**3GPP TSG CT WG3 Meeting #135 *C3-243115***

**Hyderabad, IN, 27 - 31 May, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.507** | **CR** | **0305** | **rev** | **-** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Support RAT type change as PCRT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18, 5GS\_Ph1-CT | | | | |  | ***Date:*** | | | 2024-05-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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 agreed stage-2 CR - S2-2405661 (CR#1290), change in RAT type within same Access type was defined.  Hence, we need to support the same in stage-3 implementations. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | RAT type change within same Access type PCRT is defined. Clauses 4.2.3.2, 5.6.2.2, 5.6.2.4, 5.6.2.5, 5.6.2.9, 5.6.3.3, 5.8, A.2 are updated to support the same. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not compliant with stage 2 requirements | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.3.2, 5.6.2.4, 5.6.2.9, 5.6.3.3, 5.8, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 23.503 CR 1290 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR provides new backward compatible correction to the open API Npcf\_AMPolicyControl API | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 4.2.3.2 Policy Control Request Triggers

The following Policy Control Request Triggers are defined (see clause 6.1.2.5 of 3GPP TS 23.503 [4]):

- "LOC\_CH", i.e. location change (tracking area): the tracking area of the UE has changed;

- "PRA\_CH", i.e. change of UE presence in PRA: the UE is entering/leaving a Presence Reporting Area, this includes reporting the initial status at the time the request for reports is initiated;

- "SERV\_AREA \_CH", i.e. Service Area Restriction change: the UDM notifies the AMF that the subscribed service area restriction information has changed;

- "RFSP\_CH", i.e. RFSP index change: the UDM notifies the AMF that the subscribed RFSP index has changed;

- "ALLOWED\_NSSAI\_CH", i.e. change of allowed NSSAI of the served UE;

NOTE 1: The "ALLOWED\_NSSAI\_CH" trigger only applies if the "SliceSupport" feature, the "DNNReplacementControl" feature and/or "NetSliceRepl" feature is/are supported.

- "UE\_AMBR\_CH", i.e. UE-AMBR change: the UDM notifies the AMF that the subscribed UE-AMBR has changed;

NOTE 2: The "UE\_AMBR\_CH" trigger only applies if the "UE-AMBR\_Authorization" feature is supported.

- "SMF\_SELECT\_CH", i.e. SMF selection information change: UE request for an unsupported DNN or UE request for a DNN within the list of DNN candidates for replacement per S-NSSAI;

NOTE 3: The "SMF\_SELECT\_CH" trigger only applies if the "DNNReplacementControl" feature is supported and "ALLOWED\_NSSAI\_CH" trigger is also subscribed.

- "ACCESS\_TYPE\_CH", i.e. the access type change: the AMF notifies that the access type and the RAT type for a UE has changed;

NOTE 4: The "ACCESS\_TYPE\_CH" trigger only applies if the "MultipleAccessTypes" feature is supported as specified in Annex B.

- "UE\_SLICE\_MBR\_CH", i.e. UE-Slice-MBR change: the AMF notifies for any changes in the subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to a S-NSSAI of the serving PLMN;

NOTE 5: The "UE\_SLICE\_MBR\_CH" trigger only applies if the "UE-Slice-MBR\_Authorization" feature is supported.

- "NWDAF\_DATA\_CH", i.e. NWDAF Data change:the list of NWDAF Instance IDs and/or their associated Analytics IDs consumed by the AMF have changed;

NOTE 6: The "NWDAF\_DATA\_CH" trigger only applies if the "EneNA" feature is supported.

- "TARGET\_NSSAI", i.e. Generation of Target NSSAI: the NF service consumer notifies that the Target NSSAI was generated;

NOTE 7: The "TARGET\_NSSAI" trigger only applies if the "TargetNSSAI" feature is supported.

- "SLICE\_REPLACE\_MGMT", i.e. Network slice replacement is needed for one or more S-NSSAI(s) and the NF service consumer (i.e., AMF) cannot determine the Alternative S-NSSAI(s) for these S-NSSAI(s); and

NOTE 8: The "SLICE\_REPLACE\_MGMT" trigger only applies if the "NetSliceRepl" feature is supported.

- "PARTIALLY\_ALLOWED\_NSSAI\_CH", i.e. Change of the Partially Allowed NSSAI of the served UE;

NOTE 9: The "PARTIALLY\_ALLOWED\_NSSAI\_CH" trigger only applies if the "PartNetSliceSupport" feature and/or "NetSliceRepl" feature is/are supported.

