



## **Ultra Cloud Core 5G Session Management Function, Release 2022.04 - API Reference**

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## About this Guide

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**Note** The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. While any existing biased terms are being substituted, exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

---

This guide provides information on all the APIs that are associated with 5G Session Management Function (SMF).





# CHAPTER 1

## AsSessionWithQoS

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### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Title:** 3gpp-as-session-with-qos  
**Version:** "1.0.0"

### Servers

**URL:** '{apiRoot}/3gpp-as-session-with-qos/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

### Security

- {}
- oAuth2ClientCredentials: []

# Paths

## **{scsAsId}/subscriptions**

**get:**

**Summary:** read all of the active subscriptions for the SCS/AS

**Tags:**

- AsSessionWithQoS API SCS/AS level GET Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

'200':  
**Description:** OK.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/AsSessionWithQoSSubscription'

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Summary:** Creates a new subscription resource

**Tags:**

- AsSessionWithQoS API Subscription level POST Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Description:** Request to create a new subscription resource  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**

**Reference:** '#/components/schemas/AsSessionWithQoSSubscription'

**Callbacks:**

**notificationDestination:**

'{request.body#/notificationDestination}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:**

'TS29122\_CommonData.yaml#/components/schemas/NotificationData'

**Responses:**

'204':

**Description:** No Content (successful notification)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

/{scsAsId}/subscriptions/{subscriptionId}

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

**'201':**  
**Description:** Created (Successful creation of subscription)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AsSessionWithQoSSubscription'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/subscriptions/{subscriptionId}

**get:**

**Summary:** read an active subscriptions for the SCS/AS and the subscription Id

**Tags:**

- AsSessionWithQoS API Subscription level GET Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true



**Schema:**  
  **Type:** string  
- **Name:** subscriptionId  
  **In:** path  
  **Description:** Identifier of the subscription resource  
  **Required/Optional:** true  
  **Schema:**  
    **Type:** string

**Responses:**  
**'200':**  
  **Description:** OK (Successful get the active subscription)  
  **Content:**  
    **Application/JSON:**  
      **Schema:**  
        **Reference:** '#/components/schemas/AsSessionWithQoSSubscription'  
**'400':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
**'401':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
**'403':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'406':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'  
**'429':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**  
**Summary:** Updates/replaces an existing subscription resource

**Tags:**  
- AsSessionWithQoS API subscription level PUT Operation

**Parameters:**  
- **Name:** scsAsId  
  **In:** path  
  **Description:** Identifier of the SCS/AS  
  **Required/Optional:** true  
  **Schema:**  
    **Type:** string  
- **Name:** subscriptionId  
  **In:** path  
  **Description:** Identifier of the subscription resource  
  **Required/Optional:** true  
  **Schema:**

/{scsAsId}/subscriptions/{subscriptionId}

**Type:** string**Request Body:****Description:** Parameters to update/replace the existing subscription**Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/AsSessionWithQoSSubscription'**Responses:****'200':****Description:** OK (Successful update of the subscription)**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/AsSessionWithQoSSubscription'**'400':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'**'401':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'**'403':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'**'404':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'**'411':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'**'413':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'**'415':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'**'429':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'**'500':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'**patch:****Summary:** Updates/replaces an existing subscription resource**Tags:**

- AsSessionWithQoS API subscription level PATCH Operation

**Parameters:**- **Name:** scsAsId**In:** path**Description:** Identifier of the SCS/AS**Required/Optional:** true**Schema:****Type:** string- **Name:** subscriptionId

**In:** path  
**Description:** Identifier of the subscription resource  
**Required/Optional:** true  
**Schema:**  
  **Type:** string

**Request Body:**  
**Required/Optional:** true  
**Content:**  
  **application/merge-patch+json:**  
    **Schema:**  
      **Reference:** '#/components/schemas/AsSessionWithQoSSubscriptionPatch'

**Responses:**

'200':  
  **Description:** OK. The subscription was modified successfully.  
  **Content:**  
    **Application/JSON:**  
      **Schema:**  
        **Reference:** '#/components/schemas/AsSessionWithQoSSubscription'

'400':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
  **Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**  
  **Summary:** Deletes an already existing subscription

**Tags:**  
  - AsSessionWithQoS API Subscription level DELETE Operation

**Parameters:**  
  - **Name:** scsAsId  
    **In:** path  
    **Description:** Identifier of the SCS/AS  
    **Required/Optional:** true

```

    Schema:
      Type: string
  - Name: subscriptionId
    In: path
    Description: Identifier of the subscription resource
    Required/Optional: true
    Schema:
      Type: string

Responses:
  '204':
    Description: No Content (Successful deletion of the existing subscription)
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  AsSessionWithQoSSubscription:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      notificationDestination:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'

```

```

flowInfo:
  Type: array
  Items:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
  minItems: 1
  Description: Describe the data flow which requires QoS.
ethFlowInfo:
  Type: array
  Items:
    Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
  minItems: 1
  Description: Identifies Ethernet packet flows.
qosReference:
  Type: string
  Description: Identifies a pre-defined QoS information
ueIpv4Addr:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv4Addr'
ueIpv6Addr:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv6Addr'
macAddr:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/macAddr48'
usageThreshold:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
sponsorInfo:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/SponsorInformation'
requestTestNotification:
  Type: boolean
  Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
websocketNotifConfig:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsocketNotifConfig'
Required:
- notificationDestination
AsSessionWithQoSSubscriptionPatch:
Type: object
Properties:
  flowInfo:
    Type: array
    Items:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
    minItems: 1
    Description: Describe the data flow which requires QoS.
  ethFlowInfo:
    Type: array
    Items:
      Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
    minItems: 1
    Description: Identifies Ethernet packet flows.
  qosReference:
    Type: string

```

**Description:** Pre-defined QoS reference  
**usageThreshold:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/UsageThresholdRm'



## CHAPTER 2

# ChargeableParty

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- [Info, on page 11](#)
- [Servers, on page 11](#)
- [Security, on page 11](#)
- [Paths, on page 12](#)
- [Components, on page 17](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-chargeable-party  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-chargeable-party/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/transactions`

### get:

**Summary:** Read all chargeable party transaction resources for a given SCS/AS

### Tags:

- Chargeable Party Transaction Operation

### Parameters:

- **Name:** `scsAsId`  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** OK (successful query of Chargeable Party resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/ChargeableParty'  
**Min Items:** 0  
**Description:** individual BDT policy subscription.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** Create a new chargeable party transaction resource



**Tags:**

- Chargeable Party Transaction Operation

**Parameters:**

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of SCS/AS
  - Required/Optional:** true
  - Schema:**
    - Type:** string

**Request Body:**

**Description:** representation of the Chargeable Party resource to be Created in the SCEF

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ChargeableParty'

**Callbacks:****eventNotification:**

'{\$request.body#/notificationDestination}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:**

'TS29122\_CommonData.yaml#/components/schemas/NotificationData'

**Responses:**

'200':

**Description:** OK (The successful acknowledgement of the notification with a body)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

/{scsAsId}/transactions/{transactionId}

```

    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

**Responses:**

```

'201':
  Description: successful creation of a chargeable party resource
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/ChargeableParty'
      Headers:
        Location:
          Description: 'Contains the URI of the newly created resource'
          Required/Optional: true
          Schema:
            Type: string
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

**/{scsAsId}/transactions/{transactionId}****get:**

**Summary:** read a chargeable party resource for a given SCS/AS and a transaction Id

**Tags:**

- Individual chargeable party resource Operation

**Parameters:**

- **Name:** scsAsId

**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

**'200':**  
**Description:** OK (successful query of a chargeable party resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ChargeableParty'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'406':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**

**Summary:** Updates a existing chargeable party resource for a given SCS/AS and transaction Id.

**Tags:**

- Individual chargeable party resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

- **Name:** transactionId

/{scsAsId}/transactions/{transactionId}

**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**  
**Description:** representation of the chargeable party resource to be updated in the SCEF  
**Required/Optional:** true  
**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/ChargeablePartyPatch'

**Responses:**

**'200':**  
**Description:** successful update of a chargeable party resource  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ChargeableParty'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**  
**Summary:** deletes a chargeable party resource for a given SCS/AS and a transaction Id.

**Tags:**  
- Individual chargeable party resource Operation

**Parameters:**  
- **Name:** scsAsId  
**In:** path

```

Description: Identifier of SCS/AS
Required/Optional: true
Schema:
  Type: string
- Name: transactionId
  In: path
  Description: Identifier of transaction
  Required/Optional: true
  Schema:
    Type: string

Responses:
'200':
  Description: successful deletion of an resouce of chargeable party
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
ChargeableParty:
  Type: object
  Properties:
    self:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

```

notificationDestination:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
requestTestNotification:
  Type: boolean
  Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
websockNotifConfig:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsockNotifConfig'
ipv4Addr:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv4Addr'
ipv6Addr :
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv6Addr'
macAddr:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/macAddr48'
flowInfo:
  Type: array
  Items:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
  minItems: 1
  Description: Describes the application flows.
ethFlowInfo:
  Type: array
  Items:
    Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
  minItems: 1
  Description: Identifies Ethernet packet flows.
sponsorInformation:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/SponsorInformation'
sponsoringEnabled:
  Type: boolean
  Description: Indicates sponsoring status.
referenceId:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
usageThreshold:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
Required:
- notificationDestination
- sponsorInformation
- sponsoringEnabled
ChargeablePartyPatch:
Type: object
Properties:
  flowInfo:
    Type: array
    Items:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
    minItems: 1
    Description: Describes the application flows.
  ethFlowInfo:
    Type: array
    Items:
      Reference:

```

```
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'  
  minItems: 1  
  Description: Identifies Ethernet packet flows.  
  sponsoringEnabled:  
    Type: boolean  
    Description: Indicates sponsoring status.  
  referenceId:  
    Reference: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'  
  usageThreshold:  
    Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThresholdRm'
```







## CHAPTER 3

# CommonData

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- [Info](#), on page 21
- [Paths](#), on page 21
- [Components](#), on page 21

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** TS 29.122 Common Data Types  
**Version:** "1.0.0"

## Paths

```
{
```

## Components

```
schemas:  
  SponsorInformation:  
    Type: object  
    Properties:  
      sponsorId:  
        Type: string  
        Description: It indicates Sponsor ID.  
      aspId:  
        Type: string
```

**Description:** It indicates Application Service Provider ID.

**Required:**

- sponsorId
- aspId

**UsageThreshold:**

**Type:** object

**Properties:**

**duration:**

**Reference:** '#/components/schemas/DurationSec'

**totalVolume:**

**Reference:** '#/components/schemas/Volume'

**downlinkVolume:**

**Reference:** '#/components/schemas/Volume'

**uplinkVolume:**

**Reference:** '#/components/schemas/Volume'

**UsageThresholdRm:**

**Type:** object

**Properties:**

**duration:**

**Reference:** '#/components/schemas/DurationSecRm'

**totalVolume:**

**Reference:** '#/components/schemas/VolumeRm'

**downlinkVolume:**

**Reference:** '#/components/schemas/VolumeRm'

**uplinkVolume:**

**Reference:** '#/components/schemas/VolumeRm'

**nullable:** true

**TimeWindow:**

**Type:** object

**Properties:**

**startTime:**

**Reference:** '#/components/schemas/DateTime'

**stopTime:**

**Reference:** '#/components/schemas/DateTime'

**Required:**

- startTime
- stopTime

**Acknowledgement:**

**Type:** object

**Properties:**

**details:**

**Type:** string

**Description:** A human-readable explanation specific to this successful acknowledgement

**Required:**

- details

**NotificationData:**

**Type:** object

**Properties:**

**transaction:**

**Reference:** '#/components/schemas/Link'

**eventReports:**

**Type:** array

**Items:**  
**Reference:** '#/components/schemas/EventReport'  
**minItems:** 1  
**Description:** Contains the reported event and applicable information

**Required:**  
- transaction  
- eventReports

**EventReport:**  
**Type:** object  
**Properties:**  
**event:**  
**Reference:** '#/components/schemas/Event'  
**accumulatedUsage:**  
**Reference:** '#/components/schemas/AccumulatedUsage'  
**flowIds:**  
**Type:** array  
**Items:**  
**Type:** integer  
**minItems:** 1  
**Description:** Identifies the IP flows that were sent during event subscription

**Required:**  
- event

**AccumulatedUsage:**  
**Type:** object  
**Properties:**  
**duration:**  
**Reference:** '#/components/schemas/DurationSec'  
**totalVolume:**  
**Reference:** '#/components/schemas/Volume'  
**downlinkVolume:**  
**Reference:** '#/components/schemas/Volume'  
**uplinkVolume:**  
**Reference:** '#/components/schemas/Volume'

**FlowInfo:**  
**Type:** object  
**Properties:**  
**flowId:**  
**Type:** integer  
**Description:** Indicates the IP flow.  
**flowDescriptions:**  
**Type:** array  
**Items:**  
**Type:** string  
**Description:** Indicates the packet filters of the IP flow. Refer to subclause 5.3.8 of 3GPP TS 29.214 for encoding. It shall contain UL and/or DL IP flow description.  
**minItems:** 1  
**maxItems:** 2

**Required:**  
- flowId

**TestNotification:**  
**Type:** object  
**Properties:**

```
    subscription:
      Reference: '#/components/schemas/Link'
    Required:
      - subscription
  WebsocketNotifConfig:
    Type: object
    Properties:
      websocketUri:
        Reference: '#/components/schemas/Link'
      requestWebSocketUri:
        Type: boolean
        Description: Set by the SCS/AS to indicate that the Websocket delivery is
requested.
    LocationArea:
      Type: object
      Properties:
        cellIds:
          Type: array
          Items:
            Type: string
          minItems: 1
          Description: Indicates a list of Cell Global Identities of the user which
identifies the cell the UE is registered.
        enodeBIds:
          Type: array
          Items:
            Type: string
          minItems: 1
          Description: Indicates a list of eNodeB identities in which the UE is currently
located.
        routingAreaIds:
          Type: array
          Items:
            Type: string
          minItems: 1
          Description: Identifies a list of Routing Area Identities of the user where the
UE is located.
        trackingAreaIds:
          Type: array
          Items:
            Type: string
          minItems: 1
          Description: Identifies a list of Tracking Area Identities of the user where the
UE is located.
        geographicAreas:
          Type: array
          Items:
            Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
          minItems: 1
          Description: Identifies a list of geographic area of the user where the UE is
located.
        civicAddresses:
          Type: array
```

**Items:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'  
**minItems:** 1  
**Description:** Identifies a list of civic addresses of the user where the UE is located.

**LocationArea5G:**  
**Type:** object  
**Properties:**  
**geographicAreas:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'  
**minItems:** 0  
**Description:** Identifies a list of geographic area of the user where the UE is located.

**civicAddresses:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'  
**minItems:** 0  
**Description:** Identifies a list of civic addresses of the user where the UE is located.

**nwAreaInfo:**  
**Reference:** 'TS29554\_Npcf\_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

**ProblemDetails:**  
**Type:** object  
**Properties:**  
**Type:**  
**Reference:** '#/components/schemas/Uri'  
**title:**  
**Type:** string  
**Description:** A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem.  
**status:**  
**Type:** integer  
**Description:** The HTTP status code for this occurrence of the problem.  
**detail:**  
**Type:** string  
**Description:** A human-readable explanation specific to this occurrence of the problem.  
**instance:**  
**Reference:** '#/components/schemas/Uri'  
**cause:**  
**Type:** string  
**Description:** A machine-readable application error cause specific to this occurrence of the problem. This IE should be present and provide application-related error information, if available.  
**invalidParams:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/InvalidParam'  
**minItems:** 1

**Description:** Description of invalid parameters, for a request rejected due to invalid parameters.

**InvalidParam:**

**Type:** object

**Properties:**

**param:**

**Type:** string

**Description:** Attribute's name encoded as a JSON Pointer, or header's name.

**reason:**

**Type:** string

**Description:** A human-readable reason, e.g. "must be a positive integer".

**Required:**

- param

**PlmnId:**

**Type:** object

**Properties:**

**mcc:**

**Reference:** '#/components/schemas/Mcc'

**mnc:**

**Reference:** '#/components/schemas/Mnc'

**Required:**

- mcc
- mnc

**ConfigResult:**

**Type:** object

**Properties:**

**externalIds:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/ExternalId'

**minItems:** 1

**Description:** Each element indicates an external identifier of the UE.

**msisdns:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/Msisdn'

**minItems:** 1

**Description:** Each element identifies the MS internal PSTN/ISDN number allocated for the UE.

**resultReason:**

**Reference:** '#/components/schemas/ResultReason'

**Required:**

- resultReason

**oneOf:**

- required: [externalIds]
- required: [Msisdns]

**Bandwidth:**

**Type:** integer

**Minimum:** 0

**Description:** integer indicating a bandwidth in bits per second.

**BdtReferenceId:**

**Type:** string

**Description:** string identifying a BDT Reference ID as defined in subclause 5.3.3 of

3GPP TS 29.154.

**Binary:**

**Type:** string

**Description:** string with format "binary" as defined in OpenAPI Specification.

**Bytes:**

**Type:** string

**Description:** String with format "byte" as defined in OpenAPI Specification, i.e, base64-encoded characters.

**DayOfWeek:**

**Type:** integer

**Minimum:** 1

**Maximum:** 7

**Description:** integer between and including 1 and 7 denoting a weekday. 1 shall indicate Monday, and the subsequent weekdays shall be indicated with the next higher numbers. 7 shall indicate Sunday.

**DateTime:**

**Type:** string

**Description:** string with format "date-time" as defined in OpenAPI.

**DateTimeRm:**

**Type:** string

**Description:** string with format "date-time" as defined in OpenAPI with "nullable=true" property.

**nullable:** true

**DateTimeRo:**

**Type:** string

**Description:** string with format "date-time" as defined in OpenAPI with "readOnly=true" property.

**readOnly:** true

**DurationSec:**

**Type:** integer

**Minimum:** 0

**Description:** Unsigned integer identifying a period of time in units of seconds.

**DurationSecRm:**

**Type:** integer

**Minimum:** 0

**Description:** Unsigned integer identifying a period of time in units of seconds with "nullable=true" property.

**nullable:** true

**DurationSecRo:**

**Type:** integer

**Minimum:** 0

**Description:** Unsigned integer identifying a period of time in units of seconds with "readOnly=true" property.

**readOnly:** true

**DurationMin:**

**Type:** integer

**format:** int32

**Minimum:** 0

**Description:** Unsigned integer identifying a period of time in units of minutes.

**ExternalId:**

**Type:** string

**Description:** string containing a local identifier followed by "@" and a domain identifier. Both the local identifier and the domain identifier shall be encoded as strings

that do not contain any "@" characters. See Clause 4.6.2 of 3GPP TS 23.682 for more information.

**ExternalGroupId:**

**Type:** string

**Description:** string containing a local identifier followed by "@" and a domain identifier. Both the local identifier and the domain identifier shall be encoded as strings that do not contain any "@" characters. See Clauses 4.6.2 and 4.6.3 of 3GPP TS 23.682 for more information.

**Ipv4Addr:**

**Type:** string

**Description:** string identifying a Ipv4 address formatted in the "dotted decimal" notation as defined in IETF RFC 1166.

**Ipv6Addr:**

**Type:** string

**Description:** string identifying a Ipv6 address formatted according to clause 4 in IETF RFC 5952. The mixed Ipv4 Ipv6 notation according to clause 5 of IETF RFC 5952 shall not be used.

**Ipv4AddrRo:**

**Type:** string

**Description:** string identifying a Ipv4 address formatted in the "dotted decimal" notation as defined in IETF RFC 1166, with "readOnly=true" property.

**readOnly:** true

**Ipv6AddrRo:**

**Type:** string

**Description:** string identifying a Ipv6 address formatted according to clause 4 in IETF RFC 5952, with "readOnly=true" property. The mixed Ipv4 Ipv6 notation according to clause 5 of IETF RFC 5952 shall not be used.

**readOnly:** true

**Link:**

**Type:** string

**Description:** string formatted according to IETF RFC 3986 identifying a referenced resource.

**Mcc:**

**Type:** string

**Description:** String encoding a Mobile Country Code part of the PLMN, comprising 3 digits, as defined in 3GPP TS 38.413.

**Mnc:**

**Type:** string

**Description:** String encoding a Mobile Network Code part of the PLMN, comprising 2 or 3 digits, as defined in 3GPP TS 38.413.

**Msisdn:**

**Type:** string

**Description:** string formatted according to subclause 3.3 of 3GPP TS 23.003 that describes an MSISDN.

**Port:**

**Type:** integer

**Description:** Unsigned integer with valid values between 0 and 65535.

**Minimum:** 0

**Maximum:** 65535

**PortRo:**

**Type:** integer

**Description:** Unsigned integer with valid values between 0 and 65535, with "readOnly=true" property.

**Minimum:** 0

**Maximum:** 65535



**readOnly:** true

**ResourceId:**  
**Type:** string  
**Description:** string chosen by the SCEF to serve as identifier in a resource URI.

**ScsAsId:**  
**Type:** string  
**Description:** string that identifies an SCS/AS.

**TimeOfDay:**  
**Type:** string  
**Description:** String with format partial-time or full-time as defined in subclause 5.6 of IETF RFC 3339. Examples, 20:15:00, 20:15:00-08:00 (for 8 hours behind UTC).

**Uri:**  
**Type:** string  
**Description:** string providing an URI formatted according to IETF RFC 3986.

**Volume:**  
**Type:** integer  
**format:** int64  
**Minimum:** 0  
**Description:** Unsigned integer identifying a volume in units of bytes.

**VolumeRm:**  
**Type:** integer  
**format:** int64  
**Minimum:** 0  
**Description:** Unsigned integer identifying a volume in units of bytes with "nullable=true" property.  
**nullable:** true

**Event:**  
**anyOf:**  
- type: string  
**enum:**  
- SESSION\_TERMINATION  
- LOSS\_OF\_BEARER  
- RECOVERY\_OF\_BEARER  
- RELEASE\_OF\_BEARER  
- USAGE\_REPORT  
- 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  
- SESSION\_TERMINATION: Indicates that Rx session is terminated.  
- LOSS\_OF\_BEARER : Indicates a loss of a bearer.  
- RECOVERY\_OF\_BEARER: Indicates a recovery of a bearer.  
- RELEASE\_OF\_BEARER: Indicates a release of a bearer.  
- USAGE\_REPORT: Indicates the usage report event.

**ResultReason:**  
**anyOf:**  
- type: string  
**enum:**  
- ROAMING\_NOT\_ALLOWED  
- OTHER\_REASON  
- type: string  
**Description:**  
This string provides a failure reason.

**Description:**

Possible values are

- ROAMING\_NOT\_ALLOWED: Identifies the configuration parameters are not allowed by roaming agreement.
- OTHER\_REASON: Identifies the configuration parameters are not configured due to other reason.

# HTTP responses

**responses:****'400':****Description:** Bad request**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'401':****Description:** Unauthorized**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'403':****Description:** Forbidden**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'404':****Description:** Not Found**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'406':****Description:** Not Acceptable**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'409':****Description:** Conflict**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'411':****Description:** Length Required**content:**

application/problem+json:

**schema:****Reference:** '#/components/schemas/ProblemDetails'**'412':****Description:** Precondition Failed**content:**

application/problem+json:

```
    schema:
      Reference: '#/components/schemas/ProblemDetails'
'413':
  Description: Payload Too Large
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'414':
  Description: URI Too Long
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'415':
  Description: Unsupported Media Type
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'429':
  Description: Too Many Requests
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'500':
  Description: Internal Server Error
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'503':
  Description: Service Unavailable
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
Default:
  Description: Generic Error
```





## CHAPTER 4

# CpProvisioning

---

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- [Info, on page 33](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-cp-parameter-provisioning  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-cp-parameter-provisioning/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/subscriptions`

**get:**

**Parameters:**

- **Name:** `scsAsId`

**In:** `path`

**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

**Required/Optional:** `true`

**Schema:**

**Type:** `string`

**Responses:**

'200':

**Description:** OK. The subscription information related to the request URI is returned.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** `array`

**Items:**

**Reference:** `'#/components/schemas/CpInfo'`

**Min Items:** `0`

'400':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/400'`

'401':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/401'`

'403':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/403'`

'404':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/404'`

'406':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/406'`

'429':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/429'`

'500':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/500'`

'503':

**Reference:** `'TS29122_CommonData.yaml#/components/responses/503'`

**Default:**

**Reference:** `'TS29122_CommonData.yaml#/components/responses/default'`

**Method:** `Post`

**Parameters:**

- **Name:** `scsAsId`

**In:** `path`

**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** create new subscriptions for a given SCS/AS and the provisioning CP parameter sets.

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CpInfo'

**Responses:**

'201':

**Description:** Created. The subscription was created successfully. The SCEF shall return the created subscription in the response payload body.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CpInfo'

**Headers:**

**Location:**

**Description:** 'Contains the URI of the newly created resource'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Description:** The CP parameters for all sets were not created successfully. CpReport may be included with detailed information.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

/{scsAsId}/subscriptions/{subscriptionId}

```

    Reference: '#/components/schemas/CpReport'
    Min Items: 1
  application/problem+json:
    Schema:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## /{scsAsId}/subscriptions/{subscriptionId}

get:

**Parameters:**

```

- Name: scsAsId
  In: path
  Description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of
  3GPP TS 29.122.
  Required/Optional: true
  Schema:
    Type: string
- Name: subscriptionId
  In: path
  Description: Subscription ID
  Required/Optional: true
  Schema:
    Type: string

```

**Responses:**

```

'200':
  Description: OK. The subscription information related to the request URI is
  returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/CpInfo'
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'406':
  Reference: 'TS29122_CommonData.yaml#/components/responses/406'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'

```



```

    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29122_CommonData.yaml#/components/responses/default'
  put:
    Request Body:
      Description: Modify a CP parameter provisioning subscription resource.
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/CpInfo'

    Parameters:
      - Name: scsAsId
        In: path
        Description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of
        3GPP TS 29.122.
        Required/Optional: true
        Schema:
          Type: string
      - Name: subscriptionId
        In: path
        Description: Subscription ID
        Required/Optional: true
        Schema:
          Type: string

    Responses:
      '200':
        Description: OK. The subscription was modified successfully. The SCEF shall return
        an updated subscription in the response payload body.
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/CpInfo'
      '400':
        Reference: 'TS29122_CommonData.yaml#/components/responses/400'
      '401':
        Reference: 'TS29122_CommonData.yaml#/components/responses/401'
      '403':
        Reference: 'TS29122_CommonData.yaml#/components/responses/403'
      '404':
        Reference: 'TS29122_CommonData.yaml#/components/responses/404'
      '411':
        Reference: 'TS29122_CommonData.yaml#/components/responses/411'
      '413':
        Reference: 'TS29122_CommonData.yaml#/components/responses/413'
      '415':
        Reference: 'TS29122_CommonData.yaml#/components/responses/415'
      '429':
        Reference: 'TS29122_CommonData.yaml#/components/responses/429'

```

'500':

**Description:** The CP parameters for all sets were not updated successfully. CpReport may be included with detailed information.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/CpReport'

**Min Items:** 1

**application/problem+json:**

**Schema:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ProblemDetails'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** subscriptionId

**In:** path

**Description:** Subscription ID

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'204':

**Description:** No Content. The subscription was deleted successfully. The payload body shall be empty.

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/subscriptions/{subscriptionId}/cpSets/{setId}

**get:****Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** subscriptionId  
**In:** path  
**Description:** Subscription ID  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** setId  
**In:** path  
**Description:** Identifier of the CP parameter set  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

- '200':  
**Description:** OK. The subscription information related to the request URI is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/CpParameterSet'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Request Body:**

**Description:** Change information for a CP parameter set.

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CpParameterSet'

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** subscriptionId

**In:** path

**Description:** Subscription ID

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** setId

**In:** path

**Description:** Identifier of the CP parameter set

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** OK. The CP parameter set resource was modified successfully. The SCEF shall return an updated CP parameter set resource in the response payload body.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CpParameterSet'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'409':

**Description:** The CP parameters for the CP set were not updated successfully.

**Content:**

```

    Application/JSON:
      Schema:
        Reference: '#/components/schemas/CpReport'
    application/problem+json:
      Schema:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Description: The CP parameters for the CP set were not updated successfully.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/CpReport'
      application/problem+json:
        Schema:
          Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:

Parameters:
- Name: scsAsId
  In: path
  Description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of
3GPP TS 29.122.
  Required/Optional: true
  Schema:
    Type: string
- Name: subscriptionId
  In: path
  Description: Subscription ID
  Required/Optional: true
  Schema:
    Type: string
- Name: setId
  In: path
  Description: Identifier of the CP parameter set
  Required/Optional: true
  Schema:
    Type: string

Responses:
  '204':

```

**Description:** No Content. The subscription was deleted successfully. The payload body shall be empty.

```
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'
```

## Components

```
securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  CpInfo:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      externalId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
      msisdn:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
      externalGroupId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
      cpParameterSets:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/CpParameterSet'
        minProperties: 1
        Description: Identifies a set of CP parameter information that may be part of
        this CpInfo structure.
```

```

cpReports:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/CpReport'
  minProperties: 1
  Description: Supplied by the SCEF and contains the CP set identifiers for which
  CP parameter(s) are not added or modified successfully. The failure reason is also included.
  Each element provides the related information for one or more CP set identifier(s) and is
  identified in the map via the failure identifier as key.
  readOnly: true
  Required:
    - cpParameterSets
  oneOf:
    - required: [externalId]
    - required: [msisdn]
    - required: [externalGroupId]
CpParameterSet:
  Type: object
  Properties:
    setId:
      Type: string
      Description: SCS/AS-chosen correlator provided by the SCS/AS in the request to
      create a resource fo CP parameter set(s).
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
    validityTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
    periodicCommunicationIndicator:
      Reference: '#/components/schemas/CommunicationIndicator'
    communicationDurationTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
    periodicTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
    scheduledCommunicationTime:
      Reference: '#/components/schemas/ScheduledCommunicationTime'
    stationaryIndication:
      Reference: '#/components/schemas/StationaryIndication'
    expectedUmts:
      Type: array
      Items:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/LocationArea5G'
      minItems: 1
      Description: Identifies the UE's expected geographical movement. The attribute
      is only applicable in 5G.
      Required:
        - setId
    ScheduledCommunicationTime:
      Type: object
      Properties:
        daysOfWeek:
          Type: array
          Items:
            Reference: 'TS29122_CommonData.yaml#/components/schemas/DayOfWeek'

```

```

    minItems: 1
    maxItems: 6
    Description: Identifies the day(s) of the week. If absent, it indicates every
day of the week.
    timeOfDayStart:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/TimeOfDay'
    timeOfDayEnd:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/TimeOfDay'
CpReport:
  Type: object
  Properties:
    setIds:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Identifies the CP set identifier(s) which CP parameter(s) are not
added or modified successfully
    failureCode:
      Reference: '#/components/schemas/CpFailureCode'
    Required:
      - failureCode
  CommunicationIndicator:
    anyOf:
      - type: string
      enum:
        - PERIODICALLY
        - ON_DEMAND
      - 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
      - PERIODICALLY: Identifies the UE communicates periodically
      - ON_DEMAND: Identifies the UE communicates on demand
  StationaryIndication:
    anyOf:
      - type: string
      enum:
        - STATIONARY
        - MOBILE
      - 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
      - STATIONARY: Identifies the UE is stationary
      - MOBILE: Identifies the UE is mobile
  CpFailureCode:
    anyOf:
      - type: string
      enum:

```



- MALFUNCTION
  - SET\_ID\_DUPLICATED
  - OTHER\_REASON
- 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

- MALFUNCTION: This value indicates that something functions wrongly in CP parameter provisioning or the CP parameter provisioning does not function at all.
- SET\_ID\_DUPLICATED: The received CP set identifier(s) are already provisioned.
- OTHER\_REASON: Other reason unspecified.





## CHAPTER 5

# DeviceTriggering

---

- [OpenAPI, on page 47](#)
- [Info, on page 47](#)
- [Servers, on page 47](#)
- [Security, on page 47](#)
- [Paths, on page 48](#)
- [Components, on page 53](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-device-triggering  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-device-triggering/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/transactions`

### get:

**Summary:** read all active device triggering transactions for a given SCS/AS.

### Tags:

- Device Triggering API SCS/AS level GET Operation

### Parameters:

- **Name:** scsAsId
- In:** path
- Description:** Identifier of the SCS/AS
- Required/Optional:** true
- Schema:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'

### Responses:

'200':

**Description:** OK (Successful get all of the active device triggering transactions for the SCS/AS)

### Content:

#### Application/JSON:

#### Schema:

**Type:** array

#### Items:

**Reference:** '#/components/schemas/DeviceTriggering'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

### Default:

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** Create a long-term transaction for a device triggering.

**Tags:**

- DeviceTriggering API Transaction level POST Operation

**Parameters:**

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of the SCS/AS
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'

**Request Body:**

- Description:** Parameters to request a device triggering delivery.
- Required/Optional:** true
- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** '#/components/schemas/DeviceTriggering'

**Callbacks:**

- notificationDestination:**
  - '{request.body#/notificationDestination}':**
    - Method:** Post
    - Request Body:** # contents of the callback message
    - Required/Optional:** true
    - Content:**
      - Application/JSON:**
        - Schema:**
          - Reference:** '#/components/schemas/DeviceTriggeringDeliveryReportNotification'

**Responses:**

- '200':
  - Description:** OK (successful notification)
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Acknowledgement'
- '204':
  - Description:** No Content (successful notification)
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '411':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'
- '413':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'
- '415':

**{/scsAsId}/transactions/{transactionId}**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

**'201':**  
**Description:** Created (Successful creation of subscription)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/DeviceTriggering'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## **{/scsAsId}/transactions/{transactionId}**

**get:**

**Summary:** Read a device triggering transaction resource.

**Tags:**

- DeviceTriggering API Transaction level GET Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of the transaction resource  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

- '200':  
**Description:** OK (Successful get the active subscription)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/DeviceTriggering'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Summary:** Replace an existing device triggering transaction resource and the corresponding device trigger request.

**Tags:**

- DeviceTriggering API transaction level PUT Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path

**Description:** Identifier of the SCS/AS

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'

- **Name:** transactionId

**In:** path

**Description:** Identifier of the transaction resource

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** Parameters to update/replace the existing device triggering

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/DeviceTriggering'

**Responses:**

'200':

**Description:** OK (Successful update of the device triggering)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/DeviceTriggering'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Summary:** Deletes an already existing device triggering transaction.

**Tags:**

- DeviceTriggering API Transaction level DELETE Operation



**Parameters:**

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of the SCS/AS
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'
- **Name:** transactionId
  - In:** path
  - Description:** Identifier of the transaction resource
  - Required/Optional:** true
  - Schema:**
    - Type:** string

**Responses:**

- '204':
  - Description:** No Content (Successful deletion of the existing subscription)
- '200':
  - Description:** OK (Successful deletion of the existing subscription)
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/DeviceTriggering'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## Components

**securitySchemes:****oAuth2ClientCredentials:****Type:** oAuth2**Flows:****clientCredentials:****tokenUrl:** '{tokenUrl}'

```

    scopes: {}

schemas:
  DeviceTriggering:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      externalId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
      msisdn:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      validityPeriod:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
      priority:
        Reference: '#/components/schemas/Priority'
      applicationPortId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Port'
      triggerPayload:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Bytes'
      notificationDestination:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      requestTestNotification:
        Type: boolean
        Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
      websocketNotifConfig:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsocketNotifConfig'
      deliveryResult:
        Reference: '#/components/schemas/DeliveryResult'
    Required:
      - validityPeriod
      - priority
      - applicationPortId
      - triggerPayload
      - notificationDestination
    oneOf:
      - required: [externalId]
      - required: [msisdn]
  DeviceTriggeringDeliveryReportNotification:
    Type: object
    Properties:
      transaction:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      result:
        Reference: '#/components/schemas/DeliveryResult'
    Required:
      - transaction
      - result
  DeliveryResult:
    anyOf:
      - type: string

```

**enum:**

- SUCCESS
- UNKNOWN
- FAILURE
- TRIGGERED
- EXPIRED
- UNCONFIRMED
- REPLACED
- TERMINATE

- 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

- SUCCESS: This value indicates that the device action request was successfully completed.
- UNKNOWN: This value indicates any unspecified errors.
- FAILURE: This value indicates that this trigger encountered a delivery error and is deemed permanently undeliverable.
- TRIGGERED: This value indicates that device triggering request is accepted by the SCEF.
- EXPIRED: This value indicates that the validity period expired before the trigger could be delivered.
- UNCONFIRMED: This value indicates that the delivery of the device action request is not confirmed.
- REPLACED: This value indicates that the device triggering replacement request is accepted by the SCEF.
- TERMINATE: This value indicates that the delivery of the device action request is terminated by the SCS/AS.

**readOnly:** true

**Priority:****anyOf:**

- type: string

**enum:**

- NO\_PRIORITY
- PRIORITY

- 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

- NO\_PRIORITY: This value indicates that the device trigger has no priority.
- PRIORITY: This value indicates that the device trigger has priority.





## CHAPTER 6

# ECRControl

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- [Servers, on page 57](#)
- [Security, on page 57](#)
- [Paths, on page 58](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-ecr-control  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-ecr-control/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## /query

**Method:** Post

**Summary:** Query the status of enhanced coverage restriction for a UE.

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ECRControl'

**Responses:**

'200':

**Description:** The requested information was returned successfully.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ECRData'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /configure

**Method:** Post

**Summary:** Configure the enhanced coverage restriction for a UE.

**Request Body:****Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/ECRControl'**Responses:****'200':****Description:** The Enhanced Coverage Restriction setting was configured successfully..**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/ECRData'**'400':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'**'401':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'**'403':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'**'404':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'**'411':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'**'413':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'**'415':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'**'429':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'**'500':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## Components

**securitySchemes:****oAuth2ClientCredentials:****Type:** oAuth2**Flows:****clientCredentials:****tokenUrl:** '{tokenUrl}'**scopes:** {}**schemas:****ECRControl:**

**Type:** object

**Properties:**

- supportedFeatures:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- externalId:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'
- msisdn:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'
- restrictedPlmnIds:**
  - Type:** array
  - Items:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'
  - minItems:** 0
  - Description:** Indicates a complete list (and possibly empty) of serving PLMNs where Enhanced Coverage shall be restricted. This attribute shall not be present for the query custom operation.
- allowedPlmnIds:**
  - Type:** array
  - Items:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'
  - minItems:** 0
  - Description:** Indicates a complete list (and possibly empty) of serving PLMNs where Enhanced Coverage shall be allowed. This attribute shall not be present for the query custom operation.
- Required:**
  - supportedFeatures
- oneOf:**
  - required: [externalId]
  - required: [msisdn]
- not:**
  - Required:** [restrictedPlmnIds, allowedPlmnIds]

**ECRData:**

**Type:** object

**Properties:**

- supportedFeatures:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- visitedPlmnId:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'
- restrictedPlmnIds:**
  - Type:** array
  - Items:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'
  - minItems:** 0
  - Description:** Indicates a complete list (and possibly empty) of serving PLMNs where Enhanced Coverage shall be restricted.
- allowedPlmnIds:**
  - Type:** array
  - Items:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'
  - minItems:** 0
  - Description:** Indicates a complete list (and possibly empty) of serving PLMNs where Enhanced Coverage shall be allowed.
- Required:**



- supportedFeatures  
**not:**  
**Required:** [restrictedPlmnIds, allowedPlmnIds]





## CHAPTER 7

# GMDviaMBMSbyMB2

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** GMDviaMBMSbyMB2

**Description:** API for Group Message Delivery via MBMS by MB2

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-group-message-delivery-mb2/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `/scsAsId/tmgi-allocation`

### get:

**Summary:** read all TMGI Allocation resource for a given SCS/AS

### Tags:

- TMGI Allocatin Operation

### Parameters:

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** OK (successful query of TMGI Allocation resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/TMGIAAllocation'

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** creates a new TMGI Allocation resource for a given SCS/AS

### Tags:

- TMGI Allocatin Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Description:** representation of the TMGI Allocation to be created in the SCEF  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/TMGIAAllocation'

**Responses:**

'201':  
**Description:** successful creation of an TMGI Allocation  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/TMGIAAllocation'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/tmgi-allocation/{tmgi}

### get:

**Summary:** read a TMGI Allocation resource for a given SCS/AS and a TMGI

### Tags:

- Individual TMGI Allocatin Operation

### Parameters:

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

- '200':  
**Description:** OK (successful query of TMGI Allocation resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/TMGIAAllocation'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### put:

**Summary:** Updates an existing TMGI Allocation resource for a given SCS/AS and a TMGI

### Tags:

- Individual TMGI Allocatin Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**
  - Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**
  - Type:** string

**Request Body:**

- Description:** representation of the TMGI Allocation to be updated in the SCEF
- Required/Optional:** true
- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** '#/components/schemas/TMGIAAllocation'

**Responses:**

- '200':
  - Description:** successful creation of an TMGI Allocation
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/TMGIAAllocation'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '411':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'
- '413':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'
- '415':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**

**Summary:** Updates an existing TMGI Allocation resource for a given SCS/AS and a TMGI

**Tags:**

- Individual TMGI Allocatin Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

- Description:** representation of the TMGI Allocation to be updated in the SCEF
- Required/Optional:** true

**Content:**

**application/merge-patch+json:**

**Schema:**

**Reference:** '#/components/schemas/TMGIAAllocationPatch'

**Responses:**

'200':

**Description:** successful creation of an TMGI Allocation

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/TMGIAAllocation'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':



**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Summary:** deletes an existing TMGI Allocation resource for a given SCS/AS and a TMGI

**Tags:**

- Individual TMGI Allocatin Operation

**Parameters:**

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of SCS/AS
  - Required/Optional:** true
  - Schema:**
    - Type:** string
- **Name:** tmgi
  - In:** path
  - Description:** TMGI
  - Required/Optional:** true
  - Schema:**
    - Type:** string

**Responses:**

'204':

- Description:** No Content, successful deletion of an TMGI Allocation

'400':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/tmgi-allocation/{tmgi}/delivery-via-mbms/

**get:**

**Summary:** read all group message delivery via MBMS resource for a given SCS/AS and a TMGI

**Tags:**

- Delivery via MBMS Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

- '200':  
**Description:** OK (successful query of Delivery via MBMS resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByMb2'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Summary:** Creates a new delivery via MBMS for a given SCS/AS and a TMGI

**Tags:**

- Delivery via MBMS Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

```

- Name: tmgi
  In: path
  Description: TMGI
  Required/Optional: true
  Schema:
    Type: string
Request Body:
  Description: representation of the GMD via MBMS by MB2 resource to be Created in
the SCEF
  Required/Optional: true
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/GMDViaMBMSByMb2'
Callbacks:
  gMByMb2Notification:
    '{$request.body#/notificationDestination}':
      Method: Post
      Request Body: # contents of the callback message
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/GMByMb2Notification'

Responses:
  '200':
    Description: OK (The successful acknowledgement of the notification with
a body)
    Content:
      Application/JSON:
        Schema:
          Reference:
'TS29122_CommonData.yaml#/components/schemas/Acknowledgement'
  '204':
    Description: successful notification
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'

```

**{/scsAsId}/tmgi-allocation/{tmgi}/delivery-via-mbms/{transactionId}**

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

'201':  
**Description:** successful creation of an GMD via MBMS by MB2 resource  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByMb2'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
 '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
 '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
 '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
 '411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
 '413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
 '415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
 '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
 '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## **{/scsAsId}/tmgi-allocation/{tmgi}/delivery-via-mbms/{transactionId}**

**get:**

**Summary:** read all group message delivery via MBMS resource for a given SCS/AS and a TMGI

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**
  - Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**
  - Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**
  - Type:** string

**Responses:**

- '200':
  - Description:** OK (successful query of an Delivery via MBMS resource)
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/GMDViaMBMSByMb2'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Summary:** Updates a existing delivery via MBMS for a given SCS/AS, a TMGI and transaction Id.

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Description:** representation of the GMD via MBMS by MB2 resource to be updated in the SCEF

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/GMDViaMBMSByMb2'

**Responses:**

'200':

**Description:** successful update of an individual GMD via MBMS by MB2 resource

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/GMDViaMBMSByMb2'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**  
**Summary:** Updates a existing delivery via MBMS for a given SCS/AS, a TMGI and transaction Id.

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**  
**Description:** representation of the GMD via MBMS by MB2 resource to be updated in the SCEF  
**Required/Optional:** true  
**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByMb2Patch'

**Responses:**

**'200':**  
**Description:** successful update of an individual GMD via MBMS by MB2 resource  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByMb2'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
 '411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
 '413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
 '415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
 '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
 '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Summary:** deletes a delivery via MBMS resource for a given SCS/AS, a TMGI and a transaction Id.

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 - **Name:** tmgi  
**In:** path  
**Description:** TMGI  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 - **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

'204':  
**Description:** No Content, successful deletion of an resource of delivery via MBMS  
 '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
 '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
 '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'



```

'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  TMGIAAllocation:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      externalGroupId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
      mbmsLocArea:
        Reference: '#/components/schemas/MbmsLocArea'
      tmgiExpiration:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTimeRo'
  GMDViaMBMSByMb2:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      notificationDestination:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      requestTestNotification:
        Type: boolean
        Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
      websocketNotifConfig:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsocketNotifConfig'
      externalGroupId:

```

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'  
**mbmsLocArea:**  
**Reference:** '#/components/schemas/MbmsLocArea'  
**messageDeliveryStartTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**groupMessagePayload:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bytes'  
**scefMessageDeliveryIPv4:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4AddrRo'  
**scefMessageDeliveryIPv6:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv6AddrRo'  
**scefMessageDeliveryPort:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PortRo'  
**Required:**  
- notificationDestination  
**GMDByMb2Notification:**  
**Type:** object  
**Properties:**  
**transaction:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**deliveryTriggerStatus:**  
**Type:** boolean  
**Description:** Indicates whether delivery of group message payload corresponding to the TMGI was successful (TRUE) or not (FALSE)  
**Required:**  
- transaction  
- deliveryTriggerStatus  
**TMGIAAllocationPatch:**  
**Type:** object  
**Properties:**  
**externalGroupId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'  
**mbmsLocArea:**  
**Reference:** '#/components/schemas/MbmsLocArea'  
**GMDViaMBMSByMb2Patch:**  
**Type:** object  
**Properties:**  
**externalGroupId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'  
**mbmsLocArea:**  
**Reference:** '#/components/schemas/MbmsLocArea'  
**messageDeliveryStartTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**groupMessagePayload:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bytes'  
**MbmsLocArea:**  
**Type:** object  
**Properties:**  
**cellId:**  
**Type:** array  
**Items:**  
**Type:** string

**minItems:** 1  
**Description:** Indicates a Cell Global Identification of the user which identifies the cell the UE is registered.

**enodeBId:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**Description:** Indicates an eNodeB in which the UE is currently located.

**geographicArea:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'  
**minItems:** 1  
**Description:** Identifies a geographic area of the user where the UE is located.

**mbmsServiceAreaId:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**Description:** Identifies an MBMS Service Area Identity of the user where the UE is located.

**civicAddress:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'  
**minItems:** 1  
**Description:** Identifies a civic address of the user where the UE is located.





## CHAPTER 8

# GMDviaMBMSbyxMB

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- [OpenAPI, on page 81](#)
- [Info, on page 81](#)
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- [Security, on page 81](#)
- [Paths, on page 82](#)
- [Components, on page 93](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** GMDviaMBMSbyxMB

**Description:** API for Group Message Delivery via MBMS by xMB

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-group-message-delivery-xmb/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## **{scsAsId}/services/**

### **get:**

**Summary:** read all service resources for a given SCS/AS

### **Tags:**

- Service Operation

### **Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### **Responses:**

'200':

**Description:** OK (successful query of service creation resource)

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/ServiceCreation'

**Min Items:** 0

**Description:** The service resource for the SCS/AS in the request URI is returned.

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Summary:** creates a new service creation resource for a given SCS/AS

**Tags:**

- Service Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

- Description:** representation of the service to be created in the SCEF
- Required/Optional:** true
- Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceCreation'

**Responses:**

- '201':  
**Description:** successful creation of a service  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceCreation'
- Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'
- '413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'
- '415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/services/{serviceId}

### get:

**Summary:** read a service resource for a given SCS/AS and a Service Id

### Tags:

- Individual Service Operation

### Parameters:

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

- '200':  
**Description:** OK (successful query of service resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceCreation'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'



**delete:**

**Summary:** deletes an existing service resource for a given SCS/AS and a service id

**Tags:**

- Individual service Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**
  - Type:** string
- **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**
  - Type:** string

**Responses:**

- '204':
  - Description:** No Content, successful deletion of a service resource
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/services/{serviceId}/delivery-via-mbms

**get:**

**Summary:** read all group message delivery via MBMS resource for a given SCS/AS and a service id

**Tags:**

- Delivery via MBMS Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path

**Description:** Identifier of SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** serviceId

**In:** path

**Description:** Service Id

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** OK (successful query of Delivery via MBMS resource)

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/GMDViaMBMSByxMB'

**Min Items:** 0

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Summary:** Creates a new delivery via MBMS for a given SCS/AS and a service Id

**Tags:**

- Delivery via MBMS Operation

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

```

- Name: serviceId
  In: path
  Description: Service Id
  Required/Optional: true
  Schema:
    Type: string
Request Body:
  Description: representation of the GMD via MBMS by xMB resource to be Created in
the SCEF
  Required/Optional: true
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/GMDViaMBMSByxMB'
Callbacks:
  gMByxMBNotification:
    '{$request.body#/notificationDestination}':
      Method: Post
      Request Body: # contents of the callback message
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/GMByxMBNotification'

Responses:
  '200':
    Description: OK (The successful acknowledgement of the notification with
a body)
    Content:
      Application/JSON:
        Schema:
          Reference:
'TS29122_CommonData.yaml#/components/schemas/Acknowledgement'
  '204':
    Description: successful notification
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'

```

**{scsAsId}/services/{serviceld}/delivery-via-mbms/{transactionId}**

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

'201':  
**Description:** successful creation of an GMD via MBMS by xMB resource  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByxMB'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
 '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
 '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
 '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
 '411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
 '413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
 '415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
 '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
 '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## **{scsAsId}/services/{serviceld}/delivery-via-mbms/{transactionId}**

**get:**

**Summary:** read all group message delivery via MBMS resource for a given SCS/AS and a service Id

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

- '200':  
**Description:** OK (successful query of an Delivery via MBMS resource)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByxMB'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Summary:** Updates an existing delivery via MBMS for a given SCS/AS, a service Id and transaction Id.

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Description:** representation of the GMD via MBMS by xMB resource to be updated in the SCEF

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/GMDViaMBMSByxMB'

**Responses:**

'200':

**Description:** successful update of an individual GMD via MBMS by xMB resource

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/GMDViaMBMSByxMB'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**  
**Summary:** Updates an existing delivery via MBMS for a given SCS/AS, a service Id and transaction Id.

**Tags:**  
 - Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**  
**Description:** representation of the GMD via MBMS by xMB resource to be updated in the SCEF  
**Required/Optional:** true  
**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByxMBPatch'

**Responses:**

**'200':**  
**Description:** successful update of an individual GMD via MBMS by xMB resource  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/GMDViaMBMSByxMB'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
 '411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
 '413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
 '415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
 '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
 '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Summary:** deletes a delivery via MBMS resource for a given SCS/AS, a service Id and a transaction Id.

