**3GPP TSG CT WG3 Meeting #142 *C3-253513***

**Goteborg, SE, 25th – 29th August, 2025 was C3-253353**

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| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.534** | **CR** | **0045** | **rev** | **1** | **Current version:** | **19.1.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | Corrections to the AF requested Network Slice Replacement functionality |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI19\_SliceSel, SBIProtoc19 |  | ***Date:*** | 2025-08-26 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-19 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe 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:*** | A few corrections are needed to complete the definition of the new AF requested Network Slice Replacement functionality, e.g.:* The first sentence in clause 4.2.2.3 may hint that outcome of the initiation of the AF Network Slice Replacement is supported, wheareas it can also be the termination of the AF Network Slice Replacement. It is hence better to align the terminology with the other provisions in the same clause to "AF requested Network Slice Replacement **outcome related event(s)**".
* The name of the SliceReplFailureCause data type is incorrect in Table 5.6.1-1.
* In clause 5.6.2.2, the applicability of the "sliceReplReq" attribute to the related "AfNetSliceRepl" feature needs to be explicitly stated in NOTE 1.
* The descriptions of the enumeration data types in clause 5.6.3.3, 5.6.3.5 and 5.6.3.6 need to be enhanced and corrected to ensure alignment across the specification.
* In clause 5.6.3.6, the last 3 failure causes should be applicable to both the Alternative S-NSSAI (in case of initiation) and the Initial S-NSSAI (in case of termination). This should be made clear.
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|  |  |
| ***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.
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|  |  |
| ***Clauses affected:*** | 4.2.2.1, 4.2.2.3, 4.2.2.4, 4.2.3.1, 4.2.3.2, 4.2.3.3, 4.2.3.4, 4.2.7.1, 4.2.7.6, 5.6.1, 5.6.2.2, 5.6.2.9, 5.6.2.14, 5.6.3.3, 5.6.3.5, 5.6.3.6, 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 corrections to the OpenAPI descriptions of the following APIs:* TS29507\_Npcf\_AMPolicyControl.yaml
* TS29520\_Nnwdaf\_AnalyticsInfo.yaml
* TS29520\_Nnwdaf\_DataManagement.yaml
* TS29520\_Nnwdaf\_RoamingData.yaml
* TS29522\_AMInfluence.yaml
* TS29522\_AMPolicyAuthorization.yaml
* TS29523\_Npcf\_EventExposure.yaml
* TS29525\_Npcf\_UEPolicyControl.yaml
* TS29534\_Npcf\_AMPolicyAuthorization.yaml
* TS29574\_Ndccf\_ContextManagement.yaml
* TS29574\_Ndccf\_DataManagement.yaml
* TS29575\_Nadrf\_DataManagement.yaml
* TS29576\_Nmfaf\_3caDataManagement.yaml
* TS29576\_Nmfaf\_ContextManagement.yaml
 |
|  |  |
| ***This CR's revision history:*** |  |

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

#### 4.2.2.1 General

The Npcf\_AMPolicyAuthorization\_Create service operation authorizes the request from the NF service consumer, and optionally communicates with Npcf\_AMPolicyControl service to determine and install in the AMF the access and mobility policies according to the information provided by the NF service consumer.

The Npcf\_AMPolicyAuthorization\_Create service operation creates a NF service consumer related AM context in the PCF.

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

- Initial provisioning of access and mobility related service information.

- Creation of a subscription to AM related event(s) reporting.

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

#### 4.2.2.3 Creation of a subscription to service area coverage change outcome

This procedure is used by a NF service consumer to subscribe to notifications about whether the requested service area coverage provided in the access and mobility service information has been provisioned as the corresponding Service Area Restrictions to the AMF or cannot be provisioned to the AMF. This procedure also enables the subscription to notifications about subsequent changes on the service area coverage result of changes of the provisioned Service Area Restrictions (e.g. due to changes in the subscribed Service Area Restrictions).

To request to the PCF to provide a notification when a service area coverage (which may be same or different service area coverage from the service area coverage provided by the NF service consumer) has been determined (and the related policy for Service Area Restrictions is applied) based on the request or when a service area coverage cannot be determined and, additionally, when the service area coverage subsequently changes within the AM Policy Association, the NF service consumer shall provide in the HTTP POST request message described in clause 4.2.2.2 the "evSubsc" attribute including an event entry within the "events" attribute with the "event" attribute set to "SAC\_CH" and the "notifMethod" set to "ON\_EVENT\_DETECTION" (or omitted).

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

When the service area coverage change event is met in the PCF, the PCF notifies to the NF service consumer as described in clause 4.2.7.4.

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

#### 4.2.2.4 Creation of a subscription to AF requested Network Slice replacement outcome

This procedure is used by a NF service consumer to subscribe to notifications on AF requested Network Slice Replacement outcome related event(s).