- "SNSSAIS\_PARTIALLY\_REJECTED\_CH", i.e. Change of the S-NSSAI(s) rejected partially in the RA for the served UE;

- "REJECTED\_SNSSAIS\_CH", i.e. Change of the Rejected S-NSSAI(s) in the RA for the served UE;

- "PENDING\_NSSAI\_CH", i.e. Change of the Pending NSSAI of the served UE;

NOTE 10: The "SNSSAIS\_PARTIALLY\_REJECTED\_CH", "REJECTED\_SNSSAIS\_CH" and "PENDING\_NSSAI\_CH" triggers only apply if the "PartNetSliceSupport" feature is supported.

- "RAT\_TYPE\_CH", i.e. the RAT type change: the AMF notifies that the RAT type within same access type has changed for a UE;

NOTE 11: The "RAT\_TYPE\_CH" trigger only applies if the "RatTypeChange" feature is supported, as specified in Annex B.

\* \* \* \* Next change \* \* \* \*

#### 5.6.2.4 Type PolicyAssociationUpdateRequest

Table 5.6.2.4-1: Definition of type PolicyAssociationUpdateRequest

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notificationUri | Uri | O | 0..1 | Identifies the recipient of Notifications sent by the PCF. |  |
| altNotifIpv4Addrs | array(Ipv4Addr) | O | 1..N | Alternate or backup IPv4 Address(es) where to send Notifications. |  |
| altNotifIpv6Addrs | array(Ipv6Addr) | O | 1..N | Alternate or backup IPv6 Address(es) where to send Notifications. |  |
| altNotifFqdns | array(Fqdn) | O | 1..N | Alternate or backup FQDN(s) where to send Notifications. |  |
| triggers | array(RequestTrigger) | C | 1..N | Request Triggers that the NF service consumer observes.  Shall be provided when a policy control request trigger occurs. |  |
| servAreaRes | ServiceAreaRestriction | C | 0..1 | Service Area Restriction as part of the AMF Access and Mobility Policy. Shall be provided for trigger "SERV\_AREA\_CH". |  |
| wlServAreaRes | WirelineServiceAreaRestriction | C | 0..1 | Wireline Service Area Restriction as part of the AMF Access and Mobility Policy. Shall be provided for trigger "SERV\_AREA\_CH". | WirelineWirelessConvergence |
| rfsp | RfspIndex | C | 0..1 | RFSP Index as part of the AMF Access and Mobility Policy. Shall be provided for trigger "RFSP\_CH". |  |
| smfSelInfo | SmfSelectionData | C | 0..1 | The UE requested S-NSSAI and UE requested DNN. Shall be provided for trigger "SMF\_SELECT\_CH". | DNNReplacementControl |
| ueAmbr | Ambr | C | 0..1 | UE-AMBR as part of the AMF Access and Mobility Policy. Shall be provided for trigger "UE\_AMBR\_CH". | UE-AMBR\_Authorization |
| ueSliceMbrs | array(UeSliceMbr) | C | 1..N | The subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to a S-NSSAI of the serving PLMN. Shall be provided for the "UE\_SLICE\_MBR\_CH" policy control request trigger. (NOTE) | UE-Slice-MBR\_Authorization |
| praStatuses | map(PresenceInfo) | C | 1..N | If the Trigger "PRA\_CH" is reported, the UE presence status for tracking area for which changes of the UE presence occurred shall be provided. The "praId" attribute within the PresenceInfo data type shall also be the key of the map. The "presenceState" attribute within the PresenceInfo data type shall be supplied. The "additionalPraId" attribute within the PresenceInfo data type shall not be supplied. The "praId" attribute within the PresenceInfo data type shall include the identifier of an individual presence reporting area. |  |
| userLoc | UserLocation | C | 0..1 | The location of the served UE shall be provided for trigger "LOC\_CH". |  |
| allowedSnssais | array(Snssai) | C | 1..N | Represents the Allowed NSSAI in the 3GPP access and includes the S-NSSAIs values the UE can use in the serving PLMN. It shall be provided for trigger "ALLOWED\_NSSAI\_CH". | SliceSupport, DNNReplacementControl, NetSliceRepl |