**Tags:**

- Individual Delivery via MBMS resource Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 - **Name:** serviceId  
**In:** path  
**Description:** Service Id  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 - **Name:** transactionId  
**In:** path  
**Description:** Identifier of transaction  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

'204':  
**Description:** No Content, successful deletion of an resource of deliery via MBMS  
 '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
 '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
 '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'



```

'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  ServiceCreation:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      externalGroupId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
      userServiceId:
        Type: string
        Description: Identifies the MBMS User Service supplied by the SCEF.
        readOnly: true
      serviceClass:
        Type: string
        Description: The service class that service belongs to supplied by the SCEF.
        readOnly: true
      serviceLanguages:
        Type: array
        Items:
          Type: string
        minItems: 1
        Description: List of language of the service content supplied by the SCEF.
        readOnly: true
      serviceNames:
        Type: array
        Items:

```

**Type:** string  
**minItems:** 1  
**Description:** List of Service Names supplied by the SCEF.  
**readOnly:** true  
**receiveOnlyMode:**  
**Type:** boolean  
**Description:** When set to 'true', the Content Provider indicates that the service is a Receive Only Mode service. This parameter is supplied by the SCEF.  
**readOnly:** true  
**serviceAnnouncementMode:**  
**Reference:** '#/components/schemas/ServiceAnnouncementMode'

**GMDViaMBMSByxMB:**  
**Type:** object  
**Properties:**  
**self:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**notificationDestination:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**requestTestNotification:**  
**Type:** boolean  
**Description:** Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.  
**websockNotifConfig:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'  
**mbmsLocArea:**  
**Reference:** '#/components/schemas/MbmsLocArea'  
**messageDeliveryStartTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**messageDeliveryStopTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**groupMessagePayload:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bytes'  
**scfMessageDeliveryIPv4:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4AddrRo'  
**scfMessageDeliveryIPv6:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv6AddrRo'  
**scfMessageDeliveryPort:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PortRo'

**Required:**  
 - scsAsId  
 - notificationDestination

**GMDByxMBNotification:**  
**Type:** object  
**Properties:**  
**transaction:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**deliveryTriggerStatus:**  
**Type:** boolean  
**Description:** Indicates whether delivery of group message payload was successful (TRUE) or not (FALSE)  
**Required:**  
 - transaction  
 - deliveryTriggerStatus

```

GMDviaMBMSByxMBPatch:
  Type: object
  Properties:
    mbmsLocArea:
      Reference: '#/components/schemas/MbmsLocArea'
    messageDeliveryStartTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
    messageDeliveryStopTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
    groupMessagePayload:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Bytes'
MbmsLocArea:
  Type: object
  Properties:
    cellId:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Indicates a Cell Global Identification of the user which identifies
the cell the UE is registered.
    enodeBId:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Indicates an eNodeB in which the UE is currently located.
    geographicArea:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      minItems: 1
      Description: Identifies a geographic area of the user where the UE is located.
    mbmsServiceAreaId:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Identifies an MBMS Service Area Identity of the user where the UE
is located.
    civicAddress:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/CivicAddress'
      minItems: 1
      Description: Identifies a civic address of the user where the UE is located.
ServiceAnnouncementMode:
  anyOf:
  - type: string
  enum:
  - SACH
  - CONTENT_PROVIDER
  - 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

- SACH: BM-SC performs the service announcement for the current service using the SACH channel.
- CONTENT\_PROVIDER: BM-SC provides the necessary service access information used by the Content Provider to create the service announcement information.

**readOnly:** true



## CHAPTER 9

# MonitoringEvent

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-monitoring-event  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-monitoring-event/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/subscriptions`

### get:

**Summary:** read all of the active subscriptions for the SCS/AS

### Tags:

- MonitoringEvent API SCS/AS level GET Operation

### Parameters:

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** OK (Successful get all of the active subscriptions for the SCS/AS)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'  
**Min Items:** 0  
**Description:** Monitoring event subscriptions

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** Creates a new subscription resource for monitoring event notification

**Tags:**

- MonitoringEvent API Subscription level POST Operation

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of the SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** Subscription for notification about monitoring event

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/MonitoringEventSubscription'

**Callbacks:**

**notificationDestination:**

'{request.body#/notificationDestination}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/MonitoringNotification'

**Responses:**

'204':

**Description:** No Content (successful notification)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

/{scsAsId}/subscriptions/{subscriptionId}

**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'**Responses:**

'201':

**Description:** Created (Successful creation of subscription)**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/MonitoringEventSubscription'**Headers:****Location:****Description:** 'Contains the URI of the newly created resource'**Required/Optional:** true**Schema:****Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/subscriptions/{subscriptionId}

**get:****Summary:** read an active subscriptions for the SCS/AS and the subscription Id**Tags:**

- MonitoringEvent API Subscription level GET Operation

**Parameters:**- **Name:** scsAsId**In:** path**Description:** Identifier of the SCS/AS



```
    Required/Optional: true
    Schema:
      Type: string
- Name: subscriptionId
  In: path
  Description: Identifier of the subscription resource
  Required/Optional: true
  Schema:
    Type: string

Responses:
'200':
  Description: OK (Successful get the active subscription)
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/MonitoringEventSubscription'
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'406':
  Reference: 'TS29122_CommonData.yaml#/components/responses/406'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'
put:
  Summary: Updates/replaces an existing subscription resource

Tags:
- MonitoringEvent API subscription level PUT Operation

Parameters:
- Name: scsAsId
  In: path
  Description: Identifier of the SCS/AS
  Required/Optional: true
  Schema:
    Type: string
- Name: subscriptionId
  In: path
  Description: Identifier of the subscription resource
  Required/Optional: true
```

**Schema:**  
**Type:** string

**Request Body:**  
**Description:** Parameters to update/replace the existing subscription  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'

**Responses:**

**'200':**  
**Description:** OK (Successful update of the subscription)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**  
**Summary:** Deletes an already existing monitoring event subscription

**Tags:**  
- MonitoringEvent API Subscription level DELETE Operation

**Parameters:**  
- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

```

- Name: subscriptionId
  In: path
  Description: Identifier of the subscription resource
  Required/Optional: true
  Schema:
    Type: string

Responses:
  '204':
    Description: No Content (Successful deletion of the existing subscription)
  '200':
    Description: OK (Successful deletion of the existing subscription)
    Content:
      Application/JSON:
        Schema:
          Type: array
          Items:
            Reference: '#/components/schemas/MonitoringEventReport'
            Min Items: 1
            Description: The subscription was terminated successfully, the monitoring
event report(s) shall be included if received.
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  MonitoringEventSubscription:

```

```

Type: object
Properties:
  self:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  externalId:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
  msisdn:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
  externalGroupId:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
  addExtGroupId:
    Type: array
    Items:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
    minItems: 2
  ipv4Addr:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv4Addr'
  ipv6Addr :
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv6Addr'
  notificationDestination:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
  requestTestNotification:
    Type: boolean
    Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
  websockNotifConfig:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsockNotifConfig'
  monitoringType:
    Reference: '#/components/schemas/MonitoringType'
  maximumNumberOfReports:
    Type: integer
    Minimum: 1
    Description: Identifies the maximum number of event reports to be generated by
the HSS, MME/SGSN as specified in subclause 5.6.0 of 3GPP TS 23.682 [2].
  monitorExpireTime:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
  groupReportGuardTime:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
  maximumDetectionTime:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
  reachabilityType:
    Reference: '#/components/schemas/ReachabilityType'
  maximumLatency:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
  maximumResponseTime:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
  suggestedNumberOfDlPackets:
    Type: integer
    Minimum: 0
    Description: If "monitoringType" is "UE_REACHABILITY", this parameter may be

```

included to identify the number of packets that the serving gateway shall buffer in case that the UE is not reachable.

**idleStatusIndication:**

**Type:** boolean

**Description:** If "monitoringType" is set to "UE\_REACHABILITY" or "AVAILABILITY\_AFTER\_DDN\_FAILURE", this parameter may be included to indicate the notification of when a UE, for which PSM is enabled, transitions into idle mode. - "true" indicate enabling of notification - "false" indicate no need to notify Default "false".

**locationType:**

**Reference:** '#/components/schemas/LocationType'

**accuracy:**

**Reference:** '#/components/schemas/Accuracy'

**minimumReportInterval:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**associationType:**

**Reference:** '#/components/schemas/AssociationType'

**plmnIndication:**

**Type:** boolean

**Description:** If "monitoring-Type" is "ROAMING\_STATUS", this parameter may be included to indicate the notification of UE's Serving PLMN ID. - "true" The value shall be used to indicate enabling of notification; - "false" The value shall be used to indicate disabling of notification. Default "false".

**locationArea:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/LocationArea'

**LocationArea5G:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

**monitoringEventReport:**

**Reference:** '#/components/schemas/MonitoringEventReport'

**Required:**

- notificationDestination
- monitoringType

**anyOf:**

- required: [maximumNumberOfReports]
- required: [monitorExpireTime]

**MonitoringNotification:**

**Type:** object

**Properties:**

**subscription:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**configResults:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ConfigResult'

**minItems:** 1

**Description:** Each element identifies a notification of grouping configuration result.

**monitoringEventReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/MonitoringEventReport'

**minItems:** 1

**Description:** Monitoring event reports.

**cancelInd:**

**Type:** boolean

**Description:** Indicates whether to request to cancel the corresponding monitoring subscription. Set to false or omitted otherwise.

**Required:**

- subscription

**MonitoringEventReport:**

**Type:** object

**Properties:****imeiChange:**

**Reference:** '#/components/schemas/AssociationType'

**externalId:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'

**idleStatusInfo:**

**Reference:** '#/components/schemas/IdleStatusInfo'

**locationInfo:**

**Reference:** '#/components/schemas/LocationInfo'

**lossOfConnectReason:**

**Type:** integer

**Description:** If "monitoring-Type" is "LOSS\_OF\_CONNECTIVITY", this parameter shall be included if available to identify the reason why loss of connectivity is reported. Refer to 3GPP TS 29.336 [11] Subclause 8.4.58.

**maxUEAvailabilityTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**msisdn:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'

**monitoringType:**

**Reference:** '#/components/schemas/MonitoringType'

**uePerLocationReport:**

**Reference:** '#/components/schemas/UePerLocationReport'

**plmnId:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'

**reachabilityType:**

**Reference:** '#/components/schemas/ReachabilityType'

**roamingStatus:**

**Type:** boolean

**Description:** If "monitoringType" is "ROAMING\_STATUS", this parameter shall be set to "true" if the UE is on roaming status. Set to false or omitted otherwise.

**failureCause:**

**Reference:** '#/components/schemas/FailureCause'

**eventTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**Required:**

- monitoringType

**IdleStatusInfo:**

**Type:** object

**Properties:****activeTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**edrxCycleLength:**

**format:** float

**Type:** number

**Minimum:** 0

**suggestedNumberOfDlPackets:**

**Type:** integer

**Minimum:** 0

**Description:** Identifies the number of packets shall be buffered in the serving gateway. It shall be present if the idle status indication is requested by the SCS/AS with "idleStatusIndication" in the "monitoringEventSubscription" sets to "true".

**idleStatusTimestamp:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**periodicAUTimer:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**UePerLocationReport:**

**Type:** object

**Properties:**

**ueCount:**

**Type:** integer

**Minimum:** 0

**Description:** Identifies the number of UEs.

**externalIds:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'

**minItems:** 1

**Description:** Each element uniquely identifies a user.

**msisdns:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'

**minItems:** 1

**Description:** Each element identifies the MS internal PSTN/ISDN number allocated for a UE.

**Required:**

- ueCount

**LocationInfo:**

**Type:** object

**Properties:**

**ageOfLocationInfo:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationMin'

**cellId:**

**Type:** string

**Description:** Indicates the Cell Global Identification of the user which identifies the cell the UE is registered.

**enodeBId:**

**Type:** string

**Description:** Indicates the eNodeB in which the UE is currently located.

**routingAreaId:**

**Type:** string

**Description:** Identifies the Routing Area Identity of the user where the UE is located.

**trackingAreaId:**

**Type:** string

**Description:** Identifies the Tracking Area Identity of the user where the UE is located.

**plmnId:**

**Type:** string

**Description:** Identifies the PLMN Identity of the user where the UE is located.

**twanId:**  
**Type:** string  
**Description:** Identifies the TWAN Identity of the user where the UE is located.

**geographicArea:**  
**Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

**FailureCause:**  
**Type:** object  
**Properties:**

**bssgpCause:**  
**Type:** integer  
**Description:** Identifies a non-transparent copy of the BSSGP cause code. Refer to 3GPP TS 29.128 [12].

**causeType:**  
**Type:** integer  
**Description:** Identify the type of the S1AP-Cause. Refer to 3GPP TS 29.128 [12].

**gmmCause:**  
**Type:** integer  
**Description:** Identifies a non-transparent copy of the GMM cause code. Refer to 3GPP TS 29.128 [12].

**ranapCause:**  
**Type:** integer  
**Description:** Identifies a non-transparent copy of the RANAP cause code. Refer to 3GPP TS 29.128 [12].

**ranNasCause:**  
**Type:** string  
**Description:** Indicates RAN and/or NAS release cause code information, TWAN release cause code information or untrusted WLAN release cause code information. Refer to 3GPP TS 29.214 [10].

**s1ApCause:**  
**Type:** integer  
**Description:** Identifies a non-transparent copy of the S1AP cause code. Refer to 3GPP TS 29.128 [12].

**smCause:**  
**Type:** integer  
**Description:** Identifies a non-transparent copy of the SM cause code. Refer to 3GPP TS 29.128 [12].

**MonitoringType:**  
**anyOf:**  
- type: string  
**enum:**  
- LOSS\_OF\_CONNECTIVITY  
- UE\_REACHABILITY  
- LOCATION\_REPORTING  
- CHANGE\_OF\_IMSI\_IMEI\_ASSOCIATION  
- ROAMING\_STATUS  
- COMMUNICATION\_FAILURE  
- AVAILABILITY\_AFTER\_DDN\_FAILURE  
- NUMBER\_OF\_UES\_IN\_AN\_AREA  
- 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  
- LOSS\_OF\_CONNECTIVITY: The SCS/AS requests to be notified when the 3GPP network



detects that the UE is no longer reachable for signalling or user plane communication

- UE\_REACHABILITY: The SCS/AS requests to be notified when the UE becomes reachable for sending either SMS or downlink data to the UE
- LOCATION\_REPORTING: The SCS/AS requests to be notified of the current location or the last known location of the UE
- CHANGE\_OF\_IMSI\_IMEI\_ASSOCIATION: The SCS/AS requests to be notified when the association of an ME (IMEI(SV)) that uses a specific subscription (IMSI) is changed
- ROAMING\_STATUS: The SCS/AS queries the UE's current roaming status and requests to get notified when the status changes
- COMMUNICATION\_FAILURE: The SCS/AS requests to be notified of communication failure events
- AVAILABILITY\_AFTER\_DDN\_FAILURE: The SCS/AS requests to be notified when the UE has become available after a DDN failure
- NUMBER\_OF\_UES\_IN\_AN\_AREA: The SCS/AS requests to be notified the number of UEs in a given geographic area

**ReachabilityType:**

**anyOf:**

- type: string

**enum:**

- SMS
- DATA

- 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

- SMS : The SCS/AS requests to be notified when the UE becomes reachable for sending SMS to the UE
- DATA: The SCS/AS requests to be notified when the UE becomes reachable for sending downlink data to the UE

**LocationType:**

**anyOf:**

- type: string

**enum:**

- CURRENT\_LOCATION
- LAST\_KNOWN\_LOCATION

- 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

- CURRENT\_LOCATION: The SCS/AS requests to be notified for current location
- LAST\_KNOWN\_LOCATION: The SCS/AS requests to be notified for last known location

**AssociationType:**

**anyOf:**

- type: string

**enum:**

- IMEI
- IMEISV

- 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

- IMEI: The value shall be used when the change of IMSI-IMEI association shall be

detected

- IMEISV: The value shall be used when the change of IMSI-IMEISV association shall be detected

**Accuracy:**

**anyOf:**

- type: string

**enum:**

- CGI\_ECGI
- ENODEB
- TA\_RA
- PLMN
- TWAN\_ID
- GEO\_AREA

- 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

- CGI\_ECGI: The SCS/AS requests to be notified at cell level location accuracy.
- ENODEB: The SCS/AS requests to be notified at eNodeB level location accuracy.
- TA\_RA: The SCS/AS requests to be notified at TA/RA level location accuracy.
- PLMN: The SCS/AS requests to be notified at PLMN level location accuracy.
- TWAN\_ID: The SCS/AS requests to be notified at TWAN identifier level location accuracy.
- GEO\_AREA: The SCS/AS requests to be notified of the geographical area accuracy.



## CHAPTER 10

# MsisdnLessMoSms

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- [OpenAPI, on page 111](#)
- [Info, on page 111](#)
- [Servers, on page 111](#)
- [Security, on page 111](#)
- [Paths, on page 112](#)
- [Components, on page 112](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-msisdn-less-mo-sms  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

/

```

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

Responses:
  '200':
    Description: Success
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/MsisdnLessMoSmsNotificationReply'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

# Components

```

securitySchemes:
  oAuth2ClientCredentials:

```

```
Type: oauth2
Flows:
  clientCredentials:
    tokenUrl: '{tokenUrl}'
    scopes: {}
```

**schemas:****MsisdnLessMoSmsNotification:**

```
Type: object
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  sms:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Bytes'
  externalId:
    Type: string
    Description: External identifier has the form username@realm.
  applicationPort:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Port'
Required:
- supportedFeatures
- sms
- externalId
- applicationPort
```

**MsisdnLessMoSmsNotificationReply:**

```
Type: object
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
Required:
- supportedFeatures
```





# CHAPTER 11

## NIDD

---

- [OpenAPI, on page 115](#)
- [Info, on page 115](#)
- [Servers, on page 115](#)
- [Security, on page 115](#)
- [Paths, on page 116](#)
- [Components, on page 125](#)

### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Title:** 3gpp-nidd  
**Version:** "1.0.0"

### Servers

**URL:** '{apiRoot}/3gpp-nidd/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

### Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/configurations`

### Parameters:

- **Name:** `scsAsId`  
**Description:** String identifying the SCS/AS.  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### get:

#### Responses:

- '200':  
**Description:** all NIDD configurations.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/NiddConfiguration'  
**Min Items:** 0  
**Description:** individual NIDD configuration.
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

#### Request Body:

- Description:** Contains the data to create a NIDD configuration.
- Required/Optional:** true
- Content:**



```

    Application/JSON:
      Schema:
        Reference: '#/components/schemas/NiddConfiguration'

Responses:
  '201':
    Description: NIDD configuration is successfully created.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NiddConfiguration'
      Headers:
        Location:
          Description: 'Contains the URI of the newly created resource'
          Required/Optional: true
          Schema:
            Type: string
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'
Callbacks:
  niddNotifications:
    '{$request.body#/notificationDestination}':
      Method: Post
      Request Body:
        Description: Notification for NIDD configuration status, MO NIDD, MT NIDD
        delivery report.
      Content:
        Application/JSON:
          Schema:
            oneOf:
              - $ref: '#/components/schemas/NiddConfigurationStatusNotification'
              - $ref: '#/components/schemas/NiddUplinkDataNotification'

```

**{scsAsId}/configurations/{configurationId}**

```

      - $ref:
'#/components/schemas/NiddDownlinkDataDeliveryStatusNotification'
      - $ref: '#/components/schemas/GmdNiddDownlinkDataDeliveryNotification'

    Responses:
      '204':
        Description: Expected response to a successful callback processing without
a body
      '200':
        Description: Expected response to a successful callback processing with
a body
        Content:
          Application/JSON:
            Schema:
              Reference:
'TS29122_CommonData.yaml#/components/schemas/Acknowledgement'
      '400':
        Reference: 'TS29122_CommonData.yaml#/components/responses/400'
      '401':
        Reference: 'TS29122_CommonData.yaml#/components/responses/401'
      '403':
        Reference: 'TS29122_CommonData.yaml#/components/responses/403'
      '404':
        Reference: 'TS29122_CommonData.yaml#/components/responses/404'
      '411':
        Reference: 'TS29122_CommonData.yaml#/components/responses/411'
      '413':
        Reference: 'TS29122_CommonData.yaml#/components/responses/413'
      '415':
        Reference: 'TS29122_CommonData.yaml#/components/responses/415'
      '429':
        Reference: 'TS29122_CommonData.yaml#/components/responses/429'
      '500':
        Reference: 'TS29122_CommonData.yaml#/components/responses/500'
      '503':
        Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## **{scsAsId}/configurations/{configurationId}**

### Parameters:

- **Name:** scsAsId  
**Description:** String identifying the SCS/AS.  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** configurationId

**Description:** String identifying the individual NIDD configuration resource in the SCEF.

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

**get:**

**Responses:**

'200':

**Description:** The individual NIDD configuration is successfully retrieved.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NiddConfiguration'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**

**Request Body:**

**Description:** Contains information to be applied to the individual NIDD configuration.

**Required/Optional:** true

**Content:**

**application/merge-patch+json:**

**Schema:**

**Reference:** '#/components/schemas/NiddConfigurationPatch'

**Responses:**

'200':

**Description:** The Individual NIDD configuration is modified successfully and a representation of that resource is returned.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NiddConfiguration'

'204':

**Description:** The Individual NIDD configuration is modified successfully.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Responses:**

'204':  
**Description:** The Individual NIDD configuration is deleted.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**/{scsAsId}/configurations/{configurationId}/downlink-data-deliveries****Parameters:**

- **Name:** scsAsId

**Description:** String identifying the SCS/AS.  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

- **Name:** configurationId  
**Description:** String identifying the individual NIDD configuration resource in the SCEF.  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**get:**

**Responses:**

'200':  
**Description:** all NIDD downlink data deliveries.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/NiddDownlinkDataTransfer'  
**Min Items:** 0  
**Description:** individual NIDD downlink data delivery.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Request Body:**  
**Description:** Contains the data to create a NIDD downlink data delivery.  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/NiddDownlinkDataTransfer'

**Responses:**

```

'200':
  Description: NIDD downlink data delivery is successful.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/NiddDownlinkDataTransfer'
'201':
  Description: NIDD downlink data delivery is pending.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/NiddDownlinkDataTransfer'
  Headers:
    Location:
      Description: 'Contains the URI of the newly created resource'
      Required/Optional: true
      Schema:
        Type: string
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Description: The NIDD downlink data delivery request was not successful.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/NiddDownlinkDataDeliveryFailure'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

**/{scsAsId}/configurations/{configurationId}/downlink-data-deliveries/{downlinkData****Parameters:**

```

- Name: scsAsId
  Description: String identifying the SCS/AS.
  In: path
  Required/Optional: true
  Schema:
    Type: string
- Name: configurationId
  Description: String identifying the individual NIDD configuration resource in the
SCEF.
  In: path
  Required/Optional: true
  Schema:
    Type: string
- Name: downlinkDataDeliveryId
  Description: String identifying the individual NIDD downlink data delivery in the
SCEF.
  In: path
  Required/Optional: true
  Schema:
    Type: string
get:

Responses:
  '200':
    Description: The individual NIDD downlink data delivery is successfully retrieved.

    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NiddDownlinkDataTransfer'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '406':
    Reference: 'TS29122_CommonData.yaml#/components/responses/406'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
put:
  Request Body:
    Description: Contains information to be applied to the individual NIDD downlink
data delivery.

```

```

Required/Optional: true
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/NiddDownlinkDataTransfer'

Responses:
  '200':
    Description: The pending NIDD downlink data is replaced successfully but delivery
is pending.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NiddDownlinkDataTransfer'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '409':
    Reference: 'TS29122_CommonData.yaml#/components/responses/409'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Description: The NIDD downlink data replacement request was not successful.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NiddDownlinkDataDeliveryFailure'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:

Responses:
  '204':
    Description: The pending NIDD downlink data is deleted.
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':

```



```

    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '409':
    Reference: 'TS29122_CommonData.yaml#/components/responses/409'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Description: The NIDD downlink data cancellation request was not successful.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NiddDownlinkDataDeliveryFailure'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  NiddConfiguration:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      externalId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
      msisdn:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
      externalGroupId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
      duration:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
      reliableDataService:
        Type: boolean
        Description: The reliable data service (as defined in subclause 4.5.15.3 of 3GPP
TS 23.682) to indicate if a reliable data service acknowledgment is enabled or not.
      rdsPorts:

```

```

Type: array
Items:
  Reference: '#/components/schemas/RdsPort'
minItems: 1
Description: Indicates the port configuration that is used for reliable data
transfer between specific applications using RDS (as defined in subclause 5.2.4 and 5.2.5
of 3GPP TS 24.250).
pdnEstablishmentOption:
  Reference: '#/components/schemas/PdnEstablishmentOptions'
notificationDestination:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
requestTestNotification:
  Type: boolean
  Description: Set to true by the SCS/AS to request the SCEF to send a test
notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
websocketNotifConfig:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsocketNotifConfig'
maximumPacketSize:
  Type: integer
  Minimum: 1
  Description: The Maximum Packet Size is the maximum NIDD packet size that was
transferred to the UE by the SCEF in the PCO, see subclause 4.5.14.1 of 3GPP TS 23.682. If
no maximum packet size was provided to the UE by the SCEF, the SCEF sends a default
configured max packet size to SCS/AS. Unit bit.
  readOnly: true
niddDownlinkDataTransfers:
  Type: array
  Items:
    Reference: '#/components/schemas/NiddDownlinkDataTransfer'
  minItems: 1
  Description: The downlink data deliveries that needed to be executed by the SCEF.
The cardinality of the property shall be 0..1 in the request and 0..N in the response (i.e.
response may contain multiple buffered MT NIDD).
  status:
    Reference: '#/components/schemas/NiddStatus'
Required:
  - notificationDestination
oneOf:
  - required: [externalId]
  - required: [msisdn]
  - required: [externalGroupId]
NiddDownlinkDataTransfer:
  Type: object
Properties:
  externalId:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
  externalGroupId:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalGroupId'
  msisdn:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
  self:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
  data:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Bytes'

```

**reliableDataService:**  
**Type:** boolean  
**Description:** The reliable data service (as defined in subclause 4.5.15.3 of 3GPP TS 23.682) to indicate if a reliable data service acknowledgment is enabled or not.  
**rdsPort:**  
**Reference:** '#/components/schemas/RdsPort'  
**maximumLatency:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'  
**priority:**  
**Type:** integer  
**Description:** It is used to indicate the priority of the non-IP data packet relative to other non-IP data packets.  
**pdnEstablishmentOption:**  
**Reference:** '#/components/schemas/PdnEstablishmentOptions'  
**deliveryStatus:**  
**Reference:** '#/components/schemas/DeliveryStatus'  
**requestedRetransmissionTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**Required:**  
 - data  
**oneOf:**  
 - required: [externalId]  
 - required: [msisdn]  
 - required: [externalGroupId]

**NiddUplinkDataNotification:**  
**Type:** object  
**Properties:**  
**niddConfiguration:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**externalId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'  
**msisdn:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'  
**data:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bytes'  
**reliableDataService:**  
**Type:** boolean  
**Description:** Indicates whether the reliable data service is enabled.  
**rdsPort:**  
**Reference:** '#/components/schemas/RdsPort'  
**Required:**  
 - niddConfiguration  
 - data  
**oneOf:**  
 - required: [externalId]  
 - required: [msisdn]

**NiddDownlinkDataDeliveryStatusNotification:**  
**Type:** object  
**Properties:**  
**niddDownlinkDataTransfer:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**deliveryStatus:**  
**Reference:** '#/components/schemas/DeliveryStatus'

```

    requestedRetransmissionTime:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
  Required:
    - niddDownlinkDataTransfer
    - deliveryStatus
  NiddConfigurationStatusNotification:
    Type: object
    Properties:
      niddConfiguration:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      externalId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ExternalId'
      msisdn:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Msisdn'
      status:
        Reference: '#/components/schemas/NiddStatus'
      rdsCapIndication:
        Type: boolean
        Description: It indicates whether the network capability for the reliable data
service is enabled or not.
    Required:
      - niddConfiguration
      - status
    oneOf:
      - required: [externalId]
      - required: [msisdn]
  GmdNiddDownlinkDataDeliveryNotification:
    Type: object
    Properties:
      niddDownlinkDataTransfer:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      gmdResults:
        Type: array
        Items:
          Reference: '#/components/schemas/GmdResult'
        minItems: 1
        Description: Indicates the group message delivery result.
    Required:
      - niddDownlinkDataTransfer
      - gmdResults
  RdsPort:
    Type: object
    Properties:
      portUE:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Port'
      portSCEF:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Port'
    Required:
      - portUE
      - portSCEF
  GmdResult:
    Type: object
    Properties:
      externalId:

```

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'  
**msisdn:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'  
**deliveryStatus:**  
**Reference:** '#/components/schemas/DeliveryStatus'  
**requestedRetransmissionTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**Required:**  

- deliveryStatus

**oneOf:**  

- required: [externalId]
- required: [msisdn]

**NiddDownlinkDataDeliveryFailure:**  
**Type:** object  
**Properties:**  
**problemDetail:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ProblemDetails'  
**requestedRetransmissionTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'  
**Required:**  

- problemDetail

**PdnEstablishmentOptions:**  
**anyOf:**  

- type: string
- enum:**
  - WAIT\_FOR\_UE
  - INDICATE\_ERROR
  - SEND\_TRIGGER
- 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

- WAIT\_FOR\_UE: wait for the UE to establish the PDN connection
- INDICATE\_ERROR: respond with an error cause
- SEND\_TRIGGER: send a device trigger

**PdnEstablishmentOptionsRm:**  
**anyOf:**  

- type: string
- enum:**
  - WAIT\_FOR\_UE
  - INDICATE\_ERROR
  - SEND\_TRIGGER
- 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

- WAIT\_FOR\_UE: wait for the UE to establish the PDN connection
- INDICATE\_ERROR: respond with an error cause
- SEND\_TRIGGER: send a device trigger

**nullable:** true  
**DeliveryStatus:**

**anyOf:**

- type: string
  - enum:**
    - SUCCESS
    - SUCCESS\_NEXT\_HOP\_ACKNOWLEDGED
    - SUCCESS\_NEXT\_HOP\_UNACKNOWLEDGED
    - SUCCESS\_ACKNOWLEDGED
    - SUCCESS\_UNACKNOWLEDGED
    - TRIGGERED
    - BUFFERING
    - BUFFERING\_TEMPORARILY\_NOT\_REACHABLE
    - SENDING
    - FAILURE
    - FAILURE\_RDS\_DISABLED
    - FAILURE\_NEXT\_HOP
    - FAILURE\_TIMEOUT
- 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
- SUCCESS: Success but details not provided
  - SUCCESS\_NEXT\_HOP\_ACKNOWLEDGED: Successful delivery to the next hop with acknowledgment.
  - SUCCESS\_NEXT\_HOP\_UNACKNOWLEDGED: Successful delivery to the next hop without acknowledgment
  - SUCCESS\_ACKNOWLEDGED: Reliable delivery was acknowledged by the UE
  - SUCCESS\_UNACKNOWLEDGED: Reliable delivery was not acknowledged by the UE
  - TRIGGERED: The SCEF triggered the device and is buffering the data.
  - BUFFERING: The SCEF is buffering the data due to no PDN connection established.
  - BUFFERING\_TEMPORARILY\_NOT\_REACHABLE: The SCEF has been informed that the UE is temporarily not reachable but is buffering the data
  - SENDING: The SCEF has forwarded the data, but they may be stored elsewhere
  - FAILURE: Delivery failure but details not provided
  - FAILURE\_RDS\_DISABLED: RDS was disabled
  - FAILURE\_NEXT\_HOP: Unsuccessful delivery to the next hop.
  - FAILURE\_TIMEOUT: Unsuccessful delivery due to timeout.

**readOnly:** true

**NiddStatus:****anyOf:**

- type: string
  - enum:**
    - ACTIVE
    - TERMINATED\_UE\_NOT\_AUTHORIZED
    - TERMINATED
- 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
- ACTIVE: The NIDD configuration is active.
  - TERMINATED\_UE\_NOT\_AUTHORIZED: The NIDD configuration was terminated because the UEs authorisation was revoked
  - TERMINATED: The NIDD configuration was terminated.

**readOnly:** true

**NiddConfigurationPatch:**

**Type:** object

**Properties:**

- duration:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTimeRm'
- reliableDataService:**
  - Type:** boolean
  - Description:** The reliable data service (as defined in subclause 4.5.15.3 of 3GPP TS 23.682) to indicate if a reliable data service acknowledgment is enabled or not.
  - nullable:** true
- rdsPorts:**
  - Type:** array
  - Items:**
    - Reference:** '#/components/schemas/RdsPort'
  - minItems:** 1
  - Description:** Indicates the port configuration that is used for reliable data transfer between specific applications using RDS (as defined in subclause 5.2.4 and 5.2.5 of 3GPP TS 24.250).
- pdnEstablishmentOption:**
  - Reference:** '#/components/schemas/PdnEstablishmentOptionsRm'







## CHAPTER 12

# NpConfiguration

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-network-parameter-configuration  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-network-parameter-configuration/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/configurations`

### get:

**Summary:** read all of the active configurations for the SCS/AS

### Tags:

- NpConfiguration API SCS/AS level GET Operation

### Parameters:

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

'200':

**Description:** OK (Successful get all of the active NpConfigurations for the SCS/AS)

### Content:

#### Application/JSON:

#### Schema:

**Type:** array

#### Items:

**Reference:** '#/components/schemas/NpConfiguration'

**Min Items:** 0

**Description:** Network Parameter configurations

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

### Default:

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post

**Summary:** Creates a new configuration resource for network parameter configuration

**Tags:**

- NpConfiguration API Configuration Level POST Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Description:** new configuration creation  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/NpConfiguration'

**Callbacks:**

**notificationDestination:**  
**'{request.body#/notificationDestination}':**  
**Method:** Post  
**Request Body:** # contents of the callback message  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ConfigurationNotification'

**Responses:**

**'204':**  
**Description:** No Content (successful notification)  
**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

**'201':**  
**Description:** Created (Successful creation of configuration)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/NpConfiguration'  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**/{scsAsId}/configurations/{configurationId}****get:**

**Summary:** read an active configuration for the SCS/AS and the configuration Id

**Tags:**

- NpConfiguration API Configuration level GET Operation

**Parameters:**

- **Name:** scsAsId  
**In:** path

**Description:** Identifier of the SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** configurationId

**In:** path

**Description:** Identifier of the configuration resource

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** OK (Successful get the active configuration)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NpConfiguration'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Summary:** Updates/replaces an existing configuration resource

**Tags:**

- NpConfiguration API Configuration level PUT Operation

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of the SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

- **Name:** configurationId

**In:** path

**Description:** Identifier of the configuration resource

**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**  
**Description:** Parameters to update/replace the existing configuration  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/NpConfiguration'

**Responses:**  
**'200':**  
**Description:** OK (Successful deletion of the existing configuration)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/NpConfiguration'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**  
**Summary:** Updates/replaces an existing configuration resource

**Tags:**  
 - NpConfiguration API Configuration level PATCH Operation

**Parameters:**  
 - **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**

```

    Type: string
  - Name: configurationId
    In: path
    Description: Identifier of the configuration resource
    Required/Optional: true
    Schema:
      Type: string
Request Body:
  Required/Optional: true
  Content:
    application/merge-patch+json:
      Schema:
        Reference: '#/components/schemas/NpConfigurationPatch'

Responses:
  '200':
    Description: OK. The configuration was modified successfully.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NpConfiguration'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:
  Summary: Deletes an already existing configuration

Tags:
  - NpConfiguration API Configuration level DELETE Operation

Parameters:
  - Name: scsAsId
    In: path

```

```

Description: Identifier of the SCS/AS
Required/Optional: true
Schema:
  Type: string
- Name: configurationId
  In: path
  Description: Identifier of the configuration resource
  Required/Optional: true
  Schema:
    Type: string

Responses:
  '204':
    Description: No Content (Successful deletion of the existing configuration)
  '200':
    Description: OK. (Successful deletion of the existing configuration)
    Content:
      Application/JSON:
        Schema:
          Type: array
          Items:
            Reference: 'TS29122_CommonData.yaml#/components/schemas/ConfigResult'
            Min Items: 1
            Description: The configuration was terminated successfully, the configuration
            failure information for group members shall be included if received.
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:

```



```

    tokenUrl: '{tokenUrl}'
    scopes: {}

```

**schemas:****NpConfiguration:****Type:** object**Properties:****self:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'**supportedFeatures:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**externalId:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'**msisdn:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'**externalGroupId:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'**maximumLatency:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'**maximumResponseTime:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'**suggestedNumberOfDlPackets:****Type:** integer**Minimum:** 0

**Description:** This parameter may be included to identify the number of packets that the serving gateway shall buffer in case that the UE is not reachable.

**groupReportingGuardTime:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'**notificationDestination:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'**requestTestNotification:****Type:** boolean

**Description:** Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.

**websocketNotifConfig:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsocketNotifConfig'**oneOf:**

- required: [externalId]
- required: [msisdn]
- required: [externalGroupId]

**NpConfigurationPatch:****Type:** object**Properties:****maximumLatency:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'**maximumResponseTime:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'**suggestedNumberOfDlPackets:****Type:** integer**Minimum:** 0

**Description:** This parameter may be included to identify the number of packets that the serving gateway shall buffer in case that the UE is not reachable.

**nullable:** true

**groupReportGuardTime:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSecRm'

**ConfigurationNotification:**  
**Type:** object  
**Properties:**  
**configuration:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'  
**configResults:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ConfigResult'  
**minItems:** 1  
**Description:** The grouping configuration result notification provided by the SCEF.

**Required:**  
- configuration



# CHAPTER 13

## PfdManagement

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- [Info, on page 143](#)
- [Servers, on page 143](#)
- [Security, on page 143](#)
- [Paths, on page 144](#)
- [Components, on page 152](#)

### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Title:** 3gpp-pfd-management  
**Version:** "1.0.0"

### Servers

**URL:** '{apiRoot}/3gpp-pfd-management/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

### Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/transactions`

### Parameters:

- **Name:** `scsAsId`

**In:** `path`

**Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.

**Required/Optional:** `true`

**Schema:**

**Type:** `string`

### get:

### Responses:

'200':

**Description:** OK. All transactions related to the request URI are returned.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** `array`

**Items:**

**Reference:** `#/components/schemas/PfdManagement`

'400':

**Reference:** `TS29122_CommonData.yaml#/components/responses/400`

'401':

**Reference:** `TS29122_CommonData.yaml#/components/responses/401`

'403':

**Reference:** `TS29122_CommonData.yaml#/components/responses/403`

'404':

**Reference:** `TS29122_CommonData.yaml#/components/responses/404`

'406':

**Reference:** `TS29122_CommonData.yaml#/components/responses/406`

'429':

**Reference:** `TS29122_CommonData.yaml#/components/responses/429`

'500':

**Reference:** `TS29122_CommonData.yaml#/components/responses/500`

'503':

**Reference:** `TS29122_CommonData.yaml#/components/responses/503`

**Default:**

**Reference:** `TS29122_CommonData.yaml#/components/responses/default`

**Method:** `Post`

**Request Body:**

**Required/Optional:** `true`

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PfdManagement'

**Description:** Create a new transaction for PFD management.

**Responses:**

'201':

**Description:** Created. The transaction was created successfully. The SCEF shall return the created transaction in the response payload body. PfdReport may be included to provide detailed failure information for some applications.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PfdManagement'

**Headers:**

**Location:**

**Description:** 'Contains the URI of the newly created resource'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Description:** The PFDs for all applications were not created successfully. PfdReport is included with detailed information.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/PfdReport'

**Min Items:** 1

**application/problem+json:**

**Schema:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ProblemDetails'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/transactions/{transactionId}

### Parameters:

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of 3GPP TS 29.122.
  - Required/Optional:** true
  - Schema:**
    - Type:** string
- **Name:** transactionId
  - In:** path
  - Description:** Transaction ID
  - Required/Optional:** true
  - Schema:**
    - Type:** string

### get:

#### Responses:

- '200':
  - Description:** OK. The transaction information related to the request URI is returned.
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/PfdManagement'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### put:

#### Request Body:

- Required/Optional:** true
- Content:**
  - Application/JSON:**
    - Schema:**

**Reference:** '#/components/schemas/PfdManagement'

**Description:** Change information in PFD management transaction.

**Responses:**

'200':

**Description:** OK. The transaction was modified successfully. The SCEF shall return an updated transaction in the response payload body.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PfdManagement'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Description:** The PFDs for all applications were not updated successfully. PfdReport is included with detailed information.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/PfdReport'

**Min Items:** 1

**application/problem+json:**

**Schema:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ProblemDetails'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Responses:**

'204':

**Description:** No Content. The transaction was deleted successfully. The payload body shall be empty.

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**{/scsAsId}/transactions/{transactionId}/applications/{appld}**

```

'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## **{/scsAsId}/transactions/{transactionId}/applications/{appld}**

### Parameters:

```

- Name: scsAsId
  In: path
  Description: Identifier of the SCS/AS as defined in subclause subclause 5.2.4 of
3GPP TS 29.122.
  Required/Optional: true
  Schema:
    Type: string
- Name: transactionId
  In: path
  Description: Transaction ID
  Required/Optional: true
  Schema:
    Type: string
- Name: appId
  In: path
  Description: Identifier of the application
  Required/Optional: true
  Schema:
    Type: string

```

### get:

#### Responses:

```

'200':
  Description: OK. The application information related to the request URI is
returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/PfdData'
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':

```



```

    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '406':
    Reference: 'TS29122_CommonData.yaml#/components/responses/406'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
put:
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/PfdData'
        Description: Change information in application.

  Responses:
    '200':
      Description: OK. The application resource was modified successfully. The SCEF
shall return an updated application resource in the response payload body.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/PfdData'
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Description: The PFDs for the application were not updated successfully.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/PfdReport'
        application/problem+json:
          Schema:
            Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '409':
      Description: The PFDs for the application were not updated successfully.
      Content:
        Application/JSON:
          Schema:

```

```

        Reference: '#/components/schemas/PfdReport'
    application/problem+json:
        Schema:
            Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
    '411':
        Reference: 'TS29122_CommonData.yaml#/components/responses/411'
    '413':
        Reference: 'TS29122_CommonData.yaml#/components/responses/413'
    '415':
        Reference: 'TS29122_CommonData.yaml#/components/responses/415'
    '429':
        Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':
        Description: The PFDs for the application were not updated successfully.
        Content:
            Application/JSON:
                Schema:
                    Reference: '#/components/schemas/PfdReport'
            application/problem+json:
                Schema:
                    Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
    '503':
        Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
        Reference: 'TS29122_CommonData.yaml#/components/responses/default'
patch:
    Request Body:
        Required/Optional: true
    Content:
        application/merge-patch+json:
            Schema:
                Reference: '#/components/schemas/PfdData'
        Description: Change information in PFD management transaction.

Responses:
    '200':
        Description: OK. The transaction was modified successfully. The SCEF shall return
        an updated transaction in the response payload body.
        Content:
            Application/JSON:
                Schema:
                    Reference: '#/components/schemas/PfdData'
    '400':
        Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
        Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
        Description: The PFDs for the application were not updated successfully.
        Content:
            Application/JSON:
                Schema:
                    Reference: '#/components/schemas/PfdReport'

```

```

    application/problem+json:
      Schema:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'409':
  Description: The PFDs for the application were not updated successfully.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/PfdReport'
    application/problem+json:
      Schema:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Description: The PFDs for the application were not updated successfully.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/PfdReport'
    application/problem+json:
      Schema:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/ProblemDetails'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:

Responses:
'204':
  Description: No Content. The application was deleted successfully. The payload
body shall be empty.
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':

```

```

Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  PfdManagement:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      pfDdatas:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/PfdData'
        minProperties: 1
        Description: Each element uniquely identifies the PFDs for an external application
        identifier. Each element is identified in the map via an external application identifier
        as key. The response shall include successfully provisioned PFD data of application(s).
      pfDreports:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/PfdReport'
        minProperties: 1
        Description: Supplied by the SCEF and contains the external application identifiers
        for which PFD(s) are not added or modified successfully. The failure reason is also included.
        Each element provides the related information for one or more external application
        identifier(s) and is identified in the map via the failure identifier as key.
        readOnly: true
      Required:
        - pfDdatas
    PfdData:
      Type: object
      Properties:
        externalAppId:
          Type: string
          Description: Each element uniquely external application identifier

```

```

self:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
pfds:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/Pfd'
    Description: Contains the PFDs of the external application identifier. Each PFD
is identified in the map via a key containing the PFD identifier.
  allowedDelay:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSecRm'
  cachingTime:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSecRo'
Required:
  - externalAppId
  - pfds
Pfd:
  Type: object
  Properties:
    pfdId:
      Type: string
      Description: Identifies a PDF of an application identifier.
    flowDescriptions:
      Type: array
      Items:
        Type: string
        minItems: 1
        Description: Represents a 3-tuple with protocol, server ip and server port for
UL/DL application traffic. The content of the string has the same encoding as the IPFilterRule
AVP value as defined in IETF RFC 6733.
      urls:
        Type: array
        Items:
          Type: string
          minItems: 1
          Description: Indicates a URL or a regular expression which is used to match the
significant parts of the URL.
        domainNames:
          Type: array
          Items:
            Type: string
            minItems: 1
            Description: Indicates an FQDN or a regular expression as a domain name matching
criteria.
        Required:
        - pfdId
    PfdReport:
      Type: object
      Properties:
        externalAppIds:
          Type: array
          Items:
            Type: string
            minItems: 1

```

**Description:** Identifies the external application identifier(s) which PFD(s) are not added or modified successfully

**failureCode:**

**Reference:** '#/components/schemas/FailureCode'

**catchingTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**Required:**

- externalAppIds
- failureCode

**FailureCode:**

**anyOf:**

- type: string

**enum:**

- MALFUNCTION
- RESOURCE\_LIMITATION
- SHORT\_DELAY
- APP\_ID\_DUPLICATED
- OTHER\_REASON

- 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

- MALFUNCTION: This value indicates that something functions wrongly in PFD provisioning or the PFD provisioning does not function at all.
- RESOURCE\_LIMITATION: This value indicates there is resource limitation for PFD storage.
- SHORT\_DELAY: This value indicates that the allowed delay is too short and PFD(s) are not stored.
- APP\_ID\_DUPLICATED: The received external application identifier(s) are already provisioned.
- OTHER\_REASON: Other reason unspecified.



# CHAPTER 14

## ReportingNetworkStatus

---

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- [Info, on page 155](#)
- [Servers, on page 155](#)
- [Security, on page 155](#)
- [Paths, on page 156](#)
- [Components, on page 160](#)

### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Title:** 3gpp-network-status-reporting  
**Version:** "1.0.0"

### Servers

**URL:** '{apiRoot}/3gpp-net-stat-report/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

### Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/subscriptions`

### Parameters:

- **Name:** `scsAsId`
- In:** `path`
- Description:** Identifier of the SCS/AS
- Required/Optional:** `true`
- Schema:**
  - Reference:** `'TS29122_CommonData.yaml#/components/schemas/ScsAsId'`

### get:

**Summary:** Read all network status reporting subscription resources for a given SCS/AS.

### Responses:

- '200':
  - Description:** The requested information was returned successfully.
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Type:** `array`
        - Items:**
          - Reference:** `'#/components/schemas/NetworkStatusReportingSubscription'`
          - Min Items:** `0`
- '400':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/400'`
- '401':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/401'`
- '403':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/403'`
- '404':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/404'`
- '406':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/406'`
- '429':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/429'`
- '500':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/500'`
- '503':
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/503'`
- Default:**
  - Reference:** `'TS29122_CommonData.yaml#/components/responses/default'`

### Method: Post

**Summary:** Create a new network status reporting subscription resource.

### Request Body:

- Required/Optional:** `true`



```
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/NetworkStatusReportingSubscription'
Callbacks:
  notificationDestination:
    '{request.body#/notificationDestination}':
      Method: Post
      Request Body: # contents of the callback message
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NetworkStatusReportingNotification'

Responses:
  '204':
    Description: No Content (successful notification)
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'

Responses:
  '201':
    Description: The subscription was created successfully. The URI of the created
    resource shall be returned in the "Location" HTTP header.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NetworkStatusReportingSubscription'
    Headers:
      Location:
```

/{scsAsId}/subscriptions/{subscriptionId}

**Description:** 'Contains the URI of the newly created resource'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/subscriptions/{subscriptionId}

### Parameters:

- **Name:** scsAsId
  - In:** path
  - Description:** Identifier of the SCS/AS
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ScsAsId'
- **Name:** subscriptionId
  - In:** path
  - Description:** Identifier of the subscription resource of type string
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ResourceId'

### get:

**Summary:** Read an active network status reporting subscription resource.

### Responses:

- '200':
  - Description:** The requested information was returned successfully.
  - Content:**

```
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/NetworkStatusReportingSubscription'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '406':
    Reference: 'TS29122_CommonData.yaml#/components/responses/406'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
put:
  Summary: Modify an existing subscription resource to update a subscription.
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NetworkStatusReportingSubscription'
  Responses:
    '200':
      Description: The subscription was updated successfully.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NetworkStatusReportingSubscription'
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29122_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '411':
      Reference: 'TS29122_CommonData.yaml#/components/responses/411'
    '413':
      Reference: 'TS29122_CommonData.yaml#/components/responses/413'
    '415':
      Reference: 'TS29122_CommonData.yaml#/components/responses/415'
    '429':
```

```

    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:
  Summary: Delete an existing continuous network status reporting subscription resource.

```

**Responses:**

```

  '204':
    Description: The subscription was updated successfully.
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

**securitySchemes:****oAuth2ClientCredentials:****Type:** oauth2**Flows:****clientCredentials:****tokenUrl:** '{tokenUrl}'**scopes:** {}**schemas:****NetworkStatusReportingSubscription:****Type:** object**Properties:****self:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'**supportedFeatures:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**notificationDestination:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**requestTestNotification:**

**Type:** boolean

**Description:** Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.

**websocketNotifConfig:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsocketNotifConfig'

**locationArea:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/LocationArea'

**timeDuration:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**thresholdValues:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/CongestionValue'

**minItems:** 1

**Description:** Identifies a list of congestion level(s) with exact value that the SCS/AS requests to be informed of when reached.

**thresholdTypes:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/CongestionType'

**minItems:** 1

**Description:** Identifies a list of congestion level(s) with abstracted value that the SCS/AS requests to be informed of when reached.

**Required:**

- notificationDestination
- locationArea

**not:**

**Required:** [thresholdValues, thresholdTypes]

**NetworkStatusReportingNotification:**

**Type:** object

**Properties:**

**subscription:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**nsiValue:**

**Reference:** '#/components/schemas/CongestionValue'

**nsiType:**

**Reference:** '#/components/schemas/CongestionType'

**Required:**

- subscription

**not:**

**Required:** [nsiValue, nsiType]

**CongestionValue:**

**Type:** integer

**Minimum:** 0

**Maximum:** 31

**Description:** Unsigned integer with valid values between 0 and 31. The value 0 indicates that there is no congestion. The value 1 is the lowest congestion level and value 31 is the highest congestion level.

