling | |
| Non3gppAccess | | 5.6.3.7 | | Represents a Non-3gpp access node. | | SliceAwareANDSP | |
| Pc5Capability | | 5.6.3.5 | | Indicates the specific PC5 RAT(s) which the UE supports for V2X communications and/or A2X communications over PC5 reference point. | | V2X | |
| ProSeCapability | | 5.6.3.6 | | Indicates the 5G ProSe capabilities. | | ProSe | |
| PolicyAssociation | | 5.6.2.2 | | Description of a policy association that is returned by the PCF when a policy Association is created, or read. | |  | |
| PolicyAssociationReleaseCause | | 5.6.3.4 | | The cause why the PCF requests the termination of the policy association. | |  | |
| PolicyAssociationRequest | | 5.6.2.3 | | Information that NF service consumer provides when requesting the creation of a policy association. | |  | |
| PolicyAssociationUpdateRequest | | 5.6.2.4 | | Information that NF service consumer provides when requesting the update of a policy association. | |  | |
| PolicyStatus | | 5.6.3.10 | | Represents the configuration status of a UE Policy in the UE. | | SliceAwareANDSP | |
| PolicyUpdate | | 5.6.2.5 | | Updated policies that the PCF provides in a notification or in the reply to an Update Request. | |  | |
| RangSLCapability | | 5.6.3.10 | | Represents the Ranging/SL capabilities. | | Ranging\_SL | |
| RequestTrigger | | 5.6.3.3 | | Enumeration of possible Request Triggers. | |  | |
| SliceSpecificN3gNodeSelectionCapability | | 5.6.3.13 | | Represents the UE capabilities with regard to slice-specific non-3gpp node selection. | | SliceAwareANDSP | |
| TerminationNotification | | 5.6.2.6 | | Request to terminate a policy Association that the PCF provides in a notification. | |  | |
| UeRequestedValueRep | | 5.6.2.8 | | Contains the current applicable values corresponding to the policy control request triggers. | | ImmediateReport | |
| UePolicy | | 5.6.3.2 | | UE Policies | |  | |
| UePolicyDeliveryResult | | 5.6.3.2 | | UE Policy delivery Result | |  | |
| UePolicyNotification | | 5.6.2.12 | | Contains the delivery outcome of VPLMN-Specific URSP rules | | VPLMNSpecificURSP | |
| UePolicyParameters | | 5.6.2.9 | | Contains the service parameters used to guide the VPLMN-specific URSP rule determination. | | VPLMNSpecificURSP | |
| UePolicyRequest | | 5.6.3.2 | | Request for UE Policies | |  | |
| UePolicyTransferFailureCause | | 5.6.4.1 | | UE Policy Transfer Failure Cause | | EnErrorHandling | |
| UePolicyTransferFailureNotification | | 5.6.2.7 | | Information that the UE policy is failure to be transferred to the UE. | |  | |
| UrspEnforcementPduSession | | 5.6.2.11 | | Represents URSP rule enforcement information for a PDU session. | | URSPEnforcement | |