| partAllowedNssai | map(PartiallyAllowedSnssai) | C | 1..N | Represents the updated Partially Allowed NSSAI.  It shall be provided for the trigger "PARTIALLY\_ALLOWED\_NSSAI\_CH".  The key of the map shall be set to the value of the "snssai" attribute of the corresponding map entry (encoded using the PartiallyAllowedSnssai data structure). | PartNetSliceSupport, NetSliceRepl |
| snssaisPartRejected | map(SnssaiPartRejected) | C | 1..N | Represents the updated set of S-NSSAI(s) rejected partially in the RA.  It shall be provided for the trigger "SNSSAIS\_PARTIALLY\_REJECTED\_CH".  The key of the map shall be set to the value of the "snssai" attribute of the corresponding map entry (encoded using the SnssaiPartRejected data structure). | PartNetSliceSupport |
| rejectedSnssais | array(Snssai) | C | 1..N | Represents the updated set of Rejected S-NSSAI(s) in the RA.  It shall be provided for the trigger "REJECTED\_SNSSAIS\_CH". | PartNetSliceSupport |
| pendingNssai | array(Snssai) | C | 1..N | Represents the updated Pending NSSAI.  It shall be provided for the trigger "PENDING\_NSSAI\_CH". | PartNetSliceSupport |
| targetSnssais | array(Snssai) | C | 1..N | Represents the Target NSSAI. It shall be provided for the trigger "TARGET\_NSSAI". | TargetNSSAI |
| mappingSnssais | array(MappingOfSnssai) | O | 1..N | The mapping of each S-NSSAI of the Allowed NSSAI and/or the Partially Allowed NSSAI to the corresponding S-NSSAI of the HPLMN. It shall be provided for the trigger "ALLOWED\_NSSAI\_CH" and/or "PARTIALLY\_ALLOWED\_NSSAI\_CH", if available.  If the "MultipleAccessTypes" feature is supported, this attribute contains also the mapping of the Allowed NSSAI in the non-3GPP access to the corresponding S-NSSAI of the HPLMN. | DNNReplacementControl, PartNetSliceSupport |
| n3gAllowedSnssais | array(Snssai) | C | 1..N | Represents the Allowed NSSAI in the non-3GPP access and includes the S-NSSAIs values the UE can use in the serving PLMN. It shall be provided for trigger "ALLOWED\_NSSAI\_CH" when the feature "MultipleAccessTypes" is supported. | SliceSupport, MultipleAccessTypes, DNNReplacementControl |
| unavailSnssais | array(Snssai) | C | 1..N | Represents the unavailable S-NSSAI(s) that require network slice replacement.  It shall be provided for trigger "SLICE\_REPLACE\_MGMT" when the "NetSliceRepl" feature is supported. | NetSliceRepl |
| accessTypes | array(AccessType) | C | 1..N | The Access Types where the served UE is camping. Shall be provided for trigger "ACCESS\_TYPE\_CH". | MultipleAccessTypes |
| ratTypes | array(RatType) | C | 1..N | The 3GPP RAT Types and/or non-3GPP RAT Types where the served UE is camping. Shall be provided for trigger "ACCESS\_TYPE\_CH", when the feature "MultipleAccessTypes" is supported, and/or for trigger "RAT\_TYPE\_CH", when the "RatTypeChange" feature is supported. | MultipleAccessTypes  RatTypeChange |
| traceReq | TraceData | C | 0..1 | Trace control and configuration parameters information defined in 3GPP TS 32.422 [18] shall be included if trace is required to be activated, modified or deactivated. For trace modification, it shall contain a complete replacement of trace data. For trace deactivation, it shall contain the Null value. |  |
| guami | Guami | C | 0..1 | The Globally Unique AMF Identifier (GUAMI) shall be provided by an AMF as service consumer during the AMF relocation. |  |
| nwdafDatas | array(NwdafData) | O | 1..N | List of NWDAF Instance IDs and their associated Analytics IDs consumed by the NF service consumer. | EneNA |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the features supported by the NF service consumer. It shall be included by the target AMF in inter-AMF mobility scenarios for trigger "FEAT\_RENEG". | FeatureRenegotiation |
| NOTE: If the serving PLMN is not the HPLMN, then within the "ueSliceMbrs" attribute, there shall not be more than one array item with the same "servingSnssai" attribute's value in this release of the specification. | | | | | |