In addition to the provisions described in clause 4.2.2.2, the NF service consumer shall provide for this purpose within the HTTP POST request message the "evSubsc" attribute including the "events" attribute with the "event" attribute containing an entry that is set to "SLICE\_REPLACE\_OUTCOME" and the "notifMethod" attribute set to "ON\_EVENT\_DETECTION" (or omitted).

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

When the PCF is aware of Network Slice Replacement outcome related event(s), the PCF notifies to the NF service consumer as described in clause 4.2.7.6.

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

#### 4.2.3.1 General

The Npcf\_AMPolicyAuthorization\_Update service operation provides updated application level information from the NF service consumer and optionally communicates with the Npcf\_AMPolicyControl service to determine and install the access and mobility policies according to the information provided by the NF service consumer.

The Npcf\_AMPolicyAuthorization\_Update service operation updates an AF application AM context in the PCF.

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

- Modification of AM related service information.

- Modification of an existing subscription to AM related event(s) reporting.

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

#### 4.2.3.2 Modification of AM related service information

This procedure is used to modify an existing AF application AM context as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [14].

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



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

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

The JSON body within the PATCH request shall include the "AppAmContextUpdateData" data type and shall be encoded according to "JSON Merge Patch", as defined in IETF RFC 7396 [18].

The NF service consumer may create, modify or remove access and mobility service information by including updated values within the "AppAmContextUpdateData" data type as follows:

- the NF service consumer may update the "termNotifUri" attribute, to request that subsequent termination notifications are sent to a new NF service consumer;

- the NF service consumer may create or update the previously provided access and mobility service information, e.g.:

a. when the NF service consumer is the AF/NEF, expiration time, high throughput indication, service area coverage information, and/or if the "AfNetSliceRepl" feature is supported, the requested Network Slice Replacement requirements; or

b. when the NF service consumer is the TSCTSF:

1. 5G access stratum time distribution indication (enable, disable); and/or

2. Uu time synchronization error budget; and

3. if the feature "NetTimeSyncStatus" is supported (see clause 4.2.2.2), the clock quality detail level as "clkQltDetLvl" attribute and/or, if the clock quality detail level is "ACCEPT\_INDICATION". the clock quality acceptance criteria as "clkQltAcptCri" attribute; and

- the NF service consumer may delete the previously provided attribute(s), e.g.:

a. when the NF service consumer is the AF/NEF, expiration time, high throughput indication, service area coverage information, and/or if the "AfNetSliceRepl" feature is supported, the requested Network Slice Replacement requirements; or

b. when the NF service consumer is the TSCTSF, Uu time synchronization error budget, by setting them to "NULL" value, to indicate that the previously provided access and mobility service information no longer applies.

The NF service consumer may also create, modify or remove events subscription information by sending an HTTP PATCH request message to the resource URI representing the concerned "Individual application AM context" resource.

The NF service consumer shall create event subscription information by including the "evSubsc" attribute of "AmEventsSubscDataRm" data type with the corresponding list of events to subscribe to within the "events" attribute, and the callback URI where to receive the event notifications within the "eventNotifUri" attribute. For each subscribed event in the "events" attribute, the NF service consumer shall include the event identifier within the "event" attribute and may include the description of the event reporting mode as specified in clause 4.2.5.2.

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

- the "eventNotifUri" attribute may include an updated value of the callback URI;

- the "events" attribute shall include the new complete list of subscribed events; and

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

- the per specific event subscription information is included/removed, if applicable, and as described in clauses 4.2.3.3 and 4.2.3.4.

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

If the service information provided in the body of the HTTP PATCH request is rejected because the requested policy for the AM context is invalid or insufficient for the PCF to perform the requested action because the service area coverage and/or high throughput policies present in the request result in an Individual application AM context without service area coverage and high throughput requested policies, the request indicates the deletion of the 5G access stratum time distribution parameters resulting in an Individual application AM context without 5G access stratum time distribution and Uu time synchronization error budget requested policies, and/or if the the "AfNetSliceRepl" feature is supported, the requested Network Slice Replacement requirements information data present in the request result in an Individual Application AM context without the requested Network Slice Replacement information data related requested policies, the PCF may indicate in an HTTP "400 Bad Request" response message the cause for the rejection including the "cause" attribute set to "INVALID\_POLICY\_REQUEST".

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

If the PCF determines the received HTTP PATCH request needs to be redirected, the PCF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [4].

If the request is accepted, the PCF shall update the AM related service information with the new information received and/or update the associated AM events subscription. Due to the updated service information and/or AM events subscription, the PCF may need to create, modify or delete the related access and mobility policies and provide the updated information towards the AMF following the corresponding procedures specified in 3GPP TS 29.507 [16].

The PCF shall reply to the NF service consumer with:

- an HTTP "204 No Content" response (as shown in figure 4.2.3.2-1, step 2); or

- an HTTP "200 OK" response (as shown in figure 4.2.3.2-2, step 2) including in the "AppAmContextRespData" data type in the content.