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

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data type | | Reference | | Comments | | Applicability | |
| AccessType | | 3GPP TS 29.571 [11] | | Represents an Access Type. | |  | |
| Bytes | | 3GPP TS 29.571 [11] | | String with format "byte". | |  | |
| ChargingInformation | | 3GPP TS 29.512 [31] | | Contains the charging address information. | | SLAMUP | |
| ConfiguredSnssai | | 3GPP TS 29.531 [34] | | Contains the configured S-NSSAI and optionally mapped home S-NSSA. | | SliceAwareANDSP,  NssaiChange | |
| CmState | | 3GPP TS 29.518 [14] | | Connectivity state of UE | | ConnectivityStateChange | |
| Dnn | | 3GPP TS 29.571 [11] | | Represents a DNN. | | VPLMNSpecificURSP  URSPEnforcement | |
| Event | | 3GPP TS 29.522 [41] | | Subscription to notification about delivery of VPLMN specific URSP rule. | | VPLMNSpecificURSP | |
| Fqdn | | 3GPP TS 29.571 [11] | | FQDN | |  | |
| Gpsi | | 3GPP TS 29.571 [11] | | Generic Public Subscription Identifier | |  | |
| GroupId | | 3GPP TS 29.571 [11] | | Represents a UE Group Identifier | |  | |
| Guami | | 3GPP TS 29.571 [11] | | Globally Unique AMF Identifier | |  | |
| Ipv4Addr | | 3GPP TS 29.571 [11] | | Represents an Ipv4 address. | |  | |
| Ipv6Addr | | 3GPP TS 29.571 [11] | | Represents an Ipv6 address. | |  | |
| N1N2MessageTransferCause | | 3GPP TS 29.518 [14] | | Contains an error cause for an N1 or N2 message transfer. | |  | |
| N2InfoContent | | 3GPP TS 29.518 [14] | | Represents a transparent N2 information content to be relayed by AMF. | | V2X, A2X, ProSe, Ranging\_SL | |
| NfGroupId | | 3GPP TS 29.571 [11] | | Represents the NF Group identifier. | | CHFGroup | |
| NfInstanceId | | 3GPP TS 29.571 [11] | | Represents an NF instance identifier | |  | |
| NfSetId | | 3GPP TS 29.571 [11] | | Represents an NF set identifier | | EnhEstRoaming | |
| PcEventNotification | | 3GPP TS 29.523 [30] | | Represents notification about UE Policy Delivery outcome | | VPLMNSpecificURSP | |
| PcfUeCallbackInfo | | 3GPP TS 29.571 [11] | | Contains the PCF for the UE callback information necessary for the PCF for the PDU session to send Establishment and Termination event. | | URSPEnforcement | |
| PduSessionInfo | | 3GPP TS 29.571 [11] | | Contains a DNN and SNSSAI combination | | VPLMNSpecificURSP  URSPEnforcement | |
| PduSessionType | | 3GPP TS 29.571 [11] | | Contains the PDU Session Type | | URSPEnforcement | |
| Pei | | 3GPP TS 29.571 [11] | | Permanent Equipment Identifier | |  | |
| PlmnId | | 3GPP TS 29.571 [11] | | Represents a PLMN identifier. | |  | |
| PlmnIdNid | | 3GPP TS 29.571 [11] | | Identifies the network: PLMN Identifier or the SNPN Identifier (the PLMN Identifier and the NID). | |  | |
| PresenceInfo | | 3GPP TS 29.571 [11] | | Presence reporting area information | |  | |
| PresenceInfoRm | | 3GPP TS 29.571 [11] | | This data type is defined in the same way as the "PresenceInfo" data type, but with the OpenAPI "nullable: true" property. | | PresenceInfo | | |
| ProblemDetails | | 3GPP TS 29.571 [11] | | Contains detailed information about an error response. | |  | |
| RatType | | 3GPP TS 29.571 [11] | | Represents a RAT type. | |  | |
| RedirectResponse | | 3GPP TS 29.571 [11] | | Contains redirection related information. | | ES3XX | |
| ServiceName | | 3GPP TS 29.510 [13] | | Name of the service instance. | |  | |
| SatelliteBackhaulCategory | | 3GPP TS 29.571 [11] | | Indicates the satellite backhaul category or non-satellite backhaul. | | EnSatBackhaulCategoryChg | |
| Snssai | | 3GPP TS 29.571 [11] | | Represents an S-NSSAI | | SliceAwareANDSP | |
| SscMode | | 3GPP TS 29.571 [11] | | Service and session continuity mode. | | URSPEnforcement | |
| Supi | | 3GPP TS 29.571 [11] | | Subscription Permanent Identifier | |  | |
| SupportedFeatures | | 3GPP TS 29.571 [11] | | Used to negotiate the applicability of the optional features defined in table 5.8-1. | |  | |
| TimeZone | | 3GPP TS 29.571 [11] | | Represents a time zone. | |  | |
| Uinteger | | 3GPP TS 29.571 [11] | | Unsigned integer. | |  | |
| Uri | | 3GPP TS 29.571 [11] | | Represents a URI. | |  | |
| UrspEnforcementInfo | | 3GPP TS 29.512 [31] | | URSP rule enforcement information as received from the UE. | | URSPEnforcement | |
| UrspRuleRequest | | 3GPP TS 29.522 [41] | | URSP rule guidance information | | VPLMNSpecificURSP | |
| UserLocation | | 3GPP TS 29.571 [11] | | Contains User Location information. | |  | |

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

#### 5.6.2.2 Type PolicyAssociation

Table 5.6.2.2-1: Definition of type PolicyAssociation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| request | PolicyAssociationRequest | O | 0..1 | The information provided by the NF service consumer when requesting the creation of a policy association |  |
| uePolicy | UePolicy | O | 0..1 | The UE policy as determined by the H-PCF (for the H-PCF as NF service producer). |  |
| n2Pc5Pol | N2InfoContent | O | 0..1 | The N2 PC5 policy for V2X communications as determined by the H-PCF. | V2X |
| n2Pc5PolA2x | N2InfoContent | O | 0..1 | The N2 PC5 policy for A2X communications as determined by the H-PCF. | A2X |
| n2Pc5ProSePol | N2InfoContent | O | 0..1 | The N2 PC5 policy for 5G ProSe as determined by the PCF. | ProSe |
| triggers | array(RequestTrigger) | O | 1..N | Request Triggers to which the PCF subscribes.  (NOTE 1) |  |
| pras | map(PresenceInfo) | C | 1..N | If the Request Trigger "PRA\_CH" is provided, the presence reporting area(s) for which reporting is requested shall be provided. The "praId" attribute within the PresenceInfo data type shall also be the key of the map. The "presenceState" and the "additionalPraId" attributes within the PresenceInfo data type shall not be supplied. The "praId" attribute within the PresenceInfo data type shall include the identifier of either a presence reporting area or a presence reporting area set. |  |
| andspDelInd | PolicyStatus | O | 0..1 | Information about whether the updated ANDSP/WLANSP has been successfully delivered to the UE. | SliceAwareANDSP |
| andspInd | boolean | O | 0..1 | Indication of UE support of ANDSP.  True: The UE supports ANDSP;  False: The UE does not support ANDSP. | UECapabilityIndication |
| pduSessions | array(PduSessionInfo) | O | 1..N | Contains the DNNs and S-NSSAIs for which LBO information is being requested. It may be provided when the "LBO\_INFO\_CH" request trigger is provided. | VPLMNSpecificURSP |
| chfInfo | ChargingInformation | O | 0..1 | Contains the CHF address information.  (NOTE 3) | SLAMUP |
| chfGroupId | NfGroupId | O | 0..1 | Contains the identity of the CHF group that manages charging.  (NOTE 3) | CHFGroup |
| suppFeat | SupportedFeatures | M | 1 | Indicates the negotiated supported features. |  |
| n2Pc5RsppPol | N2InfoContent | O | 0..1 | The N2 PC5 policy for Ranging/SL as determined by the H-PCF. | Ranging\_SL |
| pcfUeInfo | PcfUeCallbackInfo | O | 0..1 | Contains the PCF for the UE information necessary for the PCF for the PDU session to send established/terminated events notifications to the PCF for the UE. | URSPEnforcement |
| matchPdus | array(PduSessionInfo) | C | 1..N | Indicates the matched PDU session(s) for which the AMF shall forward the PCF for the UE callback information in the "pcfUeInfo" attribute to the SMF. It shall be present when the "pcfUeInfo" attribute is present.  (NOTE 2) | URSPEnforcement |
| NOTE 1: Only the RequestTrigger enumeration values corresponding to PCRTs that require explicit subscription as defined in clause 5.6.3.3 shall be applicable within the "triggers" attribute.  NOTE 2: The DNN encoded within the PduSessionInfo element(s) of the "matchPdus" array may contain a full DNN or only the DNN Network Identifier. When the DNN contains the Network Identifier only, the AMF shall match a PDU session for the received Network Identifier and for any value of the Operator Identifier.  NOTE 3: This attribute may only be supplied by the PCF in the response to the initial POST request that requested the creation of an individual UE policy resource. | | | | | |