\* \* \* \* Next change \* \* \* \*

#### 5.6.2.9 Type AmRequestedValueRep

Table 5.6.2.9-1: Definition of type AmRequestedValueRep

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| userLoc | UserLocation | C | 0..1 | The location of the served UE is camping.  It shall be provided for trigger "LOC\_CH" if available. |  |
| praStatuses | map(PresenceInfo) | C | 1..N | The UE presence statuses for tracking areas.  The "praId" attribute within the PresenceInfo data type shall also be the key of the map.  It shall be provided for trigger "PRA\_CH" if available. |  |
| accessTypes | array(AccessType) | C | 1..N | The Access Types where the served UE is camping.  It shall be provided for trigger "ACCESS\_TYPE\_CH" if available. | MultipleAccessTypes |
| ratTypes | array(RatType) | O | 1..N | The 3GPP RAT Types and/or non-3GPP RAT Types where the served UE is camping.  It shall be provided for trigger "ACCESS\_TYPE\_CH" if available, when the feature "MultipleAccessTypes" is supported, and/or for trigger "RAT\_TYPE\_CH", when the "RatTypeChange" fetaure is supported. | MultipleAccessTypes  RatTypeChange |
| allowedSnssais | array(Snssai) | C | 1..N | The Allowed NSSAI in the 3GPP access and includes the S-NSSAIs values the UE can use in the serving PLMN.  It shall be provided for trigger "ALLOWED\_NSSAI\_CH" if available. | SliceSupport, DNNReplacementControl, NetSliceRepl |
| n3gAllowedSnssais | array(Snssai) | C | 1..N | The Allowed NSSAI in the non-3GPP access and includes the S-NSSAIs values the UE can use in the serving PLMN when the UE is registered in the non-3GPP access.  It shall be provided for trigger "ALLOWED\_NSSAI\_CH" if available. | SliceSupport, MultipleAccessTypes, DNNReplacementControl |
| partAllowedNssai | map(PartiallyAllowedSnssai) | C | 1..N | Represents the updated Partially Allowed NSSAI.  It shall be provided for trigger "PARTIALLY\_ALLOWED\_NSSAI\_CH" if available.  The key of the map shall be set to the value of the "snssai" attribute of the corresponding map entry (encoded using the PartiallyAllowedSnssai data structure). | PartNetSliceSupport, NetSliceRepl |
| snssaisPartRejected | map(SnssaiPartRejected) | C | 1..N | Represents the updated set of S-NSSAI(s) rejected partially in the RA.  It shall be provided for trigger "SNSSAIS\_PARTIALLY\_REJECTED\_CH" if available.  The key of the map shall be set to the value of the "snssai" attribute of the corresponding map entry (encoded using the SnssaiPartRejected data structure). | PartNetSliceSupport |
| rejectedSnssais | array(Snssai) | C | 1..N | Represents the updated set of Rejected S-NSSAI(s) in the RA.  It shall be provided for trigger "REJECTED\_SNSSAIS\_CH" if available. | PartNetSliceSupport |
| pendingNssai | array(Snssai) | C | 1..N | Represents the updated Pending NSSAI.  It shall be provided for trigger "PENDING\_NSSAI\_CH" if available. | PartNetSliceSupport |

\* \* \* \* Next change \* \* \* \*

#### 5.6.3.3 Enumeration: RequestTrigger

The enumeration RequestTrigger represents the possible Policy Control Request Triggers. It shall comply with the provisions defined in table 5.6.3.3-1.

Table 5.6.3.3-1: Enumeration RequestTrigger

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| LOC\_CH | Location change (tracking area): the tracking area of the UE has changed. (NOTE 1) |  |
| PRA\_CH | Change of UE presence in PRA: the NF service consumer reports the current presence status of the UE in a Presence Reporting Area, and notifies that the UE enters/leaves the Presence Reporting Area. |  |
| SERV\_AREA\_CH  (NOTE 2) | Service Area Restriction change: the UDM notifies the NF service consumer that the subscribed service area restriction information has changed. |  |
| RFSP\_CH  (NOTE 2) | RFSP index change: the UDM notifies the NF service consumer that the subscribed RFSP index has changed. |  |
| ALLOWED\_NSSAI\_CH | Allowed NSSAI change: the NF service consumer notifies that the set of UE allowed S-NSSAIs has changed. (NOTE 1) | SliceSupport, DNNReplacementControl, NetSliceRepl |
| UE\_AMBR\_CH  (NOTE 2) | UE-AMBR change: the UDM notifies the NF service consumer that the subscribed UE-AMBR has changed. | UE-AMBR\_Authorization |
| SMF\_SELECT\_CH | SMF selection information change: UE request for an unsupported DNN or UE request for a DNN within the list of DNN candidates for replacement per S-NSSAI. | DNNReplacementControl |
| ACCESS\_TYPE\_CH | Access Type change: the NF service consumer notifies that the access type and the RAT type for a UE has changed. (NOTE 1) | MultipleAccessTypes |
| UE\_SLICE\_MBR\_CH | UE-Slice-MBR change: the NF service consumer notifies any changes in the subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to a S-NSSAI of the serving PLMN. | UE-Slice-MBR\_Authorization |
| NWDAF\_DATA\_CH  (NOTE 2) | Indicates that the NWDAF instance IDs used for the UE and/or associated Analytics IDs have changed. | EneNA |
| TARGET\_NSSAI | Generation of Target NSSAI: the NF service consumer notifies that the Target NSSAI was generated. | TargetNSSAI |
| SLICE\_REPLACE\_MGMT | Indicates that network slice replacement is needed for one or more S-NSSAI(s) of the UE's Allowed NSSAI and/or Partially Allowed NSSAI and the NF service consumer (i.e., AMF) cannot determine the Alternative S-NSSAI(s) for these S-NSSAI(s). | NetSliceRepl |
| FEAT\_RENEG  (NOTE 2) | The NF service consumer notifies that the target AMF is requesting feature re-negotiation. | FeatureRenegotation |
| PARTIALLY\_ALLOWED\_NSSAI\_CH | Change of the Partially Allowed NSSAI: the NF service consumer notifies that the set of Partially Allowed S-NSSAI(s) of the UE has changed.  (NOTE 1) | PartNetSliceSupport, NetSliceRepl |
| SNSSAIS\_PARTIALLY\_REJECTED\_CH | Change of the S-NSSAI(s) rejected partially in the RA: the NF service consumer notifies that the set of S-NSSAI(s) rejected partially in the RA for the UE has changed.  (NOTE 1) | PartNetSliceSupport |
| REJECTED\_SNSSAIS\_CH | Change of the Rejected S-NSSAI(s) in the RA: the NF service consumer notifies that the set of the Rejected S-NSSAI(s) in the RA for the UE has changed.  (NOTE 1) | PartNetSliceSupport |
| PENDING\_NSSAI\_CH | Change of the Pending NSSAI: the NF service consumer notifies that the set of Pending S-NSSAI(s) of the UE has changed.  (NOTE 1) | PartNetSliceSupport |
| RAT\_TYPE\_CH | RAT Type change: the NF service consumer notifies that the RAT type within same Access type for a UE has changed. (NOTE 1) | RatTypeChange |
| NOTE 1: This includes reporting the current value at the time the trigger is provisioned during the update or update notification of the policy association.  NOTE 2: The NF service consumer always reports to the PCF. | | |