When provided, the "AppAmContextRespData" data type in the content shall include:

- the representation of the modified "Individual Application AM Context" resource within the "AppAmContextData" data type; and

- when the request included the creation or the update of the subscription to notification event(s):

a) the representation of the "AM Policy Events Subscription" sub-resource within the "evSubsc" attribute included in the "AppAmContextData" data type; and

b) when the NF service consumer requested the immediate reporting of the new subscribed event(s) and the current value(s) is available, "AppAmContextRespData" data type shall include the corresponding event(s) notification encoding the event identifier within "repEvents" attribute and the applicable event(s) information as specified within the "AmEventsNotification" data type.

The HTTP response message towards the NF service consumer should take place before or in parallel with any required access and mobility policy provisioning towards the SMF.

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

#### 4.2.3.3 Modification of a subscription to service area coverage change outcome

This procedure is used by a NF service consumer to subscribe to notifications about whether an updated service area coverage (which may be same or different service area coverage from the service area coverage provided by the NF service consumer) determined from the requested service area coverage provided in the access and mobility service information has been applied as the corresponding Service Area Restrictions or whether an updated service area coverage cannot be provisioned. This procedure also enables to modify or remove a previous subscription to service area coverage changes.

The NF service consumer shall include in the HTTP PATCH request message described in clause 4.2.3.2 the "evSubsc" attribute as encoded as follows:

- To create a subscription (i.e., the subscription to the "SAC\_CH" event does not exist in the PCF) the NF service consumer shall include the "evSubsc" attribute encoded as specified in clause 4.2.2.3.

- To modify an existing subscription, (i.e., the subscription to the "SAC\_CH" event exists in the PCF) the NF service consumer shall include within the "evSubsc" attribute the "events" attribute with the updated subscription information for the "event" attribute set to "SAC\_CH" as specified in clause 4.2.2.3.

- To remove an existing subscription (i.e., the subscription to the "SAC\_CH" event exists in the PCF):

a. If there are other events whose subscription the NF service consumer wants to keep, the NF service consumer shall include the "events" attribute without any event entry with the "event" attribute set to "SAC\_CH".

b. If there are no other events whose subscription the NF service consumer wants to keep, the NF service consumer shall set to null the "evSubsc" attribute.

The PCF shall reply to the NF service consumer as described in clause 4.2.3.2.

When the service area coverage change event is met in the PCF, the PCF notifies to the NF service consumer as described in clause 4.2.7.4.

NOTE: When the previously provided service area coverage requirements are completely removed by the NF service consumer, or the requested service area coverage policy expires, the NF service consumer should also unsubscribe to SAC\_CH event to prevent the stale subscription information from remaining on the PCF.

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

#### 4.2.3.4 Modification of a subscription to AF requested Network Slice replacement outcome

This procedure is used by a NF service consumer to create/update/delete a subscription to notifications about AF requested Network Slice Replacement outcome related event(s).

In addition to the provisions described in clause 4.2.2.2, the NF service consumer shall include in the HTTP PATCH request message the "evSubsc" attribute encoded as follows:

- To create a subscription (i.e., the subscription to the "SLICE\_REPLACE\_OUTCOME" event does not exist in the PCF), the NF service consumer shall include the "evSubsc" attribute encoded as specified in clause 4.2.2.4.

- To update an existing subscription, (i.e., the subscription to the "SLICE\_REPLACE\_OUTCOME" event exists in the PCF), the NF service consumer shall include the updated subscription information related to the "SLICE\_REPLACE\_OUTCOME" event within the "evSubsc" attribute.

- To remove an existing subscription (i.e., the subscription to the "SLICE\_REPLACE\_OUTCOME" event exists in the PCF):

a. If there are other events that the NF service consumer wants to stay subscribed to, the NF service consumer shall include the "evSubsc" attribute including the "events" attribute without any entry within the "event" attribute that is set to "SLICE\_REPLACE\_OUTCOME".

b. If there are no other existing or newly subscribed events, the NF service consumer shall set the "evSubsc" attribute to the "NULL" value.

The PCF shall reply to the NF service consumer as described in clause 4.2.3.2.

When the PCF is aware of Network Slice Replacement outcome related event(s), the PCF notifies the NF service consumer as described in clause 4.2.7.6.

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

#### 4.2.7.1 General

The Npcf\_AMPolicyAuthorization\_Notify service operation enables to notify to the NF service consumers that the previously subscribed event for the existing AF application AM context occurred or that the AF application AM context is no longer valid.

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

- Notification about AF application AM context event.

- Notification about AF application AM context termination.

- Notification about service area coverage change outcome.

- Notification about PDUID changes.

- Notification about AF requested Network Slice Replacement outcome related event(s).

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

#### 4.2.7.6 Notification about AF requested Network Slice replacement outcome

When the PCF is made aware (e.g., via a notification from the AMF as defined in3GPP TS 29.507 [16]) of AF requested Network Slice Replacement outcome related event(s), the PCF shall notify the NF service consumer by sending an HTTP POST request as described in clause 4.2.7.2, with the request body containing the AmEventsNotification data structure that shall include within an entry of the "repEvents" attribute:

- the "SLICE\_REPLACE\_OUTCOME" event within the "event" attribute; and

- the AF requested Network Slice Replacement outcome related information within the "afSliceReplOut" attribute.