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

## 5.8 Feature negotiation

The optional features in table 5.8-1 are defined for the Npcf\_UEPolicyControl API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [5].

Table 5.8-1: Supported Features

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Feature number | | | Feature Name | | | Description | | |
| 1 | | | PendingTransaction | | | This feature indicates support for the race condition handling as defined in 3GPP TS 29.513 [7]. | | |
| 2 | | | PlmnChange | | | This feature indicates support for the change of PLMN trigger handling. | | |
| 3 | | | ConnectivityStateChange | | | This feature indicates support for the UE connectivity state change trigger handling. | | |
| 4 | | | V2X | | | This feature indicates support for the UE policy provisioning and N2 information provisioning for V2X communications. | | |
| 5 | | | GroupIdListChange | | | This feature indicates the support for the notification of changes in the list of internal group identifiers. | | |
| 6 | | | ImmediateReport | | | This feature indicates the support of the current applicable values report corresponding to the policy control request triggers for policy update notification. | | |
| 7 | | | ErrorResponse | | | This feature indicates support for "404 Not Found" error response code for policy update notification between AMF and (V-)PCF. | | |
| 8 | | | ES3XX | | | Extended Support for 3xx redirections. This feature indicates the support of redirection for any service operation, according to Stateless NF procedures as specified in clauses 6.5.3.2 and 6.5.3.3 of 3GPP TS 29.500 [5] and according to HTTP redirection principles for indirect communication, as specified in clause 6.10.9 of 3GPP TS 29.500 [5]. | | |
| 9 | | | ProSe | | | This feature indicates support of UE policy and N2 information provisioning for 5G ProSe. | | |
| 10 | | | FeatureRenegotiation | | | This feature indicates the support of feature renegotiation during the update of a policy association triggered by UE mobility with AMF change. | | |
| 11 | | | SliceAwareANDSP | | | This feature indicates the support of ANDSP/WLANSP policies that consider the slices supported by the UE. | | |
| 12 | | | EpsUrsp | | | This feature indicates support of URSP provisioning in EPS and is only applicable in the case of of 5GC and EPC interworking. | | |
| 13 | | | EnSatBackhaulCategoryChg | | | This feature indicates the support of notification of a change between different satellite backhaul categories, or dynamic satellite backhaul categories, or between satellite backhaul and non-satellite backhaul. | | |
| 14 | | | UECapabilityIndication | | | This feature indicates the support of the provisioning by the H-PCF to the V-PCF of the UE Capability for UE Policy, when the UE Capability is not received from the UE and the information is available and reliable in the UDR. | | |
| 15 | | | A2X | | | This feature indicates support of A2X communications. | | |
| 16 | | | NssaiChange | | | This feature indicates support for the change of Configured NSSAI trigger handling. | | |
| 17 | | | ProSe\_Ph2 | | | This feature indicates the support of UE policy and N2 information provisioning for 5G ProSe UE-to-UE Relay function.  This feature requires that the "ProSe" feature is also supported. | | |
| 18 | | | PresenceInfo | | | The feature indicates the support of policy update to remove the existing presence reporting areas entry. | | |
| 19 | | | URSPEnforcement | | | This feature indicates the support of the report of URSP rule enforcement information by the V-PCF to the H-PCF. | | |
| 20 | | | VPLMNSpecificURSP | | | This feature indicates the support of AF guidance on VPLMN-specific URSP rules. It requires the support of NssaiChange feature. | | |
| 21 | | | Ranging\_SL | | | This feature indicates the support of the ranging and sidelink positioning functionality.  The following functionalities are supported:  - Support for the UE policy provisioning and N2 information provisioning for Ranging and sidelink positioning. | | |
| 22 | | | AccessChange | | | This feature indicates the support of the reporting of an access type and RAT type changes, the addition of an access type and RAT type or the removal of an existing access type and RAT type. | | |
| 23 | | | EnErrorHandling | | | This feature indicates the support of the indication from the V-PCF to the H-PCF of the received AMF error response to the UE Policy Delivery transfer request. | | |
| 24 | | | SLAMUP | | | This feature indicates the support of the provisioning to the AMF of the CHF information of the CHF selected by the PCF for UE policy. | | |
| 25 | | | EnhEstRoaming | | | The feature enhanced UE Policy Establishment procedure in roaming scenarios indicates the provisioning of the AMF to the V-PCF of the H-PCF Set Id and H-PCF URI of the selected H-PCF ID. | | |
| 26 | | | ProSe\_Ph3 | | | This feature indicates the support of the second set of enhancements to the 5G ProSe functionality.  The following sub-functionalities are supported:  - Support UE policy and N2 information provisioning for Multi-hop UE-to-Network Relay.  - Support UE policy and N2 information provisioning for Layer-3 Multi-hop UE-to-UE Relay.  This feature requires that the "ProSe\_Ph2" feature is also supported. | | |
| 27 | | | CHFGroup | | | This feature indicates the support of provisioning the CHF Group ID. | | |