\* \* \* \* Next change \* \* \* \*

## 5.8 Feature negotiation

The optional features in table 5.8-1 are defined for the Npcf\_AMPolicyControl 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 | SliceSupport | Indicates the support of AM policies differentiation based on the awareness of the allowed NSSAI. |
| 2 | PendingTransaction | This feature indicates support for the race condition handling as defined in 3GPP TS 29.513 [7]. |
| 3 | UE-AMBR\_Authorization | Indicates the support of UE-AMBR control by the PCF in the serving network. |
| 4 | DNNReplacementControl | Indicates the support of DNN replacement control. |
| 5 | MultipleAccessTypes | Indicates the support of AM policies for the multiple (i.e. 3GPP and non-3GPP) access and RAT types where the served UE is camping. |
| 6 | WirelineWirelessConvergence | Indicates the support of Wireline and Wireless access convergence. |
| 7 | ImmediateReport | Indicates the support of the current applicable values report corresponding to the policy control request triggers for policy update notification. |
| 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 | UE-Slice-MBR\_Authorization | Indicates the support of UE-Slice-MBR control by the PCF in the serving network. |
| 10 | AMInfluence | Indicates the support of the alternative mechanism to support informing the PCF for the UE of PDU session(s) established/terminated events via the delivery of the PCF for the UE information necessary for the PCF for the PDU session to send notifications on PDU session(s) established/terminated events through the AMF and the SMF. |
| 11 | EneNA | This feature indicates the support of NWDAF data reporting. |
| 12 | TargetNSSAI | Indicates the support for RFSP Index associated with the Target NSSAI. |
| 13 | 5GAccessStratumTime | This feature indicates the support of 5G acess stratum time distribution parameters provisioning. |
| 14 | FeatureRenegotiation | This feature indicates the support of feature renegotiation during the update of a policy association triggered by UE mobility with AMF change. |
| 15 | NetSliceRepl | This feature indicates the support of the network slice replacement functionality as part of the enhancements of the network slicing functionality.  The following functionalities are supported:  - Support the network slice replacement information management. |
| 16 | RFSPValidityTime | This feature indicates the support of the provisioning of a validity time for the RFSP Index value that indicates the EPC/E-UTRAN access is prioritized over 5GS access. |
| 17 | NetTimeSyncStatus | This feature indicates the support of network timing synchronization status and reporting. This feature requires the support of the 5GAccessStratumTime feature as well. |
| 18 | NetSliceUsageCtrl | This feature indicates the support of the network slice usage control functionality as part of the enhancements of the network slicing functionality.  The following functionalities are supported:  - Support the provisioning by the PCF of the network slice usage control information (e.g., slice deregistration inactivity timer value).  This feature requires the support of the "SliceSupport" and/or "DNNReplacementControl" features. |
| 19 | PartNetSliceSupport | This feature indicates the partial network slice support in a Registration Area functionality as part of the enhancements of the network slicing functionality.  The following functionalities are supported:  - Support the reporting of the changes in the Partially Allowed NSSAI, S-NSSAI(s) rejected partially in the RA, Rejected S-NSSAI(s) in the RA and/or the Pending NSSAI to the PCF. |
| 20 | SLAMUP | This feature indicates the support of the provisioning to the AMF of the CHF information of the CHF selected by the PCF. |
| 21 | RatTypeChange | This feature indicates the support of provisioning the AM policies to the UE for the change in the RAT type within the same Access type. |