**CongestionType:**

**anyOf:**

- type: string

**enum:**

- HIGH
  - MEDIUM
  - LOW
- 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

- HIGH: The congestion status is high.
- MEDIUM: The congestion status is medium.
- LOW: The congestion status is low.



## CHAPTER 15

# ResourceManagementOfBdt

---

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- [Info](#), on page 163
- [Servers](#), on page 163
- [Security](#), on page 163
- [Paths](#), on page 164
- [Components](#), on page 168

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-bdt  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-bdt/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/subscriptions`

**Parameters:**

- **Name:** `scsAsId`  
**Description:** String identifying the SCS/AS.  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**get:****Responses:**

- '200':  
**Description:** all BDT policy subscriptions.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/Bdt'  
**Min Items:** 0  
**Description:** individual BDT policy subscription.
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Method:** Post**Request Body:**

- Description:** Contains the data to create a BDT subscription.
- Required/Optional:** true
- Content:**



```

Application/JSON:
  Schema:
    Reference: '#/components/schemas/Bdt'

Responses:
  '201':
    Description: Background data transfer policies offered to the SCS/AS.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/Bdt'
      Headers:
        Location:
          Description: 'Contains the URI of the newly created resource'
          Required/Optional: true
          Schema:
            Type: string
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '409':
    Reference: 'TS29122_CommonData.yaml#/components/responses/409'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## {scsAsId}/subscriptions/{subscriptionId}

```

Parameters:
  - Name: scsAsId
    Description: String identifying the SCS/AS.
    In: path
    Required/Optional: true

```

/{scsAsId}/subscriptions/{subscriptionId}

```

    Schema:
      Type: string
  - Name: subscriptionId
    Description: String identifying the individual BDT policy resource in the SCEF.
    In: path
    Required/Optional: true
    Schema:
      Type: string
get:
  Responses:
    '200':
      Description: Background data transfer policies offered to and selected by the
SCEF.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/Bdt'
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29122_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '406':
      Reference: 'TS29122_CommonData.yaml#/components/responses/406'
    '429':
      Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29122_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
patch:
  Request Body:
    Description: Contains information to be performed on the Bdt data structure to
select a transfer policy.
    Required/Optional: true
    Content:
      application/merge-patch+json:
        Schema:
          Reference: '#/components/schemas/BdtPatch'
  Responses:
    '200':
      Description: The Individual BDT Policy resource is modified with a selected policy
and a representation of that resource is returned.
      Content:
        Application/JSON:

```

**Schema:**  
**Reference:** '#/components/schemas/Bdt'

'204':  
**Description:** The Individual BDT Policy resource is modified with a selected policy.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**

**Responses:**

'204':  
**Description:** The Individual BDT Policy resource is deleted.

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  Bdt:
    Type: object
    Properties:
      self:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Link'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      volumePerUE:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
      numberOfUEs:
        Type: integer
        Minimum: 1
        Description: Identifies the number of UEs.
      desiredTimeWindow:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/TimeWindow'
      locationArea:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/LocationArea'
      locationArea5G:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/LocationArea5G'
      referenceId:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
      transferPolicies:
        Type: array
        Items:
          Reference: '#/components/schemas/TransferPolicy'
        minItems: 1
        Description: Identifies an offered transfer policy.
        readOnly: true
      selectedPolicy:
        Type: integer
        Description: Identity of the selected background data transfer policy. Shall not
        be present in initial message exchange, can be provided by NF service consumer in a
        subsequent message exchange.
        Required:
          - volumePerUE
          - numberOfUEs
          - desiredTimeWindow
      BdtPatch:
        Type: object

```

**Properties:**  
**selectedPolicy:**  
**Type:** integer  
**Description:** Identity of the selected background data transfer policy.  
**Required:**  
- selectedPolicy

**TransferPolicy:**  
**Type:** object  
**Properties:**  
**bdtPolicyId:**  
**Type:** integer  
**Description:** Identifier for the transfer policy  
**maxUplinkBandwidth:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bandwidth'  
**maxDownlinkBandwidth:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Bandwidth'  
**ratingGroup:**  
**Type:** integer  
**Minimum:** 0  
**Description:** Indicates the rating group during the time window.  
**timeWindow:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

**Required:**  
- bdtPolicyId  
- ratingGroup  
- timeWindow





## CHAPTER 16

# AEF Security API

---

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- [Info](#), on page 171
- [Servers](#), on page 171
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** AEF\_Security\_API

**Description:** This API allows an API invoker to check if the security information required by the API exposing function is available, by initiating authentication. This API also allows CAPIF core function to revoke access to service APIs.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/aef-security/v1'

**Variables:**

**API Root:**

**Default:** `https://example.com`

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

# Paths

## /check-authentication

**Method:** Post

**Summary:** Check authentication.

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CheckAuthenticationReq'

**Responses:**

'200':

**Description:** The request was successful.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CheckAuthenticationRsp'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /revoke-authorization

**Method:** Post

**Summary:** Revoke authorization.



```

Request Body:
  Required/Optional: true
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/RevokeAuthorizationReq'

Responses:
  '200':
    Description: The request was successful.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/RevokeAuthorizationRsp'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

schemas:
  CheckAuthenticationReq:
    Type: object
    Properties:
      apiInvokerId:
        Type: string
        Description: API invoker ID assigned by the CAPIF core function to the API invoker
        while on-boarding the API invoker.
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

```

Required:
  - apiInvokerId
  - supportedFeatures
CheckAuthenticationRsp:
Type: object
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - supportedFeatures
RevokeAuthorizationReq:
Type: object
Properties:
  revokeInfo:
    Reference:
'TS29222_CAPIF_Security_API.yaml#/components/schemas/SecurityNotification'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - revokeInfo
    - supportedFeatures
RevokeAuthorizationRsp:
Type: object
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - supportedFeatures

```

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)



## CHAPTER 17

# CAPIF Access Control Policy API

---

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- [Info, on page 175](#)
- [Servers, on page 175](#)
- [Paths, on page 176](#)
- [Components, on page 177](#)
- [External Docs, on page 178](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Access\_Control\_Policy\_API

**Description:** This API enables the API exposing function to obtain the policy to perform access control on the service API invocations.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/access-control-policy/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

# Paths

## /accessControlPolicyList/{serviceApiId}

**get:**

**Description:** Retrieves the access control policy list.

**Parameters:**

- **Name:** serviceApiId  
**In:** path  
**Description:** Identifier of a published service API  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** aef-id  
**In:** query  
**Required/Optional:** true  
**Description:** Identifier of the AEF  
**Schema:**  
**Type:** string
- **Name:** api-invoker-id  
**In:** query  
**Description:** Identifier of the API invoker  
**Schema:**  
**Type:** string
- **Name:** supported-features  
**In:** query  
**Description:** To filter irrelevant responses related to unsupported features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

- '200':  
**Description:** OK.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/accessControlPolicyList'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

```

'414':
  Reference: 'TS29122_CommonData.yaml#/components/responses/414'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

schemas:
  accessControlPolicyList:
    Type: object
    Properties:
      apiInvokerPolicies:
        Type: array
        Items:
          Reference: '#/components/schemas/ApiInvokerPolicy'
        minItems: 0
        Description: Policy of each API invoker.
  ApiInvokerPolicy:
    Type: object
    Properties:
      apiInvokerId:
        Type: string
        Description: API invoker ID assigned by the CAPIF core function
      allowedTotalInvocations:
        Type: integer
        Description: Total number of invocations allowed on the service API by the API
invoker.
      allowedInvocationsPerSecond:
        Type: integer
        Description: Invocations per second allowed on the service API by the API invoker.
      allowedInvocationTimeRangeList:
        Type: array
        Items:
          Reference: '#/components/schemas/TimeRangeList'
        minItems: 0
        Description: The time ranges during which the invocations are allowed on the
service API by the API invoker.
      Required:
        - apiInvokerID
      TimeRangeList:
        Type: object
        Properties:

```

```
startTime:  
  Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'  
stopTime:  
  Reference: 'TS29122_CommonData.yaml#/components/schemas/DateTime'
```

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)



## CHAPTER 18

# CAPIF API Invoker Management API

---

- [OpenAPI, on page 179](#)
- [Info, on page 179](#)
- [Servers, on page 179](#)
- [Paths, on page 180](#)
- [Components, on page 182](#)
- [External Docs, on page 184](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_API\_Invoker\_Management\_API

**Description:** This API enables the API invoker to communicate with the CAPIF core function to negotiate security methods and obtain authorizations to access service APIs.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/api-invoker-management/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

# Paths

## /onboardedInvokers

**Method:** Post

**Description:** Creates a new individual API Invoker profile.

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/APIInvokerEnrolmentDetails'

**Callbacks:**

**notificationDestination:**

'{request.body#/notificationDestination}':

**Method:** Post

**Description:** Notify the API Invoker about the onboarding completion

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/OnboardingNotification'

**Responses:**

'204':

**Description:** No Content (successful onboarding notification)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**



**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

'201':

**Description:** API invoker on-boarded successfully

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/APIInvokerEnrolmentDetails'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/api-invoker-management/v1/onboardedInvokers/{onboardingId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'202':

**Description:** The CAPIF core has accepted the Onboarding request and is processing it.

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /onboardedInvokers/{onboardingId}

**delete:**

**Description:** Deletes an individual API Invoker.

**Parameters:**

- **Name:** onboardingId
- In:** path

**Description:** String identifying an individual on-boarded API invoker resource  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

**'204':**  
**Description:** The individual API Invoker matching onboardingId was offboarded.  
**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'  
**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## Components

**schemas:****OnboardingInformation:****Type:** object**Properties:****apiInvokerPublicKey:****Type:** string**Description:** The API Invoker's public key**apiInvokerCertificate:****Type:** string**Description:** The API Invoker's generic client certificate, provided by the CAPIF core function.**onboardingSecret:****Type:** string**Description:** The API Invoker's onboarding secret, provided by the CAPIF core function.**Required:**

- apiInvokerPublicKey

**APIList:****Type:** array**Items:****Reference:**

'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/ServiceAPIDescription'

**minItems:** 1

**Description:** The list of service APIs that the API Invoker is allowed to invoke

**APIInvokerEnrolmentDetails:**

**Type:** object

**Properties:**

**apiInvokerId:**

**Type:** string

**Description:** API invoker ID assigned by the CAPIF core function to the API invoker while on-boarding the API invoker. Shall not be present in the HTTP POST request from the API invoker to the CAPIF core function, to on-board itself. Shall be present in all other HTTP requests and responses.

**readOnly:** true

**onboardingInformation:**

**Reference:** '#/components/schemas/OnboardingInformation'

**notificationDestination:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Uri'

**requestTestNotification:**

**Type:** boolean

**Description:** Set to true by Subscriber to request the CAPIF core function to send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.

**websocketNotifConfig:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsocketNotifConfig'

**apiList:**

**Reference:** '#/components/schemas/APIList'

**apiInvokerInformation:**

**Type:** string

**Description:** Generic information related to the API invoker such as details of the device or the application.

**supportedFeatures:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Required:**

- onboardingInformation
- notificationDestination

**Description:** Information about the API Invoker that requested to onboard

**OnboardingNotification:**

**Type:** object

**Properties:**

**result:**

**Type:** boolean

**Description:** Set to "true" indicate successful on-boarding. Otherwise set to "false"

**resourceLocation:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Uri'

**apiInvokerEnrolmentDetails:**

**Reference:** '#/components/schemas/APIInvokerEnrolmentDetails'

**apiList:**

**Reference:** '#/components/schemas/APIList'

**Required:**

- result

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)



## CHAPTER 19

# CAPIF Auditing API

---

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- [Info, on page 185](#)
- [Servers, on page 185](#)
- [Paths, on page 186](#)
- [External Docs, on page 188](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Auditing\_API

**Description:** This API enables the API management function to communicate with the CAPIF core function to retrieve the log information related to service API invocations.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/logs/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

# Paths

## /apiInvocationLogs

### get:

**Description:** Query and retrieve service API invocation logs stored on the CAPIF core function.

#### Parameters:

- **Name:** aef-id  
**In:** query  
**Description:** String identifying the API exposing function.  
**Schema:**  
**Type:** string
- **Name:** api-invoker-id  
**In:** query  
**Description:** String identifying the API invoker which invoked the service API.  
**Schema:**  
**Type:** string
- **Name:** time-range-start  
**In:** query  
**Description:** Start time of the invocation time range.  
**Schema:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'
- **Name:** time-range-end  
**In:** query  
**Description:** End time of the invocation time range.  
**Schema:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'
- **Name:** api-id  
**In:** query  
**Description:** String identifying the API invoked.  
**Schema:**  
**Type:** string
- **Name:** api-name  
**In:** query  
**Description:** API name, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.  
**Schema:**  
**Type:** string
- **Name:** api-version  
**In:** query  
**Description:** Version of the API which was invoked.  
**Schema:**  
**Type:** string
- **Name:** protocol  
**In:** query  
**Description:** Protocol invoked.

**Schema:**  
**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'

- **Name:** operation  
**In:** query  
**Description:** Operation that was invoked on the API.  
**Schema:**  
**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Operation'
- **Name:** result  
**In:** query  
**Description:** Result or output of the invocation.  
**Schema:**  
**Type:** string
- **Name:** resource-name  
**In:** query  
**Description:** Name of the specific resource invoked.  
**Schema:**  
**Type:** string
- **Name:** src-interface  
**In:** query  
**Description:** Interface description of the API invoker.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:**  
'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'
- **Name:** dest-interface  
**In:** query  
**Description:** Interface description of the API invoked.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:**  
'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'
- **Name:** supported-features  
**In:** query  
**Description:** To filter irrelevant responses related to unsupported features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

- '200':  
**Description:** Result of the query operation along with fetched service API invocation log data.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:**  
'TS29222\_CAPIF\_Logging\_API\_Invocation\_API.yaml#/components/schemas/InvocationLog'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'  
'414':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/414'  
'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs  
**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)





## CHAPTER 20

# CAPIF Discover Service API

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- [Info, on page 189](#)
- [Servers, on page 189](#)
- [Paths, on page 190](#)
- [Components, on page 191](#)
- [External Docs, on page 192](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Discover\_Service\_API

**Description:** This API enables the API invoker to communicate with the CAPIF core function to discover the published service API information.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/service-apis/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

# Paths

## /allServiceAPIs

### get:

**Description:** Discover published service APIs and retrieve a collection of APIs according to certain filter criteria.

### Parameters:

- **Name:** api-invoker-id  
**In:** query  
**Description:** String identifying the API invoker assigned by the CAPIF core function.  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** api-name  
**In:** query  
**Description:** API name, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501 [18].  
**Schema:**  
**Type:** string
- **Name:** api-version  
**In:** query  
**Description:** API major version the URI (e.g. v1).  
**Schema:**  
**Type:** string
- **Name:** comm-type  
**In:** query  
**Description:** Communication type used by the API (e.g. REQUEST\_RESPONSE).  
**Schema:**  
**Reference:**  
'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/CommunicationType'
- **Name:** protocol  
**In:** query  
**Description:** Protocol used by the API.  
**Schema:**  
**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'
- **Name:** aef-id  
**In:** query  
**Description:** AEF identifier.  
**Schema:**  
**Type:** string
- **Name:** data-format  
**In:** query  
**Description:** Data formats used by the API (e.g. serialization protocol JSON used).  
**Schema:**

**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/DataFormat'

- **Name:** supported-features

**In:** query

**Description:** To filter irrelevant responses related to unsupported features

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':

**Description:** The response body contains the result of the search over the list of registered APIs.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/DiscoveredAPIs'

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## Components

**schemas:**

**DiscoveredAPIs:**

**Type:** object

**Properties:**

**serviceAPIDescriptions:**

**Type:** array

**Items:**

**Reference:**

'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/ServiceAPIDescription'

**minItems:** 1

**Description:** Description of the service API as published by the service. Each service API description shall include AEF profiles matching the filter criteria.

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)



## CHAPTER 21

# CAPIF Events API

---

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- [Info, on page 193](#)
- [Servers, on page 193](#)
- [Paths, on page 194](#)
- [Components, on page 196](#)
- [External Docs, on page 198](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Events\_API

**Description:** This API enables the Subscriber to communicate with the CAPIF core function to subscribe to and unsubscribe from CAPIF events, and receive subsequent notifications of CAPIF events.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/capif-events/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

# Paths

## `{subscriberId}/subscriptions`

**Method:** Post

**Description:** Creates a new individual CAPIF Event Subscription.

**Parameters:**

- **Name:** subscriberId

**In:** path

**Description:** Identifier of the Subscriber

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventSubscription'

**Callbacks:**

**notificationDestination:**

**'{request.body#/notificationDestination}':**

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventNotification'

**Responses:**

**'204':**

**Description:** No Content (successful notification)

**'400':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

```

'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

**Responses:**

```

'201':
  Description: Created (Successful creation of subscription)
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/EventSubscription'
      Headers:
        Location:
          description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/capif-events/v1/{subscriberId}/subscriptions/{subscriptionId}'
          Required/Optional: true
          Schema:
            Type: string
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

**/{subscriberId}/subscriptions/{subscriptionId}**

**delete:**

**Description:** Deletes an individual CAPIF Event Subscription.

**Parameters:**

- **Name:** subscriberId  
**In:** path  
**Description:** Identifier of the Subscriber  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** subscriptionId  
**In:** path  
**Description:** Identifier of an individual Events Subscription  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

- '204':  
**Description:** The individual CAPIF Events Subscription matching the subscriptionId is deleted.
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## Components

**schemas:**

**EventSubscription:**

- Type:** object
- Properties:**
  - events:**
    - Type:** array
    - Items:**
      - Reference:** '#/components/schemas/CAPIFEvent'
    - minItems:** 1
    - Description:** Subscribed events



**notificationDestination:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Uri'**requestTestNotification:****Type:** boolean**Description:** Set to true by Subscriber to request the CAPIF core function to send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.**websocketNotifConfig:****Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsocketNotifConfig'**supportedFeatures:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**Required:**

- events
- notificationDestination

**EventNotification:****Type:** object**Properties:****subscriptionId:****Type:** string**Description:** Identifier of the subscription resource to which the notification is related - CAPIF resource identifier**events:****Reference:** '#/components/schemas/CAPIFEvent'**Required:**

- subscriptionId
- events

**CAPIFEvent:****anyOf:**

- type: string

**enum:**

- SERVICE\_API\_AVAILABLE
  - SERVICE\_API\_UNAVAILABLE
  - SERVICE\_API\_UPDATE
  - API\_INVOKER\_ONBOARDED
  - API\_INVOKER\_OFFBOARDED
  - SERVICE\_API\_INVOCATION\_SUCCESS
  - SERVICE\_API\_INVOCATION\_FAILURE
  - ACCESS\_CONTROL\_POLICY\_UPDATE
  - ACCESS\_CONTROL\_POLICY\_UNAVAILABLE
  - API\_INVOKER\_AUTHORIZATION\_REVOKED
- 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

- SERVICE\_API\_AVAILABLE: Events related to the availability of service APIs after the service APIs are published.
- SERVICE\_API\_UNAVAILABLE: Events related to the unavailability of service APIs after the service APIs are unpublished.
- SERVICE\_API\_UPDATE: Events related to change in service API information.
- API\_INVOKER\_ONBOARDED: Events related to API invoker onboarded to CAPIF.
- API\_INVOKER\_OFFBOARDED: Events related to API invoker offboarded from CAPIF.
- SERVICE\_API\_INVOCATION\_SUCCESS: Events related to the successful invocation of service APIs.
- SERVICE\_API\_INVOCATION\_FAILURE: Events related to the failed invocation of service APIs.
- ACCESS\_CONTROL\_POLICY\_UPDATE: Events related to the update for the access control

policy related to the service APIs. - ACCESS\_CONTROL\_POLICY\_UNAVAILABLE: Events related to the unavailability of the access control policy related to the service APIs.  
- API\_INVOKER\_AUTHORIZATION\_REVOKED: Events related to the revocation of the authorization of API invokers to access the service APIs.

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)



## CHAPTER 22

# CAPIF Logging API Invocation API

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Logging\_API\_Invocation\_API

**Description:** This API enables the API exposing function to communicate with the CAPIF core function to log the information related to service API invocations.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/api-invocation-logs/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

# Paths

## `{aefId}/logs`

**Method:** Post

**Description:** Creates a new log entry for service API invocations.

**Parameters:**

- **Name:** aefId

**In:** path

**Description:** Identifier of the API exposing function

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/InvocationLog'

**Responses:**

'201':

**Description:** Log of service API invocations provided by API exposing function successfully stored on the CAPIF core function.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/InvocationLog'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/api-invocation-logs/v1/{aefId}/logs/{logId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

```

'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## {aefId}/logs/{logId}

**Description:** Creates a new log entry for service API invocations.

**Parameters:**

- **Name:** aefId
  - In:** path
  - Description:** Identifier of the API exposing function
  - Required/Optional:** true
  - Schema:**
    - Type:** string
- **Name:** logId
  - In:** path
  - Description:** Identifier of individual log entry
  - Required/Optional:** true
  - Schema:**
    - Type:** string

## Components

**schemas:**

**InvocationLog:**

**Type:** object

**Properties:**

**aefId:**

**Type:** string

**Description:** Identity information of the API exposing function requesting logging of service API invocations

**apiInvokerId:**

**Type:** string

**Description:** Identity of the API invoker which invoked the service API

**logs:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/Log'

**minItems:** 1

**Description:** Service API invocation log

**supportedFeatures:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Required:**

- aefId
- apiInvokerId
- log

**Log:**

**Type:** object

**Properties:**

**apiId:**

**Type:** string

**Description:** String identifying the API invoked.

**apiName:**

**Type:** string

**Description:** Name of the API which was invoked, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

**apiVersion:**

**Type:** string

**Description:** Version of the API which was invoked

**resourceName:**

**Type:** string

**Description:** Name of the specific resource invoked

**uri:**

**Reference:** 'TS29122\_CommonData\_API.yaml#/components/schemas/Uri'

**protocol:**

**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'

**operation:**

**Reference:** 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Operation'

**result:**

**Type:** string

**Description:** For HTTP protocol, it contains HTTP status code of the invocation

**invocationTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**invocationLatency:**

**Reference:** '#/components/schemas/DurationMs'

**inputParameters:**

**Description:** List of input parameters. Can be any value - string, number, boolean, array or object.

**outputParameters:**

**Description:** List of output parameters. Can be any value - string, number, boolean, array or object.

**srcInterface:**

**Reference:**

'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas//InterfaceDescription'

**destInterface:**

**Reference:**

'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

**fwdInterface:**

**Type:** string

**Description:** It includes the node identifier (as defined in IETF RFC 7239 of all forwarding entities between the API invoker and the AEF, concatenated with comma and space,

e.g. 192.0.2.43:80, unknown:\_OBFPport, 203.0.113.60

**Required:**

- apiId
- apiName
- apiVersion
- resourceName
- protocol
- result

**DurationMs:**

**Type:** integer

**Description:** Unsigned integer identifying a period of time in units of milliseconds.

**Minimum:** 0

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)







## CHAPTER 23

# CAPIF Publish Service

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Publish\_Service\_API

**Description:** This API enables the API publishing function to communicate with the CAPIF core function to publish the service API information and manage the published service API information.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/published-apis/v1'

**Variables:**

**API Root:**

**Default:** `https://example.com`

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

# Paths

# APF published API

## **{apfId}/service-apis**

**Method:** Post

**Description:** Publish a new API.

**Parameters:**

- **Name:** apfId

**In:** path

**Required/Optional:** true

**Schema:**

**Reference:** '#/components/schemas/apfId'

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ServiceAPIDescription'

**Responses:**

'201':

**Description:** Service API published successfully The URI of the created resource shall be returned in the "Location" HTTP header.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ServiceAPIDescription'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/published-apis/v1/{apfId}/service-apis/{serviceApiId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

```

    '413':
      Reference: 'TS29122_CommonData.yaml#/components/responses/413'
    '415':
      Reference: 'TS29122_CommonData.yaml#/components/responses/415'
    '429':
      Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29122_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
get:
  Description: Retrieve all published APIs.

  Parameters:
    - Name: apfId
      In: path
      Required/Optional: true
      Schema:
        Reference: '#/components/schemas/apfId'

  Responses:
    '200':
      Description: Definition of all service API(s) published by the API publishing
function.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/ServiceAPIDescription'
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29122_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '406':
      Reference: 'TS29122_CommonData.yaml#/components/responses/406'
    '429':
      Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29122_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
# Individual APF published API

```

## /{apfld}/service-apis/{serviceApild}

### get:

**Description:** Retrieve a published service API.

#### Parameters:

- **Name:** serviceApiId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/serviceApiId'
- **Name:** apfId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/apfId'

#### Responses:

'200':

**Description:** Definition of all service API published by the API publishing function.

#### Content:

**Application/JSON:**

- Schema:**  
**Reference:** '#/components/schemas/ServiceAPIDescription'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### put:

**Description:** Update a published service API.

#### Parameters:

- **Name:** serviceApiId  
**In:** path  
**Required/Optional:** true  
**Schema:**

```

    Reference: '#/components/schemas/serviceApiId'
  - Name: apfId
    In: path
    Required/Optional: true
    Schema:
      Reference: '#/components/schemas/apfId'
Request Body:
  Required/Optional: true
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/ServiceAPIDescription'

Responses:
  '200':
    Description: Definition of service API updated successfully.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/ServiceAPIDescription'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29122_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29122_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29122_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
delete:
  Description: Unpublish a published service API.

Parameters:
  - Name: serviceApiId
    In: path
    Required/Optional: true
    Schema:
      Reference: '#/components/schemas/serviceApiId'
  - Name: apfId

```

```

    In: path
    Required/Optional: true
    Schema:
      Reference: '#/components/schemas/apfId'

  Responses:
    '204':
      Description: The individual published service API matching the serviceAPIId is
deleted.
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29122_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '429':
      Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':
      Reference: 'TS29122_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
# Components

```

## Components

```

schemas:
# Data types uses as path variables
  apfId:
    Type: string
    Description: Identification of the API publishing function.
  serviceApiId:
    Type: string
    Description: String identifying an individual published service API.
# Data Type for representations
  ServiceAPIDescription:
    Type: object
    Properties:
      apiName:
        Type: string
        Description: API name, it is set as {apiName} part of the URI structure as defined
in subclause 4.4 of 3GPP TS 29.501.
      apiId:
        Type: string
        Description: API identifier assigned by the CAPIF core function to the published
service API. Shall not be present in the HTTP POST request from the API publishing function
to the CAPIF core function. Shall be present in the HTTP POST response from the CAPIF core

```

function to the API publishing function and in the HTTP GET response from the CAPIF core function to the API invoker (discovery API).

```

aefProfiles:
  Type: array
  Items:
    Reference: '#/components/schemas/AefProfile'
  minItems: 1
  Description: AEF profile information, which includes the exposed API details
(e.g. protocol).
  Description:
    Type: string
    Description: Text description of the API
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
Required:
  - apiName
InterfaceDescription:
  Type: object
  Properties:
    ipv4Addr:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv4Addr'
    ipv6Addr:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Ipv6Addr'
    port:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Port'
    securityMethods:
      Type: array
      Items:
        Reference: '#/components/schemas/SecurityMethod'
      minItems: 1
      Description: Security methods supported by the interface, it take precedence over
the security methods provided in AefProfile, for this specific interface.
    oneOf:
      - required: [ipv4Addr]
      - required: [ipv6Addr]
AefProfile:
  Type: object
  Properties:
    aefId:
      Type: string
      Description: Identifier of the API exposing function
    versions:
      Type: array
      Items:
        Reference: '#/components/schemas/Version'
      minItems: 1
      Description: API version
    protocol:
      Reference: '#/components/schemas/Protocol'
    dataFormat:
      Reference: '#/components/schemas/DataFormat'
    securityMethods:
      Type: array

```

```

    Items:
      Reference: '#/components/schemas/SecurityMethod'
      minItems: 1
      Description: Security methods supported by the AEF
  domainName:
    Type: string
    Description: Domain to which API belongs to
  interfaceDescriptions:
    Type: array
    Items:
      Reference: '#/components/schemas/InterfaceDescription'
      minItems: 1
      Description: Interface details
  Required:
    - aefId
    - versions
  oneOf:
    - required: [domainName]
    - required: [interfaceDescriptions]
  Resource:
    Type: object
  Properties:
    resourceName:
      Type: string
      Description: Resource name
    commType:
      Reference: '#/components/schemas/CommunicationType'
    uri:
      Type: string
      Description: Relative URI of the API resource, it is set as
      {apiSpecificResourceUriPart} part of the URI structure as defined in subclause 4.4 of 3GPP
      TS 29.501.
    custOpName:
      Type: string
      Description: it is set as {custOpName} part of the URI structure for a custom
      operation associated with a resource as defined in subclause 4.4 of 3GPP TS 29.501.
    operations:
      Type: array
      Items:
        Reference: '#/components/schemas/Operation'
        minItems: 1
        Description: Supported HTTP methods for the API resource. Only applicable when
        the protocol in AefProfile indicates HTTP.
      Description:
        Type: string
        Description: Text description of the API resource
  Required:
    - resourceName
    - commType
    - uri
  CustomOperation:
    Type: object
  Properties:
    commType:

```



**Reference:** '#/components/schemas/CommunicationType'

**custOpName:**  
**Type:** string  
**Description:** it is set as {custOpName} part of the URI structure for a custom operation without resource association as defined in subclause 4.4 of 3GPP TS 29.501.

**operations:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/Operation'  
**minItems:** 1  
**Description:** Supported HTTP methods for the API resource. Only applicable when the protocol in AefProfile indicates HTTP.

**Description:**  
**Type:** string  
**Description:** Text description of the custom operation

**Required:**

- commType
- custOpName

**Version:**  
**Type:** object

**Properties:**

**apiVersion:**  
**Type:** string  
**Description:** API major version in URI (e.g. v1)

**expiry:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**resources:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/Resource'  
**minItems:** 1  
**Description:** Resources supported by the API.

**custOperations:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/CustomOperation'  
**minItems:** 1  
**Description:** Custom operations without resource association.

**Required:**

- apiVersion

**Protocol:**

**anyOf:**

- type: string

**enum:**

- HTTP\_1\_1
- HTTP\_2

- 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

- HTTP\_1\_1: HTTP version 1.1

- HTTP\_2: HTTP version 2

**CommunicationType:****anyOf:**

- type: string

**enum:**

- REQUEST\_RESPONSE
- SUBSCRIBE\_NOTIFY

- 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

- REQUEST\_RESPONSE: The communication is of the type request-response
- SUBSCRIBE\_NOTIFY: The communication is of the type subscribe-notify

**DataFormat:****anyOf:**

- type: string

**enum:**

- JSON

- 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

- JSON: JavaScript Object Notation

**SecurityMethod:****anyOf:**

- type: string

**enum:**

- PSK
- PKI
- OAUTH

- 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

- PSK: Security method 1 (Using TLS-PSK) as described in 3GPP TS 33.122
- PKI: Security method 2 (Using PKI) as described in 3GPP TS 33.122
- OAUTH: Security method 3 (TLS with OAuth token) as described in 3GPP TS 33.122

**Operation:****anyOf:**

- type: string

**enum:**

- GET
- POST
- PUT
- PATCH
- DELETE

- 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

- GET: HTTP GET method
- POST: HTTP POST method
- PUT: HTTP PUT method
- PATCH: HTTP PATCH method
- DELETE: HTTP DELETE method

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)





## CHAPTER 24

# CAPIF Security API

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** CAPIF\_Security\_API

**Description:** This API enables the API publishing function to communicate with the CAPIF core function to publish the service API information and manage the published service API information. This API also enables the API exposing function to communicate with the CAPIF core function to retrieve the security information of an API invoker.

**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/capif-security/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

# Paths

## /trustedInvokers/{apiInvokerId}

get:

**Parameters:**

- **Name:** apiInvokerId  
**In:** path  
**Description:** Identifier of an individual API invoker  
**Required/Optional:** true  
**Schema:**  
**Type:** string
- **Name:** authenticationInfo  
**In:** query  
**Description:** When set to 'true', it indicates the CAPIF core function to send the authentication information of the API invoker. Set to false or omitted otherwise.  
**Schema:**  
**Type:** boolean
- **Name:** authorizationInfo  
**In:** query  
**Description:** When set to 'true', it indicates the CAPIF core function to send the authorization information of the API invoker. Set to false or omitted otherwise.  
**Schema:**  
**Type:** boolean

**Responses:**

- '200':  
**Description:** The security related information of the API Invoker based on the request from the API exposing function.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceSecurity'
- '400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '414':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/414'
- '429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':

```

    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'
put:
  Parameters:
    - Name: apiInvokerId
      In: path
      Description: Identifier of an individual API invoker
      Required/Optional: true
      Schema:
        Type: string
  Request Body:
    Description: create a security context for an API invoker
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/ServiceSecurity'
  Callbacks:
    notificationDestination:
      '{request.body#/notificationDestination}':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/SecurityNotification'

  Responses:
    '204':
      Description: No Content (successful notification)
    '400':
      Reference: 'TS29122_CommonData.yaml#/components/responses/400'
    '401':
      Reference: 'TS29122_CommonData.yaml#/components/responses/401'
    '403':
      Reference: 'TS29122_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29122_CommonData.yaml#/components/responses/404'
    '411':
      Reference: 'TS29122_CommonData.yaml#/components/responses/411'
    '413':
      Reference: 'TS29122_CommonData.yaml#/components/responses/413'
    '415':
      Reference: 'TS29122_CommonData.yaml#/components/responses/415'
    '429':
      Reference: 'TS29122_CommonData.yaml#/components/responses/429'
    '500':

```

/trustedInvokers/{apiInvokerId}

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:****'201':****Description:** Successful created.**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/ServiceSecurity'**Headers:****Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/capif-security/v1/trustedInvokers/{apiInvokerId}'

**Required/Optional:** true**Schema:****Type:** string**'400':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'**'401':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'**'403':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'**'411':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'**'413':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'**'414':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/414'**'415':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'**'429':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'**'500':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'**delete:****Parameters:****- Name:** apiInvokerId**In:** path**Description:** Identifier of an individual API invoker**Required/Optional:** true**Schema:****Type:** string



**Responses:**

'204':  
**Description:** No Content (Successful deletion of the existing subscription)

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /trustedInvokers/{apiInvokerId}/update

**Method:** Post**Parameters:**

- **Name:** apiInvokerId  
**In:** path  
**Description:** Identifier of an individual API invoker  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:****Description:** Update the security context (e.g. re-negotiate the security methods).**Required/Optional:** true**Content:**

**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceSecurity'

**Responses:**

'200':  
**Description:** Successful updated.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/ServiceSecurity'

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'  
**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /trustedInvokers/{apiInvokerId}/delete

**Method:** Post

**Parameters:**

- **Name:** apiInvokerId
- In:** path
- Description:** Identifier of an individual API invoker
- Required/Optional:** true
- Schema:**
  - Type:** string

**Request Body:**

- Description:** Revoke the authorization of the API invoker for APIs.
- Required/Optional:** true
- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** '#/components/schemas/SecurityNotification'

**Responses:**

- '204':**
  - Description:** Successful revoked.
- '400':**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

```

'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## /securities/{securityId}/token

**Method:** Post

**Parameters:**

```

- Name: securityId
  In: path
  Description: Identifier of an individual security instance
  Required/Optional: true
  Schema:
    Type: string

```

**Request Body:**

```

Required/Optional: true
Content:
  application/x-www-form-urlencoded:
    Schema:
      Reference: '#/components/schemas/AccessTokenReq'

```

**Responses:**

```

'200':
  Description: Successful Access Token Request
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/AccessTokenRsp'
'400':
  Description: Error in the Access Token Request
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/AccessTokenErr'

```

# Components

```

schemas:
  ServiceSecurity:
    Type: object
    Properties:
      securityInfo:
        Type: array
        Items:
          Reference: '#/components/schemas/SecurityInformation'
          Minimum: 1
      notificationDestination:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/Uri'
      requestTestNotification:
        Type: boolean
        Description: Set to true by API invoker to request the CAPIF core function to
        send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.

      websocketNotifConfig:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/WebsocketNotifConfig'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - securityInfo
      - securityNotificationDestination
  SecurityInformation:
    Type: object
    Properties:
      interfaceDetails:
        Reference:
        'TS29222_CAPIF_Publish_Service_API.yaml#/components/schemas/InterfaceDescription'
      aefId:
        Type: string
        Description: Identifier of the API exposing function
      prefSecurityMethods:
        Type: array
        Items:
          Reference:
          'TS29222_CAPIF_Publish_Service_API.yaml#/components/schemas/SecurityMethod'
          minItems: 1
        Description: Security methods preferred by the API invoker for the API interface.

      selSecurityMethod:
        Reference:
        'TS29222_CAPIF_Publish_Service_API.yaml#/components/schemas/SecurityMethod'
      authenticationInfo:
        Type: string
        Description: Authentication related information
      authorizationInfo:
        Type: string

```

**Description:** Authorization related information

**Required:**

- prefSecurityMethods

**oneOf:**

- required: [interfaceDetails]
- required: [aefId]

**SecurityNotification:**

**Type:** object

**Properties:**

**apiInvokerId:**

**Type:** string

**Description:** String identifying the API invoker assigned by the CAPIF core function

**aefId:**

**Type:** string

**Description:** String identifying the AEF.

**apiIds:**

**Type:** array

**Items:**

**Type:** string

**minItems:** 1

**Description:** Identifier of the service API

**cause:**

**Reference:** '#/components/schemas/Cause'

**Required:**

- apiInvokerId
- apiIds
- cause

**AccessTokenReq:**

**format:** x-www-form-urlencoded

**Properties:**

**grant\_type:**

**Type:** string

**enum:**

- client\_credentials

**client\_id:**

**Type:** string

**client\_secret:**

**Type:** string

**scope:**

**Type:** string

**Required:**

- grant\_type
- client\_id

**AccessTokenRsp:**

**Type:** object

**Properties:**

**access\_token:**

**Type:** string

**Description:** JWS Compact Serialized representation of JWS signed JSON object  
(AccessTokenClaims)

**token\_type:**

**Type:** string

**enum:**

```

    - Bearer
expires_in:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
scope:
  Type: string
Required:
  - access_token
  - token_type
  - expires_in
AccessTokenClaims:
Type: object
Properties:
  iss:
    Type: string
  scope:
    Type: string
  exp:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/DurationSec'
Required:
  - iss
  - scope
  - exp
AccessTokenErr:
Type: object
Properties:
  error:
    Type: string
  enum:
    - invalid_request
    - invalid_client
    - invalid_grant
    - unauthorized_client
    - unsupported_grant_type
    - invalid_scope
  error_description:
    Type: string
  error_uri:
    Type: string
Required:
  - error
Cause:
anyOf:
  - type: string
  enum:
    - OVERLIMIT_USAGE
    - UNEXPECTED_REASON
  - 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
  - OVERLIMIT_USAGE: The revocation of the authorization of the API invoker is due to
  the overlimit usage of the service API
  - UNEXPECTED_REASON: The revocation of the authorization of the API invoker is due
  to unexpected reason.

```

## External Docs

**Description:** 3GPP TS 29.222 V15.2.0 Common API Framework for 3GPP Northbound APIs

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.222/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.222/)







## CHAPTER 25

# Nsmf PDUSession

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'Nsmf\_PDUSession'  
**Description:** 'SMF PDU Session Service'

## Servers

**URL:** '{apiRoot}/nsmf-pdusession/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501. The sm-contexts and pdu-sessions resources can be distributed on different processing instances or hosts. Thus the authority and/or deployment-specific string of the apiRoot of the created individual sm context and pdu-session resources' URIs may differ from the authority and/or deployment-specific string of the apiRoot of the sm-contexts and pdu-sessions collections' URIs.

# Security

```
- {}
- oAuth2Clientcredentials:
  - nsmf-pdusession
```

## Paths

### /sm-contexts

**Method:** Post

**Summary:** Create SM Context

**Tags:**

- SM contexts collection

**Operation ID:** PostSmContexts

**Request Body:**

**Description:** representation of the SM context to be created in the SMF

**Required/Optional:** true

**Content:**

**Multipart/Related:**

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/SmContextCreateData'

**binaryDataN1SmMessage:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

**binaryDataN1SmMessage:**

**Content Type:** application/vnd.3gpp.5gnas

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**Callbacks:**

**smContextStatusNotification:**

'{\$request.body#/smContextStatusUri}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmContextStatusNotification'

**Responses:**

'204':  
**Description:** successful notification

'307':  
**Description:** temporary redirect

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

**Responses:**

'201':  
**Description:** successful creation of an SM context

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

**Reference:** '#/components/schemas/SmContextCreatedData'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/SmContextCreatedData'

**binaryDataN2SmInformation:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

**binaryDataN2SmInformation:**

**Content Type:** application/vnd.3gpp.ngap

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**Headers:**

**Location:**  
**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nsmf-pdusession/v1/sm-contexts/{smContextRef}'

**Required/Optional:** true

**Schema:**  
**Type:** string

'307':  
**Description:** temporary redirect

'308':  
**Description:** permanent redirect

'400':  
**Description:** unsuccessful creation of an SM context - bad request

**Content:**  
**Application/JSON:** # message without binary body part  
**Schema:**  
**Reference:** '#/components/schemas/SmContextCreateError'

**Multipart/Related:** # message with binary body part(s)  
**Schema:**  
**Type:** object  
**Properties:** # Request parts  
**JSON Data:**  
**Reference:** '#/components/schemas/SmContextCreateError'

**binaryDataN1SmMessage:**  
**Type:** string  
**Format:** binary

**Encoding:**  
**JSON Data:**  
**Content Type:** application/json  
**binaryDataN1SmMessage:**  
**Content Type:** application/vnd.3gpp.5gnas  
**Headers:**  
**Content ID:**  
**Schema:**  
**Type:** string

'403':  
**Description:** unsuccessful creation of an SM context - forbidden

**Content:**  
**Application/JSON:** # message without binary body part  
**Schema:**  
**Reference:** '#/components/schemas/SmContextCreateError'

**Multipart/Related:** # message with binary body part(s)  
**Schema:**  
**Type:** object  
**Properties:** # Request parts  
**JSON Data:**  
**Reference:** '#/components/schemas/SmContextCreateError'

**binaryDataN1SmMessage:**  
**Type:** string  
**Format:** binary

**Encoding:**  
**JSON Data:**

```

        Content Type: application/json
    binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
        Headers:
            Content ID:
            Schema:
            Type: string
'404':
    Description: unsuccessful creation of an SM context - not found
    Content:
        Application/JSON: # message without binary body part
        Schema:
            Reference: '#/components/schemas/SmContextCreateError'
        Multipart/Related: # message with binary body part(s)
        Schema:
            Type: object
            Properties: # Request parts
            JSON Data:
                Reference: '#/components/schemas/SmContextCreateError'
            binaryDataN1SmMessage:
                Type: string
                Format: binary
        Encoding:
            JSON Data:
                Content Type: application/json
            binaryDataN1SmMessage:
                Content Type: application/vnd.3gpp.5gnas
            Headers:
                Content ID:
                Schema:
                Type: string
'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':
    Description: unsuccessful creation of an SM context - internal server error
    Content:
        Application/JSON: # message without binary body part
        Schema:
            Reference: '#/components/schemas/SmContextCreateError'
        Multipart/Related: # message with binary body part(s)
        Schema:
            Type: object
            Properties: # Request parts
            JSON Data:
                Reference: '#/components/schemas/SmContextCreateError'

```

```

        binaryDataN1SmMessage:
            Type: string
            Format: binary
    Encoding:
    JSON Data:
        Content Type: application/json
    binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
    Headers:
        Content ID:
        Schema:
        Type: string
'503':
    Description: unsuccessful creation of an SM context - service unavailable
    Content:
        Application/JSON: # message without binary body part
        Schema:
            Reference: '#/components/schemas/SmContextCreateError'
        Multipart/Related: # message with binary body part(s)
        Schema:
            Type: object
            Properties: # Request parts
            JSON Data:
                Reference: '#/components/schemas/SmContextCreateError'
            binaryDataN1SmMessage:
                Type: string
                Format: binary
    Encoding:
    JSON Data:
        Content Type: application/json
    binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
    Headers:
        Content ID:
        Schema:
        Type: string
'504':
    Description: unsuccessful creation of an SM context - gateway timeout
    Content:
        Application/JSON: # message without binary body part
        Schema:
            Reference: '#/components/schemas/SmContextCreateError'
        Multipart/Related: # message with binary body part(s)
        Schema:
            Type: object
            Properties: # Request parts
            JSON Data:
                Reference: '#/components/schemas/SmContextCreateError'
            binaryDataN1SmMessage:
                Type: string
                Format: binary

```

```

    Encoding:
      JSON Data:
        Content Type: application/json
      binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## /sm-contexts/{smContextRef}/retrieve

```

Method: Post
Summary: Retrieve SM Context

Tags:
- Individual SM context
Operation ID: RetrieveSmContext

Parameters:
- Name: smContextRef
  In: path
  Description: SM context reference
  Required/Optional: true
  Schema:
    Type: string
Request Body:
Description: parameters used to retrieve the SM context
Required/Optional: false
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/SmContextRetrieveData'

Responses:
'200':
  Description: successful retrieval of an SM context
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SmContextRetrievedData'
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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'

```

## /sm-contexts/{smContextRef}/modify

**Method:** Post

**Summary:** Update SM Context

**Tags:**

- Individual SM context

**Operation ID:** UpdateSmContext

**Parameters:**

- **Name:** smContextRef

**In:** path

**Description:** SM context reference

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** representation of the updates to apply to the SM context

**Required/Optional:** true

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

**Reference:** '#/components/schemas/SmContextUpdateData'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/SmContextUpdateData'

**binaryDataN1SmMessage:**

**Type:** string

**Format:** binary

**binaryDataN2SmInformation:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json



```

binaryDataN1SmMessage:
  Content Type: application/vnd.3gpp.5gnas
  Headers:
    Content ID:
      Schema:
        Type: string
binaryDataN2SmInformation:
  Content Type: application/vnd.3gpp.ngap
  Headers:
    Content ID:
      Schema:
        Type: string

```

**Responses:****'200':****Description:** successful update of an SM context with content in the response**Content:****Application/JSON:** # message without binary body part**Schema:****Reference:** '#/components/schemas/SmContextUpdatedData'**Multipart/Related:** # message with binary body part(s)**Schema:****Type:** object**Properties:** # Request parts**JSON Data:****Reference:** '#/components/schemas/SmContextUpdatedData'**binaryDataN1SmMessage:****Type:** string**Format:** binary**binaryDataN2SmInformation:****Type:** string**Format:** binary**Encoding:****JSON Data:****Content Type:** application/json**binaryDataN1SmMessage:****Content Type:** application/vnd.3gpp.5gnas**Headers:****Content ID:****Schema:****Type:** string**binaryDataN2SmInformation:****Content Type:** application/vnd.3gpp.ngap**Headers:****Content ID:****Schema:****Type:** string**'204':****Description:** successful update of an SM context without content in the response**'400':****Description:** unsuccessful update of an SM context - bad request**Content:**

```

Application/JSON: # message without binary body part
  Schema:
    Reference: '#/components/schemas/SmContextUpdateError'
Multipart/Related: # message with binary body part(s)
  Schema:
    Type: object
    Properties: # Request parts
      JSON Data:
        Reference: '#/components/schemas/SmContextUpdateError'
      binaryDataN1SmMessage:
        Type: string
        Format: binary
      binaryDataN2SmInformation:
        Type: string
        Format: binary
    Encoding:
      JSON Data:
        Content Type: application/json
      binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
        binaryDataN2SmInformation:
          Content Type: application/vnd.3gpp.ngap
      Headers:
        Content ID:
          Schema:
            Type: string
'403':
  Description: unsuccessful update of an SM context - forbidden
  Content:
    Application/JSON: # message without binary body part
      Schema:
        Reference: '#/components/schemas/SmContextUpdateError'
    Multipart/Related: # message with binary body part(s)
      Schema:
        Type: object
        Properties: # Request parts
          JSON Data:
            Reference: '#/components/schemas/SmContextUpdateError'
          binaryDataN1SmMessage:
            Type: string
            Format: binary
          binaryDataN2SmInformation:
            Type: string
            Format: binary
        Encoding:
          JSON Data:
            Content Type: application/json

```

```

    binaryDataN1SmMessage:
      Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
    binaryDataN2SmInformation:
      Content Type: application/vnd.3gpp.ngap
      Headers:
        Content ID:
          Schema:
            Type: string
  '404':
    Description: unsuccessful update of an SM context - not found
    Content:
      Application/JSON: # message without binary body part
      Schema:
        Reference: '#/components/schemas/SmContextUpdateError'
      Multipart/Related: # message with binary body part(s)
      Schema:
        Type: object
        Properties: # Request parts
        JSON Data:
          Reference: '#/components/schemas/SmContextUpdateError'
        binaryDataN1SmMessage:
          Type: string
          Format: binary
        binaryDataN2SmInformation:
          Type: string
          Format: binary
      Encoding:
        JSON Data:
          Content Type: application/json
        binaryDataN1SmMessage:
          Content Type: application/vnd.3gpp.5gnas
          Headers:
            Content ID:
              Schema:
                Type: string
        binaryDataN2SmInformation:
          Content Type: application/vnd.3gpp.ngap
          Headers:
            Content ID:
              Schema:
                Type: string
  '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':
  Description: unsuccessful update of an SM context - Internal server error
  Content:
    Application/JSON: # message without binary body part
    Schema:
      Reference: '#/components/schemas/SmContextUpdateError'
    Multipart/Related: # message with binary body part(s)
    Schema:
      Type: object
      Properties: # Request parts
      JSON Data:
        Reference: '#/components/schemas/SmContextUpdateError'
      binaryDataN1SmMessage:
        Type: string
        Format: binary
      binaryDataN2SmInformation:
        Type: string
        Format: binary
    Encoding:
      JSON Data:
        Content Type: application/json
      binaryDataN1SmMessage:
        Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
      binaryDataN2SmInformation:
        Content Type: application/vnd.3gpp.ngap
      Headers:
        Content ID:
          Schema:
            Type: string
'503':
  Description: unsuccessful update of an SM context - Service Unavailable
  Content:
    Application/JSON: # message without binary body part
    Schema:
      Reference: '#/components/schemas/SmContextUpdateError'
    Multipart/Related: # message with binary body part(s)
    Schema:
      Type: object
      Properties: # Request parts
      JSON Data:
        Reference: '#/components/schemas/SmContextUpdateError'
      binaryDataN1SmMessage:
        Type: string
        Format: binary
      binaryDataN2SmInformation:

```

```

        Type: string
        Format: binary
    Encoding:
        JSON Data:
            Content Type: application/json
        binaryDataN1SmMessage:
            Content Type: application/vnd.3gpp.5gnas
        Headers:
            Content ID:
                Schema:
                    Type: string
        binaryDataN2SmInformation:
            Content Type: application/vnd.3gpp.ngap
        Headers:
            Content ID:
                Schema:
                    Type: string
    Default:
        Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## /sm-contexts/{smContextRef}/release

**Method:** Post

**Summary:** Release SM Context

**Tags:**

- Individual SM context

**Operation ID:** ReleaseSmContext

**Parameters:**

- **Name:** smContextRef

**In:** path

**Description:** SM context reference

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** representation of the data to be sent to the SMF when releasing the SM context

**Required/Optional:** false

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

**Reference:** '#/components/schemas/SmContextReleaseData'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/SmContextReleaseData'

**binaryDataN2SmInformation:**

