Npcf_AMPolicyControl

The PCF uses the Npcf_AMPolicyControl API to communicate with the Access and Mobility Management Function (AMF) over the N15 Interface.

- OpenAPI, on page 1
- Info, on page 1
- Servers, on page 1
- Security, on page 2
- Paths, on page 2
- Components, on page 7

OpenAPI

OpenAPI Version: 3.0.0

Info

```
Description: Access and Mobility Policy Control Service API
Version: "1.0.0"
Title: Npcf_AMPolicyControl
```

Servers

```
URL: '{apiRoot}/npcf-am-policy-control/v1'
Variables:
  API Root:
    Default: https://example.com
    Description: apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501
```

Security

```
- {}
- oAuth2ClientCredentials:
  - npcf-am-policy-control
```

Paths

/policies

```
  Method: Post
    Request Body:
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/PolicyAssociationRequest'

    Responses:
      '201':
        Description: Created
        Content:
          Application/JSON:
            Schema:
              Reference: '#/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/Optional: true
            Schema:
              Type: string
      '400':
        Reference: 'TS29571_CommonData.yaml#/components/responses/400'
      '401':
        Reference: 'TS29571_CommonData.yaml#/components/responses/401'
      '403':
        Reference: 'TS29571_CommonData.yaml#/components/responses/403'
      '404':
        Reference: 'TS29571_CommonData.yaml#/components/responses/404'
      '411':
        Reference: 'TS29571_CommonData.yaml#/components/responses/411'
      '413':
        Reference: 'TS29571_CommonData.yaml#/components/responses/413'
      '415':
        Reference: 'TS29571_CommonData.yaml#/components/responses/415'
```

```
    '429':
      Reference: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29571_CommonData.yaml#/components/responses/default'
Callbacks:
  policyUpdateNotification:
    '{$request.body#/notificationUri}/update':
      Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/PolicyUpdate'

        Responses:
          '204':
            Description: No Content, Notification was succesfull
          '307':
            Description: temporary redirect
          '400':
            Reference: 'TS29571_CommonData.yaml#/components/responses/400'
          '401':
            Reference: 'TS29571_CommonData.yaml#/components/responses/401'
          '403':
            Reference: 'TS29571_CommonData.yaml#/components/responses/403'
          '404':
            Reference: 'TS29571_CommonData.yaml#/components/responses/404'
          '411':
            Reference: 'TS29571_CommonData.yaml#/components/responses/411'
          '413':
            Reference: 'TS29571_CommonData.yaml#/components/responses/413'
          '415':
            Reference: 'TS29571_CommonData.yaml#/components/responses/415'
          '429':
            Reference: 'TS29571_CommonData.yaml#/components/responses/429'
          '500':
            Reference: 'TS29571_CommonData.yaml#/components/responses/500'
          '503':
            Reference: 'TS29571_CommonData.yaml#/components/responses/503'
          Default:
            Reference: 'TS29571_CommonData.yaml#/components/responses/default'
  policyAssocitionTerminationRequestNotification:
    '{$request.body#/notificationUri}/terminate':
      Method: Post
        Request Body:
          Required/Optional: true
          Content:
```

```
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/TerminationNotification'

      Responses:
        '204':
          Description: No Content, Notification was succesfull
        '307':
          Description: temporary redirect
        '400':
          Reference: 'TS29571_CommonData.yaml#/components/responses/400'
        '401':
          Reference: 'TS29571_CommonData.yaml#/components/responses/401'
        '403':
          Reference: 'TS29571_CommonData.yaml#/components/responses/403'
        '404':
          Reference: 'TS29571_CommonData.yaml#/components/responses/404'
        '411':
          Reference: 'TS29571_CommonData.yaml#/components/responses/411'
        '413':
          Reference: 'TS29571_CommonData.yaml#/components/responses/413'
        '415':
          Reference: 'TS29571_CommonData.yaml#/components/responses/415'
        '429':
          Reference: 'TS29571_CommonData.yaml#/components/responses/429'
        '500':
          Reference: 'TS29571_CommonData.yaml#/components/responses/500'
        '503':
          Reference: 'TS29571_CommonData.yaml#/components/responses/503'
        Default:
          Reference: 'TS29571_CommonData.yaml#/components/responses/default'
```