\* \* \* \* Next change \* \* \* \*

# A.2 Npcf\_AMPolicyControl API

openapi: 3.0.0

info:

version: 1.3.0-alpha.5

title: Npcf\_AMPolicyControl

description: |

Access and Mobility Policy Control Service.

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externalDocs:

description: 3GPP TS 29.507 V18.5.0; 5G System; Access and Mobility Policy Control Service.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.507/'

servers:

- url: '{apiRoot}/npcf-am-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-am-policy-control

paths:

/policies:

post:

operationId: CreateIndividualAMPolicyAssociation

summary: Create individual AM policy association.

tags:

- AM 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-am-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/AmRequestedValueRep'

'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: ReadIndividualAMPolicyAssociation

summary: Read individual AM policy association.

tags:

- Individual AM 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: DeleteIndividualAMPolicyAssociation

summary: Delete individual AM policy association.

tags:

- Individual AM 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: ReportObservedEventTriggersForIndividualAMPolicyAssociation

summary: >

Report observed event triggers and obtain updated policies for an individual AM

policy association.

tags:

- Individual AM 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-am-policy-control: Access to the Npcf\_AMPolicyControl API

schemas:

PolicyAssociation:

description: Represents an individual AM Policy Association resource.

type: object

properties:

request:

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

triggers:

type: array

items:

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

minItems: 1

description: Request Triggers that the PCF subscribes.

servAreaRes:

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

wlServAreaRes:

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

rfsp:

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

rfspValTime:

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

targetRfsp:

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

smfSelInfo:

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

ueAmbr:

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

ueSliceMbrs:

type: array

items:

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

minItems: 1

description: >

One or more UE-Slice-MBR(s) for S-NSSAI(s) of serving PLMN as part of the

AMF Access and Mobility Policy as determined by the PCF.

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.

pcfUeInfo:

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

matchPdus:

type: array

items:

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

nullable: true

asTimeDisParam:

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

sliceUsgCtrlInfoSets:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the network slice usage control information.

The key of the map shall be set to the on-demand S-NSSAI (within the "snssai" attribute

of the corresponding map entry encoded using the SliceUsgCtrlInfo data structure) to

which the network slice usage control information is related.

chfInfo:

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

suppFeat:

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

required:

- suppFeat

PolicyAssociationRequest:

description: >

Information which the NF service consumer provides when requesting the creation of a policy

association. The serviveName property corresponds to the serviceName in the main body

of the specification.

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

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

groupIds:

type: array

items:

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

minItems: 1

servAreaRes:

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

wlServAreaRes:

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

rfsp:

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

ueAmbr:

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

ueSliceMbrs:

type: array

items:

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

minItems: 1

description: >

The subscribed UE Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to

a S-NSSAI of the serving PLMN Shall be provided when available.

allowedSnssais:

description: array of allowed S-NSSAIs for the 3GPP access.

type: array

items:

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

minItems: 1

partAllowedNssai:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the Partially Allowed NSSAI.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the PartiallyAllowedSnssai data

structure).

snssaisPartRejected:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the set of S-NSSAI(s) rejected partially in the RA.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the SnssaiPartRejected data structure).

rejectedSnssais:

type: array

items:

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

minItems: 1

pendingNssai:

type: array

items:

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

minItems: 1

targetSnssais:

description: array of target S-NSSAIs.

type: array

items:

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

minItems: 1

mappingSnssais:

description: >

mapping of each S-NSSAI of the Allowed NSSAI to the corresponding S-NSSAI of the HPLMN.

type: array

items:

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

minItems: 1

n3gAllowedSnssais:

description: array of allowed S-NSSAIs for the Non-3GPP access.

type: array

items:

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

minItems: 1

guami:

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

serviveName:

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

traceReq:

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

nwdafDatas:

type: array

items:

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

minItems: 1

suppFeat:

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

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.

servAreaRes:

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

wlServAreaRes:

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

rfsp:

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

smfSelInfo:

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

ueAmbr:

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

ueSliceMbrs:

type: array

items:

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

minItems: 1

description: >

The subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping

to a S-NSSAI of the serving PLMN Shall be provided for the "UE\_SLICE\_MBR\_CH"

policy control request trigger.