```

        Type: string
        Format: binary
    Encoding:
    JSON Data:
        Content Type: application/json
    binaryDataN2SmInformation:
        Content Type: application/vnd.3gpp.ngap
    Headers:
        Content ID:
        Schema:
        Type: string

Responses:
  '204':
    Description: successful release of an SM context without content in the response

  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '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'

```

## /pdu-sessions

**Method:** Post

**Summary:** Create

**Tags:**

- PDU sessions collection

**Operation ID:** PostPduSessions

**Request Body:**

**Description:** representation of the PDU session to be created in the H-SMF

**Required/Optional:** true

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

```

Reference: '#/components/schemas/PduSessionCreateData'
Multipart/Related: # message with binary body part(s)
Schema:
  Type: object
  Properties: # Request parts
    JSON Data:
      Reference: '#/components/schemas/PduSessionCreateData'
      binaryDataN1SmInfoFromUe:
        Type: string
        Format: binary
      binaryDataUnknownN1SmInfo:
        Type: string
        Format: binary
    Encoding:
      JSON Data:
        Content Type: application/json
      binaryDataN1SmInfoFromUe:
        Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
        binaryDataUnknownN1SmInfo:
          Content Type: application/vnd.3gpp.5gnas
          Headers:
            Content ID:
              Schema:
                Type: string
Callbacks:
  statusNotification:
    '{$request.body#/vsmfPduSessionUri}':
      Method: Post
      Summary: Notify Status

      Tags:
        - Individual PDU session (V-SMF)
      Operation ID: NotifyStatus
      Request Body:
        Description: representation of the status notification
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/StatusNotification'

Responses:
  '204':
    Description: successful notification of the status change
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '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'
update:
  '{$request.body#/vsmfPduSessionUri}/modify':
    Method: Post
    Summary: Update (initiated by H-SMF)

    Tags:
      - Individual PDU session (V-SMF)
    Operation ID: ModifyPduSession
    Request Body:
      Description: representation of updates to apply to the PDU session
      Required/Optional: true
      Content:
        application/+json: # message without binary body part
          Schema:
            Reference: '#/components/schemas/VsmfUpdateData'
        Multipart/Related: # message with binary body part(s)
          Schema:
            Type: object
            Properties: # Request parts
              JSON Data:
                Reference: '#/components/schemas/VsmfUpdateData'
              binaryDataN1SmInfoToUe:
                Type: string
                Format: binary
            Encoding:
              JSON Data:
                Content Type: application/json
              binaryDataN1SmInfoToUe:
                Content Type: application/vnd.3gpp.5gnas
            Headers:
              Content ID:
                Schema:
                  Type: string

    Responses:
      '200':

```



response

**Description:** successful update of a PDU session with content in the

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

**Reference:** '#/components/schemas/VsmfUpdatedData'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/VsmfUpdatedData'

**binaryDataN1SmInfoFromUe:**

**Type:** string

**Format:** binary

**binaryDataUnknownN1SmInfo:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

**binaryDataN1SmInfoFromUe:**

**Content Type:** application/vnd.3gpp.5gnas

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**binaryDataUnknownN1SmInfo:**

**Content Type:** application/vnd.3gpp.5gnas

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

'204':

**Description:** successful update of a PDU session without content in the

response

'400':

**Reference:** '#/components/responses/VsmfUpdateError'

'403':

**Reference:** '#/components/responses/VsmfUpdateError'

'404':

**Reference:** '#/components/responses/VsmfUpdateError'

'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:** '#/components/responses/VsmfUpdateError'

'503':  
**Reference:** '#/components/responses/VsmfUpdateError'  
 '504':  
**Reference:** '#/components/responses/VsmfUpdateError'  
**Default:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

**Responses:**

'201':  
**Description:** successful creation of a PDU session  
**Content:**  
**Application/JSON:** # message without binary body part  
**Schema:**  
**Reference:** '#/components/schemas/PduSessionCreatedData'  
**Multipart/Related:** # message with binary body part(s)  
**Schema:**  
**Type:** object  
**Properties:** # Request parts  
**JSON Data:**  
**Reference:** '#/components/schemas/PduSessionCreatedData'  
**binaryDataN1SmInfoToUe:**  
**Type:** string  
**Format:** binary  
**Encoding:**  
**JSON Data:**  
**Content Type:** application/json  
**binaryDataN1SmInfoToUe:**  
**Content Type:** application/vnd.3gpp.5gnas  
**Headers:**  
**Content ID:**  
**Schema:**  
**Type:** string  
**Headers:**  
**Location:**  
**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nsmf-pdusession/v1/pdu-sessions/{pduSessionRef}'  
**Required/Optional:** true  
**Schema:**  
**Type:** string  
 '307':  
**Description:** temporary redirect  
 '308':  
**Description:** permanent redirect  
 '400':  
**Reference:** '#/components/responses/PduSessionCreateError'  
 '403':  
**Reference:** '#/components/responses/PduSessionCreateError'  
 '404':  
**Reference:** '#/components/responses/PduSessionCreateError'  
 '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: '#/components/responses/PduSessionCreateError'
'503':
  Reference: '#/components/responses/PduSessionCreateError'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## /pdu-sessions/{pduSessionRef}/modify

**Method:** Post

**Summary:** Update (initiated by V-SMF)

**Tags:**

- Individual PDU session (H-SMF)

**Operation ID:** UpdatePduSession

**Parameters:**

- **Name:** pduSessionRef

**In:** path

**Description:** PDU session reference

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** representation of the updates to apply to the PDU session

**Required/Optional:** true

**Content:**

**Application/JSON:** # message without binary body part

**Schema:**

**Reference:** '#/components/schemas/HsmfUpdateData'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/HsmfUpdateData'

**binaryDataN1SmInfoFromUe:**

**Type:** string

**Format:** binary

**binaryDataUnknownN1SmInfo:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

```

binaryDataN1SmInfoFromUe:
  Content Type: application/vnd.3gpp.5gnas
  Headers:
    Content ID:
      Schema:
        Type: string
binaryDataUnknownN1SmInfo:
  Content Type: application/vnd.3gpp.5gnas
  Headers:
    Content ID:
      Schema:
        Type: string

```

**Responses:**

```

'200':
  Description: successful update of a PDU session with content in the response
  Content:
    Application/JSON: # message without binary body part
    Schema:
      Reference: '#/components/schemas/HsmfUpdatedData'
    Multipart/Related: # message with binary body part(s)
    Schema:
      Type: object
      Properties: # Request parts
      JSON Data:
        Reference: '#/components/schemas/HsmfUpdatedData'
      binaryDataN1SmInfoToUe:
        Type: string
        Format: binary
    Encoding:
      JSON Data:
        Content Type: application/json
      binaryDataN1SmInfoToUe:
        Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:
            Type: string
'204':
  Description: successful update of a PDU session without content in the response
'400':
  Reference: '#/components/responses/HsmfUpdateError'
'403':
  Reference: '#/components/responses/HsmfUpdateError'
'404':
  Reference: '#/components/responses/HsmfUpdateError'
'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: '#/components/responses/HsmfUpdateError'
'503':
  Reference: '#/components/responses/HsmfUpdateError'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## /pdu-sessions/{pduSessionRef}/release

**Method:** Post

**Summary:** Release

**Tags:**

- Individual PDU session (H-SMF)

**Operation ID:** ReleasePduSession

**Parameters:**

```

- Name: pduSessionRef
  In: path
  Description: PDU session reference
  Required/Optional: true
  Schema:
    Type: string

```

**Request Body:**

**Description:** representation of the data to be sent to H-SMF when releasing the PDU session

**Required/Optional:** false

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ReleaseData'

**Responses:**

```

'204':
  Description: successful release of a PDU session
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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:
          nsmf-pdusession: Access to the nsmf-pdusession API

schemas:
# STRUCTURED DATA TYPES
SmContextCreateData:
  Type: object
  Properties:
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    unauthenticatedSupi:
      Type: boolean
      Default: false
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    hplmnSnssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    servingNfId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
    serviceName:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
    servingNetwork:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    requestType:

```

```

    Reference: '#/components/schemas/RequestType'
n1SmMsg:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
anType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
presenceInLadn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceState'
ueLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
addUeLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
smContextStatusUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
hSmfUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
additionalHsmfUri:
    Type: array
    Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    minItems: 1
oldPduSessionId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
pduSessionsActivateList:
    Type: array
    Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    minItems: 1
ueEpsPdnConnection:
    Reference: '#/components/schemas/EpsPdnCnxContainer'
hoState:
    Reference: '#/components/schemas/HoState'
pcfId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
nrfUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
selMode:
    Reference: '#/components/schemas/DnnSelectionMode'
backupAmfInfo:
    Type: array
    Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
    minItems: 1
traceData:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
udmGroupId:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
routingIndicator:
  Type: string
epsInterworkingInd:
  Reference: '#/components/schemas/EpsInterworkingIndication'
indirectForwardingFlag:
  Type: boolean
Required:
- servingNfId
- servingNetwork
- anType
- smContextStatusUri
SmContextCreatedData:
  Type: object
  Properties:
    hSmfUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    upCnxState:
      Reference: '#/components/schemas/UpCnxState'
    n2SmInfo:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    n2SmInfoType:
      Reference: '#/components/schemas/N2SmInfoType'
    allocatedEbiList:
      Type: array
      Items:
        Reference: '#/components/schemas/EbiArpMapping'
      minItems: 1
    hoState:
      Reference: '#/components/schemas/HoState'
    smfServiceInstanceId:
      Type: string
    recoveryTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
SmContextUpdateData:
  Type: object
  Properties:
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    servingNfId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
    servingNetwork:

```



```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  backupAmfInfo:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
    minItems: 1
    nullable: true
  anType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  presenceInLadn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceState'
  ueLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  addUeLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  upCnxState:
    Reference: '#/components/schemas/UpCnxState'
  hoState:
    Reference: '#/components/schemas/HoState'
  toBeSwitched:
    Type: boolean
    Default: false
  failedToBeSwitched:
    Type: boolean
  n1SmMsg:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfoType:
    Reference: '#/components/schemas/N2SmInfoType'
  targetServingNfId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  smContextStatusUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  dataForwarding:
    Type: boolean
    Default: false
  epsBearerSetup:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerContainer'
    minItems: 0
  revokeEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
    minItems: 1

```

```

release:
  Type: boolean
  Default: false
cause:
  Reference: '#/components/schemas/Cause'
ngApCause:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
5gMmCauseValue:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/5GmCause'
sNssai:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
traceData:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
epsInterworkingInd:
  Reference: '#/components/schemas/EpsInterworkingIndication'
anTypeCanBeChanged:
  Type: boolean
  Default: false
SmContextUpdatedData:
Type: object
Properties:
  upCnxState:
    Reference: '#/components/schemas/UpCnxState'
  hoState:
    Reference: '#/components/schemas/HoState'
  releaseEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
    minItems: 1
  allocatedEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EbiArpMapping'
    minItems: 1
  modifiedEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EbiArpMapping'
    minItems: 1
  n1SmMsg:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfoType:
    Reference: '#/components/schemas/N2SmInfoType'
epsBearerSetup:
  Type: array
  Items:
    Reference: '#/components/schemas/EpsBearerContainer'
  minItems: 1

```

```

    dataForwarding:
      Type: boolean
SmContextReleaseData:
  Type: object
  Properties:
    cause:
      Reference: '#/components/schemas/Cause'
    ngApCause:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
    5GmCauseValue:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/5GmCause'
    ueLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    ueTimeZone:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
    addUeLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    vsmfReleaseOnly:
      Type: boolean
      Default: false
SmContextStatusNotification:
  Type: object
  Properties:
    statusInfo :
      Reference: '#/components/schemas/StatusInfo'
  Required:
    - statusInfo
PduSessionCreateData:
  Type: object
  Properties:
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    unauthenticatedSupi:
      Type: boolean
      Default: false
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    vsmfId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    servingNetwork:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    requestType:
      Reference: '#/components/schemas/RequestType'
    epsBearerId:
      Type: array
      Items:

```

```

    Reference: '#/components/schemas/EpsBearerId'
  minItems: 1
  pgwS8cFteid:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  vsmfPduSessionUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  vcnTunnelInfo:
    Reference: '#/components/schemas/TunnelInfo'
  anType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  ueLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  addUeLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  n1SmInfoFromUe:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  unknownN1SmInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  hPcfId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  hoPreparationIndication:
    Type: boolean
  selMode:
    Reference: '#/components/schemas/DnnSelectionMode'
  alwaysOnRequested:
    Type: boolean
    Default: false
  udmGroupId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
  routingIndicator:
    Type: string
  epsInterworkingInd:
    Reference: '#/components/schemas/EpsInterworkingIndication'
  vSmfServiceInstanceId:
    Type: string
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  roamingChargingProfile:
    Reference:
'TS32291_Nchf_ConvergedCharging.yaml#/components/schemas/RoamingChargingProfile'
  chargingId:
    Type: string
  oldPduSessionId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'

```

**Required:**

- dnn
- vsmfId
- servingNetwork
- vsmfPduSessionUri
- vcnTunnelInfo
- anType

**PduSessionCreatedData:****Type:** object**Properties:****pduSessionType:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionType'**sscMode:****Type:** string**Pattern:** '^[0-7]\$'**hcnTunnelInfo:****Reference:** '#/components/schemas/TunnelInfo'**sessionAmbr:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ambr'**qosFlowsSetupList:****Type:** array**Items:****Reference:** '#/components/schemas/QosFlowSetupItem'**minItems:** 1**hSmfInstanceId:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'**pduSessionId:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'**sNssai:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'**enablePauseCharging:****Type:** boolean**Default:** false**ueIpv4Address:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'**ueIpv6Prefix:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'**n1SmInfoToUe:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RefToBinaryData'**epsPdnCnxInfo:****Reference:** '#/components/schemas/EpsPdnCnxInfo'**epsBearerInfo:****Type:** array**Items:****Reference:** '#/components/schemas/EpsBearerInfo'**minItems:** 1**supportedFeatures:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**maxIntegrityProtectedDataRate:****Reference:** '#/components/schemas/MaxIntegrityProtectedDataRate'**alwaysOnGranted:****Type:** boolean**Default:** false

```

upSecurity:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/UpSecurity'
roamingChargingProfile:
  Reference:
'TS32291_Nchf_ConvergedCharging.yaml#/components/schemas/RoamingChargingProfile'
hSmfServiceInstanceId:
  Type: string
recoveryTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:
- pduSessionType
- sscMode
- hcnTunnelInfo
- sessionAmbr
- qosFlowsSetupList
- hSmfInstanceId
HsmfUpdateData:
Type: object
Properties:
  requestIndication:
    Reference: '#/components/schemas/RequestIndication'
  pei:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
  vcnTunnelInfo:
    Reference: '#/components/schemas/TunnelInfo'
  servingNetwork:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  anType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  ueLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  addUeLocation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  pauseCharging:
    Type: boolean
  pti:
    Reference: '#/components/schemas/ProcedureTransactionId'
  n1SmInfoFromUe:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  unknownN1SmInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  qosFlowsRelNotifyList:
    Type: array
    Items:
      Reference: '#/components/schemas/QosFlowItem'
    minItems: 1
  qosFlowsNotifyList:
    Type: array
    Items:

```

```

    Reference: '#/components/schemas/QosFlowNotifyItem'
  minItems: 1
  NotifyList:
    Type: array
    Items:
      Reference: '#/components/schemas/PduSessionNotifyItem'
      minItems: 1
  epsBearerId:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
      minItems: 0
  hoPreparationIndication:
    Type: boolean
  revokeEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
      minItems: 1
  cause:
    Reference: '#/components/schemas/Cause'
  ngApCause:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
  5gMmCauseValue:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/5GMmCause'
  alwaysOnRequested:
    Type: boolean
    Default: false
  epsInterworkingInd:
    Reference: '#/components/schemas/EpsInterworkingIndication'
  secondaryRatUsageReport:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SecondaryRatUsageReport'

  minItems: 1
  Required:
  - requestIndication
  HsmfUpdatedData:
    Type: object
    Properties:
      n1SmInfoToUe:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  ReleaseData:
    Type: object
    Properties:
      cause:
        Reference: '#/components/schemas/Cause'
      ngApCause:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
      5gMmCauseValue:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/5GMmCause'

```

```

ueLocation:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
ueTimeZone:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
addUeLocation:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
secondaryRatUsageReport:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SecondaryRatUsageReport'

  minItems: 1
ReleasedData:
  Type: object
VsmfUpdateData:
  Type: object
Properties:
  requestIndication:
    Reference: '#/components/schemas/RequestIndication'
  sessionAmbr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
  qosFlowsAddModRequestList:
    Type: array
    Items:
      Reference: '#/components/schemas/QosFlowAddModifyRequestItem'
    minItems: 1
  qosFlowsRelRequestList:
    Type: array
    Items:
      Reference: '#/components/schemas/QosFlowReleaseRequestItem'
    minItems: 1
  epsBearerInfo:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerInfo'
    minItems: 1
  assignEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
    minItems: 1
  revokeEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
    minItems: 1
  modifiedEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EbiArpMapping'
    minItems: 1
pti:

```



```

    Reference: '#/components/schemas/ProcedureTransactionId'
  n1SmInfoToUe:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  alwaysOnGranted:
    Type: boolean
    Default: false
  cause:
    Reference: '#/components/schemas/Cause'
  n1smCause:
    Type: string
  backOffTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  Required:
    - requestIndication
  VsmfUpdatedData:
    Type: object
  Properties:
    qosFlowsAddModList:
      Type: array
      Items:
        Reference: '#/components/schemas/QosFlowItem'
      minItems: 1
    qosFlowsRelList:
      Type: array
      Items:
        Reference: '#/components/schemas/QosFlowItem'
      minItems: 1
    qosFlowsFailedtoAddModList:
      Type: array
      Items:
        Reference: '#/components/schemas/QosFlowItem'
      minItems: 1
    qosFlowsFailedtoRelList:
      Type: array
      Items:
        Reference: '#/components/schemas/QosFlowItem'
      minItems: 1
    n1SmInfoFromUe:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    unknownN1SmInfo:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    ueLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    ueTimeZone:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
    addUeLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    assignedEbiList:
      Type: array
      Items:
        Reference: '#/components/schemas/EbiArpMapping'
      minItems: 1

```

```

failedToAssignEbiList:
  Type: array
  Items:
    Reference: '#/components/schemas/EpsBearerId'
  minItems: 1
releasedEbiList:
  Type: array
  Items:
    Reference: '#/components/schemas/EpsBearerId'
  minItems: 1
secondaryRatUsageReport:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SecondaryRatUsageReport'
  minItems: 1
StatusNotification:
  Type: object
  Properties:
    statusInfo :
      Reference: '#/components/schemas/StatusInfo'
  Required:
    - statusInfo
QosFlowItem:
  Type: object
  Properties:
    qfi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'
    cause:
      Reference: '#/components/schemas/Cause'
  Required:
    - qfi
QosFlowSetupItem:
  Type: object
  Properties:
    qfi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'
    qosRules:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    ebi:
      Reference: '#/components/schemas/EpsBearerId'
    qosFlowDescription:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    qosFlowProfile:
      Reference: '#/components/schemas/QosFlowProfile'
  Required:
    - qfi
    - qosRules
QosFlowAddModifyRequestItem:
  Type: object
  Properties:
    qfi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'

```

```

    ebi:
      Reference: '#/components/schemas/EpsBearerId'
    qosRules:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    qosFlowDescription:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    qosFlowProfile:
      Reference: '#/components/schemas/QosFlowProfile'
  Required:
  - qfi
QosFlowReleaseRequestItem:
  Type: object
  Properties:
    qfi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'
    qosRules:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    qosFlowDescription:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  Required:
  - qfi
QosFlowProfile:
  Type: object
  Properties:
    5qi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/5Qi'
    nonDynamic5Qi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NonDynamic5Qi'
    dynamic5Qi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dynamic5Qi'
    arp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
    gbrQosFlowInfo:
      Reference: '#/components/schemas/GbrQosFlowInformation'
    rqa:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ReflectiveQoSAttribute'
    additionalQosFlowInfo:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AdditionalQosFlowInfo'
  Required:
  - 5qi
GbrQosFlowInformation:
  Type: object
  Properties:
    maxFbrDl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    maxFbrUl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    guaFbrDl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    guaFbrUl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    notifControl:

```

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NotificationControl'  
**maxPacketLossRateDl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PacketLossRate'  
**maxPacketLossRateUl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PacketLossRate'  
**Required:**

- maxFbrDl
- maxFbrUl
- guaFbrDl
- guaFbrUl

**QosFlowNotifyItem:**

**Type:** object

**Properties:**

**qfi:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Qfi'

**notificationCause:**

**Reference:** '#/components/schemas/NotificationCause'

**Required:**

- qfi
- notificationCause

**SmContextRetrieveData:**

**Type:** object

**Properties:**

**targetMmeCap:**

**Reference:** '#/components/schemas/MmeCapabilities'

**SmContextRetrievedData:**

**Type:** object

**Properties:**

**ueEpsPdnConnection:**

**Reference:** '#/components/schemas/EpsPdnCnxContainer'

**Required:**

- ueEpsPdnConnection

**MmeCapabilities:**

**Type:** object

**Properties:**

**nonIpSupported:**

**Type:** boolean

**Default:** false

**TunnelInfo:**

**Type:** object

**Properties:**

**ipv4Addr:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**ipv6Addr:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

**gtpTeid:**

**Reference:** '#/components/schemas/Teid'

**Required:**

- gtpTeid

**StatusInfo:**

**Type:** object

**Properties:**

**resourceStatus:**

```

      Reference: '#/components/schemas/ResourceStatus'
    cause:
      Reference: '#/components/schemas/Cause'
    Required:
      - resourceStatus
  EpsPdnCnxInfo:
    Type: object
    Properties:
      pgwS8cFteid:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
      pgwNodeName:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    Required:
      - pgwS8cFteid
  EpsBearerInfo:
    Type: object
    Properties:
      ebi:
        Reference: '#/components/schemas/EpsBearerId'
      pgwS8uFteid:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
      bearerLevelQoS:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    Required:
      - ebi
      - pgwS8uFteid
      - bearerLevelQoS
  PduSessionNotifyItem:
    Type: object
    Properties:
      notificationCause:
        Reference: '#/components/schemas/NotificationCause'
    Required:
      - notificationCause
  EbiArpMapping:
    Type: object
    Properties:
      epsBearerId:
        Reference: '#/components/schemas/EpsBearerId'
      arp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
    Required:
      - epsBearerId
      - arp
  SmContextCreateError:
    Type: object
    Properties:
      error:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
      n1SmMsg:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
      recoveryTime:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

```

```

Required:
  - error
SmContextUpdateError:
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  n1SmMsg:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  n2SmInfoType:
    Reference: '#/components/schemas/N2SmInfoType'
  upCnxState:
    Reference: '#/components/schemas/UpCnxState'
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:
  - error
PduSessionCreateError:
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  n1smCause:
    Type: string
    Pattern: '^[A-F0-9]{2}$'
  n1SmInfoToUe:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  backOffTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:
  - error
HsmfUpdateError:
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  pti:
    Reference: '#/components/schemas/ProcedureTransactionId'
  n1smCause:
    Type: string
    Pattern: '^[A-F0-9]{2}$'
  n1SmInfoToUe:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  backOffTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:

```

```

- error
VsmfUpdateError:
  Type: object
  Properties:
    error:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    pti:
      Reference: '#/components/schemas/ProcedureTransactionId'
    n1smCause:
      Type: string
      Pattern: '^[A-F0-9]{2}$'
    n1smInfoFromUe:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    unknownN1smInfo:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    failedToAssignEbiList:
      Type: array
      Items:
        Reference: '#/components/schemas/EpsBearerId'
      minItems: 1
    ngApCause:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
    5gMmCauseValue:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/5GMmCause'
    recoveryTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  Required:
    - error
# SIMPLE DATA TYPES
ProcedureTransactionId:
  Type: integer
  Minimum: 0
  Maximum: 255
EpsBearerId:
  Type: integer
  Minimum: 0
  Maximum: 15
EpsPdnCnxContainer:
  Type: string
EpsBearerContainer:
  Type: string
Teid:
  Type: string
  Pattern: '^[A-F0-9]{8}$'
# ENUMERATIONS
UpCnxState:
  anyOf:
    - type: string
      enum:
        - ACTIVATED
        - DEACTIVATED
        - ACTIVATING
    - 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

- ACTIVATED
- DEACTIVATED
- ACTIVATING

**HoState:****anyOf:**

- type: string

**enum:**

- NONE
- PREPARING
- PREPARED
- COMPLETED
- CANCELLED

- 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

- NONE
- PREPARING
- PREPARED
- COMPLETED
- CANCELLED

**RequestType:****anyOf:**

- type: string

**enum:**

- INITIAL\_REQUEST
- EXISTING\_PDU\_SESSION
- INITIAL\_EMERGENCY\_REQUEST
- EXISTING\_EMERGENCY\_PDU\_SESSION

- 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

- INITIAL\_REQUEST
- EXISTING\_PDU\_SESSION
- INITIAL\_EMERGENCY\_REQUEST
- EXISTING\_EMERGENCY\_PDU\_SESSION

**RequestIndication:****anyOf:**

- type: string

**enum:**

- UE\_REQ\_PDU\_SES\_MOD
- UE\_REQ\_PDU\_SES\_REL
- PDU\_SES\_MOB
- NW\_REQ\_PDU\_SES\_AUTH
- NW\_REQ\_PDU\_SES\_MOD
- NW\_REQ\_PDU\_SES\_REL
- EBI\_ASSIGNMENT\_REQ

- 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

- UE\_REQ\_PDU\_SES\_MOD
- UE\_REQ\_PDU\_SES\_REL
- PDU\_SES\_MOB
- NW\_REQ\_PDU\_SES\_AUTH
- NW\_REQ\_PDU\_SES\_MOD
- NW\_REQ\_PDU\_SES\_REL
- EBI\_ASSIGNMENT\_REQ

**NotificationCause:****anyOf:**

- type: string
  - enum:**
    - QOS\_FULFILLED
    - QOS\_NOT\_FULFILLED
    - UP\_SEC\_FULFILLED
    - UP\_SEC\_NOT\_FULFILLED

- 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

- QOS\_FULFILLED
- QOS\_NOT\_FULFILLED
- UP\_SEC\_FULFILLED
- UP\_SEC\_NOT\_FULFILLED

**Cause:****anyOf:**

- type: string
  - enum:**
    - REL\_DUE\_TO\_HO
    - EPS\_FALLBACK
    - REL\_DUE\_TO\_UP\_SEC
    - DNN\_CONGESTION
    - S-NSSAI\_CONGESTION
    - REL\_DUE\_TO\_REACTIVATION
    - 5G\_AN\_NOT\_RESPONDING
    - REL\_DUE\_TO\_SLICE\_NOT\_AVAILABLE
    - REL\_DUE\_TO\_DUPLICATE\_SESSION\_ID
    - PDU\_SESSION\_STATUS\_MISMATCH
    - HO\_FAILURE

- 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

- REL\_DUE\_TO\_HO
- EPS\_FALLBACK
- REL\_DUE\_TO\_UP\_SEC
- DNN\_CONGESTION
- S-NSSAI\_CONGESTION
- REL\_DUE\_TO\_REACTIVATION
- 5G\_AN\_NOT\_RESPONDING

- REL\_DUE\_TO\_SLICE\_NOT\_AVAILABLE
- REL\_DUE\_TO\_DUPLICATE\_SESSION\_ID
- PDU\_SESSION\_STATUS\_MISMATCH
- HO\_FAILURE

**ResourceStatus:****anyOf:**

- type: string

**enum:**

- RELEASED

- 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

- RELEASED

**DnnSelectionMode:****anyOf:**

- type: string

**enum:**

- VERIFIED
- UE\_DNN\_NOT\_VERIFIED
- NW\_DNN\_NOT\_VERIFIED

- 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

- VERIFIED
- UE\_DNN\_NOT\_VERIFIED
- NW\_DNN\_NOT\_VERIFIED

**EpsInterworkingIndication:****anyOf:**

- type: string

**enum:**

- NONE
- WITH\_N26
- WITHOUT\_N26

- 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

- NONE
- WITH\_N26
- WITHOUT\_N26

**N2SmInfoType:****anyOf:**

- type: string

**enum:**

- PDU\_RES\_SETUP\_REQ
- PDU\_RES\_SETUP\_RSP
- PDU\_RES\_SETUP\_FAIL
- PDU\_RES\_REL\_CMD
- PDU\_RES\_REL\_RSP

```

- PDU_RES_MOD_REQ
- PDU_RES_MOD_RSP
- PDU_RES_MOD_FAIL
- PDU_RES_NTY
- PDU_RES_NTY_REL
- PDU_RES_MOD_IND
- PDU_RES_MOD_CFM
- PATH_SWITCH_REQ
- PATH_SWITCH_SETUP_FAIL
- PATH_SWITCH_REQ_ACK
- PATH_SWITCH_REQ_FAIL
- HANDOVER_REQUIRED
- HANDOVER_CMD
- HANDOVER_PREP_FAIL
- HANDOVER_REQ_ACK
- HANDOVER_RES_ALLOC_FAIL
- 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
- PDU_RES_SETUP_REQ
- PDU_RES_SETUP_RSP
- PDU_RES_SETUP_FAIL
- PDU_RES_REL_CMD
- PDU_RES_REL_RSP
- PDU_RES_MOD_REQ
- PDU_RES_MOD_RSP
- PDU_RES_MOD_FAIL
- PDU_RES_NTY
- PDU_RES_NTY_REL
- PDU_RES_MOD_IND
- PDU_RES_MOD_CFM
- PATH_SWITCH_REQ
- PATH_SWITCH_SETUP_FAIL
- PATH_SWITCH_REQ_ACK
- PATH_SWITCH_REQ_FAIL
- HANDOVER_REQUIRED
- HANDOVER_CMD
- HANDOVER_PREP_FAIL
- HANDOVER_REQ_ACK
- HANDOVER_RES_ALLOC_FAIL

```

#### **MaxIntegrityProtectedDataRate:**

```

anyOf:
- type: string
enum:
- 64_KBPS
- MAX_UE_RATE
- 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
- 64_KBPS
- MAX_UE_RATE

```

# HTTP responses

```

responses:
  'PduSessionCreateError':

```

**Description:** unsuccessful creation of a PDU session

**content:**

- application/json:** # message without binary body part
  - schema:**
    - Reference:** '#/components/schemas/PduSessionCreateError'
- multipart/related:** # message with binary body part(s)
  - schema:**
    - Type:** object
    - Properties:** # Request parts
    - jsonData:**
      - Reference:** '#/components/schemas/PduSessionCreateError'
    - binaryDataN1SmInfoToUe:**
      - Type:** string
      - format:** binary

**encoding:**

- jsonData:**
  - contentType:** application/json
- binaryDataN1SmInfoToUe:**
  - contentType:** application/vnd.3gpp.5gnas
- headers:**
  - Content-Id:**
    - schema:**
      - Type:** string

**'HsmfUpdateError':**

**Description:** unsuccessful update of a PDU session

**content:**

- application/json:** # message without binary body part
  - schema:**
    - Reference:** '#/components/schemas/HsmfUpdateError'
- multipart/related:** # message with binary body part(s)
  - schema:**
    - Type:** object
    - Properties:** # Request parts
    - jsonData:**
      - Reference:** '#/components/schemas/HsmfUpdateError'
    - binaryDataN1SmInfoToUe:**
      - Type:** string
      - format:** binary

**encoding:**

- jsonData:**
  - contentType:** application/json
- binaryDataN1SmInfoToUe:**
  - contentType:** application/vnd.3gpp.5gnas
- headers:**
  - Content-Id:**
    - schema:**
      - Type:** string

**'VsmfUpdateError':**

**Description:** unsuccessful update of a PDU session

**content:**

- application/json:** # message without binary body part

```
schema:
  Reference: '#/components/schemas/VsmfUpdateError'
multipart/related: # message with binary body part(s)
schema:
  Type: object
  Properties: # Request parts
  jsonData:
    Reference: '#/components/schemas/VsmfUpdateError'
  binaryDataN1SmInfoFromUe:
    Type: string
    format: binary
  binaryDataUnknownN1SmInfo:
    Type: string
    format: binary
encoding:
  jsonData:
    contentType: application/json
  binaryDataN1SmInfoFromUe:
    contentType: application/vnd.3gpp.5gnas
  headers:
    Content-Id:
      schema:
        Type: string
  binaryDataUnknownN1SmInfo:
    contentType: application/vnd.3gpp.5gnas
  headers:
    Content-Id:
      schema:
        Type: string
```





# CHAPTER 26

## Nudm EE

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### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Version:** '1.0.0'  
**Title:** 'Nudm\_EE'  
**Description:** 'Nudm Event Exposure Service'

### Servers

**URL:** '{apiRoot}/nudm-ee/v1'  
**Variables:**  
  **API Root:**  
    **Default:** https://example.com  
    **Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

### Security

- oAuth2ClientCredentials:

```
- nudm-ee
- {}
```

## Paths

### `/ueIdentity/ee-subscriptions`

**Method:** Post

**Summary:** Subscribe

**Operation ID:** CreateEeSubscription

**Tags:**

- Create EE Subscription

**Parameters:**

- **Name:** ueIdentity

**In:** path

**Description:** Represents the scope of the UE for which the subscription is applied. Contains the GPSI of the user or the external group ID or any UE.

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

```
'^(msisdn-[0-9]{5,15}|.+|extid-[^@]+@[^@]+|extgroupid-[^@]+@[^@]+|anyUE)$'
```

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EeSubscription'

**Required/Optional:** true

**Responses:**

**'201':**

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/CreatedEeSubscription'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

```
{apiRoot}/nudm-ee/v1/{ueIdentity}/ee-subscriptions/{subscriptionId}'
```

**Required/Optional:** true

**Schema:**

**Type:** string

**'400':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'403':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'



```

'404':
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
  Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error
Callbacks:
  eventOccurrenceNotification:
    '{request.body#/callbackReference}':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Type: array
              Items:
                Reference: '#/components/schemas/MonitoringReport'
            Min Items: 1

      Responses:
        '204':
          Description: Successful Notification response
        '400':
          Reference: 'TS29571_CommonData.yaml#/components/responses/400'
        '404':
          Reference: 'TS29571_CommonData.yaml#/components/responses/404'
        '500':
          Reference: 'TS29571_CommonData.yaml#/components/responses/500'
        '503':
          Reference: 'TS29571_CommonData.yaml#/components/responses/503'
      Default:
        Description: Unexpected error

```

## /{ueIdentity}/ee-subscriptions/{subscriptionId}

### delete:

**Summary:** Unsubscribe

**Operation ID:** DeleteEeSubscription

### Tags:

- Delete EE Subscription

### Parameters:

- **Name:** ueIdentity

**In:** path

**Description:** Represents the scope of the UE for which the subscription is applied.

Contains the GPSI of the user or the external group ID or any UE.

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

'^(msisdn-[0-9]{5,15}|.+|extid-[^@]+@[^@]+|extgroupid-[^@]+@[^@]+|anyUE)\$'

- **Name:** subscriptionId

**In:** path

**Description:** Id of the EE Subscription

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'204':

**Description:** Successful response

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## Components

**securitySchemes:**

**oAuth2ClientCredentials:**

**Type:** oauth2

**Flows:**

**clientCredentials:**

**tokenUrl:** '{nrfApiRoot}/oauth2/token'

**scopes:**

**nudm-ee:** Access to the nudm-ee API

**schemas:**

# COMPLEX TYPES:

**CreatedEeSubscription:**

**Type:** object

**Required:**

- eeSubscription

**Properties:**

**eeSubscription:**

**Reference:** '#/components/schemas/EeSubscription'

**numberOfUes:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/UInteger'

**eventReports:**

```

        Type: array
        Items:
            Reference: '#/components/schemas/MonitoringReport'
        minItems: 1
EeSubscription:
    Type: object
    Required:
        - callbackReference
        - monitoringConfigurations
    Properties:
        callbackReference:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        monitoringConfigurations:
            Description: A map (list of key-value pairs where ReferenceId serves as key) of
MonitoringConfigurations
            Type: object
            additionalProperties:
                Reference: '#/components/schemas/MonitoringConfiguration'
            minProperties: 1
            reportingOptions:
                Reference: '#/components/schemas/ReportingOptions'
            supportedFeatures:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
MonitoringConfiguration:
    Type: object
    Required:
        - eventType
    Properties:
        eventType:
            Reference: '#/components/schemas/EventType'
        immediateFlag:
            Type: boolean
        locationReportingConfiguration:
            Reference: '#/components/schemas/LocationReportingConfiguration'
LocationReportingConfiguration:
    Type: object
    Required:
        - currentLocation
    Properties:
        currentLocation:
            Type: boolean
        oneTime:
            Type: boolean
        accuracy:
            Reference: '#/components/schemas/LocationAccuracy'
ReportingOptions:
    Type: object
    Properties:
        maxNumOfReports:
            Reference: '#/components/schemas/MaxNumOfReports'
        expiry:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

```

```

MonitoringReport:
  Type: object
  Required:
    - referencId
    - eventType
    - timeStamp
  Properties:
    referenceId:
      Reference: '#/components/schemas/ReferenceId'
    eventType:
      Reference: '#/components/schemas/EventType'
    report:
      Reference: '#/components/schemas/Report'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    timeStamp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Report:
  oneOf:
    - $ref: '#/components/schemas/ChangeOfSupiPeiAssociationReport'
    - $ref: '#/components/schemas/RoamingStatusReport'
ChangeOfSupiPeiAssociationReport:
  Type: object
  Required:
    - newPei
  Properties:
    newPei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
RoamingStatusReport:
  Type: object
  Required:
    - roaming
    - newServingPlmn
  Properties:
    roaming:
      Type:
        boolean
    newServingPlmn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
# SIMPLE TYPES:
ReferenceId:
  Type: integer
MaxNumOfReports:
  Type: integer
# ENUMS:
EventType:
  anyOf:
    - type: string
      enum:
        - LOSS_OF_CONNECTIVITY
        - UE_REACHABILITY_FOR_DATA
        - UE_REACHABILITY_FOR_SMS
        - LOCATION_REPORTING
        - CHANGE_OF_SUPI_PEI_ASSOCIATION
        - ROAMING_STATUS

```

```
- COMMUNICATION_FAILURE
- AVAILABILITY_AFTER_DNN_FAILURE
- type: string
LocationAccuracy:
  anyOf:
    - type: string
      enum:
        - CELL_LEVEL
        - TA_LEVEL
    - type: string
```

## External Docs

**Description:** 3GPP TS 29.503 Unified Data Management Services, version 15.2.1

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.503/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/)'





## CHAPTER 27

# Nudm PP

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

```
Version: '1.0.0'  
Title: 'Nudm_PP'  
Description: 'Nudm Parameter Provision Service'
```

## Servers

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

## Security

- oAuth2ClientCredentials:

```
- nudm-pp
- {}
```

## Paths

### /gpsi/pp-data

```
patch:
  Summary: provision parameters
  Operation ID: Update

  Tags:
    - Subscription Data Update

  Parameters:
    - Name: gpsi
      In: path
      Description: Identifier of the UE
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'

  Request Body:
    Content:
      application/merge-patch+json:
        Schema:
          Reference: '#/components/schemas/PpData'
        Required/Optional: true

  Responses:
    '204':
      Description: Expected response to a valid request
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'

  Default:
    Description: Unexpected error
```

## Components

```
securitySchemes:
```



```

oAuth2ClientCredentials:
  Type: oauth2
  Flows:
    clientCredentials:
      tokenUrl: '{nrfApiRoot}/oauth2/token'
      scopes:
        nudm-pp: Access to the nudm-pp API

schemas:
# COMPLEX TYPES:
PpData:
  Type: object
  Properties:
    communicationCharacteristics:
      Reference: '#/components/schemas/CommunicationCharacteristics'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
CommunicationCharacteristics:
  Type: object
  Properties:
    ppSubsRegTimer:
      Reference: '#/components/schemas/PpSubsRegTimer'
    ppActiveTime:
      Reference: '#/components/schemas/PpActiveTime'
    ppDlPacketCount:
      Reference: '#/components/schemas/PpDlPacketCount'
PpSubsRegTimer:
  Type: object
  Required:
    - subsRegTimer
    - afInstanceId
    - referenceId
  Properties:
    subsRegTimer:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
    afInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    referenceId:
      Reference: '#/components/schemas/ReferenceId'
  nullable: true
PpActiveTime:
  Type: object
  Required:
    - activeTime
    - afInstanceId
    - referenceId
  Properties:
    activeTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
    afInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    referenceId:
      Reference: '#/components/schemas/ReferenceId'

```

```
    nullable: true
# SIMPLE TYPES:
ReferenceId:
  Type: integer
PpDlPacketCount:
  Type: integer
  nullable: true
# ENUMS:
```

## External Docs

**Description:** 3GPP TS 29.503 Unified Data Management Services, version 15.2.1  
**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.503/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/)'



## CHAPTER 28

# Nudm SDM

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'Nudm\_SDM'  
**Description:** 'Nudm Subscriber Data Management Service'

## Servers

**URL:** '{apiRoot}/nudm-sdm/v1'  
**Variables:**  
  **API Root:**  
    **Default:** https://example.com  
    **Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

## Security

- oAuth2ClientCredentials:

```
- nudm-sdm
- {}
```

## Paths

### {supi}

#### get:

**Summary:** retrieve multiple data sets

**Operation ID:** Get

#### Tags:

- Retrieval of multiple data sets

#### Parameters:

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** dataset-names  
**In:** query  
**Style:** form  
**Explode:** false  
**Description:** List of dataset names  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/DatasetNames'
- **Name:** plmn-id  
**In:** query  
**Description:** serving PLMN ID  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3

```

    Schema:
      Type: string

Responses:
  '200':
    Description: Expected response to a valid request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SubscriptionDataSets'
    Headers:
      Cache-Control:
        Description: Cache-Control containing max-age, as described in RFC 7234, 5.2

        Schema:
          Type: string
      ETag:
        Description: Entity Tag, containing a strong validator, as described in RFC
7232, 2.3
        Schema:
          Type: string
      Last-Modified:
        Description: Timestamp for last modification of the resource, as described
in RFC 7232, 2.2
        Schema:
          Type: string
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error

```

## /{supi}/nssai

```

get:
  Summary: retrieve a UE's subscribed NSSAI
  Operation ID: Get

Tags:
  - Slice Selection Subscription Data Retrieval

Parameters:
  - Name: supi
    In: path
    Description: Identifier of the UE
    Required/Optional: true

```

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** plmn-id  
**In:** query  
**Description:** serving PLMN ID  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:**

**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/Nssai'

**Headers:**

**Cache-Control:**  
**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2  
**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3  
**Schema:**  
**Type:** string

**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2  
**Schema:**  
**Type:** string

**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /{supi}/am-data

### get:

**Summary:** retrieve a UE's Access and Mobility Subscription Data

**Operation ID:** Get

### Tags:

- Access and Mobility Subscription Data Retrieval

### Parameters:

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** plmn-id  
**In:** query  
**Description:** serving PLMN ID  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**

**Schema:**  
**Reference:** '#/components/schemas/AccessAndMobilitySubscriptionData'

**Headers:**  
**Cache-Control:**  
**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**  
**Type:** string

**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**  
**Type:** string

**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

## /{supi}/smf-select-data

### get:

**Summary:** retrieve a UE's SMF Selection Subscription Data

**Operation ID:** Get

### Tags:

- SMF Selection Subscription Data Retrieval

### Parameters:

- **Name:** supi

**In:** path

**Description:** Identifier of the UE

**Required/Optional:** true

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- **Name:** supported-features

**In:** query

**Description:** Supported Features

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** plmn-id



**In:** query  
**Description:** serving PLMN ID  
**Content:**  
   **Application/JSON:**  
     **Schema:**  
       **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'  
 - **Name:** If-None-Match  
   **In:** header  
   **Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
   **Schema:**  
     **Type:** string  
 - **Name:** If-Modified-Since  
   **In:** header  
   **Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
   **Schema:**  
     **Type:** string

**Responses:**  
 '200':  
   **Description:** Expected response to a valid request  
   **Content:**  
     **Application/JSON:**  
       **Schema:**  
         **Reference:** '#/components/schemas/SmfSelectionSubscriptionData'  
   **Headers:**  
     **Cache-Control:**  
       **Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2  
       **Schema:**  
         **Type:** string  
     **ETag:**  
       **Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3  
       **Schema:**  
         **Type:** string  
     **Last-Modified:**  
       **Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2  
       **Schema:**  
         **Type:** string  
 '400':  
   **Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
 '404':  
   **Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
 '500':  
   **Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
 '503':  
   **Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
   **Description:** Unexpected error

## /{supi}/ue-context-in-smf-data

### get:

**Summary:** retrieve a UE's UE Context In SMF Data

**Operation ID:** Get

### Tags:

- UE Context In SMF Data Retrieval

### Parameters:

- **Name:** supi

**In:** path

**Description:** Identifier of the UE

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- **Name:** supported-features

**In:** query

**Description:** Supported Features

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/UeContextInSmfData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## /{supi}/ue-context-in-smf-data

### get:

**Summary:** retrieve a UE's UE Context In SMSF Data

**Operation ID:** Get

### Tags:

- UE Context In SMSF Data Retrieval

### Parameters:

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

- '200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/UeContextInSmsfData'
- '400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'
- '404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'
- '500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'
- '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'
- Default:**  
**Description:** Unexpected error

## /{supi}/trace-data

**get:**

**Summary:** retrieve a UE's Trace Configuration Data  
**Operation ID:** Get

**Tags:**

- Trace Configuration Data Retrieval

**Parameters:**

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** plmn-id  
**In:** query  
**Description:** serving PLMN ID  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/TraceDataResponse'**Headers:****Cache-Control:****Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2**Schema:****Type:** string**ETag:****Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3**Schema:****Type:** string**Last-Modified:****Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2**Schema:****Type:** string**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'404':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Description:** Unexpected error

## /{supi}/sm-data

### get:

**Summary:** retrieve a UE's Session Management Subscription Data

**Operation ID:** Get

### Tags:

- Session Management Subscription Data Retrieval

### Parameters:

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** single-nssai  
**In:** query  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- **Name:** dnn  
**In:** query  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'
- **Name:** plmn-id  
**In:** query  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/SessionManagementSubscriptionData'

**Min Items:** 1

**Headers:**

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**

**Type:** string

**ETag:**

**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**

**Type:** string

**Last-Modified:**

**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**

**Type:** string

**'400':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'404':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

**'500':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

**'503':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## /{supi}/sms-data

### get:

**Summary:** retrieve a UE's SMS Subscription Data

**Operation ID:** Get

### Tags:

- SMS Subscription Data Retrieval

### Parameters:

- **Name:** supi

**In:** path

**Description:** Identifier of the UE

**Required/Optional:** true

### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- **Name:** supported-features

**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** plmn-id  
**In:** query  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string

- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:**

'200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmsSubscriptionData'

**Headers:**

**Cache-Control:**  
**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**  
**Type:** string

**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**  
**Type:** string

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:****Description:** Unexpected error

## /{supi}/sms-mng-data

**get:****Summary:** retrieve a UE's SMS Management Subscription Data**Operation ID:** Get**Tags:**

- SMS Management Subscription Data Retrieval

**Parameters:**

- **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** plmn-id  
**In:** query  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SmsManagementSubscriptionData'**Headers:****Cache-Control:****Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2



**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**  
**Type:** string

**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**  
**Type:** string

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

## /{supi}/sdm-subscriptions

**Method:** Post

**Summary:** subscribe to notifications

**Operation ID:** Subscribe

**Tags:**

- Subscription Creation

**Parameters:**

- **Name:** supi

**In:** path

**Description:** SUPI of the user

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SdmSubscription'

**Required/Optional:** true

**Responses:**

'201':

**Description:** Expected response to a valid request

**Content:**

```

Application/JSON:
  Schema:
    Reference: '#/components/schemas/SdmSubscription'
Headers:
  Location:
    description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/nudm-sdm/v1/{supi}/sdm-subscriptions/{subscriptionId}'
    Required/Optional: true
    Schema:
      Type: string
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '501':
    Reference: 'TS29571_CommonData.yaml#/components/responses/501'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error
Callbacks:
  datachangeNotification:
    '{request.body#/callbackReference}':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/ModificationNotification'

Responses:
  '204':
    Description: Successful Notification response
  '307':
    Description: Temporary Redirect
    Content:
      application/problem+json:
        Schema:
          Reference:
'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '308':
    Description: Permanent Redirect
    Content:
      application/problem+json:
        Schema:
          Reference:
'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '400':

```

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /{supi}/sdm-subscriptions/{subscriptionId}

### delete:

**Summary:** unsubscribe from notifications  
**Operation ID:** Unsubscribe

### Tags:

- Subscription Deletion

### Parameters:

- **Name:** supi  
**In:** path  
**Description:** SUPI of the user  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'  
- **Name:** subscriptionId  
**In:** path  
**Description:** Id of the SDM Subscription  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

**'204':**  
**Description:** Successful response  
**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /{gpsi}/id-translation-result

### get:

**Summary:** retrieve a UE's SUPI

**Operation ID:** Get

**Tags:**

- GPSI to SUPI Translation

**Parameters:**

- **Name:** gpsi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/IdTranslationResult'

**Headers:**

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**

**Type:** string

**ETag:**

**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**

**Type:** string

**Last-Modified:**

**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
 '500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /{supi}/am-data/sor-ack

**put:**  
**Summary:** Nudm\_Sdm Info service operation  
**Operation ID:** Info

**Tags:**  
 - Providing acknowledgement of Steering of Roaming

**Parameters:**  
 - **Name:** supi  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AcknowledgeInfo'

**Responses:**  
 '204':  
**Description:** Successful acknowledgement  
 '400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
 '500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /shared-data

**get:**  
**Summary:** retrieve shared data  
**Operation ID:** GetSharedData

**Tags:**

- Retrieval of shared data

**Parameters:**

- **Name:** shared-data-ids  
**In:** query  
**Description:** List of shared data ids  
**Required/Optional:** true  
**Style:** form  
**Explode:** false  
**Schema:**  
**Reference:** '#/components/schemas/SharedDataIds'
- **Name:** supportedFeatures  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/SharedData'

**Min Items:** 1

**Headers:**

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**

**Type:** string

**ETag:**

**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**

**Type:** string

**Last-Modified:**

**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**

**Type:** string