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

# A.2 Npcf\_UEPolicyControl API

openapi: 3.0.0

info:

version: 1.4.0-alpha.3

title: Npcf\_UEPolicyControl

description: |

UE Policy Control Service.

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externalDocs:

description: 3GPP TS 29.525 V19.3.0; 5G System; UE Policy Control Service.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.525/'

servers:

- url: '{apiRoot}/npcf-ue-policy-control/v1'

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- npcf-ue-policy-control

paths:

/policies:

post:

operationId: CreateIndividualUEPolicyAssociation

summary: Create individual UE policy association.

tags:

- UE Policy Associations (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the newly created resource, according to the structure

{apiRoot}/npcf-ue-policy-control/v1/policies/{polAssoId}'

required: true

schema:

type: string

'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:

policyUpdateNotification:

'{$request.body#/notificationUri}/update':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The current applicable values corresponding to the policy control request

trigger is reported

content:

application/json:

schema:

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

'204':

description: No Content, Notification was successful

'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'

policyAssocitionTerminationRequestNotification:

'{$request.body#/notificationUri}/terminate':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was successful

'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'

/policies/{polAssoId}:

get:

operationId: ReadIndividualUEPolicyAssociation

summary: Read individual UE policy association.

tags:

- Individual UE Policy Association (Document)

parameters:

- name: polAssoId

in: path

description: Identifier of a policy association

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

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

'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'

delete:

operationId: DeleteIndividualUEPolicyAssociation

summary: Delete individual UE policy association.

tags:

- Individual UE Policy Association (Document)

parameters:

- name: polAssoId

in: path

description: Identifier of a policy association

required: true

schema:

type: string

responses:

'204':

description: No Content. Resource was successfully deleted

'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'

/policies/{polAssoId}/update:

post:

operationId: ReportObservedEventTriggersForIndividualUEPolicyAssociation

summary: >

Report observed event triggers and possibly obtain updated policies for an individual UE

policy association.

tags:

- Individual UE Policy Association (Document)

requestBody:

required: true

content:

application/json:

schema:

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

parameters:

- name: polAssoId

in: path

description: Identifier of a policy association

required: true

schema:

type: string

responses:

'200':

description: OK. Updated policies are returned

content:

application/json:

schema:

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

'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'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

npcf-ue-policy-control: Access to the Npcf\_UEPolicyControl API

schemas:

PolicyAssociation:

description: >

Contains the description of a policy association that is returned by the PCF when a policy

Association is created, updated, or read.

type: object

properties:

request:

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

uePolicy:

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

n2Pc5Pol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

n2Pc5PolA2x:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

n2Pc5ProSePol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

triggers:

type: array

items:

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

minItems: 1

description: >

Request Triggers that the PCF subscribes.

pras:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the presence reporting area(s) for which reporting was requested.

The praId attribute within the PresenceInfo data type is the key of the map.

andspDelInd:

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

andspInd:

description: >

Indication of UE support of ANDSP. When set to true, it indicates the UE supports ANDSP,

when set to false it indicates the UE does not support ANDSP.

type: boolean

pduSessions:

type: array

items:

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

minItems: 1

description: Combination of DNN and S-NSSAIs for which LBO information is requested.

chfInfo:

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

chfGroupId:

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

suppFeat:

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

n2Pc5RsppPol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

pcfUeInfo:

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

matchPdus:

type: array

items:

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

minItems: 1

required:

- suppFeat

PolicyAssociationRequest:

description: >

Represents information that the NF service consumer provides when requesting the creation of

a policy association.

type: object

properties:

notificationUri:

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

altNotifIpv4Addrs:

type: array

items:

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

minItems: 1

description: Alternate or backup IPv4 Address(es) where to send Notifications.

altNotifIpv6Addrs:

type: array

items:

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

minItems: 1

description: Alternate or backup IPv6 Address(es) where to send Notifications.

altNotifFqdns:

type: array

items:

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

minItems: 1

description: Alternate or backup FQDN(s) where to send Notifications.

supi:

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

gpsi:

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

accessType:

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

accessTypes:

type: array

items:

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

minItems: 1

description: >

The Access Type(s) where the served UE is camping.