Upon reception of the HTTP POST request from the PCF, the NF service consumer shall acknowledge the request by returning an HTTP "204 No Content" status code as described in clause 4.2.7.2.

\* \* \* \* 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\_AMPolicyAuthorization service-based interface protocol.

Table 5.6.1-1: Npcf\_AMPolicyAuthorization specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| AmEvent | 5.6.3.3 | It represents the event the PCF can notify to the NF service consumer. |  |
| AmEventNotification | 5.6.2.9 | Represents the notification of an event. |  |
| AmEventData | 5.6.2.8 | It contains the event identifier and the related event reporting information. |  |
| AmEventsNotification | 5.6.2.5 | It describes the notification about the events occurred within an Individual application AM context resource. |  |
| AmEventsSubscData | 5.6.2.4 | It represents the AM Policy Events Subscription resource and identifies the events the application subscribes to.  |  |
| AmEventsSubscDataRm | 5.6.2.7 | This data type is defined in the same way as the "AmEventsSubscData" data type, but with the OpenAPI "nullable: true" property. |  |
| AmEventsSubscRespData | 5.6.4.2 | It represents a response to an AM Policy Events Subscription request and contains the created/updated AM Policy Events Subscription resource. It may also include the Notification of the events met at the time of subscription.It is represented as a non-exclusive list of two data types: AmEventsSubscData and AmEventsNotification. |  |
| AmTerminationCause | 5.6.3.4 | It represents the cause values that the PCF should report when requesting to an NF service consumer the deletion of an "AF application AM context" resource. |  |
| AmTerminationInfo | 5.6.2.6 | It includes information related to the termination of the Individual Application AM Context resource. |  |
| AppAmContextData | 5.6.2.2 | It represents an Individual application AM context resource. |  |
| AppAmContextRespData | 5.6.4.1 | It represents a response to a modification or creation request of an Individual application AM context resource.It is represented as a non-exclusive list of two data types AppAmContextData and AmEventsNotification. |  |
| AppAmContextUpdateData | 5.6.2.3 | It describes the modifications to an Individual application AM context resource. |  |
| PduidInformation | 5.6.2.10 | It contains the PDUID and its validity timer. |  |
| ServiceAreaCoverageInfo | 5.6.2.11 | It represents a list of Tracking Areas within a serving network. |  |
| SliceReplFailureCause | 5.6.3.6 | Represents the failure cause of the enforcement of the AF requested Network Slice Replacement requirements. | AfNetSliceRepl |
| SliceReplReq | 5.6.2.13 | Represents the requested Network Slice Replacement requirements. | AfNetSliceRepl |
| SliceReplReqInfo | 5.6.2.12 | Represents the AF requested Network Slice Replacement requirements. | AfNetSliceRepl |
| SliceReplOutcome | 5.6.3.5 | Represents the AF requested Network Slice Replacement outcome related information. | AfNetSliceRepl |
| SliceReplOutcomeInfo | 5.6.2.14 | Represents the AF requested Network Slice Replacement outcome related information. | AfNetSliceRepl |

Table 5.6.1-2 specifies data types re-used by the Npcf\_AMPolicyAuthorization 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\_AMPolicyAuthorization service based interface.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AsTimeDistributionParam | 3GPP TS 29.507 [16] | Contains the 5G access stratum time distribution parameters. |  |
| DurationSec | 3GPP TS 29.571 [20] | Indicates a period of time in units of seconds. |  |
| DurationSecRm | 3GPP TS 29.571 [20] | It is defined as DurationSec but with the nullable property set to "true". |  |
| Gpsi | 3GPP TS 29.571 [20] | Identifies a GPSI. |  |
| NotificationMethod | 3GPP TS 29.508 [21] | It includes information about the notification methods that can be subscribed by the NF service consumer. |  |
| Pduid | 3GPP TS 29.555 [24] | String containing a PDUID |  |
| RedirectResponse | 3GPP TS 29.571 [20] | It contains redirection related information. |  |
| SliceReplType | 3GPP TS 29.522 [26] | Represents the type of the requested Network Slice Replacement. | AfNetSliceRepl |
| Snssai | 3GPP TS 29.571 [20] | Represents an S-NSSAI. | AfNetSliceRepl |
| Supi | 3GPP TS 29.571 [20] | Identifies the SUPI. |  |
| SupportedFeatures | 3GPP TS 29.571 [20] | Used to negotiate the applicability of the optional features defined in table 5.8-1. |  |
| Tac | 3GPP TS 29.571 [20] | It contains a Tracking Area Code |  |
| PlmnIdNid | 3GPP TS 29.571 [20] | It contains the serving PLMN ID and, for a SNPN, the NID that together with the PLMN ID identifies the SNPN. |  |
| Uinteger | 3GPP TS 29.571 [20] | Unsigned integer. |  |
| Uri | 3GPP TS 29.571 [20] | String providing a URI. |  |