praStatuses:

type: object

additionalProperties:

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

minProperties: 1

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.

userLoc:

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

allowedSnssais:

description: array of allowed S-NSSAIs for the 3GPP access.

type: array

items:

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

minItems: 1

partAllowedNssai:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the Partially Allowed NSSAI.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the PartiallyAllowedSnssai data

structure).

snssaisPartRejected:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the set of S-NSSAI(s) rejected partially in the RA.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the SnssaiPartRejected data structure).

rejectedSnssais:

type: array

items:

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

minItems: 1

pendingNssai:

type: array

items:

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

minItems: 1

targetSnssais:

description: array of target S-NSSAIs.

type: array

items:

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

minItems: 1

mappingSnssais:

description: >

mapping of each S-NSSAI of the Allowed NSSAI to the corresponding S-NSSAI of the HPLMN.

type: array

items:

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

minItems: 1

accessTypes:

type: array

items:

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

minItems: 1

ratTypes:

type: array

items:

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

minItems: 1

n3gAllowedSnssais:

description: array of allowed S-NSSAIs for the Non-3GPP access.

type: array

items:

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

minItems: 1

unavailSnssais:

description: >

Represents the unavailable S-NSSAI(s) from the UE's Allowed NSSAI and/or

Partially Allowed NSSAI that require network slice replacement.

type: array

items:

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

minItems: 1

traceReq:

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

guami:

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

nwdafDatas:

type: array

items:

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

minItems: 1

nullable: true

suppFeat:

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

PolicyUpdate:

description: >

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

Update Request.

type: object

properties:

resourceUri:

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

triggers:

type: array

items:

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

minItems: 1

nullable: true

description: Request Triggers that the PCF subscribes.

servAreaRes:

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

wlServAreaRes:

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

rfsp:

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

rfspValTime:

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

targetRfsp:

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

smfSelInfo:

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

ueAmbr:

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

ueSliceMbrs:

type: array

items:

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

minItems: 1

description: >

One or more UE-Slice-MBR(s) for S-NSSAI(s) of serving PLMN the allowed NSSAI as

part of the AMF Access and Mobility Policy as determined by the PCF.

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 PresenceInfo data type is the key of the map.

minProperties: 1

nullable: true

pcfUeInfo:

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

matchPdus:

type: array

items:

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

nullable: true

asTimeDisParam:

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

snssaiReplInfos:

nullable: true

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the network slice replacement information.

The key of the map shall be set to the concerned unavailable S-NSSAI provided within the

"snssai" attribute of the corresponding map entry (encoded using the SnssaiReplaceInfo

data structure) to which the network slice replacement information is related.

sliceUsgCtrlInfoSets:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the updated network slice usage control information.

The key of the map shall be set to the on-demand S-NSSAI (within the "snssai" attribute

of the corresponding map entry encoded using the SliceUsgCtrlInfo data structure) to

which the network slice usage control information is related.

suppFeat:

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

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

SmfSelectionData:

description: Represents the SMF Selection information that may be replaced by the PCF.

type: object

properties:

unsuppDnn:

type: boolean

candidates:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the list of DNNs per S-NSSAI that are candidates for replacement. The snssai

attribute within the CandidateForReplacement data type is the key of the map.

nullable: true

snssai:

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

mappingSnssai:

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

dnn:

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

nullable: true

CandidateForReplacement:

description: Represents a list of candidate DNNs for replacement for an S-NSSAI.

type: object

properties:

snssai:

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

dnns:

type: array

items:

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

minItems: 1

nullable: true

required:

- snssai

nullable: true

AmRequestedValueRep:

description: >

Represents 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.

accessTypes:

type: array

items:

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

minItems: 1

ratTypes:

type: array

items:

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

allowedSnssais:

description: array of allowed S-NSSAIs for the 3GPP access.

type: array

items:

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

n3gAllowedSnssais:

description: array of allowed S-NSSAIs for the Non-3GPP access.

type: array

items:

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

partAllowedNssai:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the Partially Allowed NSSAI.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the PartiallyAllowedSnssai data

structure).

snssaisPartRejected:

type: object

additionalProperties:

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

minProperties: 1

description: >

Represents the set of S-NSSAI(s) rejected partially in the RA.