It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

pei:

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

userLoc:

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

timeZone:

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

servingPlmn:

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

ratType:

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

ratTypes:

type: array

items:

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

minItems: 1

description: >

The RAT Type(s), if available, for the reported "accessTypes" where the served UE is

camping. It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

groupIds:

type: array

items:

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

minItems: 1

hPcfId:

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

hPcfUri:

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

hPcfSetId:

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

uePolReq:

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

guami:

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

serviceName:

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

servingNfId:

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

pc5Capab:

$ref: '#/components/schemas/Pc5Capability'

a2xCapab:

type: array

items:

$ref: '#/components/schemas/A2xCapability'

minItems: 1

proSeCapab:

type: array

items:

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

minItems: 1

confSnssais:

type: array

items:

$ref: 'TS29531\_Nnssf\_NSSelection.yaml#/components/schemas/ConfiguredSnssai'

minItems: 1

description: >

The Configured NSSAI for the serving PLMN, and the mapped S-NSSAI value of home

network corresponding to the configured S-NSSAI in the serving PLMN.

n3gNodeReSel:

$ref: '#/components/schemas/Non3gppAccess'

sliceN3gNodeSelCap:

$ref: '#/components/schemas/SliceSpecificN3gNodeSelectionCapability'

satBackhaulCategory:

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

5gsToEpsMob:

type: boolean

description: >

It indicates the UE Policy Association is triggered by a 5GS to EPS mobility

scenario.

vpsUePolGuidance:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the service parameter used to guide the VPLMN-specific URSP and may contain

the subscription to VPLMN-specific URSP delivery outcome.

The key of the map represents the AF request to guide VPLMN-specific URSP rules.

This attribute only applies in roaming and when the V-PCF is the NF service consumer.

lboRoamInfo:

type: array

items:

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

minItems: 1

description: >

Contains LBO roaming information for DNN and S-NSSAI combination(s).

This attribute only applies in roaming and when the AMF is the NF service consumer.

suppFeat:

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

rangSlCapab:

type: array

items:

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

minItems: 1

required:

- notificationUri

- suppFeat

- supi

PolicyAssociationUpdateRequest:

description: >

Represents Information that the NF service consumer provides when requesting the update of

a policy association.

type: object

properties:

notificationUri:

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

altNotifIpv4Addrs:

type: array

items:

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

minItems: 1

description: Alternate or backup IPv4 Address(es) where to send Notifications.

altNotifIpv6Addrs:

type: array

items:

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

minItems: 1

description: Alternate or backup IPv6 Address(es) where to send Notifications.

altNotifFqdns:

type: array

items:

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

minItems: 1

description: Alternate or backup FQDN(s) where to send Notifications.

triggers:

type: array

items:

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

minItems: 1

description: Request Triggers that the NF service consumer observes.

praStatuses:

type: object

additionalProperties:

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

description: >

Contains the UE presence status for tracking area for which changes of the UE presence

occurred. The praId attribute within the PresenceInfo data type is the key of the map.

minProperties: 1

userLoc:

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

uePolDelResult:

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

uePolTransFailNotif:

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

uePolReq:

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

guami:

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

servingNfId:

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

plmnId:

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

connectState:

$ref: 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/CmState'

groupIds:

type: array

items:

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

minItems: 1

pc5Capab:

$ref: '#/components/schemas/Pc5Capability'

a2xCapab:

type: array

items:

$ref: '#/components/schemas/A2xCapability'

minItems: 1

proSeCapab:

type: array

items:

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

minItems: 1

confSnssais:

type: array

items:

$ref: 'TS29531\_Nnssf\_NSSelection.yaml#/components/schemas/ConfiguredSnssai'

minItems: 1

description: >

The Configured NSSAI for the serving PLMN, and the mapped S-NSSAI value of home

network corresponding to the configured S-NSSAI in the serving PLMN.

n3gNodeReSel:

$ref: '#/components/schemas/Non3gppAccess'

sliceN3gNodeSelCap:

$ref: '#/components/schemas/SliceSpecificN3gNodeSelectionCapability'

satBackhaulCategory:

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

urspEnfRep:

type: object

additionalProperties:

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

description: >

Contains information about the enforced URSP rule(s) in one or more PDU sessions.

The key of the map is a character string that represents an integer value.

minProperties: 1

vpsUePolGuidance:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the service parameter used to guide the VPLMN-specific URSP and may contain

the subscription to VPLMN-specific URSP delivery outcome.

The key of the map represents the AF request to guide VPLMN-specific URSP rules.

This attribute only applies in roaming and when the V-PCF is the NF service consumer.

nullable: true

lboRoamInfo:

type: array

items:

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

minItems: 1

description: >

Contains LBO roaming information for DNN and S-NSSAI combination(s).

This attribute only applies in roaming and when the AMF is the NF service consumer.

accessTypes:

type: array

items:

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

minItems: 1

description: >

The Access Type(s) where the served UE is camping.

It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

ratTypes:

type: array

items:

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

minItems: 1

description: >

The RAT Type(s), if available, for the reported "accessTypes" where the served UE is

camping. It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

suppFeat:

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

rangSlCapab:

type: array

items:

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

minItems: 1

description: >

Contains the Ranging/SL related UE capabilities.