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

#### 5.6.2.2 Type: AppAmContextData

Table 5.6.2.2-1: Definition of type AppAmContextData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| evSubsc | AmEventsSubscData | O | 0..1 | Represents the subscription to one or more AM policy events. (NOTE 1) |  |
| supi | Supi | M | 1 | Identifies the SUPI. |  |
| gpsi | Gpsi | O | 0..1 | Identifies the GPSI. |  |
| suppFeat | SupportedFeatures | C | 0..1 | This IE represents a list of Supported features used as described in clause 5.8.It shall be supplied by the NF service consumer in the POST request that requests a creation of an Individual application AM context resource.It shall be supplied by the PCF in the response to the POST request that requests a creation of an Individual application AM context resource. |  |
| termNotifUri | Uri | M | 1 | Identifies the callback URI where the PCF notifies termination requests. |  |
| expiry | DurationSec | O | 0..1 | Indicates the time duration that the requested policy shall last. If omitted, it indicates that the requested policy lasts till the Individual Application AM context resource is deleted. |  |
| highThruInd | boolean | C | 0..1 | Indicates whether high throughput is desired for the indicated UE traffic. Set to "true" if high throughput is desired; otherwise set to "false". Default value is "false" if omitted.(NOTE 1) |  |
| covReq | array(ServiceAreaCoverageInfo) | C | 1..N | Identifies a list of Tracking Areas per serving network where the service is allowed.(NOTE 1) |  |
| sliceReplReq | SliceReplReq | C | 0..1 | Represents the requested Network Slice Replacement requirements.(NOTE 1) | AfNetSliceRepl |
| asTimeDisParam | AsTimeDistributionParam | C | 0..1 | Contains the 5G access stratum time distribution parameters.(NOTE 1) (NOTE 2) |  |
| NOTE 1: When neither the "asTimeDisParam" attribute is included nor the "evSubsc" is provided to subscribe to events without an existing AF application AM context, at least one of the "highThruInd" attribute, the "covReq" attribute or the "sliceReplReq" attribute shall be included. When none of the "highThruInd" attribute, the "covReq" attribute or the "sliceReplReq" attribute is included, then the "asTimeDisParam" attribute shall be included, unless the data type is used for subscribing to events without an existing AF application AM context as described in clause 4.2.5.3, in which case it is sufficient to provide the "evSubsc" attribute.NOTE 2: The "clkQltDetLvl" attribute and the "clkQltAcptCri" attribute within "asTimeDisParam" attribute may be provided only if the "NetTimeSyncStatus" feature is supported. |

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

#### 5.6.2.9 Type: AmEventNotification

Table 5.6.2.9-1: Definition of type AmEventNotification

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | AmEvent | M | 1 | Notified event. |  |
| appliedCov | ServiceAreaCoverageInfo | C | 0..1 | The list of applied Tracking Areas for the serving network where the UE is camping. It shall be present when the notified event is "SAC\_CH". |  |
| pduidInfo | PduidInformation | C | 0..1 | Contains the PDUID and its validity timer. It shall be included when the "PDUID\_CH" event is reported.  |  |
| afSliceReplOut | SliceReplOutcomeInfo | C | 0..1 | Contains the report of the outcome of either the AF requested Network Slice Replacement initiation or the AF requested Network Slice Replacement termination.This attribute shall be present only when the reported event within the "event" attribute is "SLICE\_REPLACE\_OUTCOME". | AfNetSliceRepl |

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

#### 5.6.2.14 Type: SliceReplOutcomeInfo

Table 5.6.2.14-1: Definition of type SliceReplOutcomeInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| result | SliceReplOutcome | M | 1 | Contains the outcome of the enforcement of the AF requested Network Slice Replacement requirements. |  |
| failCause | SliceReplFailureCause | C | 0..1 | Contains the failure cause of the enforcement of the AF requested Network Slice Replacement requirements.This attribute shall be present when the "result" attribute is set to "UNSUCCESSFUL". |  |

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

#### 5.6.3.3 Enumeration: AmEvent

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

Table 5.6.3.3-1: Enumeration AmEvent

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| SAC\_CH | Indicates that the AM event is the service area coverage change for a UE.  |  |
| PDUID\_CH | Indicates that the AM event is that the PDUID assigned to a UE for the UE ProSe Policies has changed.(NOTE) |  |
| SLICE\_REPLACE\_OUTCOME | Indicates that the AM event is the notification of the outcome of either the AF requested Network Slice Replacement initiation or the AF requested Network Slice Replacement termination. | AfNetSliceRepl |
| NOTE: This event can only be subscribed using the Npcf\_AMPolicyAuthorization\_Subscribe service operation. |

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

#### 5.6.3.5 Enumeration: SliceReplOutcome

The enumeration SliceReplOutcome represents the AF requested Network Slice Replacement outcome related information. It shall comply with the provisions defined in table 5.6.3.5-1.