```

'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'404':
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error

```

## /shared-data-subscriptions

**Method:** Post

**Summary:** subscribe to notifications for shared data

**Operation ID:** Subscribe to shared data

**Tags:**

- Subscription Creation for shared data

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SdmSubscription'

**Required/Optional:** true

**Responses:**

'201':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SdmSubscription'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nudm-sdm/v1/shared-data-subscriptions/{subscriptionId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

**Default:**

**Description:** Unexpected error

**Callbacks:**

**datachangeNotification:**

'{request.body#/callbackReference}':

**Method:** Post

**Request Body:****Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/ModificationNotification'**Responses:****'204':****Description:** Successful Notification response**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'404':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Description:** Unexpected error

## /shared-data-subscriptions/{subscriptionId}

**delete:****Summary:** unsubscribe from notifications for shared data**Operation ID:** Unsubscribe for shared data**Tags:**

- Subscription Deletion for shared data

**Parameters:**- **Name:** subscriptionId**In:** path**Description:** Id of the Shared data Subscription**Required/Optional:** true**Schema:****Type:** string**Responses:****'204':****Description:** Successful response**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Description:** Unexpected error



# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nudm-sdm: Access to the nudm-sdm API

schemas:
# COMPLEX TYPES:
DatasetNames:
  Type: array
  Items:
    Reference: '#/components/schemas/DataSetName'
  minItems: 2
  uniqueItems: true
SubscriptionDataSets:
  Type: object
  Properties:
    amData:
      Reference: '#/components/schemas/AccessAndMobilitySubscriptionData'
    smfSelData:
      Reference: '#/components/schemas/SmfSelectionSubscriptionData'
    uecSmfData:
      Reference: '#/components/schemas/UeContextInSmfData'
    uecSmsfData:
      Reference: '#/components/schemas/UeContextInSmsfData'
    smsSubsData:
      Reference: '#/components/schemas/SmsSubscriptionData'
    smData:
      Type: array
      Items:
        Reference: '#/components/schemas/SessionManagementSubscriptionData'
      minItems: 1
    traceData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    smsMngData:
      Reference: '#/components/schemas/SmsManagementSubscriptionData'
UeContextInSmsfData:
  Type: object
  Properties:
    smsfInfo3GppAccess:
      Reference: '#/components/schemas/SmsfInfo'
    smsfInfoNon3GppAccess:
      Reference: '#/components/schemas/SmsfInfo'
SmsfInfo:

```

```

Type: object
Required:
  - smsfInstanceId
  - plmnId
Properties:
  smsfInstanceId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  plmnId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
AccessAndMobilitySubscriptionData:
Type: object
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  gpsis:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  internalGroupIds:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
  subscribedUeAmbr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AmbrRm'
  nssai:
    Reference: '#/components/schemas/Nssai'
  ratRestrictions:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  forbiddenAreas:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Area'
  serviceAreaRestriction:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
  coreNetworkTypeRestrictions:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/CoreNetworkType'
  rfspIndex:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndexRm'
  subsRegTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSecRm'
  ueUsageType:
    Reference: '#/components/schemas/UeUsageType'
  mpsPriority:
    Reference: '#/components/schemas/MpsPriorityIndicator'
  mcsPriority:
    Reference: '#/components/schemas/McsPriorityIndicator'
  activeTime:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSecRm'
dlPacketCount:
    Reference: '#/components/schemas/DlPacketCount'
sorInfo:
    Reference: '#/components/schemas/SorInfo'
micoAllowed:
    Reference: '#/components/schemas/MicoAllowed'
sharedAmDataIds:
    Type: array
    Items:
        Reference: '#/components/schemas/SharedDataId'
    minItems: 1
odbPacketServices:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/OdbPacketServices'
SmfSelectionSubscriptionData:
    Type: object
    Properties:
        supportedFeatures:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        subscribedSnssaiInfos:
            Type: object
            additionalProperties:
                Reference: '#/components/schemas/SnssaiInfo'
        sharedSnssaiInfosId:
            Reference: '#/components/schemas/SharedDataId'
SnssaiInfo:
    Type: object
    Required:
        - dnnInfos
    Properties:
        dnnInfos:
            Type: array
            Items:
                Reference: '#/components/schemas/DnnInfo'
            minItems: 1
DnnInfo:
    Type: object
    Required:
        - dnn
    Properties:
        dnn:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
        defaultDnnIndicator:
            Reference: '#/components/schemas/DnnIndicator'
        lboRoamingAllowed:
            Reference: '#/components/schemas/LboRoamingAllowed'
        iwkEpsInd:
            Reference: '#/components/schemas/IwkEpsInd'
        ladnIndicator:
            Reference: '#/components/schemas/LadnIndicator'
Nssai:
    Type: object

```

**Required:**

- defaultSingleNssais

**Properties:**

**supportedFeatures:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**defaultSingleNssais:**

- Type:** array
- Items:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- minItems:** 1

**singleNssais:**

- Type:** array
- Items:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- minItems:** 1

**nullable:** true

**UeContextInSmfData:**

- Type:** object

**Properties:**

**pduSessions:**

- Description:** A map (list of key-value pairs where PduSessionId serves as key) of PduSessions
- Type:** object

**additionalProperties:**

- Reference:** '#/components/schemas/PduSession'

**pgwInfo:**

- Type:** array
- Items:**
  - Reference:** '#/components/schemas/PgwInfo'
- minItems:** 1

**PduSession:**

- Type:** object

**Required:**

- dnn
- smfInstanceId
- plmnId

**Properties:**

**dnn:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

**smfInstanceId:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

**plmnId:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

**PgwInfo:**

- Type:** object

**Required:**

- dnn
- pgwFqdn

**Properties:**

**dnn:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

**pgwFqdn:**

- Type:** string

```

    plmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  SessionManagementSubscriptionData:
    Type: object
    Required:
      - singleNssai
    Properties:
      singleNssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      dnnConfigurations:
        Description: A map (list of key-value pairs where Dnn serves as key) of
DnnConfigurations
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/DnnConfiguration'
      internalGroupIds:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        minItems: 1
      sharedDnnConfigurationsIds:
        Reference: '#/components/schemas/SharedDataId'
  DnnConfiguration:
    Type: object
    Required:
      - pduSessionTypes
      - sscModes
    Properties:
      pduSessionTypes:
        Reference: '#/components/schemas/PduSessionTypes'
      sscModes:
        Reference: '#/components/schemas/SscModes'
      iwkEpsInd:
        Reference: '#/components/schemas/IwkEpsInd'
      ladnIndicator:
        Reference: '#/components/schemas/LadnIndicator'
      5gQosProfile:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SubscribedDefaultQos'
      sessionAmbr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
      3gppChargingCharacteristics:
        Reference: '#/components/schemas/3GppChargingCharacteristics'
      staticIpAddress:
        Type: array
        Items:
          Reference: '#/components/schemas/IpAddress'
        minItems: 1
        maxItems: 2
      upSecurity:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UpSecurity'
  IpAddress:
    Type: object

```

```

oneOf:
  - required:
    - ipv4Address
  - required:
    - ipv6Address
  - required:
    - ipv6Prefix
Properties:
  ipv4Addr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  ipv6Addr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
  ipv6Prefix:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
PduSessionTypes:
  Type: object
  Required:
    - defaultSessionType
  Properties:
  defaultSessionType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
  allowedSessionTypes:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
    minItems: 1
SscModes:
  Type: object
  Required:
    - defaultSscMode
  Properties:
  defaultSscMode:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SscMode'
  allowedSscModes:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SscMode'
    minItems: 1
    maxItems: 2
SmsSubscriptionData:
  Type: object
  Properties:
  smsSubscribed:
    Reference: '#/components/schemas/SmsSubscribed'
  sharedSmsSubsDataId:
    Reference: '#/components/schemas/SharedDataIds'
SmsManagementSubscriptionData:
  Type: object
  Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  mtSmsSubscribed:
    Type: boolean

```

```

    mtSmsBarringAll:
      Type: boolean
    mtSmsBarringRoaming:
      Type: boolean
    moSmsSubscribed:
      Type: boolean
    moSmsBarringAll:
      Type: boolean
    moSmsBarringRoaming:
      Type: boolean
    sharedSmsMngDataIds:
      Type: array
      Items:
        Reference: '#/components/schemas/SharedDataId'
      minItems: 1
  SdmSubscription:
    Type: object
    Required:
      - nfInstanceId
      - callbackUri
      - monitoredResourceUri
    Properties:
      nfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      implicitUnsubscribe:
        Type: boolean
      expires:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
      callbackReference:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      amfServiceName:
        Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
      monitoredResourceUris:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        minItems: 1
      singleNssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  ModificationNotification:
    Type: object
    Required:
      - notifyItems
    Properties:
      notifyItems:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/NotifyItem'
        minItems: 1
  IdTranslationResult:

```

```

Type: object
Required:
  - supi
Properties:
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
AcknowledgeInfo:
Type: object
Properties:
  sorMacIue:
    Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
  securedPacket:
    Reference: '#/components/schemas/SecuredPacket'
SorInfo:
Type: object
Properties:
  steeringContainer:
    Reference: '#/components/schemas/SteeringContainer'
  ackInd:
    Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/AckInd'
  sorMacIausf:
    Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
  countersor:
    Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/CounterSor'
Required:
  - ackInd
  - sorMacIausf
  - countersor
SharedDataIds:
Type: array
Items:
  Reference: '#/components/schemas/SharedDataId'
SharedData:
Type: object
Required:
  - sharedDataId
Properties:
  sharedDataId:
    Reference: '#/components/schemas/SharedDataId'
  sharedAmData:
    Reference: '#/components/schemas/AccessAndMobilitySubscriptionData'
  sharedSmsSubsData:
    Reference: '#/components/schemas/SmsSubscriptionData'
  sharedSmsMngSubsData:
    Reference: '#/components/schemas/SmsManagementSubscriptionData'
  sharedDnnConfigurations:
Type: object
  additionalProperties:

```



```

        Reference: '#/components/schemas/DnnConfiguration'
    sharedTraceData:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    sharedSnssaiInfos:
        Type: object
        additionalProperties:
            Reference: '#/components/schemas/SnssaiInfo'
    sharedAuthenticationSubscription:
        Reference:
'TS29505_Subscription_Data.yaml#/components/schemas/SharedAuthenticationSubscription'
    TraceDataResponse:
        Type: object
        Properties:
            traceData:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
            sharedTraceDataId:
                Reference: '#/components/schemas/SharedDataId'
    SteeringContainer:
        oneOf:
            - type: array
              Items:
                Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SteeringInfo'

        minItems: 1
            - $ref: '#/components/schemas/SecuredPacket'
# SIMPLE TYPES:
    UeUsageType:
        Type: integer
    MpsPriorityIndicator:
        Type: boolean
    McsPriorityIndicator:
        Type: boolean
    DnnIndicator:
        Type: boolean
    LboRoamingAllowed:
        Type: boolean
    LadnIndicator:
        Type: boolean
    SmsSubscribed:
        Type: boolean
    3GppChargingCharacteristics:
        Type: string
    DlPacketCount:
        Type: integer
        Minimum: -1
    MicoAllowed:
        Type: boolean
    SharedDataId:
        Type: string
        Pattern: '^([0-9]{5,6})-.$'
    IwkEpsInd:
        Type: boolean

```

```
SecuredPacket:  
  Type: string  
  format: base64  
# ENUMS:  
DataSetName:  
  anyOf:  
    - type: string  
      enum:  
        - AM  
        - SMF_SEL  
        - UEC_SMF  
        - UEC_SMSF  
        - SMS_SUB  
        - SM  
        - TRACE  
        - SMS_MNG  
    - type: string
```

## External Docs

**Description:** 3GPP TS 29.503 Unified Data Management Services, version 15.2.1

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.503/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/)'



## CHAPTER 29

# Nudm UEAU

---

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

```
Version: '1.0.0'  
Title: 'NudmUEAU'  
Description: 'UDM UE Authentication Service'
```

## Servers

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

## Security

- oAuth2ClientCredentials:

```
- nudm-ueau
- {}
```

## Paths

### `/supiOrSuci/security-information/generate-auth-data`

**Method:** Post

**Summary:** Generate authentication data for the UE

**Operation ID:** GenerateAuthData

**Tags:**

- Generate Auth Data

**Parameters:**

- **Name:** supiOrSuci

**In:** path

**Description:** SUPI or SUCI of the user

**Required/Optional:** true

**Schema:**

**Reference:** '#/components/schemas/SupiOrSuci'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthenticationInfoRequest'

**Required/Optional:** true

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthenticationInfoResult'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## /{supi}/auth-events

**Method:** Post

**Summary:** Create a new confirmation event

**Operation ID:** ConfirmAuth

**Tags:**

- Confirm Auth

**Parameters:**

- **Name:** supi

**In:** path

**Description:** SUPI of the user

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthEvent'

**Required/Optional:** true

**Responses:**

'201':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthEvent'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudm-ueau/v1/{supi}/auth-events/{authEventId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nudm-ueau: Access to the nudm-ueau API

schemas:
# COMPLEX TYPES:
AuthenticationInfoRequest:
  Type: object
  Required:
    - servingNetworkName
    - ausfInstanceId
  Properties:
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    servingNetworkName:
      Reference: '#/components/schemas/ServingNetworkName'
    resynchronizationInfo:
      Reference: '#/components/schemas/ResynchronizationInfo'
    ausfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
AuthenticationInfoResult:
  Type: object
  Required:
    - authType
  Properties:
    authType:
      Reference: '#/components/schemas/AuthType'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    authenticationVector:
      Reference: '#/components/schemas/AuthenticationVector'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
AuthenticationVector:
  oneOf:
    - $ref: '#/components/schemas/AvEapAkaPrime'
    - $ref: '#/components/schemas/Av5GHeAka'
  discriminator:
    propertyName: avType
    mapping:
      5G_HE_AKA: '#/components/schemas/Av5GHeAka'
      EAP_AKA_PRIME: '#/components/schemas/AvEapAkaPrime'
AvEapAkaPrime:

```

**Type:** object

**Required:**

- avType
- rand
- xres
- autn
- ckPrime
- ikPrime

**Properties:**

**avType:**

- Reference:** '#/components/schemas/AvType'

**rand:**

- Reference:** '#/components/schemas/Rand'

**xres:**

- Reference:** '#/components/schemas/Xres'

**autn:**

- Reference:** '#/components/schemas/Autn'

**ckPrime:**

- Reference:** '#/components/schemas/CkPrime'

**ikPrime:**

- Reference:** '#/components/schemas/IkPrime'

**Av5GHeAka:**

**Type:** object

**Required:**

- avType
- rand
- xresStar
- autn
- kausf

**Properties:**

**avType:**

- Reference:** '#/components/schemas/AvType'

**rand:**

- Reference:** '#/components/schemas/Rand'

**xresStar:**

- Reference:** '#/components/schemas/XresStar'

**autn:**

- Reference:** '#/components/schemas/Autn'

**kausf:**

- Reference:** '#/components/schemas/Kausf'

**ResynchronizationInfo:**

**Type:** object

**Required:**

- rand
- auts

**Properties:**

**rand:**

- Reference:** '#/components/schemas/Rand'

**auts:**

- Reference:** '#/components/schemas/Auts'

**AuthEvent:**

**Type:** object

**Required:**

- nfInstanceId

```

- success
- timeStamp
- authType
- servingNetworkName
Properties:
nfInstanceId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
success:
  Reference: '#/components/schemas/Success'
timeStamp:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
authType:
  Reference: '#/components/schemas/AuthType'
servingNetworkName:
  Reference: '#/components/schemas/ServingNetworkName'
# SIMPLE TYPES:
Autn:
  Type: string
  Pattern: '^[A-Fa-f0-9]{32}$'
Auts:
  Type: string
  Pattern: '^[A-Fa-f0-9]{28}$'
CkPrime:
  Type: string
  Pattern: '^[A-Fa-f0-9]{32}$'
IkPrime:
  Type: string
  Pattern: '^[A-Fa-f0-9]{32}$'
Kausf:
  Type: string
  Pattern: '^[A-Fa-f0-9]{64}$'
Rand:
  Type: string
  Pattern: '^[A-Fa-f0-9]{32}$'
Xres:
  Type: string
  Pattern: '^[A-Fa-f0-9]{8,32}$'
XresStar:
  Type: string
  Pattern: '^[A-Fa-f0-9]{32}$'
SupiOrSuci:
  Type: string
  Pattern: '^((imsi-[0-9]{5,15}|nai-.+|
suci-[0-9]{3}-[0-9]{2,3}|[1-7]-.+)-[0-9]{1,4}-[0-0-.+|[a-fA-F1-9]-([1-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])-[a-fA-F0-9]+)|.+)$'
ServingNetworkName:
  Type: string
  Pattern: '^5G:mnc[0-9]{3}[.]mcc[0-9]{3}[.]3gppnetwork[.]org$'
Success:
  Type: boolean
# ENUMS:
AuthType:
  anyOf:

```



```
- type: string
  enum:
    - 5G_AKA
    - EAP_AKA_PRIME
    - EAP_TLS
- type: string
AvType:
anyOf:
- type: string
  enum:
    - 5G_HE_AKA
    - EAP_AKA_PRIME
- type: string
```

## External Docs

**Description:** 3GPP TS 29.503 Unified Data Management Services, version 15.2.1

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.503/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/)'





# CHAPTER 30

## Nudm UECM

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### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Version:** '1.0.0'  
**Title:** 'Nudm\_UECM'  
**Description:** 'Nudm Context Management Service'

### Servers

**URL:** '{apiRoot}/nudm-uecm/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

### Security

- oAuth2ClientCredentials:

```
- nudm-uecm
- {}
```

## Paths

### `{ueId}/registrations/amf-3gpp-access`

#### put:

**Summary:** register as AMF for 3GPP access

**Operation ID:** Registration

#### Tags:

- AMF registration for 3GPP access

#### Parameters:

- **Name:** ueId

**In:** path

**Description:** Identifier of the UE

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

#### Request Body:

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/Amf3GppAccessRegistration'

**Required/Optional:** true

#### Responses:

'201':

**Description:** Created

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/Amf3GppAccessRegistration'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

`{apiRoot}/nudm-uecm/v1/{ueId}/registrations/amf-3gpp-access'`

**Required/Optional:** true

**Schema:**

**Type:** string

'200':

**Description:** OK

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/Amf3GppAccessRegistration'

```

'204':
  Description: No content
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'403':
  Reference: 'TS29571_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error
Callbacks:
deregistrationNotification:
  '{request.body#/deregCallbackUri}':
    Method: Post
    Request Body:
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/DeregistrationData'

Responses:
  '204':
    Description: Successful Notification response
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error
pcscfRestorationNotification:
  '{request.body#/pcscfRestorationCallbackUri}':
    Method: Post
    Request Body:
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/PcscfRestorationNotification'

Responses:
  '204':
    Description: Successful Notification response
  '400':

```

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

**patch:**

**Summary:** Update a parameter in the AMF registration for 3GPP access

**Operation ID:** Update

**Tags:**

- Parameter update in the AMF registration for 3GPP access

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Request Body:**

**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/Amf3GppAccessRegistrationModification'  
**Required/Optional:** true

**Responses:**

**'204':**  
**Description:** Expected response to a valid request  
**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'403':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'422':**  
**Description:** Unprocessable Request  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

**get:**

**Summary:** retrieve the AMF registration for 3GPP access information  
**Operation ID:** Get

**Tags:**

- AMF 3Gpp-access Registration Info Retrieval

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'
- **Name:** supported-features  
**In:** query  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

- '200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/Amf3GppAccessRegistration'
  - '400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'
  - '403':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'
  - '404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'
  - '500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'
  - '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'
- Default:**  
**Description:** Unexpected error

## /{ueId}/registrations/amf-non-3gpp-access

**put:**

**Summary:** register as AMF for non-3GPP access  
**Operation ID:** Register

**Tags:**

- AMF registration for non-3GPP access

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE

```

    Required/Optional: true
    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/AmfNon3GppAccessRegistration'
    Required/Optional: true

  Responses:
    '201':
      Description: Created
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/AmfNon3GppAccessRegistration'
      Headers:
        Location:
          description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/nudm-uecm/v1/{ueId}/registrations/amf-non-3gpp-access'
          Required/Optional: true
          Schema:
            Type: string
    '200':
      Description: OK
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/AmfNon3GppAccessRegistration'
    '204':
      Description: No Content
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Description: Unexpected error
  Callbacks:
    deregistrationNotification:
      '{request.body#/deregCallbackUri}':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:

```



**Application/JSON:****Schema:****Reference:** '#/components/schemas/DeregistrationData'**Responses:****'204':****Description:** Successful Notification response**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'404':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Description:** Unexpected error**pcscfRestorationNotification:****'{request.body#/pcscfRestorationCallbackUri}':****Method:** Post**Request Body:****Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/PcscfRestorationNotification'**Responses:****'204':****Description:** Successful Notification response**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'404':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Description:** Unexpected error**patch:****Summary:** update a parameter in the AMF registration for non-3GPP access**Operation ID:** Update**Tags:**

- Parameter update in the AMF registration for non-3GPP access

**Parameters:**- **Name:** ueId**In:** path**Description:** Identifier of the UE**Required/Optional:** true

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Request Body:**  
**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/AmfNon3GppAccessRegistrationModification'  
**Required/Optional:** true

**Responses:**

'204':  
**Description:** Expected response to a valid request

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'422':  
**Description:** Unprocessable Request  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

**get:**  
**Summary:** retrieve the AMF registration for non-3GPP access information  
**Operation ID:** Get

**Tags:**  
- AMF non-3GPP-access Registration Info Retrieval

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

- **Name:** supported-features  
**In:** query  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**

**Schema:**  
**Reference:** '#/components/schemas/AmfNon3GppAccessRegistration'  
**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'403':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /{ueId}/registrations/smf-registrations/{pduSessionId}

**put:**  
**Summary:** register as SMF  
**Operation ID:** Registration

**Tags:**  
 - SMF Registration

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** pduSessionId  
**In:** path  
**Description:** Identifier of the PDU session  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmfRegistration'  
**Required/Optional:** true

**Responses:**

- '201':**  
**Description:** Created  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmfRegistration'

**Headers:**

**Location:**  
**description:** 'Contains the URI of the newly created resource, according to the structure:  
 {apiRoot}/nudm-uecm/v1/{ueId}/registrations/smf-registrations/{pduSessionId}'  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmfRegistration'

**'204':**  
**Description:** No content

**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'403':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

**Callbacks:**

**pcscfRestorationNotification:**  
**'{request.body#/pcscfRestorationCallbackUri}':**  
**Method:** Post  
**Request Body:**  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PcscfRestorationNotification'

**Responses:**

**'204':**  
**Description:** Successful Notification response

**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

**delete:**

**Summary:** delete an SMF registration

**Operation ID:** Deregistration

**Tags:**

- SMF Deregistration

**Parameters:**

- **Name:** ueId

**In:** path

**Description:** Identifier of the UE

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- **Name:** pduSessionId

**In:** path

**Description:** Identifier of the PDU session

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'

**Responses:**

'204':

**Description:** Expected response to a valid request

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'422':

**Description:** Unprocessable Request

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## /{ueId}/registrations/smsf-3gpp-access

**put:**

**Summary:** register as SMSF for 3GPP access

**Operation ID:** Update SMSF Reg 3GPP

**Tags:**

- SMSF registration for 3GPP access

**Parameters:**

```

- Name: ueId
  In: path
  Description: Identifier of the UE
  Required/Optional: true
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
Request Body:
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SmsfRegistration'
    Required/Optional: true

Responses:
  '201':
    Description: Created
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SmsfRegistration'
    Headers:
      Location:
        description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/nudm-uecm/v1/{ueId}/registrations/smsf-3gpp-access'
        Required/Optional: true
        Schema:
          Type: string
  '200':
    Description: Expected response to a valid request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SmsfRegistration'
  '204':
    Description: No content
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '403':
    Reference: 'TS29571_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error
delete:
  Summary: delete the SMSF registration for 3GPP access
  Operation ID: Deregistration

```

**Tags:**

- SMSF Deregistration for 3GPP Access

**Parameters:**

- **Name:** ueId
  - In:** path
  - Description:** Identifier of the UE
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Responses:**

- '204':
  - Description:** Expected response to a valid request
- '400':
  - Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'
- '404':
  - Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'
- '422':
  - Description:** Unprocessable Request
  - Content:**
    - application/problem+json:**
      - Schema:**
        - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'
- '500':
  - Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'
- Default:**
  - Description:** Unexpected error

**get:**

- Summary:** retrieve the SMSF registration for 3GPP access information
- Operation ID:** Get

**Tags:**

- SMSF 3GPP access Registration Info Retrieval

**Parameters:**

- **Name:** ueId
  - In:** path
  - Description:** Identifier of the UE
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'
- **Name:** supported-features
  - In:** query
  - Schema:**
    - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

- '200':
  - Description:** Expected response to a valid request
  - Content:**

**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmsfRegistration'

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**  
**Description:** Unexpected error

## /{ueId}/registrations/smsf-non-3gpp-access

### put:

**Summary:** register as SMSF for non-3GPP access

**Operation ID:** Registration

### Tags:

- SMSF registration for non-3GPP access

### Parameters:

- **Name:** ueId  
**In:** path  
**Description:** Identifier of the UE  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

### Request Body:

#### Content:

**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmsfRegistration'

**Required/Optional:** true

### Responses:

'201':  
**Description:** Created  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmsfRegistration'

#### Headers:

##### Location:

**description:** 'Contains the URI of the newly created resource, according to the structure:  
{apiRoot}/nudm-uecm/v1/{ueId}/registrations/smsf-non-3gpp-access'



```

    Required/Optional: true
    Schema:
      Type: string
  '200':
    Description: Expected response to a valid request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SmsfRegistration'
  '204':
    Description: No content
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '403':
    Reference: 'TS29571_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Description: Unexpected error
delete:
  Summary: delete SMSF registration for non 3GPP access
  Operation ID: Deregistration

  Tags:
    - SMSF Deregistration for non-3GPP access

  Parameters:
    - Name: ueId
      In: path
      Description: Identifier of the UE
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'

  Responses:
    '204':
      Description: Expected response to a valid request
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '422':
      Description: Unprocessable Request
      Content:
        application/problem+json:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '500':

```

```

    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Description: Unexpected error
get:
  Summary: retrieve the SMSF registration for non-3GPP access information
  Operation ID: Get

  Tags:
    - SMSF non-3GPP access Registration Info Retrieval

  Parameters:
    - Name: ueId
      In: path
      Description: Identifier of the UE
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    - Name: supported-features
      In: query
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

  Responses:
    '200':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/SmsfRegistration'
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '404':
      Reference: 'TS29571_CommonData.yaml#/components/responses/404'
    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Description: Unexpected error

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:

```

```

clientCredentials:
  tokenUrl: '{nrfApiRoot}/oauth2/token'
  scopes:
    nudm-uecm: Access to the nudm-uecm API

schemas:
# COMPLEX TYPES:
Amf3GppAccessRegistration:
  Type: object
  Required:
    - amfInstanceId
    - deregCallbackUri
    - guami
    - ratType
  Properties:
    amfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    purgeFlag:
      Reference: '#/components/schemas/PurgeFlag'
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    imsVoPs:
      Reference: '#/components/schemas/ImsVoPs'
    deregCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    amfServiceNameDereg:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
    pcscfRestorationCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    amfServiceNamePcscfRest:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
    initialRegistrationInd:
      Type: boolean
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
    backupAmfInfo:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
      minItems: 1
    drFlag:
      Reference: '#/components/schemas/DualRegistrationFlag'
    ratType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
Amf3GppAccessRegistrationModification:
  Type: object
  Required:
    - guami
  Properties:
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'

```

```

    purgeFlag:
      Reference: '#/components/schemas/PurgeFlag'
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    imsVoPs:
      Reference: '#/components/schemas/ImsVoPs'
    backupAmfInfo:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
AmfNon3GppAccessRegistration:
  Type: object
  Required:
    - amfInstanceId
    - imsVoPs
    - deregCallbackUri
    - guami
    - ratType
  Properties:
    amfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    purgeFlag:
      Reference: '#/components/schemas/PurgeFlag'
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    imsVoPs:
      Reference: '#/components/schemas/ImsVoPs'
    deregCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    amfServiceNameDereg:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
    pcscfRestorationCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    amfServiceNamePcscfRest:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
    backupAmfInfo:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
      minItems: 1
    ratType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
AmfNon3GppAccessRegistrationModification:
  Type: object
  Required:
    - guami
  Properties:
    guami:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'

```

```

purgeFlag:
  Reference: '#/components/schemas/PurgeFlag'
pei:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
imsVoPs:
  Reference: '#/components/schemas/ImsVoPs'
backupAmfInfo:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
SmfRegistration:
  Type: object
  Required:
  - smfInstanceId
  - pduSessionId
  - singleNssai
  - dnn
  - plmnId
  Properties:
    smfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    singleNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    pcscfRestorationCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    plmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    pgwFqdn:
      Type: string
SmsfRegistration:
  Type: object
  Required:
  - smsfInstanceId
  - plmnId
  Properties:
    smsfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    plmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    smsfMAPAddress:
      Reference: '#/components/schemas/E164Number'
    smsfDiameterAddress:
      Reference: '#/components/schemas/NetworkNodeDiameterAddress'
DeregistrationData:
  Type: object

```

```

Required:
  - deregReason
  - accessType
Properties:
  deregReason:
    Reference: '#/components/schemas/DeregistrationReason'
  accessType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
PcscfRestorationNotification:
  Type: object
Required:
  - supi
Properties:
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
NetworkNodeDiameterAddress:
  Type: object
Required:
  - name
  - realm
Properties:
  name:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DiameterIdentity'
  realm:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DiameterIdentity'
# SIMPLE TYPES:
PurgeFlag:
  Type: boolean
E164Number:
  Type: string
  Pattern: '^([0-9]{1,15})$'
DualRegistrationFlag:
  Type: boolean
# ENUMS:
ImsVoPs:
  anyOf:
  - type: string
    enum:
    - HOMOGENEOUS_SUPPORT
    - HOMOGENEOUS_NON_SUPPORT
    - NON_HOMOGENEOUS_OR_UNKNOWN
  - type: string
DeregistrationReason:
  anyOf:
  - type: string
    enum:
    - UE_INITIAL_REGISTRATION
    - UE_REGISTRATION_AREA_CHANGE
    - SUBSCRIPTION_WITHDRAWN
    - 5GS_TO_EPS_MOBILITY
    - 5GS_TO_EPS_MOBILITY_UE_INITIAL_REGISTRATION
    - REREGISTRATION_REQUIRED
  - type: string

```

## External Docs

**Description:** 3GPP TS 29.503 Unified Data Management Services, version 15.2.1

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.503/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/)'







## CHAPTER 31

# Nudr DataRepository

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- [External Docs](#), on page 355

## OpenAPI

OpenAPI Version: 3.0.0

## Info

```
Version: 1.0.0  
Title: 'Nudr_DataRepository API OpenAPI file'  
Description: 'Unified Data Repository Service'
```

## Servers

```
- description: API root  
  url: '{apiRoot}/nudr-dr/v1'  
  Variables:  
    API Root:  
      Default: https://example.com
```

## Security

```
- {}
```

```
- oAuth2ClientCredentials:
  - nudr-dr
```

## Paths

### /subscription-data/{ueld}/authentication-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1authentication-data'

### /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/am-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservingPlmnId%7D~1provisioned-data~1am-data'

### /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/smf-selection-subscript

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservingPlmnId%7D~1provisioned-data~1smf-selection-subscription-data'

### /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/sm-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservingPlmnId%7D~1provisioned-data~1sm-data'

### /subscription-data/{ueld}/context-data/amf-3gpp-access

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1amf-3gpp-access'

### /subscription-data/{ueld}/context-data/amf-non-3gpp-access

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1amf-non-3gpp-access'

## /subscription-data/{uclid}/context-data/smf-registrations

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1smf-registrations'

## /subscription-data/{uclid}/context-data/smf-registrations/{pduSessionId}

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1smf-registrations~1%7BpduSessionId%7D'

## /subscription-data/{uclid}/operator-specific-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1operator-specific-data'

## /subscription-data/{uclid}/context-data/smf-3gpp-access

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1smf-3gpp-access'

## /subscription-data/{uclid}/context-data/smf-non-3gpp-access

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1smf-non-3gpp-access'

## /subscription-data/{uclid}/{servingPlmnId}/provisioned-data/sms-mng-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservingPlmnId%7D~1provisioned-data~1sms-mng-data'

## /subscription-data/{uclid}/{servingPlmnId}/provisioned-data/sms-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservingPlmnId%7D~1provisioned-data~1sms-data'

## /subscription-data/{ueld}/pp-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1pp-data'

## /subscription-data/{ueld}/context-data/ee-subscriptions

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1ee-subscriptions'

## /subscription-data/{ueld}/context-data/ee-subscriptions/{subId}

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1ee-subscriptions~1%7BsubId%7D'

## /subscription-data/{ueld}/context-data/sdm-subscriptions

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1sdm-subscriptions'

## /subscription-data/{ueld}/context-data/sdm-subscriptions/{subId}

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1context-data~1sdm-subscriptions~1%7BsubId%7D'

## /subscription-data/subs-to-notify

**Reference:** 'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1subs-to-notify'

## /subscription-data/subs-to-notify/{subId}

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1subs-to-notify~1%7BsubId%7D'

## /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/trace-data

**Reference:**

'TS29505\_Subscription\_Data.yaml#/paths/~1subscription-data~1%7BueId%7D~1%7BservicingPlmnId%7D~1provisioned-data~1trace-data'

## /policy-data/{ueId}/am-data

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1%7BueId%7D~1am-data'

## /policy-data/{ueId}/ue-policy-set

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1%7BueId%7D~1ue-policy-set'

## /policy-data/{ueId}/sm-data

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1%7BueId%7D~1sm-data'

## /policy-data/{ueId}/sm-data/{usageMonId}

**Reference:**

'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1%7BueId%7D~1sm-data~1%7BusageMonId%7D'

## /policy-data/sponsor-connectivity-data/{sponsorId}

**Reference:**

'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1sponsor-connectivity-data~1%7BsponsorId%7D'

## /policy-data/bdt-data

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1bdt-data'

## /policy-data/bdt-data/{bdtReferenceId}

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1bdt-data~1%7BbdtReferenceId%7D'

## /policy-data/subs-to-notify

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1subs-to-notify'

## /policy-data/subs-to-notify/{subsid}

**Reference:** 'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1subs-to-notify~1%7Bsubsid%7D'

## /policy-data/{ueid}/operator-specific-data

**Reference:**

'TS29519\_Policy\_Data.yaml#/paths/~1policy-data~1%7Bueid%7D~1operator-specific-data'

## /application-data/pfds

**Reference:** 'TS29519\_Application\_Data.yaml#/paths/~1application-data~1pfds'

## /application-data/pfds/{application-identifier}

**Reference:**

'TS29519\_Application\_Data.yaml#/paths/~1application-data~1pfds~1%7Bapplication-identifier%7D'

## /application-data/influenceData

**Reference:** 'TS29519\_Application\_Data.yaml#/paths/~1application-data~1influenceData'

## /application-data/influenceData/{afServiceid}

**Reference:**

'TS29519\_Application\_Data.yaml#/paths/~1application-data~1influenceData~1%7BafServiceid%7D'

## /application-data/influenceData/subscriptions

**Reference:**

'TS29519\_Application\_Data.yaml#/paths/~1application-data~1influenceData~1subscriptions'

## /application-data/influenceData/subscriptions/{subscriptionid}

**Reference:**

'TS29519\_Application\_Data.yaml#/paths/~1application-data~1influenceData~1subscriptions~1%7Bsubscriptionid%7D'

## /exposure-data/{ueld}/access-and-mobility-data

**Reference:**

'TS29519\_Exposure\_Data.yaml#/paths/~1exposure-data~1%7BueId%7D~1access-and-mobility-data'

## /exposure-data/{ueld}/session-management-data

**Reference:**

'TS29519\_Exposure\_Data.yaml#/paths/~1exposure-data~1%7BueId%7D~1session-management-data'

## /exposure-data/{ueld}/session-management-data/{pduSessionId}

**Reference:**

'TS29519\_Exposure\_Data.yaml#/paths/~1exposure-data~1%7BueId%7D~1session-management-data~1%7BpduSessionId%7D'

## /exposure-data/subs-to-notify

**Reference:** 'TS29519\_Exposure\_Data.yaml#/paths/~1exposure-data~1subs-to-notify'

## /exposure-data/subs-to-notify/{subId}

**Reference:**

'TS29519\_Exposure\_Data.yaml#/paths/~1exposure-data~1subs-to-notify~1%7BsubId%7D'

## Components

```
securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nudr-dr: Access to the Nudr_DataRepository API
```

## External Docs

**Description:** 3GPP TS 29.504 V15.2.0; 5G System; Unified Data Repository Services; Stage 3

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.504/'







## CHAPTER 32

# Subscription Data

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- [OpenAPI](#), on page 357
- [Info](#), on page 357
- [Paths](#), on page 357
- [Components](#), on page 403
- [External Docs](#), on page 410

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '-'

**Title:** 'Unified Data Repository Service API file for subscription data'

**Description:** 'The API version is defined in 3GPP TS 29.504'

## Paths

### /subscription-data/{ueId}/authentication-data/authentication-subscription

**get:**

**Summary:** Retrieves the authentication subscription data of a UE

**Operation ID:** QueryAuthSubsData

**Tags:**

- Authentication Data (Document)

**Parameters:**

- **Name:** ueId

**In:** path

**Description:** UE id

**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'  
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AuthenticationSubscription'  
**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**patch:**

**Summary:** modify the authentication subscription data of a UE  
**Operation ID:** ModifyAuthentication

**Tags:**

- Authentication Data (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**  
**application/json-patch+json:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'  
**Required/Optional:** true

**Responses:**

**'204':**  
**Description:** Expected response to a valid request  
**'403':**  
**Description:** modification is rejected  
**Content:**  
**application/problem+json:**

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'  
**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/authentication-data/authentication-status

**put:**  
**Summary:** To store the Authentication Status data of a UE  
**Operation ID:** CreateAuthenticationStatus

**Tags:**  
- Authentication Status (Document)

**Parameters:**  
- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/AuthEvent'

**Responses:**  
**'204':**  
**Description:** Upon success, an empty response body shall be returned  
**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**get:**  
**Summary:** Retrieves the Authentication Status of a UE  
**Operation ID:** QueryAuthenticationStatus

**Tags:**  
- AuthEvent (Document)

**Parameters:**  
- **Name:** ueId  
**In:** path  
**Description:** UE id

**Required/Optional:** true

**Schema:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** fields
  - In:** query
  - Description:** attributes to be retrieved
  - Required/Optional:** false
  - Schema:**
    - Type:** array
    - Items:**
      - Type:** string
    - Min Items:** 1
    - Style:** form
    - Explode:** false
  - **Name:** supportedFeatures
    - Description:** Supported Features
    - In:** query
    - Schema:**
      - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

**'200':**

- Description:** Expected response to a valid request
- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/AuthEvent'

**Default:**

- Description:** Unexpected error
- Content:**
  - application/problem+json:**
    - Schema:**
      - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/ue-update-confirmation-data/sor-data

### put:

**Summary:** To store the SoR acknowledgement information of a UE  
**Operation ID:** CreateAuthenticationSoR

### Tags:

- Authentication SoR (Document)

### Parameters:

- **Name:** ueId
  - In:** path
  - Description:** UE id
  - Required/Optional:** true
  - Schema:**
    - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** supported-features

**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SorData'

**Responses:**  
**'204':**  
**Description:** Expected response to a valid request  
**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**get:**  
**Summary:** Retrieves the SoR acknowledgement information of a UE  
**Operation ID:** QueryAuthSoR

**Tags:**  
- Authentication SoR (Document)

**Parameters:**  
- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'  
- **Name:** supportedFeatures  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**  
**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SorData'

**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data

### get:

**Summary:** Retrieve multiple provisioned data sets of a UE

**Operation ID:** QueryProvisionedData

### Tags:

- Provisioned Data (Document)

### Parameters:

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** dataset-names  
**In:** query  
**Description:** List of dataset names  
**Schema:**  
**Reference:** '#/components/schemas/DatasetNames'

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ProvisionedDataSets'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/am-data

### get:

**Summary:** Retrieves the access and mobility subscription data of a UE

**Operation ID:** QueryAmData

### Tags:

- Access And Mobility Subscription Data (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**
  - Reference:** '#/components/schemas/VarPlmnId'
- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**
  - Type:** array
  - Items:**
    - Type:** string
  - Min Items:** 1
  - Style:** form
  - Explode:** false
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**
  - Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**
  - Type:** string

**Responses:**

- '200':
  - Description:** Expected response to a valid request
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/AccessAndMobilitySubscriptionData'
  - Headers:**
    - Cache-Control:**
      - Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**  
**Type:** string

**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**  
**Type:** string

**Default:**  
**Description:** Unexpected error

**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/smf-selection-subscript

**get:**  
**Summary:** Retrieves the SMF selection subscription data of a UE  
**Operation ID:** QuerySmfSelectData

**Tags:**  
 - SMF Selection Subscription Data (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string  
**Min Items:** 1  
**Style:** form



**Explode:** false

- **Name:** supported-features
  - In:** query
  - Description:** Supported Features
  - Schema:**
    - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match
  - In:** header
  - Description:** Validator for conditional requests, as described in RFC 7232, 3.2
  - Schema:**
    - Type:** string
- **Name:** If-Modified-Since
  - In:** header
  - Description:** Validator for conditional requests, as described in RFC 7232, 3.3
  - Schema:**
    - Type:** string

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SmfSelectionSubscriptionData'**Headers:****Cache-Control:****Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2**Schema:****Type:** string**ETag:****Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3**Schema:****Type:** string**Last-Modified:****Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2**Schema:****Type:** string**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueld}/{servingPlmnld}/provisioned-data/sm-data

**get:****Summary:** Retrieves the Session Management subscription data of a UE

**Operation ID:** QuerySmData

**Tags:**

- Session Management Subscription Data

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** single-nssai  
**In:** query  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/VarSnsai'  
**Description:** single NSSAI  
**Required/Optional:** false
- **Name:** dnn  
**In:** query  
**Description:** DNN  
**Required/Optional:** false  
**Schema:**  
**Reference:** '#/components/schemas/Dnn'
- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string  
**Min Items:** 1  
**Style:** form  
**Explode:** false
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**

```

    Type: string
  - Name: If-Modified-Since
    In: header
    Description: Validator for conditional requests, as described in RFC 7232, 3.3
    Schema:
      Type: string

Responses:
'200':
  Description: Expected response to a valid request
  Content:
    Application/JSON:
      Schema:
        Type: array
        Items:
          Reference: '#/components/schemas/SessionManagementSubscriptionData'
          Min Items: 1
      Headers:
        Cache-Control:
          Description: Cache-Control containing max-age, as described in RFC 7234, 5.2
          Schema:
            Type: string
        ETag:
          Description: Entity Tag, containing a strong validator, as described in RFC
7232, 2.3
          Schema:
            Type: string
        Last-Modified:
          Description: Timestamp for last modification of the resource, as described
in RFC 7232, 2.2
          Schema:
            Type: string
      Default:
        Description: Unexpected error
        Content:
          application/problem+json:
            Schema:
              Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## /subscription-data/{ueId}/context-data/amf-3gpp-access

```

get:
  Summary: Retrieves the AMF context data of a UE using 3gpp access
  Operation ID: QueryAmfContext3gpp

Tags:
  - AMF 3GPP Access Registration (Document)

Parameters:
  - Name: ueId

```

**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string  
**Min Items:** 1  
**Style:** form  
**Explode:** false
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/Amf3GppAccessRegistration'

**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**put:**

**Summary:** To store the AMF context data of a UE using 3gpp access in the UDR  
**Operation ID:** CreateAmfContext3gpp

**Tags:**

- AMF 3GPP Access Registration (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**  
**Application/JSON:**

**Schema:****Reference:** '#/components/schemas/Amf3GppAccessRegistration'**Responses:****'204':****Description:** Upon success, an empty response body shall be returned**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**patch:****Summary:** To modify the AMF context data of a UE using 3gpp access in the UDR**Operation ID:** AmfContext3gpp**Tags:**

- AMF 3GPP Access Registration (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'**Request Body:****Content:****application/json-patch+json:****Schema:****Type:** array**Items:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'**Required/Optional:** true**Responses:****'204':****Description:** Expected response to a valid request**'403':****Description:** modification is rejected**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/amf-non-3gpp-access

### get:

**Summary:** Retrieves the AMF context data of a UE using non-3gpp access

**Operation ID:** QueryAmfContextNon3gpp

### Tags:

- AMF Non-3GPP Access Registration (Document)

### Parameters:

- **Name:** ueId

**In:** path

**Description:** UE id

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** fields

**In:** query

**Description:** attributes to be retrieved

**Required/Optional:** false

**Schema:**

**Type:** array

**Items:**

**Type:** string

**Min Items:** 1

**Style:** form

**Explode:** false

- **Name:** supported-features

**In:** query

**Description:** Supported Features

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AmfNon3GppAccessRegistration'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

### put:

**Summary:** To store the AMF context data of a UE using non-3gpp access in the UDR

**Operation ID:** CreateAmfContextNon3gpp

### Tags:

- AMF Non-3GPP Access Registration (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Description:** UE id
- Required/Optional:** true
- Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** '#/components/schemas/AmfNon3GppAccessRegistration'

**Responses:**

- '204':
  - Description:** Upon success, an empty response body shall be returned
  - Default:**
    - Description:** Unexpected error
    - Content:**
      - application/problem+json:**
        - Schema:**
          - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**patch:**

- Summary:** To modify the AMF context data of a UE using non 3gpp access in the UDR
- Operation ID:** AmfContextNon3gpp

**Tags:**

- AMF Non-3GPP Access Registration (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Description:** UE id
- Required/Optional:** true
- Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

- Content:**
  - application/json-patch+json:**
    - Schema:**
      - Type:** array
      - Items:**
        - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'
- Required/Optional:** true

**Responses:**

- '204':
  - Description:** Expected response to a valid request
- '403':
  - Description:** modification is rejected
  - Content:**
    - application/problem+json:**

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/smf-registrations

**get:**  
**Summary:** Retrieves the SMF registration list of a UE  
**Operation ID:** QuerySmfRegList

**Tags:**  
 - SMF Registrations (Collection)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmfRegList'

**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/smf-registrations/{pduSessionId}

**get:**  
**Summary:** Retrieves the individual SMF registration of a UE



**Operation ID:** QuerySmfRegistration

**Tags:**

- SMF Registration (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** pduSessionId  
**In:** path  
**Description:** PDU session id  
**Required/Optional:** true  
**Schema:**
  - Type:** string
- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**
  - Type:** array
  - Items:**
    - Type:** string
  - Min Items:** 1
  - Style:** form
  - Explode:** false
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmfRegistration'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**put:**

**Summary:** To create an individual SMF context data of a UE in the UDR

**Operation ID:** CreateSmfContextNon3gpp

**Tags:**

- SMF Registration (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** pduSessionId  
**In:** path  
**Description:** PDU session id  
**Required/Optional:** true  
**Schema:**  
**Type:** integer

**Request Body:**

- Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SmfRegistration'

**Responses:**

'201':

**Description:** Upon success, a response body containing a representation of the created Individual SmfRegistration resource shall be returned

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nsmf-pdusession/v1/smf-contexts/{smContextRef}/subscription-data/{ueId}/context-data/smf-registrations/{pduSessionId}'

**Required/Optional:** true

**Schema:**

**Type:** string

**delete:**

**Summary:** To remove an individual SMF context data of a UE the UDR

**Operation ID:** DeleteSmfContext

**Tags:**

- SMF Registration (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** pduSessionId
- In:** path
- Description:** PDU session id
- Required/Optional:** true
- Schema:**
  - Type:** string

**Responses:****'204':****Description:** Upon success, an empty response body shall be returned.**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/operator-specific-data

**get:****Summary:** Retrieves the operator specific data of a UE**Operation ID:** QueryOperSpecData**Tags:**

- Operator-Specific Data Container (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Description:** UE id
- Required/Optional:** true
- Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** fields
- In:** query
- Description:** attributes to be retrieved
- Required/Optional:** false
- Schema:**
  - Type:** array
  - Items:**
    - Type:** string
    - Min Items:** 1
  - Style:** form
  - Explode:** false
- **Name:** supported-features
- In:** query
- Description:** Supported Features
- Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/OperatorSpecificDataContainer'**Headers:****Cache-Control:****Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2**Schema:****Type:** string**ETag:****Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3**Schema:****Type:** string**Last-Modified:****Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2**Schema:****Type:** string**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**patch:****Summary:** To modify operator specific data of a UE**Operation ID:** AmfContext3gpp**Tags:**

- Operator-Specific Data Container (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**

**application/json-patch+json:**

**Schema:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'

**Required/Optional:** true

**Responses:**

**'204':**

**Description:** Expected response to a valid request

**'403':**

**Description:** modification is rejected

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/smsf-3gpp-access

**put:**

**Summary:** Create the SMSF context data of a UE via 3GPP access

**Operation ID:** CreateSmsfContext3gpp

**Tags:**

- SMSF 3GPP Registration (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Description:** UE id
- Required/Optional:** true
- Schema:**
- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmsfRegistration'

**Responses:**

**'204':**

**Description:** Upon success, an empty response body shall be returned

**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**delete:****Summary:** To remove the SMSF context data of a UE via 3GPP access**Operation ID:** DeleteSmsfContext3gpp**Tags:**

- SMSF 3GPP Registration (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'**Responses:****'204':****Description:** Upon success, an empty response body shall be returned**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**get:****Summary:** Retrieves the SMSF context data of a UE using 3gpp access**Operation ID:** QuerySmsfContext3gpp**Tags:**

- SMSF 3GPP Registration (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** fields

**In:** query**Description:** attributes to be retrieved**Required/Optional:** false**Schema:****Type:** array**Items:****Type:** string**Min Items:** 1

**Style:** form  
**Explode:** false  
**- Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SmsfRegistration'**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/smsf-non-3gpp-access

**put:****Summary:** Create the SMSF context data of a UE via non-3GPP access**Operation ID:** CreateSmsfContextNon3gpp**Tags:**

- SMSF Non-3GPP Registration (Document)

**Parameters:****- Name:** ueId**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'**Request Body:****Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SmsfRegistration'**Responses:****'204':****Description:** Upon success, an empty response body shall be returned**Default:****Description:** Unexpected error**Content:****application/problem+json:**

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**delete:****Summary:** To remove the SMSF context data of a UE via non-3GPP access**Operation ID:** DeleteSmsfContextNon3gpp**Tags:**

- SMSF Non-3GPP Registration (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'**Responses:****'204':****Description:** Upon success, an empty response body shall be returned**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**get:****Summary:** Retrieves the SMSF context data of a UE using non-3gpp access**Operation ID:** QuerySmsfContextNon3gpp**Tags:**

- SMSF Non-3GPP Registration (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** fields

**In:** query**Description:** attributes to be retrieved**Required/Optional:** false**Schema:****Type:** array**Items:****Type:** string**Min Items:** 1**Style:** form**Explode:** false

- **Name:** supported-features

**In:** query



**Description:** Supported Features

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmsfRegistration'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data

**get:**

**Summary:** Retrieves the SMS management subscription data of a UE

**Operation ID:** QuerySmsMngData

**Tags:**

- SMS Management Subscription Data (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since

**In:** header

**Description:** Validator for conditional requests, as described in RFC 7232, 3.3

**Schema:**

**Type:** string

**Responses:**

**'200':**

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmsManagementSubscriptionData'

**Headers:**

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**

**Type:** string

**ETag:**

**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

**Schema:**

**Type:** string

**Last-Modified:**

**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2

**Schema:**

**Type:** string

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-data

**get:**

**Summary:** Retrieves the SMS subscription data of a UE

**Operation ID:** QuerySmsData

**Tags:**

- SMS Subscription Data (Document)

**Parameters:**

- **Name:** ueId

**In:** path

**Description:** UE id

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** supported-features  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SmsSubscriptionData'**Headers:****Cache-Control:****Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2**Schema:****Type:** string**ETag:****Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3**Schema:****Type:** string**Last-Modified:****Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2**Schema:****Type:** string**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/pp-data