PolicyUpdate:

description: >

Represents updated policies that the PCF provides in a notification or in the reply to an

Update Request.

type: object

properties:

resourceUri:

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

uePolicy:

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

n2Pc5Pol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

n2Pc5PolA2x:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

n2Pc5ProSePol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

triggers:

type: array

items:

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

minItems: 1

nullable: true

description: >

Request Triggers that the PCF subscribes.

pras:

type: object

additionalProperties:

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

description: >

Contains the presence reporting area(s) for which reporting was requested.

The praId attribute within the PresenceInfoRm data type is the key of the map.

minProperties: 1

nullable: true

andspDelInd:

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

delivReport:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the delivery outcome of the VPLMN-specific URSP.

The key of the map represents the AF request of the corresponding subscription, i.e. its

value shall match the key that was previously provided by the V-PCF in the

vpsUePolGuidance attribute.

This attribute only applies in roaming and when the V-PCF is the NF service consumer.

pduSessions:

type: array

items:

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

minItems: 1

description: >

Combination of DNN and S-NSSAIs for which LBO information is requested.

nullable: true

pcfUeInfo:

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

matchPdus:

type: array

items:

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

minItems: 1

nullable: true

suppFeat:

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

n2Pc5RsppPol:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InfoContent'

required:

- resourceUri

TerminationNotification:

description: >

Represents a request to terminate a policy association that the PCF provides in a

notification.

type: object

properties:

resourceUri:

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

cause:

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

required:

- resourceUri

- cause

UePolicyTransferFailureNotification:

description: >

Represents information on the failure of a UE policy transfer to the UE because the UE is

not reachable.

type: object

properties:

cause:

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

retryAfter:

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

ptis:

type: array

items:

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

minItems: 1

description: >

This contains a list of PTI assigned by the H-PCF corresponding to the UE policy(s)

which could not be transferred by the AMF.

required:

- cause

- ptis

UeRequestedValueRep:

description: >

Contains the current applicable values corresponding to the policy control request triggers.

type: object

properties:

userLoc:

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

praStatuses:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the UE presence statuses for tracking areas. The praId attribute within the

PresenceInfo data type is the key of the map.

plmnId:

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

connectState:

$ref: 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/CmState'

confSnssais:

type: array

items:

$ref: 'TS29531\_Nnssf\_NSSelection.yaml#/components/schemas/ConfiguredSnssai'

minItems: 1

description: >

The Configured NSSAI for the serving PLMN, and the mapped S-NSSAI value of home

network corresponding to the configured S-NSSAI in the serving PLMN.

satBackhaulCategory:

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

urspEnfRep:

type: object

additionalProperties:

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

description: >

Contains information about the enforced URSP rule(s) in one or more PDU sessions.

The key of the map is a character string that represents an integer value.

minProperties: 1

lboRoamInfo:

type: array

items:

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

minItems: 1

description: >

Contains LBO roaming information for DNN and S-NSSAI combination(s).

accessTypes:

type: array

items:

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

minItems: 1

description: >

The Access Type(s) where the served UE is camping.

It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

ratTypes:

type: array

items:

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

minItems: 1

description: >

The RAT Type(s), if available, for the reported "accessTypes" where the served UE is

camping. It shall be provided, if available, for trigger "ACCESS\_TYPE\_CH.

UePolicyParameters:

description: >

Contains the service parameters used to guide the VPLMN-specific URSP rule determination.

type: object

properties:

urspGuidance:

type: array

items:

$ref: 'TS29522\_ServiceParameter.yaml#/components/schemas/UrspRuleRequest'

minItems: 1

description: >

Contains the service parameter used to guide the VPLMN-specific URSP.

deliveryEvents:

type: array

items:

$ref: 'TS29522\_ServiceParameter.yaml#/components/schemas/Event'

minItems: 1

description: >

AF subscribed event(s) notifications related to AF provisioned guidance

for VPLMN-specific URSP rules.

nullable: true

nullable: true

LboRoamingInformation:

description: >

Contains LBO roaming information for a DNN and S-NSSAI.

type: object

properties:

lboRoamAllowed:

type: boolean

description: >

Indicates whether LBO for the DNN and S-NSSAI is allowed when roaming.

dnn:

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

snssai:

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

required:

- dnn

- snssai

UrspEnforcementPduSession:

description: >

Represents URSP rule enforcement information for a PDU session.

type: object

required:

- urspEnfInfo

properties:

urspEnfInfo:

$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'

dnn:

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

snssai:

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

UePolicyNotification:

description: >

Contains the delivery outcome of VPLMN-specific URSP rules.

type: object

required:

- eventNotifs

properties:

eventNotifs:

type: array

items:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/PcEventNotification'

minItems: 1

description: >

Represents the events to be reported according to the subscription to notifications

of VPLMN-specific URSP delivery outcome events.

UePolicy:

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

UePolicyDeliveryResult:

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

UePolicyRequest:

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

RequestTrigger:

anyOf:

- type: string

enum:

- LOC\_CH

- PRA\_CH

- UE\_POLICY

- PLMN\_CH

- CON\_STATE\_CH

- GROUP\_ID\_LIST\_CHG

- UE\_CAP\_CH

- SAT\_CATEGORY\_CHG

- NON\_3GPP\_NODE\_RESELECTION

- CONF\_NSSAI\_CH

- LBO\_INFO\_CH

- FEAT\_RENEG

- URSP\_ENF\_INFO

- ACCESS\_TYPE\_CH

- 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 possible request triggers.