Table 5.6.3.5-1: Enumeration SliceReplOutcome

|  |  |
| --- | --- |
| Enumeration value | Description |
| SUCCESSFUL | Indicates that the AF requested Network Slice replacement initiation or AF requested Network Slice Replacement termination is successful. |
| UNSUCCESSFUL | Indicates that the AF requested Network Slice replacement initiation or AF requested Network Slice Replacement termination is unsuccessful. |

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

#### 5.6.3.6 Enumeration: SliceReplFailureCause

The enumeration "SliceReplFailureCause" represents the failure cause of the enforcement of the AF requested Network Slice Replacement requirements. It shall comply with the provisions of table 5.6.3.6-1.

Table 5.6.3.6-1: Enumeration SliceReplFailureCause

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| UNSPECIFIED | Indicates that the failure cause of the enforcement of the AF requested Network Slice Replacement requirements is for unspecified reasons. |  |
| NOT\_WITHIN\_UE\_SUBSCRIPTION | Indicates that the failure cause of the enforcement of the AF requested Network Slice Replacement requirements is because the provided Alternative/Initial S-NSSAI is not part of the UE's subscription. |  |
| NOT\_SUPPORTED\_IN\_RA | Indicates that the failure cause of the enforcement of the AF requested Network Slice Replacement requirements is because the provided Alternative/Initial S-NSSAI is not supported in the UE's Registration Area. |  |
| INSUFFICIENT\_RES | Indicates that the failure cause of the enforcement of the AF requested Network Slice Replacement requirements is because of insufficient resources in the provided Alternative/Initial S-NSSAI. |  |

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

## 5.8 Feature negotiation

The optional features in table 5.8-1 are defined for the Npcf\_AMPolicyAuthorization API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

Table 5.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | NetTimeSyncStatus | This feature indicates the support of network timing synchronization status and reporting. |
| 2 | AfNetSliceRepl | This feature indicates the support of the AF requested Network Slice Replacement services.The following functionalities are supported:- Support the provisioning and management of the AF requested Network Slice Replacement requirements.- Support the reporting of the AF requested Network Slice Replacement outcome related event(s). |

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

# A.2 Npcf\_AMPolicyAuthorization API

openapi: 3.0.0

#

info:

 title: Npcf\_AMPolicyAuthorization Service API

 version: 1.2.0-alpha.2

 description: |

 PCF Access and Mobility Policy Authorization Service.

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externalDocs:

 description: >

 3GPP TS 29.534 V19.1.0;

 5G System; Access and Mobility Policy Authorization Service; Stage 3.

 url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.534/'

#

servers:

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

 variables:

 apiRoot:

 default: https://example.com

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

#

security:

 - {}

 - oAuth2ClientCredentials:

 - npcf-am-policyauthorization

#

paths:

 /app-am-contexts:

 post:

 summary: Creates a new Individual Application AM Context resource

 operationId: PostAppAmContexts

 tags:

 - Application AM contexts (Collection)

 requestBody:

 description: Contains the information for the creation the resource.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Successful creation of the resource.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

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

 according to the structure

 {apiRoot}/npcf-am-policyauthorization/<apiVersion>/app-am-contexts/{appAmContextId}

 or the URI of the created AM Policy events subscription subresource,

 according to the structure

 {apiRoot}/npcf-am-policyauthorization/<apiVersion>/app-am-contexts/{appAmContextId}/events-subscription}

 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:

 terminationRequest:

 '{$request.body#/termNotifUri}':

 post:

 requestBody:

 description: Request of the termination of the Individual Application AM Context.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: The receipt of the notification is acknowledged.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '411':

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

 '413':

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

 '415':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: Notification of an event occurrence in the PCF.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: The receipt of the notification is acknowledged.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '411':

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

 '413':

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

 '415':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

#

 /app-am-contexts/{appAmContextId}:

 get:

 summary: "Reads an existing Individual Application AM Context"

 operationId: GetAppAmContext

 tags:

 - Individual Application AM Context (Document)

 parameters:

 - name: appAmContextId

 description: String identifying the resource.

 in: path

 required: true

 schema:

 type: string

 responses:

 '200':

 description: A representation of the resource is returned.

 content:

 application/json:

 schema:

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

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '406':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

#

 patch:

 summary: "Modifies an existing Individual Application AM Context"

 operationId: ModAppAmContext

 tags:

 - Individual Application AM Context (Document)

 parameters:

 - name: appAmContextId

 description: String identifying the resource.

 in: path

 required: true

 schema:

 type: string

 requestBody:

 description: Modification of the resource.