### get:

**Summary:** Read the profile of a given UE

**Operation ID:** GetppData

### Tags:

- Parameter Provision (Document)

### Parameters:

- **Name:** ueId

**In:** path

**Description:** pp data for a UE

**Required/Optional:** true

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** supported-features

**In:** query

**Description:** Supported Features

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** If-None-Match

**In:** header

**Description:** Validator for conditional requests, as described in RFC 7232, 3.2

#### Schema:

**Type:** string

- **Name:** If-Modified-Since

**In:** header

**Description:** Validator for conditional requests, as described in RFC 7232, 3.3

#### Schema:

**Type:** string

### Responses:

'200':

**Description:** Expected response to a valid request

#### Content:

**Application/JSON:**

#### Schema:

**Reference:** '#/components/schemas/PpData'

#### Headers:

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

#### Schema:

**Type:** string

#### ETag:

**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

#### Schema:

**Type:** string

**Last-Modified:**

**Description:** Timestamp for last modification of the resource, as described

in RFC 7232, 2.2

```
    Schema:
      Type: string
  '403':
    Description: Forbidden
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    Default:
      Description: Unexpected error
      Content:
        application/problem+json:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
```

**patch:**

**Summary:** modify the provisioned parameter data

**Operation ID:** ModifyPpData

**Tags:**

- ProvisionedParameterData (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Description:** pp data for a UE
- Required/Optional:** true
- Schema:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**

application/json-patch+json:

**Schema:**

**Type:** array

**Items:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'

**Required/Optional:** true

**Responses:**

'204':

**Description:** Expected response to a valid request

'403':

**Description:** modification is rejected

**Content:**

application/problem+json:

**Schema:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**Default:**

**Description:** Unexpected error

**Content:**

application/problem+json:

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/ee-subscriptions

**get:****Summary:** Retrieves the ee subscriptions of a UE**Operation ID:** Queryeesubscriptions**Tags:**

- Event Exposure Subscriptions (Collection)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** supported-features

**In:** query**Description:** Supported Features**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Type:** array**Items:****Reference:** '#/components/schemas/EeSubscription'**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**Method:** Post**Summary:** Create individual EE subscription**Operation ID:** CreateEeSubscriptions**Tags:**

- Event Exposure Subscriptions (Collection)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE ID

```

    Required/Optional: true
    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/EeSubscription'
        Required/Optional: true

  Responses:
    '201':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/EeSubscription'
      Headers:
        Location:
          description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}'
          Required/Optional: true
          Schema:
            Type: string
      Default:
        Description: Unexpected error
        Content:
          application/problem+json:
            Schema:
              Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}

```

put:
  Summary: Stores an individual ee subscriptions of a UE
  Operation ID: UpdateEesubscriptions

  Tags:
    - Event Exposure Subscription (Document)

  Parameters:
    - Name: ueId
      In: path
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    - Name: subsId
      In: path
      Required/Optional: true
      Schema:

```

**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EeSubscription'

**Responses:**

**'204':**

**Description:** Upon success, an empty response body shall be returned

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**delete:**

**Summary:** Deletes a eeSubscription

**Operation ID:** RemoveeeSubscriptions

**Tags:**

- Event Exposure Subscription (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Required/Optional:** true
- Schema:**
- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subsId
- In:** path
- Required/Optional:** true
- Description:** Unique ID of the subscription to remove
- Schema:**
- Type:** string

**Responses:**

**'204':**

**Description:** Expected response to a successful subscription removal

## /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}/amf-subscriptions

**put:**

**Summary:** Create AmfSubscriptions for an individual ee subscriptions of a UE

**Operation ID:** Create AMF Subscriptions

**Tags:**

- AMF Subscription Info (Document)

**Parameters:**

- **Name:** ueId
- In:** path



**Required/Optional:** true  
**Schema:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'  
- **Name:** subsId  
  **In:** path  
  **Required/Optional:** true  
  **Schema:**  
    **Type:** string  
**Request Body:**  
  **Content:**  
    **Application/JSON:**  
      **Schema:**  
        **Type:** array  
        **Items:**  
          **Reference:** '#/components/schemas/AmfSubscriptionInfo'  
          **Min Items:** 1  
      **Required/Optional:** true  
**Responses:**  
  '204':  
    **Description:** Upon success, an empty response body shall be returned  
  **Default:**  
    **Description:** Unexpected error  
    **Content:**  
      **application/problem+json:**  
        **Schema:**  
          **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'  
**delete:**  
  **Summary:** Deletes AMF Subscription Info for an eeSubscription  
  **Operation ID:** RemoveAmfSubscriptionsInfo  
**Tags:**  
  - Event AMF Subscription Info (Document)  
**Parameters:**  
  - **Name:** ueId  
    **In:** path  
    **Required/Optional:** true  
    **Schema:**  
      **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'  
  - **Name:** subsId  
    **In:** path  
    **Required/Optional:** true  
    **Schema:**  
      **Type:** string  
**Responses:**  
  '204':  
    **Description:** Expected response to a successful subscription removal  
**patch:**  
  **Summary:** modify the AMF Subscription Info  
  **Operation ID:** ModifyAmfSubscriptionInfo

**Tags:**

- AmfSubscriptionInfo (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subsId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

- Content:**  
**application/json-patch+json:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'
- Required/Optional:** true

**Responses:**

- '204':  
**Description:** Expected response to a valid request
- '403':  
**Description:** modification is rejected  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'
- Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**get:**

- Summary:** Retrieve AMF subscription Info
- Operation ID:** GetAmfSubscriptionInfo

**Tags:**

- Query AMF Subscription Info (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subsId  
**In:** path

```
Required/Optional: true
Schema:
  Type: string

Responses:
  '200':
    Description: OK
    Content:
      Application/JSON:
        Schema:
          Type: array
          Items:
            Reference: '#/components/schemas/AmfSubscriptionInfo'
            Min Items: 1
    Default:
      Description: Unexpected error
      Content:
        application/problem+json:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
```

## /subscription-data/group-data/{ueGroupId}/ee-subscriptions

```
get:
  Summary: Retrieves the ee subscriptions of a group of UEs or any UE
  Operation ID: QueryEeGroupSubscriptions

  Tags:
    - Event Exposure Group Subscriptions (Collection)

  Parameters:
    - Name: ueGroupId
      In: path
      Description: Group of UEs or any UE
      Required/Optional: true
      Schema:
        Reference: '#/components/schemas/VarUeGroupId'
    - Name: supported-features
      In: query
      Description: Supported Features
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

  Responses:
    '200':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Type: array
            Items:
```

**Reference:** '#/components/schemas/EeSubscription'

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**Method:** Post

**Summary:** Create individual EE subscription for a group of UEs or any UE

**Operation ID:** CreateEeGroupSubscriptions

**Tags:**

- Event Exposure Group Subscriptions (Collection)

**Parameters:**

- **Name:** ueGroupId
- In:** path
- Description:** Group of UEs or any UE
- Required/Optional:** true
- Schema:**
- Reference:** '#/components/schemas/VarUeGroupId'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EeSubscription'

**Required/Optional:** true

**Responses:**

**'201':**

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EeSubscription'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/v1/subscription-data/group-data/{ueGroupId}/ee-subscriptions '

**Required/Optional:** true

**Schema:**

**Type:** string

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/group-data/{ueGroupId}/ee-subscriptions/{subsId}

### put:

**Summary:** Stores an individual ee subscription of a group of UEs or any UE

**Operation ID:** UpdateEeGroupSubscriptions

### Tags:

- Event Exposure Subscription (Document)

### Parameters:

- **Name:** ueGroupId

**In:** path

**Required/Optional:** true

**Schema:**

**Reference:** '#/components/schemas/VarUeGroupId'

- **Name:** subsId

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

### Request Body:

#### Content:

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EeSubscription'

### Responses:

'204':

**Description:** Upon success, an empty response body shall be returned

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

### delete:

**Summary:** Deletes a eeSubscription for a group of UEs or any UE

**Operation ID:** RemoveEeGroupSubscriptions

### Tags:

- Event Exposure Subscription (Document)

### Parameters:

- **Name:** ueGroupId

**In:** path

**Required/Optional:** true

**Schema:**

**Reference:** '#/components/schemas/VarUeGroupId'

- **Name:** subsId

**In:** path

**Required/Optional:** true

**Description:** Unique ID of the subscription to remove

**Schema:****Type:** string**Responses:****'204':****Description:** Expected response to a successful subscription removal

## /subscription-data/{ueId}/ee-profile-data

**get:****Summary:** Retrieves the ee profile data of a UE**Operation ID:** QueryEEData**Tags:**

- Event Exposure Data (Document)

**Parameters:**

- **Name:** ueId

**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** fields

**In:** query**Description:** attributes to be retrieved**Required/Optional:** false**Schema:****Type:** array**Items:****Type:** string**Style:** form**Explode:** false

- **Name:** supportedFeatures

**In:** query**Description:** Supported Features**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**Responses:****'200':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/EeProfileData'**Default:****Description:** Unexpected error**Content:****application/problem+json:**

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueId}/context-data/sdm-subscriptions

**get:****Summary:** Retrieves the sdm subscriptions of a UE**Operation ID:** Querysdmsubscriptions**Tags:**

- SDM Subscriptions (Collection)

**Parameters:**- **Name:** ueId**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'- **Name:** supported-features**In:** query**Description:** Supported Features**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'**Responses:**

'200':

**Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Type:** array**Items:****Reference:** '#/components/schemas/SdmSubscription'**Default:****Description:** Unexpected error**Content:****application/problem+json:****Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'**Method:** Post**Summary:** Create individual sdm subscription**Operation ID:** CreateSdmSubscriptions**Tags:**

- SDM Subscriptions (Collection)

**Parameters:**- **Name:** ueId**In:** path**Description:** UE ID

/subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}

```

    Required/Optional: true
    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SdmSubscription'
        Required/Optional: true

  Responses:
    '201':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/SdmSubscription'
      Headers:
        Location:
          description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}'
          Required/Optional: true
          Schema:
            Type: string
      Default:
        Description: Unexpected error
        Content:
          application/problem+json:
            Schema:
              Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## /subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}

```

put:
  Summary: Stores an individual sdm subscriptions of a UE
  Operation ID: Updatesdmsubscriptions

  Tags:
    - SDM Subscription (Document)

  Parameters:
    - Name: ueId
      In: path
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    - Name: subsId
      In: path
      Required/Optional: true
      Schema:

```



**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SdmSubscription'

**Responses:**

**'204':**

**Description:** Upon success, an empty response body shall be returned

**Default:**

**Description:** Unexpected error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**delete:**

**Summary:** Deletes a sdmsubscriptions

**Operation ID:** RemovesdmSubscriptions

**Tags:**

- SDM Subscription (Document)

**Parameters:**

- **Name:** ueId
- In:** path
- Required/Optional:** true
- Schema:**
- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subsId
- In:** path
- Required/Optional:** true
- Description:** Unique ID of the subscription to remove
- Schema:**
- Type:** string

**Responses:**

**'204':**

**Description:** Expected response to a successful subscription removal

## /subscription-data/shared-data

**get:**

**Summary:** retrieve shared data

**Operation ID:** GetSharedData

**Tags:**

- Retrieval of shared data

**Parameters:**

- **Name:** shared-data-ids
- In:** query

**Description:** List of shared data ids  
**Required/Optional:** true  
**Style:** form  
**Explode:** false  
**Schema:**  
**Reference:** 'TS29503\_Nudm\_SDM.yaml#/components/schemas/SharedDataIds'  
- **Name:** supportedFeatures  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**  
**'200':**  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29503\_Nudm\_SDM.yaml#/components/schemas/SharedData'  
**Min Items:** 1  
**'400':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'  
**'404':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Description:** Unexpected error

## /subscription-data/subs-to-notify

**Method:** Post  
**Summary:** Subscription data subscriptions  
**Operation ID:** SubscriptionDataSubscriptions

**Tags:**  
- Subs To Notify (Collection)

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SubscriptionDataSubscriptions'  
**Required/Optional:** true

**Responses:**  
**'201':**  
**Description:** Expected response to a valid request

```

Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/SubscriptionDataSubscriptions'
Headers:
  Location:
    description: 'Contains the URI of the newly created resource,
according to the structure: {apiRoot}/subscription-data/subs-to-notify/{subsId}'
    Required/Optional: true
    Schema:
      Type: string
Default:
  Description: Unexpected error
Content:
  application/problem+json:
    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
Callbacks:
  onChange:
    '{request.body#/callbackReference}':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/DataChangeNotify'

Responses:
  '204':
    Description: Expected response to a valid request

```

## /subscription-data/subs-to-notify/{subsId}

```

delete:
  Summary: Deletes a subscriptionDataSubscriptions
  Operation ID: RemovesubscriptionDataSubscriptions

Tags:
  - Subs To Notify (Document)

Parameters:
  - Name: subsId
    In: path
    Required/Optional: true
    Description: Unique ID of the subscription to remove
    Schema:
      Type: string

Responses:

```

'204':

**Description:** Expected response to a successful subscription removal

## /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/trace-data

**get:**

**Summary:** Retrieves the trace configuration data of a UE

**Operation ID:** QueryTraceData

**Tags:**

- Trace Data (Document)

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** servingPlmnId  
**In:** path  
**Description:** PLMN ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/VarPlmnId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TraceData'

**Headers:**

**Cache-Control:**

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

**Schema:**

**Type:** string

**ETag:**

**Description:** Entity Tag, containing a strong validator, as described in RFC

7232, 2.3

**Schema:**  
**Type:** string  
**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2  
**Schema:**  
**Type:** string  
**Default:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

## /subscription-data/{ueId}/identity-data

### get:

**Summary:** Retrieve identity data by SUPI or GPSI  
**Operation ID:** GetIdentityData

### Tags:

- Query Identity Data by SUPI or GPSI (Document)

### Parameters:

- **Name:** ueId  
**In:** path  
**Description:** UE ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.2  
**Schema:**  
**Type:** string
- **Name:** If-Modified-Since  
**In:** header  
**Description:** Validator for conditional requests, as described in RFC 7232, 3.3  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** OK  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/IdentityData'

### Headers:

#### Cache-Control:

**Description:** Cache-Control containing max-age, as described in RFC 7234, 5.2

#### Schema:

**Type:** string

**ETag:**  
**Description:** Entity Tag, containing a strong validator, as described in RFC 7232, 2.3  
**Schema:**  
**Type:** string  
**Last-Modified:**  
**Description:** Timestamp for last modification of the resource, as described in RFC 7232, 2.2  
**Schema:**  
**Type:** string  
**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /subscription-data/{ueid}/operator-determined-barring-data

**get:**  
**Summary:** Retrieve ODB Data data by SUPI or GPSI  
**Operation ID:** GetOdbData

**Tags:**  
 - Query ODB Data by SUPI or GPSI (Document)

**Parameters:**  
 - **Name:** ueId  
**In:** path  
**Description:** UE ID  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Responses:**  
**'200':**  
**Description:** OK  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/OperatorDeterminedBarringData'

**Default:**  
**Description:** Unexpected error  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

# Components

```
schemas:
  AuthenticationSubscription:
    Type: object
    Required:
      - authenticationMethod
      - permanentKey
      - sequenceNumber
    Properties:
      authenticationMethod:
        Reference: '#/components/schemas/AuthMethod'
      permanentKey:
        Reference: '#/components/schemas/PermanentKey'
      sequenceNumber:
        Reference: '#/components/schemas/SequenceNumber'
      authenticationManagementField:
        Reference: '#/components/schemas/AuthenticationManagementField'
      vectorAlgorithm:
        Reference: '#/components/schemas/VectorAlgorithm'
      milenage:
        Reference: '#/components/schemas/Milenage'
      tuak:
        Reference: '#/components/schemas/Tuak'
      opc:
        Reference: '#/components/schemas/Opc'
      topc:
        Reference: '#/components/schemas/Topc'
      sharedAuthenticationSubscriptionId:
        Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SharedData'
  SharedAuthenticationSubscription:
    Type: object
    Required:
      - authenticationMethod
      - vectorAlgorithm
    Properties:
      authenticationManagementField:
        Reference: '#/components/schemas/AuthenticationManagementField'
      vectorAlgorithm:
        Reference: '#/components/schemas/VectorAlgorithm'
      milenage:
        Reference: '#/components/schemas/Milenage'
      tuak:
        Reference: '#/components/schemas/Tuak'
  PermanentKey:
    Type: object
    Required:
      - permanentKeyValue
      - encryptionKey
      - encryptionAlgorithm
```

```

Properties:
  permanentKeyValue:
    Reference: '#/components/schemas/PermanentKeyValue'
  encryptionKey:
    Reference: '#/components/schemas/EncryptionKey'
  encryptionAlgorithm:
    Reference: '#/components/schemas/EncryptionAlgorithm'
Milenage:
  Type: object
  Properties:
    op:
      Reference: '#/components/schemas/Op'
    rotations:
      Reference: '#/components/schemas/Rotations'
    constants:
      Reference: '#/components/schemas/Constants'
Tuak:
  Type: object
  Properties:
    top:
      Reference: '#/components/schemas/Top'
    keccakIterations:
      Type: integer
      Minimum: 1
      Maximum: 255
Op:
  Type: object
  Required:
  - opValue
  - encryptionKey
  - encryptionAlgorithm
  Properties:
    opValue:
      Reference: '#/components/schemas/OpValue'
    encryptionKey:
      Reference: '#/components/schemas/EncryptionKey'
    encryptionAlgorithm:
      Reference: '#/components/schemas/EncryptionAlgorithm'
Opc:
  Type: object
  Required:
  - opcValue
  - encryptionKey
  - encryptionAlgorithm
  Properties:
    opcValue:
      Reference: '#/components/schemas/OpcValue'
    encryptionKey:
      Reference: '#/components/schemas/EncryptionKey'
    encryptionAlgorithm:
      Reference: '#/components/schemas/EncryptionAlgorithm'
Top:
  Type: object

```



**Required:**

- topValue
- encryptionKey
- encryptionAlgorithm

**Properties:**

**topValue:**

**Reference:** '#/components/schemas/TopValue'

**encryptionKey:**

**Reference:** '#/components/schemas/EncryptionKey'

**encryptionAlgorithm:**

**Reference:** '#/components/schemas/EncryptionAlgorithm'

**Topc:**

**Type:** object

**Required:**

- topcValue
- encryptionKey
- encryptionAlgorithm

**Properties:**

**topcValue:**

**Reference:** '#/components/schemas/TopcValue'

**encryptionKey:**

**Reference:** '#/components/schemas/EncryptionKey'

**encryptionAlgorithm:**

**Reference:** '#/components/schemas/EncryptionAlgorithm'

**Rotations:**

**Type:** object

**Required:**

- r1
- r2
- r3
- r4
- r5

**Properties:**

**r1:**

**Reference:** '#/components/schemas/RValue'

**r2:**

**Reference:** '#/components/schemas/RValue'

**r3:**

**Reference:** '#/components/schemas/RValue'

**r4:**

**Reference:** '#/components/schemas/RValue'

**r5:**

**Reference:** '#/components/schemas/RValue'

**Constants:**

**Type:** object

**Required:**

- c1
- c2
- c3
- c4
- c5

**Properties:**

**c1:**

**Reference:** '#/components/schemas/CValue'

**c2:**

```

    Reference: '#/components/schemas/CValue'
c3:
    Reference: '#/components/schemas/CValue'
c4:
    Reference: '#/components/schemas/CValue'
c5:
    Reference: '#/components/schemas/CValue'
PermanentKeyValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
SequenceNumber:
  Type: string
  Pattern: '^[A-Za-f0-9]{12}$'
AuthenticationManagementField:
  Type: string
  Pattern: '^[A-Za-f0-9]{4}$'
OpValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
OpcValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
TopValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
TopcValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
RValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
CValue:
  Type: string
  Pattern: '^[A-Za-f0-9]+$'
EncryptionKey:
  Type: integer
EncryptionAlgorithm:
  Type: integer
VectorAlgorithm:
  Type: string
  enum:
    - MILENAGE
    - TUAK
VarPlmnId:
  Type: string
  Pattern: '^[0-9]{5,6}$'
DatasetNames:
  Type: array
  Items:
    Reference: '#/components/schemas/DataSetName'
  minItems: 1
  uniqueItems: true

```

```

DataSetName:
  anyOf:
    - type: string
      enum:
        - AM
        - SMF_SEL
        - SMS_SUB
        - SM
        - TRACE
        - SMS_MNG
    - type: string
ProvisionedDataSets:
  Type: object
  Properties:
    amData:
      Reference: '#/components/schemas/AccessAndMobilitySubscriptionData'
    smfSelData:
      Reference: '#/components/schemas/SmfSelectionSubscriptionData'
    smsSubsData:
      Reference: '#/components/schemas/SmsSubscriptionData'
    smData:
      Type: array
      Items:
        Reference: '#/components/schemas/SessionManagementSubscriptionData'
    traceData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    smsMngData:
      Reference: '#/components/schemas/SmsManagementSubscriptionData'
AccessAndMobilitySubscriptionData:
  Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/AccessAndMobilitySubscriptionData'
SmfSelectionSubscriptionData:
  Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmfSelectionSubscriptionData'
VarSnssai:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
Dnn:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
SessionManagementSubscriptionData:
  Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SessionManagementSubscriptionData'
Amf3GppAccessRegistration:
  Reference: 'TS29503_Nudm_UECM.yaml#/components/schemas/Amf3GppAccessRegistration'
AmfNon3GppAccessRegistration:
  Reference: 'TS29503_Nudm_UECM.yaml#/components/schemas/AmfNon3GppAccessRegistration'
SmfRegistration:
  Reference: 'TS29503_Nudm_UECM.yaml#/components/schemas/SmfRegistration'
SmsfRegistration:
  Reference: 'TS29503_Nudm_UECM.yaml#/components/schemas/SmsfRegistration'
SmsManagementSubscriptionData:
  Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmsManagementSubscriptionData'
SmsSubscriptionData:
  Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmsSubscriptionData'

```

```

OperatorSpecificDataContainer:
  Type: object
  Properties:
    StringTypeElements:
      Type: object
      additionalProperties:
        Type: string
    IntegerTypeElements:
      Type: object
      additionalProperties:
        Type: integer
    NumberTypeElements:
      Type: object
      additionalProperties:
        Type: number
    BooleanTypeElements:
      Type: object
      additionalProperties:
        Type: boolean
  AuthMethod:
    Type: string
    enum:
      - 5G_AKA
      - EAP_AKA_PRIME
  PpData:
    Reference: 'TS29503_Nudm_PP.yaml#/components/schemas/PpData'
  EeSubscription:
    Reference: 'TS29503_Nudm_EE.yaml#/components/schemas/EeSubscription'
  VarUeGroupId:
    Type: string
    Pattern: '^ (extgroupid- [^@]+@[^@]+|anyUE) $'
  SdmSubscription:
    Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/SdmSubscription'
  SmfRegList:
    Type: array
    Items:
      Reference: '#/components/schemas/SmfRegistration'
  SubscriptionDataSubscriptions:
    Type: object
    Required:
      - ueId
      - callbackReference
      - originalCallbackReference
      - supported-features
    Properties:
      ueId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      callbackReference:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      originalCallbackReference:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      monitoredResourceUri:
        Type: array

```

```
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  expiry:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  supported-features:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
DataChangeNotify:
  Type: object
  Properties:
    originalCallbackReference:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      minItems: 1
    ueId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    notifyItems:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NotifyItem'
      minItems: 1
IdentityData:
  Type: object
  Properties:
    supiList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
      maxItems: 2
    gpsiList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      minItems: 1
SorData:
  Type: object
  Properties:
    sorXmacIue:
      Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
  Required:
    - sorXmacIue
OperatorDeterminedBarringData:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/OdbData'
EeProfileData:
  Type: object
  Properties:
    restrictedEventTypes:
      Type: array
      Items:
        Reference: 'TS29503_Nudm_EE.yaml#/components/schemas/EventType'
  supportedFeatures:
```

```
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'  
AmfSubscriptionInfo:  
  Type: object  
  Required:  
    - amfInstanceId  
    - subscriptionId  
  Properties:  
    amfInstanceId:  
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'  
    subscriptionId:  
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'  
    subsChangeNotifyCorrelationId:  
      Type: string
```

## External Docs

**Description:** 3GPP TS 29.505 V15.2.0; 5G System; Usage of the Unified Data Repository services for Subscription Data; Stage 3

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.505/'



## CHAPTER 33

# Npcf AMPolicyControl

---

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## 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'
  policyAssocationTerminationRequestNotification:
    '{$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/{polAssold}

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/{polAssold}/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.





## CHAPTER 34

# Nsmf EventExposure

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Session Management Event Exposure Service API

**Version:** "1.0.0"

**Title:** Nsmf\_EventExposure

## Servers

**URL:** '{apiRoot}/nsmf\_event-exposure/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - nsmf-event-exposure
```

# Paths

## /subscriptions

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

Responses:
  '201':
    Description: Success
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NsmfEventExposure'
  '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:
  myNotification:
    '{ $request.body#/notifUri }':
      Method: Post
      Request Body:
```

```

Required/Optional: true
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/NsmfEventExposureNotification'

Responses:
  '204':
    Description: No Content, Notification was successful
  '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'

```

## /subscriptions/{subId}

**get:**

**Parameters:**

```

- Name: subId
  In: path
  Description: Event Subscription ID
  Required/Optional: true
  Schema:
    Type: string

```

**Responses:**

```

'200':
  Description: OK. Resource representation is returned
  Content:
    Application/JSON:

```

```

    Schema:
      Reference: '#/components/schemas/NsmfEventExposure'
  Headers:
    Location:
      description: 'Contains the URI of the newly created resource,
according to the structure: {apiRoot}/npcf-event-exposure/v1/subscriptions/{subId}'
      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'
  '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'
put:
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NsmfEventExposure'

  Parameters:
    - Name: subId
      In: path
      Description: Event Subscription ID
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '200':
      Description: OK. Resource was succesfully modified and representation is returned

      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NsmfEventExposure'
    '204':

```

**Description:** No Content. Resource was succesfully modified

'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'

**delete:**

**Parameters:**

- **Name:** subId  
**In:** path  
**Description:** Event Subscription ID  
**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'

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nsmf_event-exposure: Access to the Nsmf_EventExposure API

schemas:
  NsmfEventExposure:
    Type: object
    Properties:
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      anyUeInd:
        Type: boolean
        Description: Any UE indication. This IE shall be present if the event subscription
is applicable to any UE. Default value "FALSE" is used, if not present.
      groupId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      pduSeId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
      subId:
        Reference: '#/components/schemas/SubId'
      notifId:
        Type: string
        Description: Notification Correlation ID assigned by the NF service consumer.
      notifUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      altNotifIpv4Addrs:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
          Description: Alternate or backup IPv4 Address(es) where to send Notifications.
          minItems: 1
      altNotifIpv6Addrs:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
          Description: Alternate or backup IPv6 Address(es) where to send Notifications.
          minItems: 1
      eventSubs:
        Type: array
        Items:

```

```

    Reference: '#/components/schemas/EventSubscription'
    minItems: 1
    Description: Subscribed events
ImmeRep:
    Type: boolean
notifMethod:
    Reference: '#/components/schemas/NotificationMethod'
maxReportNbr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
expiry:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
repPeriod:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
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 notifications about subscribed events.
supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
Required:
- notifId
- notifUri
- eventSubs
NsmfEventExposureNotification:
Type: object
Properties:
  notifId:
    Type: string
    Description: Notification correlation ID
  eventNotifs:
    Type: array
    Items:
      Reference: '#/components/schemas/EventNotification'
    minItems: 1
    Description: Notifications about Individual Events
Required:
- notifId
- eventNotifs
EventSubscription:
Type: object
Properties:
  event:
    Reference: '#/components/schemas/SmfEvent'
  dnaiChgType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DnaiChangeType'
Required:
- event
EventNotification:
Type: object
Properties:
  event:

```

**Reference:** '#/components/schemas/SmfEvent'

**timeStamp:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**supi:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**gpsi:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

**sourceDnai:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

**targetDnai:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

**dnaiChgType:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DnaiChangeType'

**sourceUeIpv4Addr:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**sourceUeIpv6Prefix:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**targetUeIpv4Addr:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**targetUeIpv6Prefix:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**sourceTraRouting:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'

**targetTraRouting:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'

**ueMac:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

**adIpv4Addr:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**adIpv6Prefix:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**reIpv4Addr:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**reIpv6Prefix:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**plmnId:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

**accType:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

**pduSeId:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'

**Required:**

- event
- timeStamp

**SubId:****Type:** string**format:** SubId

**Description:** Identifies an Individual SMF Notification Subscription. To enable that the value is used as part of a URI, the string shall only contain characters allowed according to the "lower-with-hyphen" naming convention defined in 3GPP TS 29.501 [2]. In an OpenAPI [10] schema, the format shall be designated as "SubId".

**SmfEvent:**



**anyOf:**

- type: string

**enum:**

- AC\_TY\_CH
- UP\_PATH\_CH
- PDU\_SES\_REL
- PLMN\_CH
- UE\_IP\_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

- AC\_TY\_CH: Access Type Change
- UP\_PATH\_CH: UP Path Change
- PDU\_SES\_REL: PDU Session Release
- PLMN\_CH: PLMN Change
- UE\_IP\_CH: UE IP address change

**NotificationMethod:****anyOf:**

- type: string

**enum:**

- PERIODIC
- ONE\_TIME
- ON\_EVENT\_DETECTION

- 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

- PERIODIC
- ONE\_TIME
- ON\_EVENT\_DETECTION





## CHAPTER 35

# Nausf SoRProtection

---

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** 1.0.0  
**Title:** Nausf\_SoRProtection Service  
**Description:** AUSF SoR Protection Service

## Servers

**URL:** '{apiRoot}/nausf-sorprotection/v1'  
**Variables:**  
  **API Root:**  
    **Default:** https://example.com  
    **Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - nausf-sorprotection
```

## Paths

### **{supi}/ue-sor**

**Method:** Post

**Parameters:**

```
- Name: supi
  In: path
  Description: Identifier of the UE
  Required/Optional: true
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
```

**Request Body:**

```
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/SorInfo'
  Required/Optional: true
```

**Responses:**

```
'201':
  Description: SorSecurityInfo
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SorSecurityInfo'
'503':
  Description: Service Unavailable
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
```

## Components

**securitySchemes:**

**oAuth2ClientCredentials:**

```
Type: oauth2
Flows:
  clientCredentials:
    tokenUrl: '{nrfApiRoot}/oauth2/token'
    scopes:
```

**nausf-sorprotection:** Access to the Nausf\_SoRProtection API

**schemas:**

**SorInfo:**

**Type:** object

**Properties:**

**steeringContainer:**

**Reference:** '#/components/schemas/SteeringContainer'

**ackInd:**

**Reference:** '#/components/schemas/AckInd'

**Required:**

- ackInd

**SorSecurityInfo:**

**Type:** object

**Properties:**

**sorMacIausf:**

**Reference:** '#/components/schemas/SorMac'

**counterSor:**

**Reference:** '#/components/schemas/CounterSor'

**sorXmacIue:**

**Reference:** '#/components/schemas/SorMac'

**Required:**

- sorMacIausf

- counterSor

**SteeringContainer:**

**oneOf:**

- type: array

**Items:**

**Reference:** 'TS29509\_Nausf\_SoRProtection.yaml#/components/schemas/SteeringInfo'

**minItems:** 1

- \$ref: '#/components/schemas/SecuredPacket'

**SteeringInfo:**

**Type:** object

**Properties:**

**plmnId:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

**accessTechList:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/AccessTech'

**minItems:** 1

**Required:**

- plmnId

**SorMac:**

**Type:** string

**Pattern:** '^([A-Fa-f0-9]){32}\$'

**CounterSor:**

**Type:** string

**Pattern:** '^([A-Fa-f0-9]){4}\$'

**AckInd:**

**Type:** boolean

**SecuredPacket:**

```
Type: string
format: base64
AccessTech:
anyOf:
- type: string
  enum:
  - NR
  - EUTRAN_IN_WBS1_MODE_AND_NBS1_MODE
  - EUTRAN_IN_NBS1_MODE_ONLY
  - EUTRAN_IN_WBS1_MODE_ONLY
  - UTRAN
  - GSM_AND_ECGSM_IoT
  - GSM_WITHOUT_ECGSM_IoT
  - ECGSM_IoT_ONLY
  - CDMA_1xRTT
  - CDMA_HRPD
  - GSM_COMPACT
- type: string
```

## External Docs

**Description:** 3GPP TS 29.509 V15.2.0; 5G System; Authentication Server Services

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.509](http://www.3gpp.org/ftp/Specs/archive/29_series/29.509)'



## CHAPTER 36

# Nausf UEAuthentication

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** 1.0.0  
**Title:** AUSF API  
**Description:** OpenAPI specification for AUSF

## Servers

**URL:** '{apiRoot}/nausf-auth/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

## Security

- {}

```
- oAuth2ClientCredentials:
  - nausf-auth
```

## Paths

### /ue-authentications

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

Responses:
  '201':
    Description: UEAuthenticationCtx
    Content:
      application/3gppHal+json:
        Schema:
          Reference: '#/components/schemas/UEAuthenticationCtx'
    Headers:
      Location:
        description: 'Contains the URI of the newly created resource
according to the structure: {apiRoot}/nausf-auth/v1/ue-authentications/{authCtxId}'
        Required/Optional: true
        Schema:
          Type: string
  '400':
    Description: Bad Request from the AMF
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '403':
    Description: Forbidden due to serving network not authorized
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '500':
    Description: Internal Server Error
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
```



## /ue-authentications/{authCtxId}/5g-aka-confirmation

put:

**Parameters:**

- **Name:** authCtxId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ConfirmationData'

**Responses:**

'200':

**Description:** Request processed (EAP success or Failure)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ConfirmationDataResponse'

'400':

**Description:** Bad Request

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'500':

**Description:** Internal Server Error

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /ue-authentications/{authCtxId}/eap-session

**Method:** Post

**Operation ID:** EapAuthMethod

**Parameters:**

- **Name:** authCtxId  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

```

    Schema:
      Reference: '#/components/schemas/EapSession'

  Responses:
    '200':
      Description: Use to handle or close the EAP session
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/EapSession'
        application/3gppHal+json:
          Schema:
            Type: object
            Properties:
              eapPayload:
                Reference: '#/components/schemas/EapPayload'
              _links:
                Type: object
                description: 'URI : /{eapSessionUri}'
                additionalProperties:
                  Reference:
                    'TS29571_CommonData.yaml#/components/schemas/LinksValueSchema'
                minProperties: 1
            Required/Optional:
              - eapPayload
              - _links
    '400':
      Description: Bad Request
      Content:
        application/problem+json:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '500':
      Description: Internal Server Error
      Content:
        application/problem+json:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nausf-auth: Access to Nausf_UEAuthentication API

```

```

schemas:
  AuthenticationInfo:
    Type: object
    Properties:
      supiOrSuci:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/SupiOrSuci'
      servingNetworkName:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/ServingNetworkName'
      resynchronizationInfo:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/ResynchronizationInfo'
      traceData:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    Required:
      - supiOrSuci
      - servingNetworkName
  UEAuthenticationCtx:
    Type: object
    Properties:
      authType:
        Reference: '#/components/schemas/AuthType'
      5gAuthData:
        oneOf:
          - $ref: '#/components/schemas/Av5gAka'
          - $ref: '#/components/schemas/EapPayload'
      _links:
        Type: object
        additionalProperties:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/LinksValueSchema'
      servingNetworkName:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/ServingNetworkName'
    Required:
      - authType
      - 5gAuthData
      - _links
  Av5gAka:
    Type: object
    Required:
      - rand
      - hxresStar
      - autn
    Properties:
      rand:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/Rand'
      hxresStar:
        Reference: '#/components/schemas/HxresStar'
      autn:
        Reference: 'TS29503_Nudm_UEAU.yaml#/components/schemas/Autn'
  ConfirmationData:
    Type: object
    Required:
      - resStar
    Properties:
      resStar:
        Reference: '#/components/schemas/ResStar'

```

```

ConfirmationDataResponse:
  Type: object
  Properties:
    authResult:
      Reference: '#/components/schemas/AuthResult'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    kseaf:
      Reference: '#/components/schemas/Kseaf'
  Required:
    - authResult
EapSession:
  Type: object
  Properties:
    eapPayload:
      Reference: '#/components/schemas/EapPayload'
    kSeaf:
      Reference: '#/components/schemas/Kseaf'
    _links:
      Type: object
      additionalProperties:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/LinksValueSchema'
    authResult:
      Reference: '#/components/schemas/AuthResult'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  Required:
    - eapPayload
AuthResult:
  Type: string
  enum:
    - AUTHENTICATION_SUCCESS
    - AUTHENTICATION_FAILURE
    - AUTHENTICATION_ONGOING
EapPayload:
  Type: string
  format: base64
  Description: contains an EAP packet
Kseaf:
  Type: string
  Pattern: '[A-Za-f0-9]{64}'
ResStar:
  Type: string
  Pattern: '[A-Za-f0-9]{32}'
HxresStar:
  Type: string
  Pattern: "[A-Za-f0-9]{32}"
AuthType:
  anyOf:
    - type: string
      enum:
        - 5G_AKA
        - EAP_AKA_PRIME

```

```
- EAP_TLS  
- type: string
```

## External Docs

**Description:** 3GPP TS 29.509 V15.2.0; 5G System; 3GPP TS Authentication Server services.

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.509](http://www.3gpp.org/ftp/Specs/archive/29_series/29.509)





## CHAPTER 37

# Nnrf AccessToken

---

- [OpenAPI](#), on page 443
- [Info](#), on page 443
- [Paths](#), on page 443
- [Components](#), on page 444
- [External Docs](#), on page 446

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'NRF OAuth2'  
**Description:** 'NRF OAuth2 Authorization'

## Paths

### /oauth2/token

**Method:** Post  
**Summary:** Access Token Request  
**Operation ID:** AccessTokenRequest

**Tags:**  
- Access Token Request

**Request Body:**  
**Content:**  
application/x-www-form-urlencoded:  
**Schema:**

```

    Reference: '#/components/schemas/AccessTokenReq'
Required/Optional: true

Responses:
  '200':
    Description: Successful Access Token Request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/AccessTokenRsp'
        Headers:
          Cache-Control:
            Reference: '#/components/headers/cache-control'
          Pragma:
            Reference: '#/components/headers/pragma'
  '400':
    Description: Error in the Access Token Request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/AccessTokenErr'
        Headers:
          Cache-Control:
            Reference: '#/components/headers/cache-control'
          Pragma:
            Reference: '#/components/headers/pragma'

```

## Components

```

headers:
  cache-control:
    Required: true
    schema:
      Type: string
      enum:
        - no-store
  pragma:
    Required: true
    schema:
      Type: string
      enum:
        - no-cache

schemas:
  AccessTokenReq:
    Type: object
    Required:
      - grant_type
      - nfInstanceId
      - scope

```



```

Properties:
  grant_type:
    Type: string
    enum:
      - client_credentials
  nfInstanceId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  nfType:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFType'
  targetNfType:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFType'
  scope:
    Type: string
    Pattern: '^([a-zA-Z0-9_-]+) ([a-zA-Z0-9_-]+)*$'
  targetNfInstanceId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  requesterPlmn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  targetPlmn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
AccessTokenRsp:
  Type: object
  Required:
    - access_token
    - token_type
  Properties:
    access_token:
      Type: string
      Description: JWS Compact Serialized representation of JWS signed JSON object
      (AccessTokenClaims)
    token_type:
      Type: string
    expires_in:
      Type: integer
    scope:
      Type: string
      Pattern: '^([a-zA-Z0-9_-]+) ([a-zA-Z0-9_-]+)*$'
AccessTokenClaims:
  Type: object
  Required:
    - issuer
    - subject
    - audience
    - scope
    - expiration
  Properties:
    issuer:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    subject:
      Type: string
    audience:
      anyOf:
        - $ref: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFType'
        - type: array

```

```
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      minItems: 1
  scope:
    Type: string
    Pattern: '^([a-zA-Z0-9_-]+) ([a-zA-Z0-9_-]+)*$'
  expiration:
    Type: integer
AccessTokenErr:
  Type: object
  Required:
    - error
  Properties:
    error:
      Type: string
    enum:
      - invalid_request
      - invalid_client
      - invalid_grant
      - unauthorized_client
      - unsupported_grant_type
      - invalid_scope
  error_description:
    Type: string
  error_uri:
    Type: string
```

## External Docs

**Description:** 3GPP TS 29.510 V15.2.0; 5G System; Network Function Repository Services; Stage 3

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.510/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.510/)'



## CHAPTER 38

# Nnrf NFDiscovery

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- [Info, on page 447](#)
- [Servers, on page 447](#)
- [Security, on page 447](#)
- [Paths, on page 448](#)
- [Components, on page 453](#)
- [External Docs, on page 456](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'NRF NFDiscovery Service'  
**Description:** 'NRF NFDiscovery Service'

## Servers

**URL:** '{apiRoot}/nnrf-disc/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

- oAuth2ClientCredentials:
  - nnrf-disc

## Paths

### /nf-instances

#### get:

**Summary:** Search a collection of NF Instances

**Operation ID:** SearchNFInstances

#### Tags:

- NF Instances (Store)

#### Parameters:

- **Name:** target-nf-type  
**In:** query  
**Description:** Type of the target NF  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'
- **Name:** requester-nf-type  
**In:** query  
**Description:** Type of the requester NF  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'
- **Name:** service-names  
**In:** query  
**Description:** Name of the service offered by the NF  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string  
**Min Items:** 1  
**Style:** form  
**Explode:** false
- **Name:** requester-nf-instance-fqdn  
**In:** query  
**Description:** FQDN of the requester NF  
**Schema:**  
**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/Fqdn'
- **Name:** target-plmn-list  
**In:** query  
**Description:** Id of the PLMN where the target NF is located  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array

```

      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
        Min Items: 1
- Name: requester-plmn-list
  In: query
  Description: Id of the PLMN where the NF issuing the Discovery request is located

  Content:
    Application/JSON:
      Schema:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
          Min Items: 1
- Name: target-nf-instance-id
  In: query
  Description: Identity of the NF instance being discovered
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
- Name: target-nf-fqdn
  In: query
  Description: FQDN of the NF instance being discovered
  Schema:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
- Name: hnr-uri
  In: query
  Description: Uri of the home NRF
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
- Name: snssais
  In: query
  Description: Slice info of the target NF
  Content:
    Application/JSON:
      Schema:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
          Min Items: 1
- Name: dnn
  In: query
  Description: Dnn supported by the BSF, SMF or UPF
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
- Name: nsi-list
  In: query
  Description: NSI IDs that are served by the services being discovered
  Schema:
    Type: array
    Items:
      Type: string
    Min Items: 1

```

```

Style: form
Explode: false
- Name: smf-serving-area
  In: query
  Schema:
    Type: string
- Name: tai
  In: query
  Description: Tracking Area Identity
  Content:
    Application/JSON:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
- Name: amf-region-id
  In: query
  Description: AMF Region Identity
  Schema:
    Type: string
- Name: amf-set-id
  In: query
  Description: AMF Set Identity
  Schema:
    Type: string
- Name: guami
  In: query
  Description: Guami used to search for an appropriate AMF
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
- Name: supi
  In: query
  Description: SUPI of the user
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
- Name: ue-ipv4-address
  In: query
  Description: IPv4 address of the UE
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
- Name: ip-domain
  In: query
  Description: IP domain of the UE, which supported by BSF
  Schema:
    Type: string
- Name: ue-ipv6-prefix
  In: query
  Description: IPv6 prefix of the UE
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
- Name: pgw-ind
  In: query
  Description: Combined PGW-C and SMF or a standalone SMF

```

**Schema:**  
**Type:** boolean

- **Name:** pgw  
**In:** query  
**Description:** PGW FQDN of a combined PGW-C and SMF  
**Schema:**  
**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/Fqdn'
- **Name:** gpsi  
**In:** query  
**Description:** GPSI of the user  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'
- **Name:** external-group-identity  
**In:** query  
**Description:** external group identifier of the user  
**Schema:**  
**Type:** string
- **Name:** data-set  
**In:** query  
**Description:** data set supported by the NF  
**Schema:**  
**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/DataSetId'
- **Name:** routing-indicator  
**In:** query  
**Description:** routing indicator in SUCI  
**Schema:**  
**Type:** string  
**pattern:** '^[0-9]{1,4}\$'
- **Name:** group-id-list  
**In:** query  
**Description:** Group IDs of the NFs being discovered  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'  
**Min Items:** 1  
**Style:** form  
**Explode:** false
- **Name:** dnai-list  
**In:** query  
**Description:** Data network access identifiers of the NFs being discovered  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnai'  
**Min Items:** 1  
**Style:** form  
**Explode:** false
- **Name:** supported-features  
**In:** query  
**Description:** Features required to be supported by the target NF

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- **Name:** upf-iwk-eps-ind  
**In:** query  
**Description:** UPF supporting interworking with EPS or not  
**Schema:**  
**Type:** boolean
- **Name:** chf-supported-plmn  
**In:** query  
**Description:** PLMN ID supported by a CHF  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** preferred-locality  
**In:** query  
**Description:** preferred target NF location  
**Schema:**  
**Type:** string
- **Name:** access-type  
**In:** query  
**Description:** AccessType supported by the target NF  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'
- **Name:** If-None-Match  
**In:** header  
**Description:** Validator for conditional requests, as described in IETF RFC 7232,

3.2

**Schema:**  
**Type:** string

**Responses:**

'200':  
**Description:** Expected response to a valid request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/SearchResult'

**Headers:**

**Cache-Control:**  
**Description:** Cache-Control containing max-age, described in IETF RFC 7234,

5.2

**Schema:**  
**Type:** string

**ETag:**  
**Description:** Entity Tag containing a strong validator, described in IETF RFC 7232, 2.3

**Schema:**  
**Type:** string

'307':  
**Description:** Temporary Redirect

'400':



```

    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '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'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '501':
    Reference: 'TS29571_CommonData.yaml#/components/responses/501'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '/oauth2/token'
        scopes:
          nnrf-disc: Access to the Nnrf_NFDISCOVERY API

schemas:
  SearchResult:
    Type: object
    Required:
      - nfInstances
    Properties:
      validityPeriod:
        Type: integer
      nfInstances:
        Type: array
        Items:
          Reference: '#/components/schemas/NFProfile'
  NFProfile:
    Type: object
    Required:
      - nfInstanceId
      - nfType
      - nfStatus
    Properties:

```

```

nfInstanceId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
nfType:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFType'
nfStatus:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFStatus'
plmnList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  minItems: 1
sNssais:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  minItems: 1
nsiList:
  Type: array
  Items:
    Type: string
  minItems: 1
fqdn:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
ipv4Addresses:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  minItems: 1
ipv6Addresses:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
  minItems: 1
capacity:
  Type: integer
  Minimum: 0
  Maximum: 65535
load:
  Type: integer
  Minimum: 0
  Maximum: 100
locality:
  Type: string
priority:
  Type: integer
  Minimum: 0
  Maximum: 65535
udrInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UdrInfo'
udmInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UdmInfo'

```

```

ausfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AusfInfo'
amfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AmfInfo'
smfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/SmfInfo'
upfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UpfInfo'
pcfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PcfInfo'
bsfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/BsfInfo'
chfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ChfInfo'
customInfo:
  Type: object
recoveryTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
nfServicePersistence:
  Type: boolean
  Default: false
nfServices:
  Type: array
  Items:
    Reference: '#/components/schemas/NFService'
  minItems: 1
NFService:
  Type: object
Required:
  - serviceInstanceId
  - serviceName
  - versions
  - scheme
  - nfServiceStatus
Properties:
serviceInstanceId:
  Type: string
serviceName:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
versions:
  Type: array
  Items:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFServiceVersion'

  minItems: 1
scheme:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/UriScheme'
nfServiceStatus:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NFServiceStatus'
fqdn:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
ipEndpoints:
  Type: array

```

```

    Items:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/IpEndPoint'
    minItems: 1
  apiPrefix:
    Type: string
  defaultNotificationSubscriptions:
    Type: array
    Items:
      Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/DefaultNotificationSubscription'
    minItems: 1
  capacity:
    Type: integer
    Minimum: 0
    Maximum: 65535
  load:
    Type: integer
    Minimum: 0
    Maximum: 100
  priority:
    Type: integer
    Minimum: 0
    Maximum: 65535
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  chfServiceInfo:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ChfServiceInfo'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

## External Docs

**Description:** 3GPP TS 29.510 V15.2.0; 5G System; Network Function Repository Services; Stage 3

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.510/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.510/)'



## CHAPTER 39

# Nnrf NFManagement

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'NRF NFManagement Service'  
**Description:** 'NRF NFManagement Service'

## Servers

**URL:** '{apiRoot}/nnrf-nfm/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - nrf-nfm
```

# Paths

## /nf-instances

### get:

**Summary:** Retrieves a collection of NF Instances

**Operation ID:** GetNFInstances

### Tags:

- NF Instances (Store)

### Parameters:

- **Name:** nf-type

**In:** query

**Description:** Type of NF

**Required/Optional:** false

**Schema:**

**Reference:** '#/components/schemas/NFType'

- **Name:** limit

**In:** query

**Description:** How many items to return at one time

**Required/Optional:** false

**Schema:**

**Type:** integer

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**application/3gppHal+json:**

**Schema:**

**Type:** object

**Properties:**

**\_links:**

**Type:** object

**Description:** 'List of the URI of NF instances. It has two members whose names are item and self. The item one contains an array of URIs.'

**additionalProperties:**

**Reference:**

'TS29571\_CommonData.yaml#/components/schemas/LinksValueSchema'

**minProperties:** 1

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
  Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## /nf-instances/{nfInstanceID}

### get:

**Summary:** Read the profile of a given NF Instance

**Operation ID:** GetNFInstance

### Tags:

- NF Instance ID (Document)

### Parameters:

- **Name:** nfInstanceID

**In:** path

**Description:** Unique ID of the NF Instance

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NFProfile'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

```

    '500':
      Reference: 'TS29571_CommonData.yaml#/components/responses/500'
    '501':
      Reference: 'TS29571_CommonData.yaml#/components/responses/501'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  Summary: Register a new NF Instance
  Operation ID: RegisterNFInstance

  Tags:
    - NF Instance ID (Document)

  Parameters:
    - Name: nfInstanceId
      In: path
      Required/Optional: true
      Description: Unique ID of the NF Instance to register
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NFProfile'
      Required/Optional: true

  Responses:
    '200':
      Description: OK (Profile Replacement)
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NFProfile'
    '201':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NFProfile'
  Headers:
    Location:
      description: 'Contains the URI of the newly created resource,
according to the structure: {apiRoot}/nnrf-nfm/v1/nf-instances/{nfInstanceId}'
      Required/Optional: true
      Schema:
        Type: string
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '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'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '501':
    Reference: 'TS29571_CommonData.yaml#/components/responses/501'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  Summary: Update NF Instance profile
  Operation ID: UpdateNFInstance

  Tags:
    - NF Instance ID (Document)

  Parameters:
    - Name: nfInstanceID
      In: path
      Required/Optional: true
      Description: Unique ID of the NF Instance to update
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  Request Body:
    Content:
      application/json-patch+json:
        Schema:
          Type: array
          Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
          Min Items: 1
        Required/Optional: true