Possible values are:

- LOC\_CH: Location change (tracking area). The tracking area of the UE has changed.

- PRA\_CH: Change of UE presence in PRA. The AMF reports the current presence status

of the UE in a Presence Reporting Area, and notifies that the UE enters/leaves the

Presence Reporting Area.

- UE\_POLICY: A MANAGE UE POLICY COMPLETE message or a MANAGE UE POLICY COMMAND REJECT

message, as defined in Annex D.5 of 3GPP TS 24.501 or a "UE POLICY PROVISIONING REQUEST"

message, as defined in clause 7.2.1.1 of 3GPP TS 24.587, has been received by the AMF

and is being forwarded.

- PLMN\_CH: PLMN change. the serving PLMN of UE has changed.

- CON\_STATE\_CH: Connectivity state change: the connectivity state of UE has changed.

- GROUP\_ID\_LIST\_CHG: UE Internal Group Identifier(s) has changed. This policy

control request

trigger does not require a subscription.

- UE\_CAP\_CH: UE Capabilities change: the UE provided 5G ProSe capabilities have changed.

This policy control request trigger does not require subscription.

- SAT\_CATEGORY\_CHG: Indicates that the AMF has detected a change between different satellite

category, or non-satellite backhaul.

- NON\_3GPP\_NODE\_RESELECTION: The UE has connected to a wrong non-3GPP access node that

does not match its subscribed S-NSSAI(s). This policy control request trigger does not

require a subscription.

- CONF\_NSSAI\_CH: Configured NSSAI change. Indicates that the configured NSSAI has changed.

- LBO\_INFO\_CH: LBO information change. The AMF reports LBO roaming allowed or not allowed

for the requested DNN(s) and S-NSSAI(s). This policy control request trigger only applies

in roaming scenarios when the NF service consumer is the AMF.

- FEAT\_RENEG: The NF service consumer notifies that the target AMF is requesting feature

re-negotiation.

- URSP\_ENF\_INFO: The V-PCF has received URSP rule enforcement information about the enforced

URSP rule(s) in one or more PDU sessions. This trigger applies in roaming scenarios and

to the V-PCF.

- ACCESS\_TYPE\_CH: Access Type change. The registered access type and RAT type

has changed, an access type and RAT type is added or removed.

PolicyAssociationReleaseCause:

anyOf:

- type: string

enum:

- UNSPECIFIED

- UE\_SUBSCRIPTION

- INSUFFICIENT\_RES

- 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 cause why the PCF requests the policy association termination.

Possible values are:

- UNSPECIFIED: This value is used for unspecified reasons.

- UE\_SUBSCRIPTION: This value is used to indicate that the policy association needs to be

terminated because the subscription of UE has changed (e.g. was removed).

- INSUFFICIENT\_RES: This value is used to indicate that the server is overloaded and needs

to abort the policy association.

Pc5Capability:

anyOf:

- type: string

enum:

- LTE\_PC5

- NR\_PC5

- LTE\_NR\_PC5

- 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 specific PC5 RAT(s) which the UE supports for V2X communications over

PC5 reference point.

Possible values are:

- LTE\_PC5: This value is used to indicate that UE supports PC5 LTE RAT for V2X

communications over the PC5 reference point

- NR\_PC5: This value is used to indicate that UE supports PC5 NR RAT for V2X communications

over the PC5 reference point.

- LTE\_NR\_PC5: This value is used to indicate that UE supports both PC5 LTE and NR RAT for

V2X communications over the PC5 reference point.

ProSeCapability:

anyOf:

- type: string

enum:

- PROSE\_DD

- PROSE\_DC

- PROSE\_L2\_U2N\_RELAY

- PROSE\_L3\_U2N\_RELAY

- PROSE\_L2\_REMOTE\_UE

- PROSE\_L3\_REMOTE\_UE

- PROSE\_L2\_U2U\_RELAY

- PROSE\_L3\_U2U\_RELAY

- PROSE\_L2\_END\_UE

- PROSE\_L3\_END\_UE

- PROSE\_MH\_L2\_U2N\_RELAY

- PROSE\_MH\_L3\_U2N\_RELAY

- PROSE\_MH\_L2\_REMOTE\_UE

- PROSE\_MH\_L3\_REMOTE\_UE

- PROSE\_MH\_L2\_INTERMEDIATE\_UE

- PROSE\_MH\_L3\_INTERMEDIATE\_UE

- PROSE\_MH\_L3\_U2U\_RELAY

- PROSE\_MH\_L3\_END\_UE

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

the content defined in the present version of this API.

description: |

Represents the 5G ProSe capabilities.

Possible values are:

- PROSE\_DD: This value is used to indicate that 5G ProSe Direct Discovery is supported

by the UE.

- PROSE\_DC: This value is used to indicate that 5G ProSe Direct Communication is supported

by the UE.

- PROSE\_L2\_U2N\_RELAY: This value is used to indicate that Layer-2 5G ProSe UE-to-Network

Relay is supported by the UE.

- PROSE\_L3\_U2N\_RELAY: This value is used to indicate that Layer-3 5G ProSe UE-to-Network

Relay is supported by the UE.

- PROSE\_L2\_REMOTE\_UE: This value is used to indicate that Layer-2 5G ProSe Remote UE is

supported by the UE.

- PROSE\_L3\_REMOTE\_UE: This value is used to indicate that Layer-3 5G ProSe Remote UE is

supported by the UE.