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

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

 returned. If a subscribed event is matched, the event notification is also included

 in the response.

 content:

 application/json:

 schema:

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

 '204':

 description: The successful modification.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

 $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:

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: Notification of an event occurrence in the PCF.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: The receipt of the notification is acknowledged.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '411':

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

 '413':

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

 '415':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

#

 delete:

 summary: Deletes an existing Individual Application AM Context

 operationId: DeleteAppAmContext

 tags:

 - Individual Application AM Context (Document)

 parameters:

 - name: appAmContextId

 description: String identifying the Individual Application AM Context resource.

 in: path

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The deletion is confirmed without returning additional data.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

#

 /app-am-contexts/{appAmContextId}/events-subscription:

 put:

 summary: creates or modifies an AM Policy Events Subscription subresource.

 operationId: updateAmEventsSubsc

 tags:

 - AM Policy Events Subscription (Document)

 parameters:

 - name: appAmContextId

 description: String identifying the AM Policy Events Subscription subresource.

 in: path

 required: true

 schema:

 type: string

 requestBody:

 description: Creation or modification of an AM Policy Events Subscription subresource.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 The creation of the AM Policy Events Subscription subresource is confirmed and its

 representation is returned. If an AM Event is matched, the response also includes the

 notification.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the created AM Policy Events Subscription subresource,

 according to the structure

 {apiRoot}/npcf-am-policyauthorization/<apiVersion>/app-am-contexts/{appAmContextId}/events-subscription}

 required: true

 schema:

 type: string

 '200':

 description: >

 The modification of the AM Policy Events Subscription subresource is confirmed and

 its representation is returned. If an AM Event is matched, the response also includes

 the notification.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 The modification of the AM Policy Events Subscription subresource is confirmed

 without returning additional data.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '411':

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

 '413':

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

 '415':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

 callbacks:

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: >

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

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: The receipt of the notification is acknowledged.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '411':

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

 '413':

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

 '415':

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

 '429':

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

 '500':

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

 '502':

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

 '503':

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

 default:

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

 delete:

 summary: deletes the AM Policy Events Subscription subresource

 operationId: DeleteAmEventsSubsc

 tags:

 - AM Policy Events Subscription (Document)

 parameters:

 - name: appAmContextId

 description: String identifying the Individual Application AM Context resource.

 in: path

 required: true

 schema:

 type: string

 responses:

 '204':

 description: >

 The deletion of the of the AM Policy Events Subscription subresource

 is confirmed without returning additional data.

 '307':

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

 '308':

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

 '400':

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

 '401':

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

 '403':

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

 '404':

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

 '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-policyauthorization: Access to the Npcf\_AMPolicyAuthorization API

#

 schemas:

#

 AppAmContextData:

 description: Represents an Individual Application AM Context resource.

 type: object

 required:

 - supi

 - termNotifUri

 properties:

 supi:

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

 gpsi:

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

 termNotifUri:

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

 evSubsc:

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

 suppFeat:

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

 expiry:

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

 highThruInd:

 type: boolean

 description: Indicates whether high throughput is desired for the indicated UE traffic.

 covReq:

 type: array

 description: >

 Identifies a list of Tracking Areas per serving network where service is allowed.

 items:

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

 minItems: 1

 asTimeDisParam:

 $ref: 'TS29507\_Npcf\_AMPolicyControl.yaml#/components/schemas/AsTimeDistributionParam'

 sliceReplReq:

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

 anyOf:

 - anyOf:

 - required: [highThruInd]

 - required: [covReq]

 - required: [sliceReplReq]

 - required: [asTimeDisParam]

 - required: [evSubsc]

#

#

 AppAmContextUpdateData:

 description: Describes the modifications to an Individual Application AM resource.

 type: object

 properties:

 termNotifUri:

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

 evSubsc:

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

 expiry:

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

 highThruInd:

 description: Indicates whether high throughput is desired for the indicated UE traffic.

 type: boolean

 nullable: true

 covReq:

 type: array

 description: >

 Identifies a list of Tracking Areas per serving network where service is allowed.

 items:

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

 minItems: 1

 nullable: true

 asTimeDisParam:

 $ref: 'TS29507\_Npcf\_AMPolicyControl.yaml#/components/schemas/AsTimeDistributionParam'

 sliceReplReq:

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

#

 AmEventsSubscData:

 description: >

 It represents the AM Policy Events Subscription subresource and identifies the events

 the application subscribes to.

 type: object

 required:

 - eventNotifUri

 properties:

 eventNotifUri:

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

 events:

 type: array

 items:

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

 minItems: 1

#

 AmEventsNotification:

 description: >

 Describes the notification about the events occurred within an Individual Application

 AM Context resource.

 type: object

 required:

 - repEvents

 properties:

 appAmContextId:

 type: string

 description: >

 Contains the AM Policy Events Subscription resource identifier related to the event

 notification.

 repEvents:

 type: array

 items:

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

 minItems: 1

#

 AmTerminationInfo:

 description: >

 Includes information related to the termination of the Individual Application AM

 Context resource.

 type: object

 required:

 - appAmContextId

 - termCause

 properties:

 appAmContextId:

 type: string

 description: >

 Contains the Individual application AM context resource identifier related to

 the termination notification.

 termCause:

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

#

 AmEventsSubscDataRm:

 description: >

 This data type is defined in the same way as the AmEventsSubscData but with the OpenAPI

 nullable property set to true.

 type: object

 properties:

 eventNotifUri:

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

 events:

 type: array

 items:

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

 minItems: 1

 nullable: true

#

 AmEventData:

 description: >

 This data type contains the event identifier and the related event reporting information.

 type: object

 required:

 - event

 properties:

 event:

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

 immRep:

 type: boolean

 notifMethod:

 $ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/NotificationMethod'

 maxReportNbr:

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

 monDur:

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

 repPeriod:

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

#

 AmEventNotification:

 description: Describes the notification of a subscription.

 type: object

 required:

 - event

 properties:

 event:

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

 appliedCov:

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

 pduidInfo:

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

 afSliceReplOut:

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

#

 PduidInformation:

 description: Contains the ProSe Discovery UE ID and its validity timer.

 type: object

 required:

 - expiry

 - pduid

 properties:

 expiry:

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

 pduid:

 $ref: 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/Pduid'

#

 ServiceAreaCoverageInfo:

 description: It represents a list of Tracking Areas within a serving network.

 type: object

 required:

 - tacList

 properties:

 tacList:

 type: array

 description: Indicates a list of Tracking Areas where the service is allowed.

 items:

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

 servingNetwork:

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

#

 SliceReplReqInfo:

 description: Represents the AF requested Network Slice replacement information.

 type: object

 required:

 - snssai

 - altSnssai

 properties:

 snssai:

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

 altSnssai:

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

 SliceReplReq:

 description: >

 Represents the requested Network Slice Replacement requirements.

 type: object

 properties:

 type:

 $ref: 'TS29522\_AMPolicyAuthorization.yaml#/components/schemas/SliceReplType'

 afSliceReplReq:

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

 required:

 - type

#

 SliceReplOutcomeInfo:

 description: >

 Represents the outcome of the AF requested Network Slice replacement.

 type: object

 required:

 - result

 properties:

 result:

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

 failCause:

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

#

# ENUMERATIONS DATA TYPES

#

 AmTerminationCause:

 description: >

 It represents the cause values that the PCF should report when requesting from an NF

 service consumer the deletion of an "AF application AM context" resource.

 anyOf:

 - type: string

 enum:

 - UE\_DEREGISTERED

 - UNSPECIFIED

 - INSUFFICIENT\_RESOURCES

 - 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.

#

 AmEvent:

 anyOf:

 - type: string

 enum:

 - SAC\_CH

 - PDUID\_CH

 - SLICE\_REPLACE\_OUTCOME

 - 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 PCF notification event to the NF service consumer.

 Possible values are:

 - SAC\_CH: Indicates that the AM event is the service area coverage change for a UE.

 - PDUID\_CH: Indicates that the AM event is that the PDUID assigned to a UE for the UE ProSe

 Policies changed.

 - SLICE\_REPLACE\_OUTCOME: Indicates that the AM event is the notification of the outcome of

 either the AF requested Network Slice Replacement initiation or the AF requested Network Slice

 Replacement termination.

#

 SliceReplOutcome:

 anyOf:

 - type: string

 enum:

 - SUCCESSFUL

 - UNSUCCESSFUL

 - 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 AF requested Network Slice replacement outcome related information.

 Possible values are:

 - SUCCESSFUL: Indicates that the AF requested Network Slice replacement initiation or AF

 requested Network Slice Replacement termination is successful.

 - UNSUCCESSFUL: Indicates that the AF requested Network Slice replacement initiation or AF

 requested Network Slice Replacement termination is unsuccessful.

#

 SliceReplFailureCause:

 anyOf:

 - type: string

 enum:

 - UNSPECIFIED

 - NOT\_WITHIN\_UE\_SUBSCRIPTION

 - NOT\_SUPPORTED\_IN\_RA

 - 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 failure cause of the enforcement of the AF requested Network Slice

 Replacement requirements..

 Possible values are:

 - UNSPECIFIED: Indicates that the failure cause of the enforcement of the AF requested

 Network Slice Replacement requirements is for unspecified reasons.

 - NOT\_WITHIN\_UE\_SUBSCRIPTION: Indicates that the failure cause of the enforcement of the AF

 requested Network Slice Replacement requirements is because the provided

 Alternative/Initial S-NSSAI is not part of the UE's subscription.

 - NOT\_SUPPORTED\_IN\_RA: Indicates that the failure cause of the enforcement of the AF

 requested Network Slice Replacement requirements is because the provided

 Alternative/Initial S-NSSAI is not supported in the UE's Registration Area.

 - INSUFFICIENT\_RES: Indicates that the failure cause of the enforcement of the AF

 requested Network Slice Replacement requirements is because of insufficient resources

 in the provided Alternative/Initial S-NSSAI.

#

 AppAmContextRespData:

 description: It represents a response to a modification or creation request of an Individual Application AM resource. It may contain the notification of the already met events.

 anyOf:

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

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

#

 AmEventsSubscRespData:

 description: Identifies the events the application subscribes to within an AM Policy Events Subscription subresource data. It may contain the notification of the already met events.

 anyOf:

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

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

#

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