  Responses:
    '200':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/NFProfile'
    '204':
      Description: Expected response with empty body
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'

```

```

'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'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
  Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  Summary: Deregisters a given NF Instance
  Operation ID: DeregisterNFInstance

  Tags:
    - NF Instance ID (Document)

  Parameters:
    - Name: nfInstanceId
      In: path
      Required/Optional: true
      Description: Unique ID of the NF Instance to deregister
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'

  Responses:
    '204':
      Description: Expected response to a successful deregistration

```

## /subscriptions

```

Method: Post
Summary: Create a new subscription
Operation ID: CreateSubscription

Tags:
  - Subscriptions (Collection)
Request Body:
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SubscriptionData'
      Required/Optional: true

```

**Responses:****'201':****Description:** Expected response to a valid request**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SubscriptionData'**Headers:****Location:****description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nnrf-nfm/v1/subscriptions/{subscriptionId}'**Required/Optional:** true**Schema:****Type:** string**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'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'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'501':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/501'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'**Callbacks:****onNFStatusEvent:****'{\$request.body#/nfStatusNotificationUri}':****Method:** Post**Request Body:****Description:** Notification Payload**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/NotificationData'**Responses:****'204':****Description:** Expected response to a successful callback processing**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'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'  
**'500':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
**'501':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/501'  
**'503':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

## /subscriptions/{subscriptionID}

### patch:

**Summary:** Updates a subscription

**Operation ID:** UpdateSubscription

### Tags:

- Subscription ID (Document)

### Parameters:

- **Name:** subscriptionID

**In:** path

**Required/Optional:** true

**Description:** Unique ID of the subscription to update

### Schema:

**Type:** string

**pattern:** '^([0-9]{5,6}-)?[^-]+\$'

### Request Body:

#### Content:

**application/json-patch+json:**

#### Schema:

**Type:** array

#### Items:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'

**Required/Optional:** true

### Responses:

**'200':**

**Description:** Expected response to a valid request

#### Content:

**Application/JSON:**

#### Schema:

**Reference:** '#/components/schemas/SubscriptionData'

```

'204':
  Description: No Content
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
  Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  Summary: Deletes a subscription
  Operation ID: RemoveSubscription

Tags:
  - Subscription ID (Document)

Parameters:
  - Name: subscriptionID
    In: path
    Required/Optional: true
    Description: Unique ID of the subscription to remove
  Schema:
    Type: string
    pattern: '^([0-9]{5,6}-)?[^-]+$'

Responses:
'204':
  Description: Expected response to a successful subscription removal
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
  Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '/oauth2/token'
        scopes:
          nnrf-nfm: Access to the Nnrf_NFManagement API

schemas:
  NFProfile:
    Type: object
    Required:
      - nfInstanceId
      - nfType
      - nfStatus
    anyOf:
      - required: [ fqdn ]
      - required: [ ipv4Addresses ]
      - required: [ ipv6Addresses ]
    Properties:
      nfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      nfType:
        Reference: '#/components/schemas/NFType'
      nfStatus:
        Reference: '#/components/schemas/NFStatus'
      heartBeatTimer:
        Type: integer
      plmnList:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
        minItems: 1
      sNssais:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'

```

```
    minItems: 1
  nsiList:
    Type: array
    Items:
      Type: string
      minItems: 1
  fqdn:
    Reference: '#/components/schemas/Fqdn'
  interPlmnFqdn:
    Reference: '#/components/schemas/Fqdn'
  ipv4Addresses:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      minItems: 1
  ipv6Addresses:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
      minItems: 1
  allowedPlmns:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      minItems: 1
  allowedNfTypes:
    Type: array
    Items:
      Reference: '#/components/schemas/NFType'
      minItems: 1
  allowedNfDomains:
    Type: array
    Items:
      Type: string
      minItems: 1
  allowedNssais:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
  priority:
    Type: integer
    Minimum: 0
    Maximum: 65535
  capacity:
    Type: integer
    Minimum: 0
    Maximum: 65535
  load:
    Type: integer
    Minimum: 0
```

```

    Maximum: 100
locality:
  Type: string
udrInfo:
  Reference: '#/components/schemas/UdrInfo'
udmInfo:
  Reference: '#/components/schemas/UdmInfo'
ausfInfo:
  Reference: '#/components/schemas/AusfInfo'
amfInfo:
  Reference: '#/components/schemas/AmfInfo'
smfInfo:
  Reference: '#/components/schemas/SmfInfo'
upfInfo:
  Reference: '#/components/schemas/UpfInfo'
pcfInfo:
  Reference: '#/components/schemas/PcfInfo'
bsfInfo:
  Reference: '#/components/schemas/BsfInfo'
chfInfo:
  Reference: '#/components/schemas/ChfInfo'
nrfInfo:
  Reference: '#/components/schemas/NrfInfo'
customInfo:
  Type: object
recoveryTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
nfServicePersistence:
  Type: boolean
  Default: false
nfServices:
  Type: array
  Items:
    Reference: '#/components/schemas/NfService'
  minItems: 1
NfService:
Type: object
Required:
  - serviceInstanceId
  - serviceName
  - versions
  - scheme
  - nfServiceStatus
Properties:
  serviceInstanceId:
    Type: string
  serviceName:
    Reference: '#/components/schemas/ServiceName'
  versions:
    Type: array
    Items:
      Reference: '#/components/schemas/NfServiceVersion'

```



```
    minItems: 1
  scheme:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UriScheme'
  nfServiceStatus:
    Reference: '#/components/schemas/NFServiceStatus'
  fqdn:
    Reference: '#/components/schemas/Fqdn'
  interPlmnFqdn:
    Reference: '#/components/schemas/Fqdn'
  ipEndPoints:
    Type: array
    Items:
      Reference: '#/components/schemas/IpEndPoint'
    minItems: 1
  apiPrefix:
    Type: string
  defaultNotificationSubscriptions:
    Type: array
    Items:
      Reference: '#/components/schemas/DefaultNotificationSubscription'
    minItems: 1
  allowedPlmns:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    minItems: 1
  allowedNfTypes:
    Type: array
    Items:
      Reference: '#/components/schemas/NFType'
    minItems: 1
  allowedNfDomains:
    Type: array
    Items:
      Type: string
    minItems: 1
  allowedNssais:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    minItems: 1
  priority:
    Type: integer
    Minimum: 0
    Maximum: 65535
  capacity:
    Type: integer
    Minimum: 0
    Maximum: 65535
  load:
    Type: integer
```

```

    Minimum: 0
    Maximum: 100
recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
chfServiceInfo:
    Reference: '#/components/schemas/ChfServiceInfo'
supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
NfType:
anyOf:
  - type: string
    enum:
    - NRF
    - UDM
    - AMF
    - SMF
    - AUSF
    - NEF
    - PCF
    - SMSF
    - NSSF
    - UDR
    - LMF
    - GMLC
    - 5G_EIR
    - SEPP
    - UPF
    - N3IWF
    - AF
    - UDSE
    - BSF
    - CHF
    - NWDAF
  - type: string
Fqdn:
Type: string
IpEndPoint:
Type: object
Properties:
  ipv4Address:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  ipv6Address:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
  transport:
    Reference: '#/components/schemas/TransportProtocol'
  port:
    Type: integer
    Minimum: 0
    Maximum: 65535
SubscriptionData:
Type: object
Required:
  - nfStatusNotificationUri
  - subscriptionId
Properties:
  nfStatusNotificationUri:

```

```

    Type: string
  subscrCond:
    oneOf:
      - $ref: '#/components/schemas/NfInstanceIdCond'
      - $ref: '#/components/schemas/NfTypeCond'
      - $ref: '#/components/schemas/ServiceNameCond'
      - $ref: '#/components/schemas/AmfCond'
      - $ref: '#/components/schemas/GuamiListCond'
      - $ref: '#/components/schemas/NetworkSliceCond'
      - $ref: '#/components/schemas/NfGroupCond'
  subscriptionId:
    Type: string
    Pattern: '^[([0-9]{5,6})-]?[^-]+$'
    readOnly: true
  validityTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  reqNotifEvents:
    Type: array
    Items:
      Reference: '#/components/schemas/NotificationEventType'
    minItems: 1
  plmnId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  notifCondition:
    Reference: '#/components/schemas/NotifCondition'
  reqNfType:
    Reference: '#/components/schemas/NFType'
  reqNfFqdn:
    Reference: '#/components/schemas/Fqdn'
NfInstanceIdCond:
  Type: object
  Required:
    - nfInstanceId
  Properties:
    nfInstanceId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
NfTypeCond:
  Type: object
  Required:
    - nfType
  Properties:
    nfType:
      Reference: '#/components/schemas/NFType'
ServiceNameCond:
  Type: object
  Required:
    - serviceName
  Properties:
    serviceName:
      Reference: '#/components/schemas/ServiceName'
AmfCond:
  Type: object
  anyOf:
    - required: [ amfSetId ]

```

```

    - required: [ amfRegionId ]
Properties:
  amfSetId:
    Type: string
  amfRegionId:
    Type: string
GuamiListCond:
  Type: object
Required:
  - guamiList
Properties:
  guamiList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
NetworkSliceCond:
  Type: object
Required:
  - snssaiList
Properties:
  snssaiList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  nsiList:
    Type: array
    Items:
      Type: string
NfGroupCond:
  Type: object
Required:
  - nfType
  - nfGroupId
Properties:
  nfType:
    Type: string
    enum:
      - UDM
      - AUSF
      - UDR
  nfGroupId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
NotifCondition:
  Type: object
  not:
    Required: [ monitoredAttributes, unmonitoredAttributes ]
Properties:
  monitoredAttributes:
    Type: array
    Items:
      Type: string
    minItems: 1
  unmonitoredAttributes:

```

```

    Type: array
    Items:
      Type: string
      minItems: 1
UdrInfo:
  Type: object
  Properties:
    groupId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
    supiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/SupiRange'
      minItems: 1
    gpsiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/IdentityRange'
      minItems: 1
    externalGroupIdentifiersRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/IdentityRange'
      minItems: 1
    supportedDataSets:
      Type: array
      Items:
        Reference: '#/components/schemas/DataSetId'
      minItems: 1
SupiRange:
  Type: object
  Properties:
    start:
      Type: string
      Pattern: '^[0-9]+$'
    end:
      Type: string
      Pattern: '^[0-9]+$'
    Pattern:
      Type: string
IdentityRange:
  Type: object
  Properties:
    start:
      Type: string
      Pattern: '^[0-9]+$'
    end:
      Type: string
      Pattern: '^[0-9]+$'
    Pattern:
      Type: string

```

```

DataSetId:
  anyOf:
    - type: string
      enum:
        - SUBSCRIPTION
        - POLICY
        - EXPOSURE
        - APPLICATION
    - type: string
UdmInfo:
  Type: object
  Properties:
    groupId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
    supiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/SupiRange'
      minItems: 1
    gpsiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/IdentityRange'
      minItems: 1
    externalGroupIdentifiersRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/IdentityRange'
      minItems: 1
    routingIndicators:
      Type: array
      Items:
        Type: string
        Pattern: '^[0-9]{1,4}$'
      minItems: 1
AusfInfo:
  Type: object
  Properties:
    groupId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
    supiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/SupiRange'
      minItems: 1
    routingIndicators:
      Type: array
      Items:
        Type: string
        Pattern: '^[0-9]{1,4}$'
      minItems: 1
AmfInfo:
  Type: object

```

```

Required:
- amfSetId
- amfRegionId
- guamiList
Properties:
amfSetId:
  Type: string
amfRegionId:
  Type: string
guamiList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
  minItems: 1
taiList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
  minItems: 1
taiRangeList:
  Type: array
  Items:
    Reference: '#/components/schemas/TaiRange'
  minItems: 1
backupInfoAmfFailure:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
  minItems: 1
backupInfoAmfRemoval:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
  minItems: 1
n2InterfaceAmfInfo:
  Reference: '#/components/schemas/N2InterfaceAmfInfo'
SmfInfo:
Type: object
Required:
- sNssaiSmfInfoList
Properties:
sNssaiSmfInfoList:
  Type: array
  Items:
    Reference: '#/components/schemas/SnssaiSmfInfoItem'
  minItems: 1
taiList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
  minItems: 1
taiRangeList:

```

```

    Type: array
    Items:
      Reference: '#/components/schemas/TaiRange'
    minItems: 1
  pgwFqdn:
    Reference: '#/components/schemas/Fqdn'
  accessType:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    minItems: 1
  SnssaiSmfInfoItem:
    Type: object
    Required:
      - sNssai
      - dnnSmfInfoList
    Properties:
      sNssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      dnnSmfInfoList:
        Type: array
        Items:
          Reference: '#/components/schemas/DnnSmfInfoItem'
        minItems: 1
  DnnSmfInfoItem:
    Type: object
    Required:
      - dnn
    Properties:
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  UpfInfo:
    Type: object
    Required:
      - sNssaiUpfInfoList
    Properties:
      sNssaiUpfInfoList:
        Type: array
        Items:
          Reference: '#/components/schemas/SnssaiUpfInfoItem'
        minItems: 1
      smfServingArea:
        Type: array
        Items:
          Type: string
        minItems: 1
      interfaceUpfInfoList:
        Type: array
        Items:
          Reference: '#/components/schemas/InterfaceUpfInfoItem'
        minItems: 1
      iwkEpsInd:

```



```

    Type: boolean
    Default: false
SnssaiUpfInfoItem:
  Type: object
  Required:
    - sNssai
    - dnnUpfInfoList
  Properties:
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnnUpfInfoList:
      Type: array
      Items:
        Reference: '#/components/schemas/DnnUpfInfoItem'
      minItems: 1
DnnUpfInfoItem:
  Type: object
  Required:
    - dnn
  Properties:
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    dnaiList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnai'
      minItems: 1
InterfaceUpfInfoItem:
  Type: object
  Required:
    - interfaceType
  Properties:
    interfaceType:
      Reference: '#/components/schemas/UPInterfaceType'
    ipv4EndpointAddresses:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      minItems: 1
    ipv6EndpointAddresses:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
      minItems: 1
    endpointFqdn:
      Reference: '#/components/schemas/Fqdn'
    networkInstance:
      Type: string
UPInterfaceType:
  anyOf:
    - type: string
      enum:
        - N3

```

```

    - N6
    - N9
  - type: string
PcfInfo:
  Type: object
  Properties:
    dnnList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
    supiRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/SupiRange'
      minItems: 1
    rxDiamHost:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DiameterIdentity'
    rxDiamRealm:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DiameterIdentity'
BsfInfo:
  Type: object
  Properties:
    dnnList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
    ipDomainList:
      Type: array
      Items:
        Type: string
      minItems: 1
    ipv4AddressRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/Ipv4AddressRange'
      minItems: 1
    ipv6PrefixRanges:
      Type: array
      Items:
        Reference: '#/components/schemas/Ipv6PrefixRange'
      minItems: 1
ChfInfo:
  Type: object
  Properties:
    supiRangeList:
      Type: array
      Items:
        Reference: '#/components/schemas/SupiRange'
      minItems: 1
    gpsiRangeList:

```

```

    Type: array
    Items:
      Reference: '#/components/schemas/IdentityRange'
    minItems: 1
  plmnRangeList:
    Type: array
    Items:
      Reference: '#/components/schemas/PlmnRange'
    minItems: 1
  Ipv4AddressRange:
    Type: object
    Properties:
      start:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      end:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  Ipv6PrefixRange:
    Type: object
    Properties:
      start:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      end:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
  DefaultNotificationSubscription:
    Type: object
    Required:
      - notificationType
      - callbackUri
    Properties:
      notificationType:
        Reference: '#/components/schemas/NotificationType'
      callbackUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      n1MessageClass:
        Reference: 'TS29518_Namf_Communication.yaml#/components/schemas/N1MessageClass'
      n2InformationClass:
        Reference: 'TS29518_Namf_Communication.yaml#/components/schemas/N2InformationClass'

  NotificationType:
    anyOf:
      - type: string
      enum:
        - N1_MESSAGES
        - N2_INFORMATION
        - LOCATION_NOTIFICATION
        - DATA_REMOVAL_NOTIFICATION
        - DATA_CHANGE_NOTIFICATION
      - type: string
  TransportProtocol:
    anyOf:
      - type: string
      enum:
        - TCP
      - type: string

```

```

NotificationEventType:
  anyOf:
    - type: string
      enum:
        - NF_REGISTERED
        - NF_DEREGISTERED
        - NF_PROFILE_CHANGED
    - type: string
NotificationData:
  Type: object
  Required:
    - event
    - nfInstanceUri
  allOf:
    - anyOf:
        - not:
            Properties:
              event:
                Type: string
                enum:
                  - NF_PROFILE_CHANGED
            - oneOf:
                - required: [ nfProfile ]
                - required: [ profileChanges ]
    - anyOf:
        - not:
            Properties:
              event:
                Type: string
                enum:
                  - NF_REGISTERED
            - required: [ nfProfile ]
  Properties:
    event:
      Reference: '#/components/schemas/NotificationEventType'
    nfInstanceUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    nfProfile:
      allOf:
        - $ref: '#/components/schemas/NFProfile'
        - not:
            Required: [ interPlmnFqdn ]
      - properties:
          nfServices:
            Type: array
            Items:
              allOf:
                - $ref: '#/components/schemas/NFService'
                - not:
                    Required: [ interPlmnFqdn ]
                - not:
                    Required: [ allowedPlmns ]
                - not:
                    Required: [ allowedNfTypes ]
                - not:
                    Required: [ allowedNfDomains ]
                - not:

```

```

        Required: [ allowedNssais ]
    profileChanges:
        Type: array
        Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ChangeItem'
        minItems: 1
    NFStatus:
        anyOf:
            - type: string
              enum:
                - REGISTERED
                - SUSPENDED
            - type: string
    NFServiceVersion:
        Type: object
        Required:
            - apiVersionInUri
            - apiFullVersion
        Properties:
            apiVersionInUri:
                Type: string
            apiFullVersion:
                Type: string
            expiry:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    ServiceName:
        anyOf:
            - type: string
              enum:
                - nnrf-nfm
                - nnrf-disc
                - nudm-sdm
                - nudm-uecm
                - nudm-ueau
                - nudm-ee
                - nudm-pp
                - namf-comm
                - namf-evts
                - namf-mt
                - namf-loc
                - nsmf-pduseession
                - nsmf-event-exposure
                - nausf-auth
                - nausf-sorprotection
                - nnef-pfdmanagement
                - npcfc-am-policy-control
                - npcfc-smpolicycontrol
                - npcfc-policyauthorization
                - npcfc-bdtpolicycontrol
                - npcfc-eventexposure
                - npcfc-ue-policy-control
                - nsmsf-sms
                - nnssf-nsseselection
                - nnssf-nssaiavailability
                - nudr-dr
                - nlmf-loc
                - n5g-eir-eic
                - nbsf-management
                - nchf-spendinglimitcontrol

```

```

    - nchf-convergedcharging
    - nnwdaf-eventssubscription
    - nnwdaf-analyticsinfo
  - type: string
N2InterfaceAmfInfo:
  Type: object
  Properties:
    ipv4EndpointAddress:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
        minItems: 1
    ipv6EndpointAddress:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
        minItems: 1
    amfName:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AmfName'
NfServiceStatus:
  anyOf:
    - type: string
      enum:
        - REGISTERED
        - SUSPENDED
    - type: string
TaiRange:
  Type: object
  Required:
    - plmnId
    - tacRangeList
  Properties:
    plmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    tacRangeList:
      Type: array
      Items:
        Reference: '#/components/schemas/TacRange'
      minItems: 1
TacRange:
  Type: object
  Properties:
    start:
      Type: string
      Pattern: '^([A-Fa-f0-9]{4}|[A-Fa-f0-9]{6})$'
    end:
      Type: string
      Pattern: '^([A-Fa-f0-9]{4}|[A-Fa-f0-9]{6})$'
    Pattern:
      Type: string
ChfServiceInfo:
  Type: object
  not:

```

```
    Required: [ primaryChfServiceInstance, secondaryChfServiceInstance ]
  Properties:
    primaryChfServiceInstance:
      Type: string
    secondaryChfServiceInstance:
      Type: string
  PlmnRange:
    Type: object
    Properties:
      start:
        Type: string
        Pattern: '^[0-9]{3}[0-9]{2,3}$'
      end:
        Type: string
        Pattern: '^[0-9]{3}[0-9]{2,3}$'
      Pattern:
        Type: string
  NrfInfo:
    Type: object
    Properties:
      servedUdrInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/UdrInfo'
        minProperties: 1
      servedUdmInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/UdmInfo'
        minProperties: 1
      servedAusfInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/AusfInfo'
        minProperties: 1
      servedAmfInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/AmfInfo'
        minProperties: 1
      servedSmfInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/SmfInfo'
        minProperties: 1
      servedUpfInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/UpfInfo'
        minProperties: 1
      servedPcfInfo:
```

```
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/PcfInfo'
  minProperties: 1
servedBsfInfo:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/BsfInfo'
  minProperties: 1
servedChfInfo:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/ChfInfo'
  minProperties: 1
```

## External Docs

**Description:** 3GPP TS 29.510 V15.2.0; 5G System; Network Function Repository Services; Stage 3

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.510/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.510/)'





## CHAPTER 40

# N5g-eir EquipmentIdentityCheck

---

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- [Info](#), on page 485
- [Servers](#), on page 485
- [Security](#), on page 485
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** '5G-EIR Equipment Identity Check'  
**Description:** '5G-EIR Equipment Identity Check Service'

## Servers

**URL:** '{apiRoot}/n5g-eir-eic/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:  
  - n5g-eir-eic
```

# Paths

## /equipment-status

### get:

**Summary:** Retrieves the status of the UE

**Operation ID:** GetEquipmentStatus

### Tags:

- Equipment Status (Document)

### Parameters:

- **Name:** pei

**In:** query

**Description:** PEI of the UE

**Required/Optional:** true

**Schema:**

**Reference:** '#/components/schemas/Pei'

- **Name:** supi

**In:** query

**Description:** SUPI of the UE

**Required/Optional:** false

**Schema:**

**Reference:** '#/components/schemas/Supi'

### Responses:

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EirResponseData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/401'

'404':

**Description:** PEI Not Found

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** '#/components/schemas/ProblemDetails'

'414':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

'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:
  Description: Unexpected error
  Content:
    application/problem+json:
      Schema:
        Reference: '#/components/schemas/ProblemDetails'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          n5g-eir-eic: Access to the N5g-eir_EquipmentIdentityCheck API

schemas:
  EirResponseData:
    Type: object
    Required:
      - status
    Properties:
      status:
        Reference: '#/components/schemas/EquipmentStatus'
  Pei:
    Type: string
    Pattern: "[0-9]{14}"
  Supi:
    Type: string
    Pattern: "(imsi-[0-9]{5,15}|nai-.*)"
  EquipmentStatus:
    Type: string
    enum:
      - WHITELISTED
      - BLACKLISTED
      - GREYLISTED
  ProblemDetails:
    Description: 'https://www.rfc-editor.org/rfc/rfc7807.txt'
    Type: object
    Required:
      - type
    Properties:
      Type:
        Type: string

```

```
title:  
  Type: string  
status:  
  Type: integer  
detail:  
  Type: string  
instance:  
  Type: string
```

## External Docs

**Description:** 3GPP TS 29.511 V15.2.0; 5G System; Equipment Identity Register Services; Stage 3

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.511/'



## CHAPTER 41

# Npcf SMPolicyControl

---

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- [Info, on page 489](#)
- [Servers, on page 489](#)
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- [Paths, on page 490](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Session Management Policy Control Service  
**Version:** "1.0.0"  
**Title:** Npcf\_SMPolicyControl

## Servers

**URL:** '{apiRoot}/npcf-smpolicycontrol/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2Clientcredentials:  
  - npcf-smpolicycontrol
```

# Paths

## /sm-policies

```
Method: Post  
Request Body:  
  Required/Optional: true  
  Content:  
    Application/JSON:  
      Schema:  
        Reference: '#/components/schemas/SmPolicyContextData'  
  
Responses:  
  '201':  
    Description: Created  
    Content:  
      Application/JSON:  
        Schema:  
          Reference: '#/components/schemas/SmPolicyDecision'  
    Headers:  
      Location:  
        Description: 'Contains the URI of the newly created resource'  
        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':  
    Description: Not Found  
  '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:
    SmPolicyUpdateNotification:
      '{$request.body#/notificationUri}/update':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/SmPolicyNotification'

  Responses:
    '200':
      Description: OK. The current applicable values corresponding to the policy
        control request trigger is reported
      Content:
        Application/JSON:
          Schema:
            oneOf:
              - $ref: '#/components/schemas/UeCampingRep'
              - type: array
            Items:
              Reference: '#/components/schemas/PartialSuccessReport'
              Min Items: 1
    '204':
      Description: No Content, Notification was successful
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/RuleReport'
    '400':
      Description: Bad Request.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/ErrorResponse'
    '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'
SmPolicyControlTerminationRequestNotification:
  '{$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 succesful
  '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'

```

## /sm-policies/{smPolicyId}

get:

Parameters:

- Name: smPolicyId
- 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/SmPolicyControl'
  '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'

```

## /sm-policies/{smPolicyId}/update

```

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

Parameters:
- Name: smPolicyId
  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/SmPolicyDecision'
  '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'

```

## /sm-policies/{smPolicyId}/delete

```

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

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

Responses:
  '204':
    Description: No content
  '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-smpolicycontrol:** Access to the Npcf\_SMPolicyControl API

### schemas:

SmPolicyControl :

**Type:** object

#### Properties:

##### context:

**Reference:** '#/components/schemas/SmPolicyContextData'

##### policy:

**Reference:** '#/components/schemas/SmPolicyDecision'

#### Required:

- context
- policy

### SmPolicyContextData:

**Type:** object

#### Properties:

##### accNetChId:

**Reference:** '#/components/schemas/AccNetChId'

##### chargEntityAddr:

**Reference:** '#/components/schemas/AccNetChargingAddress'

##### gpsi:

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  interGrpIds:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
  pduSessionId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
  pduSessionType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
  chargingcharacteristics:
    Type: string
  dnn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  notificationUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  accessType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  servingNetwork:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NetworkId'
  userLocationInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  pei:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
  ipv4Address:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  ipv6AddressPrefix:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
  ipDomain:
    Type: string
    Description: Indicates the IPv4 address domain
  subsSessAmbr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
  subsDefQos:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SubscribedDefaultQos'
  numOfPackFilter:
    Type: integer
    Description: Contains the number of supported packet filter for signalled QoS
rules.
  online:
    Type: boolean
    Description: If it is included and set to true, the online charging is applied
to the PDU session.
  offline:
    Type: boolean
    Description: If it is included and set to true, the offline charging is applied

```

to the PDU session.

**3gppPsDataOffStatus:**

**Type:** boolean

**Description:** If it is included and set to true, the 3GPP PS Data Off is activated by the UE.

**refQosIndication:**

**Type:** boolean

**Description:** If it is included and set to true, the reflective QoS is supported by the UE.

**traceReq:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TraceData'

**sliceInfo:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**qosFlowUsage:**

**Reference:** '#/components/schemas/QosFlowUsage'

**suppFeat:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Required:**

- supi
- pduSessionId
- pduSessionType
- dnn
- notificationUri
- sliceInfo

**SmPolicyDecision:**

**Type:** object

**Properties:**

**sessRules:**

**Type:** object

**additionalProperties:**

**Reference:** '#/components/schemas/SessionRule'

**minProperties:** 1

**Description:** A map of Sessionrules with the content being the SessionRule as described in subclause 5.6.2.7.

**pccRules:**

**Type:** object

**additionalProperties:**

**Reference:** '#/components/schemas/PccRule'

**minProperties:** 1

**Description:** A map of PCC rules with the content being the PCCRule as described in subclause 5.6.2.6.

**nullable:** true

**pcscfRestIndication:**

**Type:** boolean

**Description:** If it is included and set to true, it indicates the P-CSCF Restoration is requested.

**qosDecs:**

**Type:** object

**additionalProperties:**

**Reference:** '#/components/schemas/QosData'

**minProperties:** 1

**Description:** Map of QoS data policy decisions.

**chgDecs:**

**Type:** object

```

additionalProperties:
  Reference: '#/components/schemas/ChargingData'
minProperties: 1
Description: Map of Charging data policy decisions.
nullable: true
chargingInfo:
  Reference: '#/components/schemas/ChargingInformation'
traffContDecs:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/TrafficControlData'
    minProperties: 1
    Description: Map of Traffic Control data policy decisions.
umDecs:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/UsageMonitoringData'
    minProperties: 1
    Description: Map of Usage Monitoring data policy decisions.
    nullable: true
qosChars:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/QoSCharacteristics'
    minProperties: 1
    Description: Map of QoS characteristics for non standard 5QIs. This map uses the
5QI values as keys.
reflectiveQoSTimer:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
conds:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/ConditionData'
    minProperties: 1
    Description: A map of condition data with the content being as described in
subclause 5.6.2.9.
    nullable: true
revalidationTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
offline:
  Type: boolean
  Description: Indicates the offline charging is applicable to the PDU session or
PCC rule.
online:
  Type: boolean
  Description: Indicates the online charging is applicable to the PDU session or
PCC rule.
policyCtrlReqTriggers:
  Type: array
  Items:
    Reference: '#/components/schemas/PolicyControlRequestTrigger'
  minItems: 1

```

**Description:** Defines the policy control request triggers subscribed by the PCF.  
**nullable:** true

**lastReqRuleData:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/RequestedRuleData'  
**minItems:** 1  
**Description:** Defines the last list of rule control data requested by the PCF.

**lastReqUsageData:**  
**Reference:** '#/components/schemas/RequestedUsageData'

**praInfos:**  
**Type:** object  
**additionalProperties:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfoRm'  
**minProperties:** 1  
**Description:** Map of PRA information.  
**nullable:** true

**ipv4Index:**  
**Reference:** 'TS29519\_ApplicationData.yaml#/components/schemas/IpIndex'  
**Description:** Information that identifies which IP pool or external server is used to allocate the IPv4 address.

**ipv6Index:**  
**Reference:** 'TS29519\_ApplicationData.yaml#/components/schemas/IpIndex'  
**Description:** Information that identifies which IP pool or external server is used to allocate the IPv6 address.

**qosFlowUsage:**  
**Reference:** '#/components/schemas/QosFlowUsage'

**suppFeat:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**SmPolicyNotification:**  
**Type:** object  
**Properties:**  
**resourceUri:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'  
**smPolicyDecision:**  
**Reference:** '#/components/schemas/SmPolicyDecision'

**PccRule:**  
**Type:** object  
**Properties:**  
**flowInfos:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/FlowInformation'  
**minItems:** 1  
**Description:** An array of IP flow packet filter information.

**appId:**  
**Type:** string  
**Description:** A reference to the application detection filter configured at the UPF.

**contVer:**  
**Reference:**  
'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/ContentVersion'

**pccRuleId:**  
**Type:** string  
**Description:** Univocally identifies the PCC rule within a PDU session.

**precedence:**  
**Type:** integer  
**Description:** Determines the order in which this PCC rule is applied relative to other PCC rules within the same PDU session.

**afSigProtocol:**  
**Reference:** '#/components/schemas/AfSigProtocol'  
**nullable:** true

**appReloc:**  
**Type:** boolean  
**Description:** Indication of application relocation possibility.

**refQosData:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**maxItems:** 1  
**Description:** A reference to the QoSData policy type decision type. It is the qosId described in subclause 5.6.2.8. (NOTE)

**refTcData:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**maxItems:** 1  
**Description:** A reference to the TrafficControlData policy decision type. It is the tcId described in subclause 5.6.2.10. (NOTE)

**refChgData:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**maxItems:** 1  
**Description:** A reference to the ChargingData policy decision type. It is the chgId described in subclause 5.6.2.11. (NOTE)  
**nullable:** true

**refUmData:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**maxItems:** 1  
**Description:** A reference to UsageMonitoringData policy decision type. It is the umId described in subclause 5.6.2.12. (NOTE)  
**nullable:** true

**refCondData:**  
**Type:** string  
**Description:** A reference to the condition data. It is the condId described in subclause 5.6.2.9.  
**nullable:** true

**Required:**



```

    - pccRuleId
    nullable: true
  SessionRule:
    Type: object
    Properties:
      authSessAmbr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
      authDefQos:
        Reference: '#/components/schemas/AuthorizedDefaultQos'
      sessRuleId:
        Type: string
        Description: Univocally identifies the session rule within a PDU session.
      refUmData:
        Type: string
        Description: A reference to UsageMonitoringData policy decision type. It is the
umId described in subclause 5.6.2.12.
        nullable: true
      refCondData:
        Type: string
        Description: A reference to the condition data. It is the condId described in
subclause 5.6.2.9.
        nullable: true
    Required:
      - sessRuleId
    nullable: true
  QosData:
    Type: object
    Properties:
      qosId:
        Type: string
        Description: Univocally identifies the QoS control policy data within a PDU
session.
      5qi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/5Qi'
      maxbrUl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      maxbrDl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      gbrUl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      gbrDl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      arp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
      qnc:
        Type: boolean
        Description: Indicates whether notifications are requested from 3GPP NG-RAN when
the GBR can no longer (or again) be guaranteed for a QoS Flow during the lifetime of the
QoS Flow.
      priorityLevel:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/5QiPriorityLevelRm'
      averWindow:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AverWindowRm'

```

**maxDataBurstVol:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/MaxDataBurstVolRm'

**reflectiveQos:**  
**Type:** boolean  
**Description:** Indicates whether the QoS information is reflective for the corresponding service data flow.

**sharingKeyDl:**  
**Type:** string  
**Description:** Indicates, by containing the same value, what PCC rules may share resource in downlink direction.

**sharingKeyUl:**  
**Type:** string  
**Description:** Indicates, by containing the same value, what PCC rules may share resource in uplink direction.

**maxPacketLossRateDl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PacketLossRateRm'

**maxPacketLossRateUl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PacketLossRateRm'

**defQosFlowIndication:**  
**Type:** boolean  
**Description:** Indicates that the dynamic PCC rule shall always have its binding with the QoS Flow associated with the default QoS rule

**Required:**  
- qosId

**nullable:** true

**ConditionData:**  
**Type:** object  
**Properties:**  
**condId:**  
**Type:** string  
**Description:** Uniquely identifies the condition data within a PDU session.

**activationTime:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTimeRm'

**deactivationTime:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTimeRm'

**Required:**  
- condId

**nullable:** true

**TrafficControlData:**  
**Type:** object  
**Properties:**  
**tcId:**  
**Type:** string  
**Description:** Univocally identifies the traffic control policy data within a PDU session.

**flowStatus:**  
**Reference:** 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/FlowStatus'

**redirectInfo:**  
**Reference:** '#/components/schemas/RedirectInformation'

**muteNotif:**  
**Type:** boolean  
**Description:** Indicates whether applicat'on's start or stop notification is to be

muted.

**trafficSteeringPolIdDl:**  
**Type:** string  
**Description:** Reference to a pre-configured traffic steering policy for downlink traffic at the SMF.  
**nullable:** true

**trafficSteeringPolIdUl:**  
**Type:** string  
**Description:** Reference to a pre-configured traffic steering policy for uplink traffic at the SMF.  
**nullable:** true

**routeToLocs:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'  
**minItems:** 1  
**Description:** A list of location which the traffic shall be routed to for the AF request

**upPathChgEvent:**  
**Reference:** '#/components/schemas/UpPathChgEvent'

**Required:**  
- tcId

**nullable:** true

**ChargingData:**  
**Type:** object  
**Properties:**  
**chgId:**  
**Type:** string  
**Description:** Univocally identifies the charging control policy data within a PDU session.

**meteringMethod:**  
**Reference:** '#/components/schemas/MeteringMethod'  
**nullable:** true

**offline:**  
**Type:** boolean  
**Description:** Indicates the offline charging is applicable to the PDU session or PCC rule.

**online:**  
**Type:** boolean  
**Description:** Indicates the online charging is applicable to the PDU session or PCC rule.

**ratingGroup:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RatingGroup'

**reportingLevel:**  
**Reference:** '#/components/schemas/ReportingLevel'  
**nullable:** true

**serviceId:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ServiceId'

**sponsorId:**  
**Type:** string  
**Description:** Indicates the sponsor identity.

**appSvcProvId:**  
**Type:** string

**Description:** Indicates the application service provider identity.

**afChargingIdentifier:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

**Required:**

- chgId

**nullable:** true

**UsageMonitoringData:**

**Type:** object

**Properties:**

**umId:**

**Type:** string

**Description:** Univocally identifies the usage monitoring policy data within a PDU session.

**volumeThreshold:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**volumeThresholdUplink:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**volumeThresholdDownlink:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**timeThreshold:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DurationSecRm'

**monitoringTime:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTimeRm'

**nextVolThreshold:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**nextVolThresholdUplink:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**nextVolThresholdDownlink:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/VolumeRm'

**nextTimeThreshold:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DurationSecRm'

**inactivityTime:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DurationSecRm'

**exUsagePccRuleIds:**

**Type:** array

**Items:**

**Type:** string

**minItems:** 1

**Description:** Contains the PCC rule identifier(s) which corresponding service data flow(s) shall be excluded from PDU Session usage monitoring. It is only included in the UsageMonitoringData instance for session level usage monitoring.

**nullable:** true

**Required:**

- umId

**nullable:** true

**RedirectInformation:**

**Type:** object

**Properties:**

**redirectEnabled:**

**Type:** boolean

**Description:** Indicates the redirect is enable.

**redirectAddressType:**

```

    Reference: '#/components/schemas/RedirectAddressType'
  redirectServerAddress:
    Type: string
    Description: Indicates the address of the redirect server.
  FlowInformation:
    Type: object
    Properties:
      flowDescription:
        Reference: '#/components/schemas/FlowDescription'
      ethFlowDescription:
        Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
        Description: Defines a packet filter for an Ethernet flow. "fDir" attribute is
not applicable.
      packFiltId:
        Type: string
        Description: An identifier of packet filter.
      packetFilterUsage:
        Type: boolean
        Description: The packet shall be sent to the UE.
      tosTrafficClass:
        Type: string
        Description: Contains the Ipv4 Type-of-Service and mask field or the Ipv6
Traffic-Class field and mask field.
        nullable: true
      spi:
        Type: string
        Description: the security parameter index of the IPsec packet.
        nullable: true
      flowLabel:
        Type: string
        Description: the Ipv6 flow label header field.
        nullable: true
      flowDirection:
        Reference: '#/components/schemas/FlowDirectionRm'
  SmPolicyDeleteData:
    Type: object
    Properties:
      userLocationInfo:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
      ueTimeZone:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
      servingNetwork:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NetworkId'
      userLocationInfoTime:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
      ranNasRelCauses:
        Type: array
        Items:
          Reference: '#/components/schemas/RanNasRelCause'
        minItems: 1
        Description: Contains the RAN and/or NAS release cause.

```

```

accuUsageReports:
  Type: array
  Items:
    Reference: '#/components/schemas/AccuUsageReport'
  minItems: 1
  Description: Contains the usage report
QosCharacteristics:
  Type: object
  Properties:
    5qi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/5Qi'
    resourceType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/QosResourceType'
    priorityLevel:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/5QiPriorityLevel'
    packetDelayBudget:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PacketDelBudget'
    packetErrorRate:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PacketErrRate'
    averagingWindow:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AverWindow'
    maxDataBurstVol:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/MaxDataBurstVol'
  Required:
    - 5qi
    - resourceType
    - priorityLevel
    - packetDelayBudget
    - packetErrorRate
ChargingInformation:
  Type: object
  Properties:
    primaryChfAddress:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    secondaryChfAddress:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  Required:
    - primaryChfAddress
    - secondaryChfAddress
AccuUsageReport:
  Type: object
  Properties:
    refUmIds:
      Type: string
      Description: An id referencing UsageMonitoringData objects associated with this
      usage report.
    volUsage:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
    volUsageUplink:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
    volUsageDownlink:
      Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
    timeUsage:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  nextVolUsage:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
  nextVolUsageUplink:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
  nextVolUsageDownlink:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Volume'
  nextTimeUsage:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  Required:
    - refUmIds
  SmPolicyUpdateContextData:
    Type: object
    Properties:
      repPolicyCtrlReqTriggers:
        Type: array
        Items:
          Reference: '#/components/schemas/PolicyControlRequestTrigger'
        minItems: 1
        Description: The policy control request triggers which are met.
      accNetChIds:
        Type: array
        Items:
          Reference: '#/components/schemas/AccNetChId'
        minItems: 1
        Description: Indicates the access network charging identifier for the PCC rule(s)
or whole PDU session.
      accessType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      ratType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
      servingNetwork:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NetworkId'
      userLocationInfo:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
      ueTimeZone:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
      relIpv4Address:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      ipv4Address:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      ipv6AddressPrefix:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      relIpv6AddressPrefix:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      relUeMac:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
      ueMac:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
      subsSessAmbr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
      subsDefQos:

```

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SubscribedDefaultQos'

**numOfPackFilter:**  
**Type:** integer  
**Description:** Contains the number of supported packet filter for signalled QoS rules.

**accuUsageReports:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/AccuUsageReport'  
**minItems:** 1  
**Description:** Contains the usage report

**3gppPsDataOffStatus:**  
**Type:** boolean  
**Description:** If it is included and set to true, the 3GPP PS Data Off is activated by the UE.

**appDetectionInfos:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/AppDetectionInfo'  
**minItems:** 1  
**Description:** Report the start/stop of the application traffic and detected SDF descriptions if applicable.

**ruleReports:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/RuleReport'  
**minItems:** 1  
**Description:** Used to report the PCC rule failure.

**qncReports:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/QosNotificationControlInfo'  
**minItems:** 1  
**Description:** QoS Notification Control information.

**userLocationInfoTime:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**repPraInfos:**  
**Type:** object  
**additionalProperties:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PresenceInfo'  
**minProperties:** 1  
**Description:** Reports the changes of presence reporting area.

**ueInitResReq:**  
**Reference:** '#/components/schemas/UeInitiatedResourceRequest'  
**Description:** Indicates a UE requests specific QoS handling for selected SDF.

**refQosIndication:**  
**Type:** boolean  
**Description:** If it is included and set to true, the reflective QoS is supported by the UE. If it is included and set to false, the reflective QoS is revoked by the UE.

**qosFlowUsage:**  
**Reference:** '#/components/schemas/QosFlowUsage'

**traceReq:**



**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TraceData'

**UpPathChgEvent:**

**Type:** object

**Properties:**

**notificationUri:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'

**notifCorreId:**

**Type:** string

**Description:** It is used to set the value of Notification Correlation ID in the notification sent by the SMF.

**dnaiChgType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DnaiChangeType'

**Required:**

- notificationUri
- notifCorreId
- dnaiChgType

**nullable:** true

**TerminationNotification:**

**Type:** object

**Properties:**

**resourceUri:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'

**cause:**

**Reference:** 'TS29507\_Npcf\_AMPolicyControl.yaml#/components/schemas/PolicyAssociationReleaseCause'

**Required:**

- resourceUri
- cause

**AppDetectionInfo :**

**Type:** object

**Properties:**

**appId:**

**Type:** string

**Description:** A reference to the application detection filter configured at the UPF

**instanceId:**

**Type:** string

**Description:** Identifier dynamically assigned by the SMF in order to allow correlation of application Start and Stop events to the specific service data flow description, if service data flow descriptions are deducible.

**sdfDescriptions:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/FlowInformation'

**minItems:** 1

**Description:** Contains the detected service data flow descriptions if they are deducible.

**Required:**

- appId

**AccNetChId:**

**Type:** object

**Properties:**

**accNetChaIdValue:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ChargingId'

```

refPccRuleIds:
  Type: array
  Items:
    Type: string
  minItems: 1
  Description: Contains the identifier of the PCC rule(s) associated to the provided
Access Network Charging Identifier.
sessionChScope:
  Type: boolean
  Description: When it is included and set to true, indicates the Access Network
Charging Identifier applies to the whole PDU Session
Required:
  - accNetChaIdValue
AccNetChargingAddress:
  Description: Describes the network entity within the access network performing charging

Type: object
anyOf:
  - required: [anChargIpv4Addr]
  - required: [anChargIpv6Addr]
Properties:
  anChargIpv4Addr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  anChargIpv6Addr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
RequestedRuleData:
Type: object
Properties:
  refPccRuleIds:
    Type: array
    Items:
      Type: string
    minItems: 1
    Description: An array of PCC rule id references to the PCC rules associated with
the control data.
  reqData:
    Type: array
    Items:
      Reference: '#/components/schemas/RequestedRuleDataType'
    minItems: 1
    Description: Array of requested rule data type elements indicating what type of
rule data is requested for the corresponding referenced PCC rules.
Required:
  - refPccRuleIds
  - reqData
RequestedUsageData:
Type: object
Properties:
  refUmIds:
    Type: array
    Items:
      Type: string
    minItems: 1

```

**Description:** An array of usage monitoring data id references to the usage monitoring data instances for which the PCF is requesting a usage report. This attribute shall only be provided when allUmIds is not set to true.

**allUmIds:**

**Type:** boolean

**Description:** Th oolean indicates whether requested usage data applies to all usage monitoring data instances. When it's not included, it means requested usage data shall only apply to the usage monitoring data instances referenced by the refUmIds attribute.

**UeCampingRep:**

**Type:** object

**Properties:**

**accessType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

**Description:** The Access Type where the served UE is camping

**ratType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RatType'

**servingNetwork:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NetworkId'

**userLocationInfo:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

**ueTimeZone:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

**RuleReport:**

**Type:** object

**Properties:**

**pccRuleIds:**

**Type:** array

**Items:**

**Type:** string

**minItems:** 1

**Description:** Contains the identifier of the affected PCC rule(s).

**ruleStatus:**

**Reference:** '#/components/schemas/RuleStatus'

**Description:** Indicates the status of the PCC rule(s).

**contVers:**

**Type:** array

**Items:**

**Reference:**

'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/ContentVersion'

**minItems:** 1

**Description:** Indicates the version of a PCC rule.

**failureCode:**

**Reference:** '#/components/schemas/FailureCode'

**Description:** Indicates the reason tha the PCC Rule is being reported.

**finUnitAct:**

**Reference:** 'TS32291\_Nchf\_ConvergedCharging.yaml#/components/schemas/FinalUnitAction'

**Description:** Contains the related filter parameters and redirect address parameters (if available), when the user's account cannot cover the service cost.

**ranNasRelCauses:**

**Type:** array

**Items:**