- PROSE\_L2\_U2U\_RELAY: This value is used to indicate that Layer-2 5G ProSe UE-to-UE

Relay is supported by the UE.

- PROSE\_L3\_U2U\_RELAY: This value is used to indicate that Layer-3 5G ProSe UE-to-UE

Relay is supported by the UE.

- PROSE\_L2\_END\_UE: This value is used to indicate that Layer-2 5G ProSe End UE is

supported by the UE.

- PROSE\_L3\_END\_UE: This value is used to indicate that Layer-3 5G ProSe End UE is

supported by the UE.

- PROSE\_MH\_L2\_U2N\_RELAY: Indicates that the UE supports acting as a 5G ProSe Layer-2

UE-to-Network Relay UE supporting 5G ProSe Layer-2 multi-hop UE-to-Network Relay.

- PROSE\_MH\_L3\_U2N\_RELAY: Indicates that the UE supports acting as a 5G ProSe Layer-3

UE-to-Network Relay UE supporting 5G ProSe Layer-3 multi-hop UE-to-Network Relay.

- PROSE\_MH\_L2\_REMOTE\_UE: Indicates that the UE supports acting as a 5G ProSe Layer-2 Remote

UE supporting 5G ProSe Layer-2 multi-hop UE-to-Network Relay.

- PROSE\_MH\_L3\_REMOTE\_UE: Indicates that the UE supports acting as a 5G ProSe Layer-3 Remote

UE supporting 5G ProSe Layer-3 multi-hop UE-to-Network Relay.

- PROSE\_MH\_L2\_INTERMEDIATE\_UE: Indicates that the UE supports acting as a 5G ProSe Layer-2

Intermediate UE-to-Network Relay supporting 5G ProSe Layer-2 multi-hop UE-to-Network

Relay.

- PROSE\_MH\_L3\_INTERMEDIATE\_UE: Indicates that the UE supports acting as a 5G ProSe Layer-3

Intermediate UE-to-Network Relay supporting 5G ProSe Layer-3 multi-hop UE-to-Network

Relay.

- PROSE\_MH\_L3\_U2U\_RELAY: Indicates that the UE supports acting as a 5G ProSe Layer-3

UE-to-UE Relay UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay.

- PROSE\_MH\_L3\_END\_UE: Indicates that the UE supports acting as a 5G ProSe Layer-3 End UE

supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay.

Non3gppAccess:

anyOf:

- type: string

enum:

- N3IWF

- TNGF

- 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 a non-3gpp access node.

Possible values are:

- N3IWF: Non-3gpp Interworking Function.

- TNGF: Trusted Non-3gpp Gateway Function.

N1N2MessTransferErrorReply:

anyOf:

- type: string

enum:

- UE\_NOT\_REACHABLE

- UNSPECIFIED

- 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 an N1N2 Message Transfer error.

Possible values are:

- UE\_NOT\_REACHABLE: The UE is not reachable for paging.

- UNSPECIFIED: Unspecified error.

RangSLCapability:

anyOf:

- type: string

enum:

- PC5\_RANGING\_SL

- 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: |

Indicates the Ranging and Sidelink Capability.

Possible values are:

- PC5\_RANGING\_SL: Indicates that the PC5 Capability for Ranging and Sidelink is supported

by the UE.

PolicyStatus:

anyOf:

- type: string

enum:

- CONFIGURED

- NOT\_CONFIGURED

- 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 configuration status of a UE Policy in the UE.

Possible values are:

- CONFIGURED: The UE Policy is configured in the UE.

- NOT\_CONFIGURED: The UE Policy is not configured in the UE.

A2xCapability:

anyOf:

- type: string

enum:

- EUTRA\_PC5

- NR\_PC5

- UU

- 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 A2X capabilities the UE supports for A2X communication.

Possible values are:

- EUTRA\_PC5: This value is used to indicate that the UE supports PC5 EUTRA RAT for A2X

communications over the PC5 reference point

- NR\_PC5: This value is used to indicate that the UE supports PC5 NR RAT for A2X

communications over the PC5 reference point.

- UU: This value is used to indicate that UE supports A2X communications over the PC5

reference point.

SliceSpecificN3gNodeSelectionCapability:

anyOf:

- type: string

enum:

- ONLY\_N3IWF\_SS\_SEL

- ONLY\_TNGF\_SS\_SEL

- TNGF\_N3IWF\_SS\_SEL

- 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 UE capabilities with regard to slice-specific non-3gpp node selection.

Possible values are:

- ONLY\_N3IWF\_SS\_SEL: Indicates that the UE supports N3IWF selection based on the slices

the UE wishes to use over untrusted non-3GPP access.

- ONLY\_TNGF\_SS\_SEL: Indicates that the UE supports TNGF selection based on the slices

the UE wishes to use over trusted non-3GPP access.

- TNGF\_N3IWF\_SS\_SEL: Indicates that the UE supports N3IWF selection based on the slices

the UE wishes to use over untrusted non-3GPP access and TNGF selection based on the

slices the UE wishes to use over trusted non-3GPP access.

#

UePolicyTransferFailureCause:

description: UE Policy Transfer Failure Cause.

anyOf:

- $ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N1N2MessageTransferCause'

- $ref: '#/components/schemas/N1N2MessTransferErrorReply'

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