/policies/{polAssoId}

```
  get:

    Parameters:
      - Name: polAssoId
        In: path
        Description: Identifier of a policy association
        Required/Optional: true
        Schema:
          Type: string

    Responses:
      '200':
        Description: OK. Resource representation is returned
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/PolicyAssociation'
```

```
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29571_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '406':
      Reference: 'TS29571_CommonData.yaml#/components/responses/406'
    '429':
      Reference: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29571_CommonData.yaml#/components/responses/default'
delete:

  Parameters:
    - Name: polAssoId
      In: path
      Description: Identifier of a policy association
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '204':
      Description: No Content. Resource was succesfully deleted
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29571_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '429':
      Reference: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29571_CommonData.yaml#/components/responses/default'
```

/policies/{polAssoId}/update

```
Method: Post
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/PolicyAssociationUpdateRequest'

  Parameters:
    - Name: polAssoId
      In: path
      Description: Identifier of a policy association
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '200':
      Description: OK. Updated policies are returned
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/PolicyUpdate'
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29571_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '411':
      Reference: 'TS29571_CommonData.yaml#/components/responses/411'
    '413':
      Reference: 'TS29571_CommonData.yaml#/components/responses/413'
    '415':
      Reference: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      Reference: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
    Default:
      Reference: '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:
    Type: object
    Properties:
      request:
        Reference: '#/components/schemas/PolicyAssociationRequest'
      triggers:
        Type: array
        Items:
          Reference: '#/components/schemas/RequestTrigger'
        minItems: 1
        Description: Request Triggers that the PCF subscribes. Only values "LOC_CH" and
 "PRA_CH" are permitted.
      servAreaRes:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
      rfsp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
      pras:
        Type: object
        additionalProperties:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
        minProperties: 1
      suppFeat:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - suppFeat
  PolicyAssociationRequest:
    Type: object
    Properties:
      notificationUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      altNotifIpv4Addrs:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
        minItems: 1
        Description: Alternate or backup IPv4 Address(es) where to send Notifications.
      altNotifIpv6Addrs:
```

```
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
        minItems: 1
        Description: Alternate or backup IPv6 Address(es) where to send Notifications.
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      accessType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      pei:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
      userLoc:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
      timeZone:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
      servingPlmn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NetworkId'
      ratType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
      groupIds:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        minItems: 1
      servAreaRes:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
      rfsp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
      guami:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
      serviveName:
        Type: string
       Description: If the NF service consumer is an AMF, it should provide the name of
 a service produced by the AMF that makes use of information received within the
Npcf_AMPolicyControl_UpdateNotify service operation.
      traceReq:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
      suppFeat:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - notificationUri
      - suppFeat
      - supi
  PolicyAssociationUpdateRequest:
    Type: object
    Properties:
      notificationUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      altNotifIpv4Addrs:
        Type: array
```

```
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
        minItems: 1
        Description: Alternate or backup IPv4 Address(es) where to send Notifications.
      altNotifIpv6Addrs:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
        minItems: 1
        Description: Alternate or backup IPv6 Address(es) where to send Notifications.
      triggers:
        Type: array
        Items:
          Reference: '#/components/schemas/RequestTrigger'
        minItems: 1
        Description: Request Triggers that the NF service consumer observes.
      servAreaRes:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
      rfsp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
      praStatuses:
        Type: object
        additionalProperties:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
        minProperties: 1
        Description: Map of PRA status information.
      userLoc:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
      traceReq:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
  PolicyUpdate:
    Type: object
    Properties:
      resourceUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      triggers:
        Type: array
        Items:
          Reference: '#/components/schemas/RequestTrigger'
        minItems: 1
        nullable: true
        Description: Request Triggers that the PCF subscribes. Only values "LOC_CH" and
"PRA_CH" are permitted.
      servAreaRes:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
      rfsp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
      pras:
        Type: object
        additionalProperties:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfoRm'
        Description: Map of PRA information.
```

```
      minProperties: 1
      nullable: true
    Required:
      - resourceUri
  TerminationNotification:
    Type: object
    Properties:
      resourceUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      cause:
        Reference: '#/components/schemas/PolicyAssociationReleaseCause'
    Required:
      - resourceUri
      - cause
  RequestTrigger:
    anyOf:
    - type: string
      enum:
        - LOC_CH
        - PRA_CH
        - SERV_AREA_CH
        - RFSP_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:
      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 UE is entering/leaving a 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.
  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:
      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.
```