The key of the map shall be set to the value of the "snssai" attribute of the

corresponding map entry (encoded using the SnssaiPartRejected data structure).

rejectedSnssais:

type: array

items:

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

minItems: 1

pendingNssai:

type: array

items:

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

minItems: 1

AsTimeDistributionParam:

description: Contains the 5G acess stratum time distribution parameters.

type: object

properties:

asTimeDistInd:

type: boolean

uuErrorBudget:

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

clkQltDetLvl:

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

clkQltAcptCri:

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

nullable: true

UeSliceMbr:

description: Contains a UE-Slice-MBR and the related information.

type: object

properties:

sliceMbr:

type: object

additionalProperties:

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

minProperties: 1

description: Contains the MBR for uplink and the MBR for downlink.

servingSnssai:

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

mappedHomeSnssai:

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

required:

- sliceMbr

- servingSnssai

nullable: true

SliceUsgCtrlInfo:

description: Represents network slice usage control information.

type: object

properties:

snssai:

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

deregInactivTimer:

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

required:

- snssai

SnssaiPartRejected:

description: Represents the list of the S-NSSAI(s) rejected partially in the RA.

type: object

properties:

snssai:

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

allowedTaiList:

type: array

items:

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

minItems: 1

rejectedTaiList:

type: array

items:

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

minItems: 1

required:

- snssai

oneOf:

- required: [ allowedTaiList ]

- required: [ rejectedTaiList ]

RequestTrigger:

anyOf:

- type: string

enum:

- LOC\_CH

- PRA\_CH

- SERV\_AREA\_CH

- RFSP\_CH

- ALLOWED\_NSSAI\_CH

- UE\_AMBR\_CH

- UE\_SLICE\_MBR\_CH

- SMF\_SELECT\_CH

- ACCESS\_TYPE\_CH

- NWDAF\_DATA\_CH

- TARGET\_NSSAI

- SLICE\_REPLACE\_MGMT

- FEAT\_RENEG

- PARTIALLY\_ALLOWED\_NSSAI\_CH

- SNSSAIS\_PARTIALLY\_REJECTED\_CH

- REJECTED\_SNSSAIS\_CH

- PENDING\_NSSAI\_CH

- RAT\_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.

- SERV\_AREA\_CH: Service Area Restriction change. The UDM notifies the AMF that the

subscribed service area restriction information has changed.

- RFSP\_CH: RFSP index change. The UDM notifies the AMF that the subscribed RFSP index has

changed.

- ALLOWED\_NSSAI\_CH: Allowed NSSAI change. The AMF notifies that the set of UE allowed

S-NSSAIs has changed.

- UE\_AMBR\_CH: UE-AMBR change. The UDM notifies the AMF that the subscribed UE-AMBR has

changed.

- SMF\_SELECT\_CH: SMF selection information change. The UE requested for an unsupported

DNN or UE requested for a DNN within the list of DNN candidates for replacement per

S-NSSAI.

- ACCESS\_TYPE\_CH: Access Type change. The AMF notifies that the access type and the RAT

type for a UE has changed.

- UE\_SLICE\_MBR\_CH: UE-Slice-MBR change. The NF service consumer notifies any changes

in the subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping

to a S-NSSAI of the serving PLMN.

- NWDAF\_DATA\_CH: NDWAF DATA CHANGE. The AMF notifies that the NWDAF instance IDs used

for the UE and/or associated Analytics IDs used for the UE and available in the AMF

have changed.

- TARGET\_NSSAI: Generation of Target NSSAI. The NF service consumer notifies that the

Target NSSAI was generated.

- SLICE\_REPLACE\_MGMT: Indicates that slice replacement is needed for one or more S-NSSAI(s)

of the UE's Allowed NSSAI and/or Partially Allowed NSSAI and the AMF cannot determine the

Alternative S-NSSAI(s) for these S-NSSAI(s).

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

re-negotiation.

- PARTIALLY\_ALLOWED\_NSSAI\_CH: Partially Allowed NSSAI change. The NF service consumer

notifies that the set of Partially Allowed S-NSSAI(s) of the UE has changed.

- SNSSAIS\_PARTIALLY\_REJECTED\_CH: Change of the S-NSSAI(s) rejected partially in the RA. The

NF service consumer notifies that the set of S-NSSAI(s) rejected partially in the RA for

the UE has changed.

- REJECTED\_SNSSAIS\_CH: Change of the Rejected S-NSSAI(s) in the RA. The NF service consumer

notifies that the set of the Rejected S-NSSAI(s) in the RA for the UE has changed.

- PENDING\_NSSAI\_CH: Pending NSSAI change. The NF service consumer notifies that the set of

Pending S-NSSAI(s) of the UE has changed.

- RAT\_TYPE\_CH: RAT Type change. The AMF notifies that the RAT type within same Access type

has changed for the UE.

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 termination of the policy association.

Possible values are:

- UNSPECIFIED: This value is used for unspecified reasons.

- UE\_SUBSCRIPTION: This value is used to indicate that the session 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 session.

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