```

    Reference: '#/components/schemas/RanNasRelCause'
    minItems: 1
    Description: indicates the RAN or NAS release cause code information.
Required:
  - pccRuleIds
  - ruleStatus
  - failureCode
RanNasRelCause:
Type: object
Properties:
  ngApCause:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NgApCause'
    Description: Indicate the cause value for NGAP protocol.
  5gMmCause:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/5GMmCause'
    Description: Indicate the cause value for 5GMM protocol.
  5gSmCause:
    Reference: '#/components/schemas/5GSmCause'
    Description: Indicate the cause value for 5GSM protocol.
UeInitiatedResourceRequest:
Type: object
Properties:
  packFiltOp:
    Reference: '#/components/schemas/PacketFilterOperation'
    Description: Indicates a UE requests specific QoS handling for selected SDF.
  packFiltInfo:
Type: array
Items:
    Reference: '#/components/schemas/PacketFilterInfo'
    Description: Contains the information from a single packet filter sent from
the SMF to the PCF.
    minItems: 1
  reqQos:
    Reference: '#/components/schemas/RequestedQos'
    Description: Contains the QoS information requested by the UE.
Required:
  - packFiltOp
  - packFiltInfo
PacketFilterInfo:
Type: object
Properties:
  packFiltId:
Type: string
Description: An identifier of packet filter.
  precedence:
Type: integer
Description: The requested order for the PCC rule generated fromt the packet
fitler information.
  packFiltCont:
    Reference: '#/components/schemas/PacketFilterContent'
    Description: Contains the content of the packet filter as requested by the UE
and required by the PCF to create the PCC rules.
  tosTrafficClass:

```

**Type:** string  
**Description:** Contains the Ipv4 Type-of-Service and mask field or the Ipv6 Traffic-Class field and mask field.

**spi:**  
**Type:** string  
**Description:** The security parameter index of the IPSec packet.

**flowLabel:**  
**Type:** string  
**Description:** The Ipv6 flow label header field.

**flowDirection:**  
**Reference:** '#/components/schemas/FlowDirection'  
**Description:** Indicates the direction/directions that a filter is applicable, downlink only, uplink only or both down- and uplink (bidirectional).

**RequestedQos:**  
**Type:** object  
**Properties:**

**5qi:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/5Qi'  
**Description:** Identifier for the authorized QoS parameters for the service data flow.

**gbrUl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/BitRate'  
**Description:** Indicates the guaranteed bandwidth in uplink requested by the UE.

**gbrDl:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/BitRate'  
**Description:** Indicates the guaranteed bandwidth in downlink requested by the UE.

**Required:**

- 5qi

**QosNotificationControlInfo:**  
**Type:** object  
**Properties:**

**refPccRuleIds:**  
**Type:** array  
**Items:**  
**Type:** string  
**minItems:** 1  
**Description:** An array of PCC rule id references to the PCC rules associated with the QoS notification control info.

**notifType:**  
**Reference:** 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/QosNotifType'

**contVer:**  
**Reference:** 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/ContentVersion'

**Required:**

- refPccRuleIds
- notifType

**PartialSuccessReport:**  
**Type:** object  
**Properties:**

**failureCause:**  
**Type:** string

**Description:** Application error cause specific to this report.

**ruleReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/RuleReport'

**minItems:** 1

**Description:** Information about the PCC rules provisioned by the PCF not successfully installed/activated.

**ueCampingRep:**

**Reference:** '#/components/schemas/UeCampingRep'

**Description:** Includes the current applicable values corresponding to the provisioned policy control request triggers.

**Required:**

- failureCause
- ruleReports

**AuthorizedDefaultQos:**

**Type:** object

**Properties:**

**5qi:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/5Qi'

**Description:** Identifier for the 5QI.

**arp:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Arp'

**priorityLevel:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/5QiPriorityLevelRm'

**averWindow:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AverWindowRm'

**maxDataBurstVol:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/MaxDataBurstVolRm'

**ErrorReport:**

**Type:** object

**Properties:**

**error:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**ruleReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/RuleReport'

**minItems:** 1

**Description:** Used to report the PCC rule failure.

**5GSmCause:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/UInteger'

**Description:** Indicating the cause value of 5GSM protocol.

**PacketFilterContent:**

**Type:** string

**Description:** Defines a packet filter for an IP flow.Refer to subclause 5.3.54 of 3GPP TS 29.212 [23] for encoding.

**FlowDescription:**

**Type:** string

**Description:** Defines a packet filter for an IP flow.Refer to subclause 5.4.2 of 3GPP TS 29.212 [23] for encoding.

**FlowDirection:**

**anyOf:**

- type: string
- enum:**
  - DOWNLINK
  - UPLINK
  - BIDIRECTIONAL
  - UNSPECIFIED

- type: string

**Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

**Description:**

Possible values are

- DOWNLINK: The corresponding filter applies for traffic to the UE.
- UPLINK: The corresponding filter applies for traffic from the UE.
- BIDIRECTIONAL: The corresponding filter applies for traffic both to and from the

UE.

- UNSPECIFIED: The corresponding filter applies for traffic to the UE (downlink), but has no specific direction declared. The service data flow detection shall apply the filter for uplink traffic as if the filter was bidirectional. The PCF shall not use the value UNSPECIFIED in filters created by the network in NW-initiated procedures. The PCF shall only include the value UNSPECIFIED in filters in UE-initiated procedures if the same value is received from the SMF.

**FlowDirectionRm:****anyOf:**

- type: string
- enum:**
  - DOWNLINK
  - UPLINK
  - BIDIRECTIONAL
  - UNSPECIFIED

- type: string

**Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

**Description:**

Possible values are

- DOWNLINK: The corresponding filter applies for traffic to the UE.
- UPLINK: The corresponding filter applies for traffic from the UE.
- BIDIRECTIONAL: The corresponding filter applies for traffic both to and from the

UE.

- UNSPECIFIED: The corresponding filter applies for traffic to the UE (downlink), but has no specific direction declared. The service data flow detection shall apply the filter for uplink traffic as if the filter was bidirectional. The PCF shall not use the value UNSPECIFIED in filters created by the network in NW-initiated procedures. The PCF shall only include the value UNSPECIFIED in filters in UE-initiated procedures if the same value is received from the SMF.

**nullable:** true

**ReportingLevel:****anyOf:**

- type: string
- enum:**
  - SER\_ID\_LEVEL
  - RAT\_GR\_LEVEL
  - SPON\_CON\_LEVEL

- 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

- SER\_ID\_LEVEL: Indicates that the usage shall be reported on service id and rating group combination level.
- RAT\_GR\_LEVEL: Indicates that the usage shall be reported on rating group level.
- SPON\_CON\_LEVEL: Indicates that the usage shall be reported on sponsor identity and rating group combination level.

**MeteringMethod:****anyOf:**

- type: string
- enum:**
  - DURATION
  - VOLUME
  - DURATION\_VOLUME
  - EVENT
- 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

- DURATION: Indicates that the duration of the service data flow traffic shall be metered.
- VOLUME: Indicates that volume of the service data flow traffic shall be metered.
- DURATION\_VOLUME: Indicates that the duration and the volume of the service data flow traffic shall be metered.
- EVENT: Indicates that events of the service data flow traffic shall be metered.

**PolicyControlRequestTrigger:****anyOf:**

- type: string
- enum:**
  - PLMN\_CH
  - RES\_MO\_RE
  - AC\_TY\_CH
  - UE\_IP\_CH
  - UE\_MAC\_CH
  - AN\_CH\_COR
  - US\_RE
  - APP\_STA
  - APP\_STO
  - AN\_INFO
  - CM\_SES\_FAIL
  - PS\_DA\_OFF
  - DEF\_QOS\_CH
  - SE\_AMBR\_CH
  - QOS\_NOTIF
  - NO\_CREDIT
  - PRA\_CH
  - SAREA\_CH
  - SCNN\_CH
  - RE\_TIMEOUT
  - RES\_RELEASE
  - SUCC\_RES\_ALLO
  - RAT\_TY\_CH
  - REF\_QOS\_IND\_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

- PLMN\_CH: PLMN Change
- RES\_MO\_RE: A request for resource modification has been received by the SMF. The SMF always reports to the PCF.
- AC\_TY\_CH: Access Type Change
- UE\_IP\_CH: UE IP address change. The SMF always reports to the PCF.
- UE\_MAC\_CH: A new UE MAC address is detected or a used UE MAC address is inactive for a specific period
- AN\_CH\_COR: Access Network Charging Correlation Information
- US\_RE: The PDU Session or the Monitoring key specific resources consumed by a UE either reached the threshold or needs to be reported for other reasons.
- APP\_STA: The start of application traffic has been detected.
- APP\_STO: The stop of application traffic has been detected.
- AN\_INFO: Access Network Information report
- CM\_SES\_FAIL: Credit management session failure
- PS\_DA\_OFF: The SMF reports when the 3GPP PS Data Off status changes. The SMF always reports to the PCF.
- DEF\_QOS\_CH: Default QoS Change. The SMF always reports to the PCF.
- SE\_AMBR\_CH: Session AMBR Change. The SMF always reports to the PCF.
- QOS\_NOTIF: The SMF notify the PCF when receiving notification from RAN that QoS targets of the QoS Flow cannot be guaranteed or guaranteed again.
- NO\_CREDIT: Out of credit
- PRA\_CH: Change of UE presence in Presence Reporting Area
- SAREA\_CH: Location Change with respect to the Serving Area
- SCNN\_CH: Location Change with respect to the Serving CN node
- RE\_TIMEOUT: Indicates the SMF generated the request because there has been a PCC revalidation timeout
- RES\_RELEASE: Indicate that the SMF can inform the PCF of the outcome of the release of resources for those rules that require so.
- SUCC\_RES\_ALLO: Indicates that the requested rule data is the successful resource allocation.
- RAT\_TY\_CH: RAT Type Change.
- REF\_QOS\_IND\_CH: Reflective QoS indication Change

#### **RequestedRuleDataType:**

##### **anyOf:**

- type: string

##### **enum:**

- CH\_ID
- MS\_TIME\_ZONE
- USER\_LOC\_INFO
- RES\_RELEASE
- SUCC\_RES\_ALLO

- 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

- CH\_ID: Indicates that the requested rule data is the charging identifier.
- MS\_TIME\_ZONE: Indicates that the requested access network info type is the UE's timezone.
- USER\_LOC\_INFO: Indicates that the requested access network info type is the UE's location.
- RES\_RELEASE: Indicates that the requested rule data is the result of the release of resource.
- SUCC\_RES\_ALLO: Indicates that the requested rule data is the successful resource allocation.

#### **RuleStatus:**

##### **anyOf:**

- type: string

##### **enum:**

- ACTIVE
  - INACTIVE
- 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

- ACTIVE: Indicates that the PCC rule(s) are successfully installed (for those provisioned from PCF) or activated (for those pre-defined in SMF), or the session rule(s) are successfully installed
- INACTIVE: Indicates that the PCC rule(s) are removed (for those provisioned from PCF) or inactive (for those pre-defined in SMF) or the session rule(s) are removed.

**FailureCode:****anyOf:**

- type: string

**enum:**

- UNK\_RULE\_ID
  - RA\_GR\_ERR
  - SER\_ID\_ERR
  - NF\_MAL
  - RES\_LIM
  - MAX\_NR\_QoS\_FLOW
  - MISS\_FLOW\_INFO
  - RES\_ALLO\_FAIL
  - UNSUCC\_QOS\_VAL
  - INCOR\_FLOW\_INFO
  - PS\_TO\_CS\_HAN
  - APP\_ID\_ERR
  - NO\_QOS\_FLOW\_BOUND
  - FILTER\_RES
  - MISS\_REDI\_SER\_ADDR
  - CM\_END\_USER\_SER\_DENIED
  - CM\_CREDIT\_CON\_NOT\_APP
  - CM\_AUTH\_REJ
  - CM\_USER\_UNK
  - CM\_RAT\_FAILED
  - SESS\_AMBR\_FAILURE
  - DEF\_QOS\_FAILURL
- 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

- UNK\_RULE\_ID: Indicates that the pre-provisioned PCC rule could not be successfully activated because the PCC rule identifier is unknown to the SMF.
- RA\_GR\_ERR: Indicate that the PCC rule could not be successfully installed or enforced because the Rating Group specified within the Charging Data policy decision which the PCC rule refers to is unknown or, invalid.
- SER\_ID\_ERR: Indicate that the PCC rule could not be successfully installed or enforced because the Service Identifier specified within the Charging Data policy decision which the PCC rule refers to is invalid, unknown, or not applicable to the service being charged.
- NF\_MAL: Indicate that the PCC rule could not be successfully installed (for those provisioned from the PCF) or activated (for those pre-defined in SMF) or enforced (for those already successfully installed) due to SMF/UPF malfunction.
- RES\_LIM: Indicate that the PCC rule could not be successfully installed (for those provisioned from PCF) or activated (for those pre-defined in SMF) or enforced (for those already successfully installed) due to a limitation of resources at the SMF/UPF.
- MAX\_NR\_QoS\_FLOW: Indicate that the PCC rule could not be successfully installed

(for those provisioned from PCF) or activated (for those pre-defined in SMF) or enforced (for those already successfully installed) due to the fact that the maximum number of QoS flows has been reached for the PDU session.

- MISS\_FLOW\_INFO: Indicate that the PCC rule could not be successfully installed or enforced because the Flow Information AVP is not specified within the "pccRule" attribute by the PCF during the first install request of the PCC rule.
- RES\_ALLO\_FAIL: Indicate that the PCC rule could not be successfully installed or maintained since the QoS flow establishment/modification failed, or the QoS flow was released.
- UNSUCC\_QOS\_VAL: indicate that the QoS validation has failed or when Guaranteed Bandwidth > Max-Requested-Bandwidth.
- INCOR\_FLOW\_INFO: Indicate that the PCC rule could not be successfully installed or modified at the SMF because the provided flow information is not supported by the network (e.g. the provided IP address(es) or Ipv6 prefix(es) do not correspond to an IP version applicable for the PDU session).
- PS\_TO\_CS\_HAN: Indicate that the PCC rule could not be maintained because of PS to CS handover.
- APP\_ID\_ERR: Indicate that the rule could not be successfully installed or enforced because the Application Identifier is invalid, unknown, or not applicable to the application required for detection.
- NO\_QOS\_FLOW\_BOUND: Indicate that there is no QoS flow which the SMF can bind the PCC rule(s) to.
- FILTER\_RES: Indicate that the Flow Information cannot be handled by the SMF because any of the restrictions was not met.
- MISS\_REDI\_SER\_ADDR: Indicate that the PCC rule could not be successfully installed or enforced at the SMF because there is no valid Redirect Server Address within the Traffic Control Data policy decision which the PCC rule refers to provided by the PCF and no preconfigured redirection address for this PCC rule at the SMF.
- CM\_END\_USER\_SER\_DENIED: Indicate that the charging system denied the service request due to service restrictions (e.g. terminate rating group) or limitations related to the end-user, for example the end-user's account could not cover the requested service.
- CM\_CREDIT\_CON\_NOT\_APP: Indicate that the charging system determined that the service can be granted to the end user but no further credit control is needed for the service (e.g. service is free of charge or is treated for offline charging).
- CM\_AUTH\_REJ: Indicate that the charging system denied the service request in order to terminate the service for which credit is requested.
- CM\_USER\_UNK: Indicate that the specified end user could not be found in the charging system.
- CM\_RAT\_FAILED: Indicate that the charging system cannot rate the service request due to insufficient rating input, incorrect AVP combination or due to an attribute or an attribute value that is not recognized or supported in the rating.
- SESS\_AMBR\_FAILURE: Indicate that the session AMBR update is failure.
- DEF\_QOS\_FAILURL: Indicate that the default QoS update is failure.

#### **AfSigProtocol:**

##### **anyOf:**

- type: string

##### **enum:**

- NO\_INFORMATION
- SIP

- 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

- NO\_INFORMATION: Indicate that no information about the AF signalling protocol is being provided.
- SIP: Indicate that the signalling protocol is Session Initiation Protocol.

#### **PacketFilterOperation:**

##### **anyOf:**

- type: string

**enum:**

- DELETION
- ADDITION
- MODIFICATION

- 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

- DELETION: Indicates that the resources reserved for the provided packet filter identifiers are to be deleted and are no longer used by the UE.
- ADDITION: Indicates that the UE requests resources allocated for the provided packet filters.
- MODIFICATION: Indicates that the reserved QoS, the filter, the precedence, or any of the fields for the provided packet filter identifiers are being modified.

**RedirectAddressType:****anyOf:**

- type: string

**enum:**

- IPV4\_ADDR
- IPV6\_ADDR
- URL
- SIP\_URI

- 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

- IPV4\_ADDR: Indicates that the address type is in the form of "dotted-decimal" IPv4 address.
- IPV6\_ADDR: Indicates that the address type is in the form of IPv6 address.
- URL: Indicates that the address type is in the form of Uniform Resource Locator.
- SIP\_URI: Indicates that the address type is in the form of SIP Uniform Resource Identifier.

**QosFlowUsage:****anyOf:**

- type: string

**enum:**

- GENERAL
- IMS\_SIG

- 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

- GENERAL: Indicate no specific QoS flow usage information is available.
- IMS\_SIG: Indicate that the QoS flow is used for IMS signalling only.

## External Docs

**Description:** 3GPP TS 29.512 V15.2.0; 5G System; Session Management Policy Control Service.

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.512/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.512/)'





## CHAPTER 42

# Npcf PolicyAuthorization

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** "Npcf\_PolicyAuthorization Service API"  
**Version:** "1.0.0"  
**Description:** "This is the Policy Authorization Service"

## Servers

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

## Security

- {}

- oAuth2ClientCredentials:
  - npcf-policyauthorization

# Paths

## /app-sessions

**Method:** Post

**Summary:** Creates a new Individual Application Session Context resource

**Operation ID:** PostAppSessions

**Tags:**

- Application Sessions (Collection)

**Request Body:**

**Description:** Contains the information for the creation the resource

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AppSessionContext'

**Responses:**

'201':

**Description:** Successful creation of the resource

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AppSessionContext'

**Headers:**

**Location:**

**description:** 'Contains the URI of the created individual application session context resource, according to the structure: {apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId} or the URI of the created events subscription sub-resource, according to the structure: {apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}/events-subscription'

**Required/Optional:** true

**Schema:**

**Type:** string

'303':

**Description:** See Other. The result of the HTTP POST request would be equivalent to the existing Application Session Context. The HTTP response shall contain a Location header field set to the URI of the existing individual Application Session Context resource

'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:
  terminationRequest:
    '{$request.body#/notifUri}/terminate':
      Method: Post
      Request Body:
        Description: Request of the termination of the Individual Application
Session Context
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/TerminationInfo'

Responses:
'204':
  Description: The receipt of the notification is acknowledged.
'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'

**eventNotification:**  
'**{request.body#/evSubsc/notifUri}/notify**'

**Method:** Post

**Request Body:**  
**Description:** Notification of an event occurrence in the PCF.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/EventsNotification'

**Responses:**

**'204':**  
**Description:** The receipt of the notification is acknowledged

**'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'

## /app-sessions/{appSessionId}

### get:

**Summary:** "Reads an existing Individual Application Session Context"

**Operation ID:** GetAppSession

### Tags:

- Individual Application Session Context (Document)

### Parameters:

- **Name:** appSessionId

**Description:** string identifying the resource

**In:** path

**Required/Optional:** true

**Schema:**  
**Type:** string

**Responses:**

**'200':**  
**Description:** A representation of the resource is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AppSessionContext'

**'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'

**patch:**  
**Summary:** "Modifies an existing Individual Application Session Context"  
**Operation ID:** ModAppSession

**Tags:**  
- Individual Application Session Context (Document)

**Parameters:**  
- **Name:** appSessionId  
**Description:** string identifying the resource  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Request Body:**  
**Description:** modification of the resource.  
**Required/Optional:** true  
**Content:**  
**application/merge-patch+json:**  
**Schema:**  
**Reference:** '#/components/schemas/AppSessionContextUpdateData'

**Responses:**  
**'200':**

**Description:** successful modification of the resource and a representation of that resource is returned

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AppSessionContext'

'204':

**Description:** The successful modification

'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:**

**eventNotification:**

'{\$request.body#/evSubsc/notifUri}/notify':

**Method:** Post

**Request Body:**

**Description:** Notification of an event occurrence in the PCF.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventsNotification'

**Responses:**

'204':

**Description:** The receipt of the notification is acknowledged

'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'

```

## /app-sessions/{appSessionId}/delete

**Method:** Post

**Summary:** "Deletes an existing Individual Application Session Context"

**Operation ID:** DeleteAppSession

**Tags:**

- Individual Application Session Context (Document)

**Parameters:**

- **Name:** appSessionId

**Description:** string identifying the Individual Application Session Context resource

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** deletion of the Individual Application Session Context resource, req  
notification

**Required/Optional:** false

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventsSubscReqData'

**Responses:**

'200':

**Description:** The deletion of the resource is confirmed and a resource is returned

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AppSessionContext'

'204':

**Description:** The deletion is confirmed without returning additional data.

```

'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':
  $ref:
'https://raw.githubusercontent.com/jdegre/5GC_APIs/master/TS29571_CommonData.yaml#/components/responses/411'

'413':
  Reference: 'TS29571_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29571_CommonData.yaml#/components/responses/415'
'429':
  $ref:
'https://raw.githubusercontent.com/jdegre/5GC_APIs/master/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'

```

## /app-sessions/{appSessionId}/events-subscription

### put:

**Summary:** "creates or modifies an Events Subscription subresource"

**Operation ID:** updateEventsSubsc

### Tags:

- Events Subscription (Document)

### Parameters:

- **Name:** appSessionId  
**Description:** string identifying the Events Subscription resource  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Request Body:

**Description:** Creation or modification of an Events Subscription resource.

**Required/Optional:** true

### Content:

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventsSubscReqData'

**Responses:**

**'201':**  
**Description:** The creation of the Events Subscription resource is confirmed and its representation is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**anyOf:**  

- \$ref: '#/components/schemas/EventsSubscReqData'
- \$ref: '#/components/schemas/EventsNotification'

**Headers:**  
**Location:**  
**description:** 'Contains the URI of the created Events Subscription resource, according to the structure:  
{apiRoot}/npcf-policyauthorization/v1/app-sessions/{appSessionId}/events-subscription'  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**'200':**  
**Description:** The modification of the of the Events Subscription resource is confirmed its representation is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**anyOf:**  

- \$ref: '#/components/schemas/EventsSubscReqData'
- \$ref: '#/components/schemas/EventsNotification'

**'204':**  
**Description:** The modification of the Events Subscription subresource is confirmed without returning additional data.

**'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:****eventNotification:**

'{\$request.body#/notifUri}/notify':

**Method:** Post

**Request Body:**

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

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventsNotification'

**Responses:**

'204':

**Description:** The receipt of the notification is acknowledged.

'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'

**delete:**

**Summary:** deletes the Events Subscription subresource

**Operation ID:** DeleteEventsSubsc

**Tags:**

- Events Subscription (Document)

**Parameters:**

- **Name:** appSessionId

**Description:** string identifying the Individual Application Session Context resource

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string



**Responses:****'204':****Description:** The deletion of the of the Events Subscription sub-resource is confirmed without returning additional data.**'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'

## Components

**securitySchemes:****oAuth2ClientCredentials:****Type:** oauth2**Flows:****clientCredentials:****tokenUrl:** '{nrfApiRoot}/oauth2/token'**scopes:****npcf-policyauthorization:** Access to the Npcf\_PolicyAuthorization API**schemas:****AppSessionContext:****Description:** Represents an Individual Application Session Context resource.**Type:** object**Properties:****ascReqData:****Reference:** '#/components/schemas/AppSessionContextReqData'**ascRespData:****Reference:** '#/components/schemas/AppSessionContextRespData'**evsNotif:****Reference:** '#/components/schemas/EventsNotification'**AppSessionContextReqData:****Description:** Identifies the service requirements of an Individual Application Session Context.**Type:** object**Required:**

- notifUri
- suppFeat

```

oneOf:
  - required: [ueIpv4]
  - required: [ueIpv6]
  - required: [ueMac]
Properties:
  afAppId:
    Reference: '#/components/schemas/AfAppId'
  afRoutReq:
    Reference: '#/components/schemas/AfRoutingRequirement'
  aspId:
    Reference: '#/components/schemas/AspId'
  bdtRefId:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
  dnn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  evSubsc:
    Reference: '#/components/schemas/EventsSubscReqData'
  medComponents:
    Type: object
    additionalProperties:
      Reference: '#/components/schemas/MediaComponent'
    minProperties: 1
  ipDomain:
    Type: string
  mppsId:
    Description: indication of MPS service request
    Type: string
  notifUri:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Uri'
  sliceInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  sponId:
    Reference: '#/components/schemas/SponId'
  sponStatus:
    Reference: '#/components/schemas/SponsoringStatus'
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  suppFeat:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  ueIpv4:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  ueIpv6:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
  ueMac:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
AppSessionContextRespData:
  Description: Describes the authorization data of an Individual Application Session
  Context created by the PCF.
  Type: object
  Properties:
    servAuthInfo:
      Reference: '#/components/schemas/ServAuthInfo'

```

**suppFeat:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**AppSessionContextUpdateData:**  
**Description:** Identifies the modifications to an Individual Application Session Context and may include the modifications to the sub-resource Events Subscription.  
**Type:** object

**Properties:**

**afAppId:**  
**Reference:** '#/components/schemas/AfAppId'

**afRoutReq:**  
**Reference:** '#/components/schemas/AfRoutingRequirementRm'

**aspId:**  
**Reference:** '#/components/schemas/AspId'

**bdtRefId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'

**evSubsc:**  
**Reference:** '#/components/schemas/EventsSubscReqDataRm'

**medComponents:**  
**Type:** object

**additionalProperties:**  
**Reference:** '#/components/schemas/MediaComponentRm'

**minProperties:** 1

**mpsId:**  
**Description:** indication of MPS service request  
**Type:** string

**sponId:**  
**Reference:** '#/components/schemas/SponId'

**sponStatus:**  
**Reference:** '#/components/schemas/SponsoringStatus'

**EventsSubscReqData:**  
**Description:** Identifies the events the application subscribes to.  
**Type:** object

**Required:**  
- events

**Properties:**

**events:**  
**Type:** array

**Items:**  
**Reference:** '#/components/schemas/AfEventSubscription'

**minItems:** 1

**notifUri:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Uri'

**usgThres:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

**EventsSubscReqDataRm:**  
**Description:** this data type is defined in the same way as the EventsSubscReqData data type, but with the OpenAPI nullable property set to true.  
**Type:** object

**Required:**  
- events

**Properties:**

**events:**

```

    Type: array
    Items:
      Reference: '#/components/schemas/AfEventSubscription'
  notifUri:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/Uri'
  usgThres:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThresholdRm'
  nullable: true
MediaComponent:
  Description: Identifies a media component.
  Type: object
  Required:
    - medCompN
  Properties:
    afAppId:
      Reference: '#/components/schemas/AfAppId'
    afRoutReq:
      Reference: '#/components/schemas/AfRoutingRequirement'
    contVer:
      Reference: '#/components/schemas/ContentVersion'
    codecs:
      Type: array
      Items:
        Reference: '#/components/schemas/CodecData'
      minItems: 1
      maxItems: 2
    fStatus:
      Reference: '#/components/schemas/FlowStatus'
    marBwDL:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    marBwUL:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    medCompN:
      Type: integer
    medSubComps:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/MediaSubComponent'
      minProperties: 1
    medType:
      Reference: '#/components/schemas/MediaType'
    mirBwDL:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    mirBwUL:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    resPrio:
      Reference: '#/components/schemas/ReservPriority'
MediaComponentRm:
  Description: This data type is defined in the same way as the MediaComponent data
  type, but with the OpenAPI nullable property set to true
  Type: object
  Required:

```

```

- medCompN
Properties:
  afAppId:
    Reference: '#/components/schemas/AfAppId'
  afRoutReq:
    Reference: '#/components/schemas/AfRoutingRequirementRm'
  contVer:
    Reference: '#/components/schemas/ContentVersion'
  codecs:
    Type: array
    Items:
      Reference: '#/components/schemas/CodecData'
    minItems: 1
    maxItems: 2
  fStatus:
    Reference: '#/components/schemas/FlowStatus'
  marBwDl:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
  marBwUl:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
  medCompN:
    Type: integer
  medSubComps:
    Type: object
    additionalProperties:
      Reference: '#/components/schemas/MediaSubComponentRm'
    minProperties: 1
  medType:
    Reference: '#/components/schemas/MediaType'
  mirBwDl:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
  mirBwUl:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
  resPrio:
    Reference: '#/components/schemas/ReservPriority'
nullable: true
MediaSubComponent:
Description: Identifies a media subcomponent
Type: object
Required:
- fNum
Properties:
  ethfDescs:
    Type: array
    Items:
      Reference: '#/components/schemas/EthFlowDescription'
    minItems: 1
    maxItems: 2
  fNum:
    Type: integer
  fDescs:
    Type: array

```

```

    Items:
      Reference: '#/components/schemas/FlowDescription'
      minItems: 1
      maxItems: 2
    fStatus:
      Reference: '#/components/schemas/FlowStatus'
    marBwDl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    marBwUl:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    tosTrCl:
      Reference: '#/components/schemas/TosTrafficClass'
    flowUsage:
      Reference: '#/components/schemas/FlowUsage'
  MediaSubComponentRm:
    Description: This data type is defined in the same way as the MediaSubComponent data
    type, but with the OpenAPI nullable property set to true. Removable attributes marBwDl and
    marBwUl are defined with the corresponding removable data type.
    Type: object
    Required:
      - fNum
    Properties:
      ethfDescs:
        Type: array
        Items:
          Reference: '#/components/schemas/EthFlowDescription'
          minItems: 1
          maxItems: 2
          nullable: true
      fNum:
        Type: integer
      fDescs:
        Type: array
        Items:
          Reference: '#/components/schemas/FlowDescription'
          minItems: 1
          maxItems: 2
          nullable: true
      fStatus:
        Reference: '#/components/schemas/FlowStatus'
      marBwDl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      marBwUl:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRateRm'
      tosTrCl:
        Reference: '#/components/schemas/TosTrafficClassRm'
      flowUsage:
        Reference: '#/components/schemas/FlowUsage'
    nullable: true
  EventsNotification:
    Description: describes the notification of a matched event
    Type: object

```

**Required:**

- evSubsUri
- evNotifs

**Properties:**

**accessType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

**anGwAddr:**

**Reference:** '#/components/schemas/AnGwAddress'

**evSubsUri:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Uri'

**evNotifs:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/AfEventNotification'

**minItems:** 1

**failedResourcAllocReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/ResourcesAllocationInfo'

**minItems:** 1

**plmnId:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

**qncReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/QosNotificationControlInfo'

**minItems:** 1

**ratType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RatType'

**usgRep:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/AccumulatedUsage'

**AfEventSubscription:**

**Description:** describes the event information delivered in the subscription

**Type:** object

**Required:**

- event

**Properties:**

**event:**

**Reference:** '#/components/schemas/AfEvent'

**notifMethod:**

**Reference:** '#/components/schemas/AfNotifMethod'

**AfEventNotification:**

**Description:** describes the event information delivered in the notification

**Type:** object

**Required:**

- event

**Properties:**

**event:**

**Reference:** '#/components/schemas/AfEvent'

**Flows:**

**Type:** array

**Items:**

```

      Reference: '#/components/schemas/Flows'
      minItems: 1
    TerminationInfo:
      Description: indicates the cause for requesting the deletion of the Individual
Application Session Context resource
      Type: object
      Required:
        - termCause
        - resUri
      Properties:
        termCause:
          Reference: '#/components/schemas/TerminationCause'
        resUri:
          Reference: 'TS29122_CommonData.yaml#/components/schemas/Uri'
    AfRoutingRequirement:
      Description: describes the event information delivered in the subscription
      Type: object
      Properties:
        appReloc:
          Type: boolean
        routeToLocs:
          Type: array
          Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
            minItems: 1
        spVal:
          Reference: '#/components/schemas/SpatialValidity'
        tempVals:
          Type: array
          Items:
            Reference: '#/components/schemas/TemporalValidity'
            minItems: 1
        upPathChgSub:
          Reference: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/UpPathChgEvent'

    SpatialValidity:
      Description: describes explicitly the route to an Application location
      Type: object
      Required:
        - presenceInfoList
      Properties:
        presenceInfoList:
          Type: object
          additionalProperties:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
            minProperties: 1
    SpatialValidityRm:
      Description: this data type is defined in the same way as the SpatialValidity data
type, but with the OpenAPI nullable property set to true
      Type: object
      Required:
        - presenceInfoList
      Properties:

```



```

presenceInfoList:
  Type: object
  additionalProperties:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
  minProperties: 1
nullable: true
AfRoutingRequirementRm:
  Description: this data type is defined in the same way as the AfRoutingRequirement
  data type, but with the OpenAPI nullable property set to true and the spVal and tempVals
  attributes defined as removable.
  Type: object
  Properties:
    appReloc:
      Type: boolean
    routeToLocs:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
      minItems: 1
      nullable: true
    spVal:
      Reference: '#/components/schemas/SpatialValidityRm'
    tempVals:
      Type: array
      Items:
        Reference: '#/components/schemas/TemporalValidity'
      minItems: 1
      nullable: true
    upPathChgSub:
      Reference: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/UpPathChgEvent'

nullable: true
AnGwAddress:
  Description: describes the address of the access network gateway control node
  Type: object
  anyOf:
    - required: [anGwIpv4Addr]
    - required: [anGwIpv6Addr]
  Properties:
    anGwIpv4Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    anGwIpv6Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
Flows:
  Description: Identifies the flows
  Type: object
  Required:
    - medCompN
  Properties:
    contVers:
      Type: array
      Items:
        Reference: '#/components/schemas/ContentVersion'

```

```

    minItems: 1
  fNums:
    Type: array
    Items:
      Type: integer
    minItems: 1
  medCompN:
    Type: integer
EthFlowDescription:
  Description: Identifies an Ethernet flow
  Type: object
  Required:
    - ethType
  Properties:
    destMacAddr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
    ethType:
      Type: string
    fDesc:
      Reference: '#/components/schemas/FlowDescription'
    fDir:
      Reference: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/FlowDirection'

    sourceMacAddr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
    vlanTags:
      Type: array
      Items:
        Type: string
      minItems: 1
      maxItems: 2
ResourcesAllocationInfo:
  Description: describes the status of the PCC rule(s) related to certain media
  components.
  Type: object
  Required:
    - mcResourcStatus
  Properties:
    mcResourcStatus:
      Reference: '#/components/schemas/MediaComponentResourcesStatus'
    Flows:
      Type: array
      Items:
        Reference: '#/components/schemas/Flows'
      minItems: 1
TemporalValidity:
  Description: Indicates the time interval(s) during which the AF request is to be
  applied
  Type: object
  Properties:
    startTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

```

```

    stopTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  QosNotificationControlInfo:
    Description: Indicates whether the QoS targets for a GRB flow are not guaranteed or
    guaranteed again
    Type: object
    Required:
      - notifType
    Properties:
      notifType:
        Reference: '#/components/schemas/QosNotifType'
      Flows:
        Type: array
        Items:
          Reference: '#/components/schemas/Flows'
        minItems: 1
# SIMPLE DATA TYPES
AfAppId:
  Description: Contains an AF application identifier.
  Type: string
AspId:
  Description: Contains an identity of an application service provider.
  Type: string
CodecData:
  Description: Contains codec related information.
  Type: string
ContentVersion:
  Description: Represents the content version of some content.
  Type: integer
FlowDescription:
  Description: Defines a packet filter of an IP flow.
  Type: string
SponId:
  Description: Contains an identity of a sponsor.
  Type: string
TosTrafficClass:
  Description: 2-octet string, where each octet is encoded in hexadecimal representation.
  The first octet contains the IPv4 Type-of-Service or the IPv6 Traffic-Class field and the
  second octet contains the ToS/Traffic Class mask field.
  Type: string
TosTrafficClassRm:
  Description: this data type is defined in the same way as the TosTrafficClass data
  type, but with the OpenAPI nullable property set to true
  Type: string
  nullable: true
# ENUMERATIONS DATA TYPES
MediaType:
  anyOf:
    - type: string
  enum:
    - AUDIO
    - VIDEO
    - DATA
    - APPLICATION

```

```

        - CONTROL
        - TEXT
        - MESSAGE
        - OTHER
    - type: string
ReservPriority:
  anyOf:
    - type: string
      enum:
        - PRIO_1
        - PRIO_2
        - PRIO_3
        - PRIO_4
        - PRIO_5
        - PRIO_6
        - PRIO_7
        - PRIO_8
        - PRIO_9
        - PRIO_10
        - PRIO_11
        - PRIO_12
        - PRIO_13
        - PRIO_14
        - PRIO_15
        - PRIO_16
    - type: string
ServAuthInfo:
  anyOf:
    - type: string
      enum:
        - TP_NOT_KNOWN
        - TP_EXPIRED
        - TP_NOT_YET_OCURRED
    - type: string
SponsoringStatus:
  anyOf:
    - type: string
      enum:
        - SPONSOR_DISABLED
        - SPONSOR_ENABLED
    - type: string
AfEvent:
  anyOf:
    - type: string
      enum:
        - ACCESS_TYPE_CHANGE
        - FAILED_RESOURCES_ALLOCATION
        - PLMN_CHG
        - QOS_NOTIF
        - SUCCESSFUL_RESOURCES_ALLOCATION
        - USAGE_REPORT
    - type: string
AfNotifMethod:
  anyOf:
    - type: string
      enum:
        - EVENT_DETECTION
        - ONE_TIME
    - type: string
QosNotifType:

```

```
    anyOf:
      - type: string
      enum:
        - GUARANTEED
        - NOT_GUARANTEED
      - type: string
TerminationCause:
  anyOf:
    - type: string
    enum:
      - ALL_SDF_DEACTIVATION
      - PDU_SESSION_TERMINATION
    - type: string
MediaComponentResourcesStatus:
  anyOf:
    - type: string
    enum:
      - ACTIVE
      - INACTIVE
    - type: string
FlowUsage:
  anyOf:
    - type: string
    enum:
      - NO_INFO
      - RTCP
    - type: string
FlowStatus:
  anyOf:
    - type: string
    enum:
      - ENABLED-UPLINK
      - ENABLED-DOWNLINK
      - ENABLED
      - DISABLED
      - REMOVED
    - type: string
```





## CHAPTER 43

# Namf Communication

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** 1.0.0  
**Title:** Namf\_Communication  
**Description:** AMF Communication Service

## Servers

**URL:** '{apiRoot}/namf-comm/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2Clientcredentials:
  - namf-comm
```

## Paths

### /ue-contexts/{ueContextId}

#### put:

**Summary:** Namf\_Communication CreateUEContext service Operation

#### Tags:

- Individual ueContext (Document)

**Operation ID:** CreateUEContext

#### Parameters:

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

#### Schema:

**Type:** string

#### pattern:

```
'^(5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'
```

#### Request Body:

##### Content:

**Multipart/Related:** # message with binary body part(s)

##### Schema:

**Type:** object

**Properties:** # Request parts

##### JSON Data:

**Reference:** '#/components/schemas/UeContextCreateData'

##### binaryDataN1Message:

**Type:** string

**Format:** binary

##### binaryDataN2Information:

**Type:** string

**Format:** binary

##### binaryDataN2InformationExt1:

**Type:** string

**Format:** binary

##### Encoding:

##### JSON Data:

**Content Type:** application/json

##### binaryDataN1Message:

**Content Type:** application/vnd.3gpp.5gnas

##### Headers:

**Content ID:**

**Schema:**



```

        Type: string
    binaryDataN2Information:
        Content Type: application/vnd.3gpp.ngap
        Headers:
            Content ID:
            Schema:
                Type: string
    binaryDataN2InformationExt1:
        Content Type: application/vnd.3gpp.ngap
        Headers:
            Content ID:
            Schema:
                Type: string
    Required/Optional: true

Responses:
'201':
    Description: UE context successfully created.
    Headers:
        Location:
            description: 'Contains the URI of the newly created resource,
according to the structure: {apiRoot}/namf-comm/v1/ue-contexts/{ueContextId}'
            Required/Optional: true
            Schema:
                Type: string
    Content:
        Application/JSON:
            Schema:
                Reference: '#/components/schemas/UeContextCreatedData'
        Multipart/Related: # message with binary body part(s)
            Schema:
                Type: object
                Properties: # Request parts
                JSON Data:
                    Reference: '#/components/schemas/UeContextCreatedData'
                binaryDataN1Message:
                    Type: string
                    Format: binary
                binaryDataN2Information:
                    Type: string
                    Format: binary
        Encoding:
            JSON Data:
                Content Type: application/json
            binaryDataN1Message:
                Content Type: application/vnd.3gpp.5gnas
            Headers:
                Content ID:
                Schema:
                    Type: string
            binaryDataN2Information:
                Content Type: application/vnd.3gpp.ngap

```

```

      Headers:
        Content ID:
          Schema:
            Type: string
    '400':
      Description: Bad Request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/UeContextCreateError'
    '403':
      Description: Forbidden
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/UeContextCreateError'
    '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':
      Description: Internal Server Error
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/UeContextCreateError'
    '503':
      Reference: 'TS29571_CommonData.yaml#/components/responses/503'
  Default:
    Description: Unexpected error

```

## /ue-contexts/{ueContextId}/release

**Method:** Post

**Summary:** Namf\_Communication ReleaseUEContext service Operation

**Tags:**

- Individual ueContext (Document)

**Operation ID:** ReleaseUEContext

**Parameters:**

- **Name:** ueContextId  
**In:** path  
**Description:** UE Context Identifier  
**Required/Optional:** true  
**Schema:**  
**Type:** string

```

    pattern:
'^ (5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'

Request Body:
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/UEContextRelease'
    Required/Optional: true

Responses:
'204':
  Description: UE Context successfully released
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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:
  Description: Unexpected error

```

## /ue-contexts/{ueContextId}/assign-ebi

**Method:** Post

**Summary:** Namf\_Communication EBI Assignment service Operation

**Tags:**

- Individual ueContext (Document)

**Operation ID:** EBIAssignment

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

```
'^ (5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'
```

**Request Body:****Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/AssignEbiData'

**Required/Optional:** true

**Responses:**

'200':

**Description:** EBI Assignment successfully performed.

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/AssignedEbiData'

'400':

**Description:** Bad Request

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/AssignEbiError'

'403':

**Description:** Forbidden

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/AssignEbiError'

'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':

**Description:** Internal Server Error

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/AssignEbiError'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Description:** Unexpected error

## /ue-contexts/{ueContextId}/transfer

**Method:** Post

**Summary:** Namf\_Communication UEContextTransfer service Operation

**Tags:**

- Individual ueContext (Document)

**Operation ID:** UEContextTransfer**Parameters:**

- **Name:** ueContextId

**In:** path**Description:** UE Context Identifier**Required/Optional:** true**Schema:****Type:** string**pattern:**

```
^(5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'
```

**Request Body:****Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/UEContextTransferReqData'**Multipart/Related:** # message with binary body part(s)**Schema:****Type:** object**Properties:** # Request parts**JSON Data:****Reference:** '#/components/schemas/UEContextTransferReqData'**binaryDataN1Message:****Type:** string**Format:** binary**Encoding:****JSON Data:****Content Type:** application/json**binaryDataN1Message:****Content Type:** application/vnd.3gpp.5gnas**Headers:****Content ID:****Schema:****Type:** string**Required/Optional:** true**Responses:**

'200':

**Description:** UE context transfer successfully initiated.**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/UEContextTransferRspData'**Multipart/Related:** # message with binary body part(s)**Schema:****Type:** object**Properties:** # Request parts**JSON Data:****Reference:** '#/components/schemas/UEContextTransferRspData'

```

        binaryDataN2Information:
            Type: string
            Format: binary
    Encoding:
        JSON Data:
            Content Type: application/json
        binaryDataN2Information:
            Content Type: application/vnd.3gpp.ngap
    Headers:
        Content ID:
            Schema:
                Type: string
    '400':
        Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '403':
        Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '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:
        Description: Unexpected error

```

## /ue-contexts/{ueContextId}/transfer-update

**Method:** Post

**Summary:** Namf\_Communication RegistrationStatusUpdate service Operation

**Tags:**

- Individual ueContext (Document)

**Operation ID:** RegistrationStatusUpdate

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

'^(5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)\$'

**Request Body:**

```

Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/UeRegStatusUpdateReqData'
    Required/Optional: true

Responses:
  '200':
    Description: UE context transfer status successfully updated.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/UeRegStatusUpdateRspData'
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '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'

```

## /ue-contexts/{ueContextId}/n1-n2-messages

**Method:** Post

**Summary:** Namf\_Communication N1N2 Message Transfer (UE Specific) service Operation

**Tags:**

- n1N2Message collection (Document)

**Operation ID:** N1N2MessageTransfer

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

```
'^(imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|cid-.{1,255}|.+)$'
```

**Request Body:****Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/N1N2MessageTransferReqData'

**Multipart/Related:** # message with binary body part(s)**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/N1N2MessageTransferReqData'

**binaryDataN1Message:**

**Type:** string

**Format:** binary

**binaryDataN2Information:**

**Type:** string

**Format:** binary

**Encoding:****JSON Data:**

**Content Type:** application/json

**binaryDataN1Message:**

**Content Type:** application/vnd.3gpp.5gnas

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**binaryDataN2Information:**

**Content Type:** application/vnd.3gpp.ngap

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**Required/Optional:** true

**Responses:**

'202':

**Description:** N1N2 Message Transfer accepted.

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/N1N2MessageTransferRspData'

'200':

**Description:** N1N2 Message Transfer successfully initiated.

**Content:****Application/JSON:****Schema:**

**Reference:** '#/components/schemas/N1N2MessageTransferRspData'

'307':

**Description:** Temporary Redirect

**Content:**

**application/problem+json:**



```

    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'403':
  Reference: 'TS29571_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'409':
  Description: Conflicts
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/N1N2MessageTransferError'
'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'
'504':
  Description: Gateway Timeout
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/N1N2MessageTransferError'
Default:
  Description: Unexpected error
Callbacks:
  onN1N2TransferFailure:
    '{$request.body#/n1n2FailureTxfNotifURI}':
      Method: Post
      Summary: Namf_Communication N1N2Transfer Failure Notification service Operation

  Tags:
    - N1N2 Transfer Failure Notification
  Operation ID: N1N2TransferFailureNotification
  Request Body:
    Description: N1N2Transfer Failure Notification
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/N1N2MsgTxfrFailureNotification'

  Responses:

```

'204':  
**Description:** Expected response to a successful callback processing

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

## /ue-contexts/{ueContextId}/n1-n2-messages/subscriptions

**Method:** Post

**Summary:** Namf\_Communication N1N2 Message Subscribe (UE Specific) service Operation

**Tags:**

- N1N2 Subscriptions Collection for Individual UE Contexts (Document)

**Operation ID:** N1N2MessageSubscribe

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:**

'^ (5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)\$'

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/UeN1N2InfoSubscriptionCreateData'

**Required/Optional:** true

**Responses:**

'201':

**Description:** N1N2 Message Subscription successfully created.

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/namf-comm/v1/{ueContextId}/n1-n2-messages/subscriptions/{subscriptionId}'

```

    Required/Optional: true
    Schema:
      Type: string
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/UeN1N2InfoSubscriptionCreatedData'
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'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:
  Description: Unexpected error
Callbacks:
  onN1N2MessageNotify:
    '{$request.body#/n1NotifyCallbackUri}':
      Method: Post
      Summary: Namf_Communication N1 Message Notify service Operation

    Tags:
      - N1 Message Notify
    Operation ID: N1MessageNotify
    Request Body:
      Description: N1 Message Notification
      Content:
        Multipart/Related: # message with binary body part(s)
        Schema:
          Type: object
          Properties: # Request parts
            JSON Data:
              Reference: '#/components/schemas/N1MessageNotification'
            binaryDataN1Message:
              Type: string
              Format: binary
      Encoding:
        JSON Data:
          Content Type: application/json
        binaryDataN1Message:
          Content Type: application/vnd.3gpp.5gnas
      Headers:
        Content ID:
          Schema:

```

**Type:** string

**Responses:**

'204':

**Description:** Expected response to a successful callback processing

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'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'

'{\$request.body#/n2NotifyCallbackUri}':

**Method:** Post

**Summary:** Namf\_Communication N2 Info Notify (UE Specific) service Operation

**Tags:**

- N2 Info Notify

**Operation ID:** N2InfoNotify

**Request Body:**

**Description:** UE Specific N2 Informaiton Notification

**Content:**

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/N2InformationNotification'

**binaryDataN1Message:**

**Type:** string

**Format:** binary

**binaryDataN2Information:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

**binaryDataN1Message:**

**Content Type:** application/vnd.3gpp.5gnas

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**binaryDataN2Information:****Content Type:** application/vnd.3gpp.ngap**Headers:****Content ID:****Schema:****Type:** string**Responses:****'204':****Description:** Expected response to a successful callback processing**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'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'**/ue-contexts/{ueContextId}/n1-n2-messages/subscriptions/{subscriptionId}****delete:****Summary:** Namf\_Communication N1N2 Message UnSubscribe (UE Specific) service Operation**Tags:**

- N1N2 Individual Subscription (Document)

**Operation ID:** N1N2MessageUnSubscribe**Parameters:**- **Name:** ueContextId**In:** path**Description:** UE Context Identifier**Required/Optional:** true**Schema:****Type:** string**pattern:**

'^(5g-guti-[0-9]{5,6}[0-9a-fA-F]{14}|imsi-[0-9]{5,15}|nai-+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)\$'

- **Name:** subscriptionId**In:** path**Description:** Subscription Identifier**Required/Optional:** true**Schema:****Type:** string

**Responses:**

'204':  
**Description:** N1N2 Message Subscription successfully removed.

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

## /non-ue-n2-messages/transfer

**Method:** Post**Summary:** Namf\_Communication Non UE N2 Message Transfer service Operation**Tags:**

- Non UE N2Messages collection (Document)

**Operation ID:** NonUeN2MessageTransfer**Request Body:****Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/N2InformationTransferReqData'**Multipart/Related:** # message with binary body part(s)**Schema:****Type:** object**Properties:** # Request parts**JSON Data:****Reference:** '#/components/schemas/N2InformationTransferReqData'**binaryDataN2Information:****Type:** string**Format:** binary**Encoding:****JSON Data:****Content Type:** application/json**binaryDataN2Information:****Content Type:** application/vnd.3gpp.ngap**Headers:****Content ID:****Schema:****Type:** string**Required/Optional:** true

**Responses:**

'200':  
**Description:** Non UE N2 Message Transfer successfully initiated.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferRspData'

'400':  
**Description:** Bad Request  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferError'

'403':  
**Description:** Forbidden  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferError'

'404':  
**Description:** Not Found  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferError'

'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':  
**Description:** Internal Server Error  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferError'

'503':  
**Description:** Service Unavailable  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N2InformationTransferError'

**Default:**  
**Description:** Unexpected error

## /non-ue-n2-messages/subscriptions

**Method:** Post

**Summary:** Namf\_Communication Non UE N2 Info Subscribe service Operation

**Tags:**

- Non UE N2Messages Subscriptions collection (Document)

**Operation ID:** NonUeN2InfoSubscribe

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NonUeN2InfoSubscriptionCreateData'

**Required/Optional:** true

**Responses:**

'201':

**Description:** Non UE N2 Info Subscription successfully created.

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/namf-comm/v1/non-ue-n2-messages/subscriptions/{n2NotifySubscriptionId}'

**Required/Optional:** true

**Schema:**

**Type:** string

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NonUeN2InfoSubscriptionCreatedData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'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:**

**Description:** Unexpected error

**Callbacks:**

**onN2InfoNotify:**

'{\$request.body#/n2NotifyCallbackUri}':



**Method:** Post

**Summary:** Namf\_Communication Non UE N2 Info Notify service Operation

**Tags:**

- Non UE N2 Info Notify

**Operation ID:** NonUeN2InfoNotify

**Request Body:**

**Description:** Non UE N2 Informaiton Notification

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/N2InformationNotification'

**Multipart/Related:** # message with binary body part(s)

**Schema:**

**Type:** object

**Properties:** # Request parts

**JSON Data:**

**Reference:** '#/components/schemas/N2InformationNotification'

**binaryDataN2Information:**

**Type:** string

**Format:** binary

**Encoding:**

**JSON Data:**

**Content Type:** application/json

**binaryDataN2Information:**

**Content Type:** application/vnd.3gpp.ngap

**Headers:**

**Content ID:**

**Schema:**

**Type:** string

**Responses:**

'204':

**Description:** Expected response to a successful callback processing

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

## /non-ue-n2-messages/subscriptions/{n2NotifySubscriptionId}

### delete:

**Summary:** Namf\_Communication Non UE N2 Info UnSubscribe service Operation

### Tags:

- Non UE N2 Message Notification Individual Subscription (Document)

**Operation ID:** NonUeN2InfoUnSubscribe

### Parameters:

- **Name:** n2NotifySubscriptionId

**In:** path

**Description:** N2 info Subscription Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

### Responses:

'204':

**Description:** Non UE N2 INfo Subscription successfully removed.

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'429':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

## /subscriptions

### Method: Post

**Summary:** Namf\_Communication AMF Status Change Subscribe service Operation

### Tags:

- subscriptions collection (Document)

**Operation ID:** AMFStatusChangeSubscribe

### Request Body:

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SubscriptionData'

**Required/Optional:** true

### Responses:

'201':

**Description:** N1N2 Message Subscription successfully created.

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource,'

according to the structure: {apiRoot}/namf-comm/v1/subscriptions/{subscriptionId}'

**Required/Optional:** true

**Schema:**

**Type:** string

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SubscriptionData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'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:**

**Description:** Unexpected error

**Callbacks:**

**onAmfStatusChange:**

'{\$request.body#/amfStatusUri}':

**Method:** Post

**Summary:** Amf Status Change Notify service Operation

**Tags:**

- Amf Status Change Notify

**Operation ID:** AmfStatusChangeNotify

**Request Body:**

**Description:** Amf Status Change Notification

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AmfStatusChangeNotification'

**Responses:**

'204':

**Description:** Expected response to a successful callback processing

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

## /subscriptions/{subscriptionId}

### delete:

**Summary:** Namf\_Communication AMF Status Change UnSubscribe service Operation

#### Tags:

- individual subscription (Document)

**Operation ID:** AMFStatusChangeUnSubscribe

#### Parameters:

- **Name:** subscriptionId

**In:** path

**Description:** AMF Status Change Subscription Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

#### Responses:

**'204':**

**Description:** N1N2 Message Subscription successfully removed.

**'400':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'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:**

**Description:** Unexpected error

### put:

**Summary:** Namf\_Communication AMF Status Change Subscribe Modify service Operation

#### Tags:

- individual subscription (Document)

**Operation ID:** AMFStatusChangeSubscribeModify

#### Parameters:

- **Name:** subscriptionId

**In:** path  
**Description:** AMF Status Change Subscription Identifier  
**Required/Optional:** true  
**Schema:**  
  **Type:** string

**Request Body:**  
**Content:**  
  **Application/JSON:**  
    **Schema:**  
      **Reference:** '#/components/schemas/SubscriptionData'  
**Required/Optional:** true

**Responses:**

'202':  
  **Description:** N1N2 Message Subscription successfully updated.  
  **Content:**  
    **Application/JSON:**  
      **Schema:**  
        **Reference:** '#/components/schemas/SubscriptionData'

'400':  
  **Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'403':  
  **Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'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:**  
  **Description:** Unexpected error

**Callbacks:**

**OnAmfStatusChange:**  
  '**{request.body#/amfStatusUri}**':  
    **Method:** Post  
    **Summary:** Amf Status Change Notify service Operation

**Tags:**  
    - Amf Status Change Notify

**Operation ID:** AmfStatusChangeNotify

**Request Body:**  
    **Description:** Amf Status Change Notification  
    **Content:**  
      **Application/JSON:**  
        **Schema:**  
          **Reference:** '#/components/schemas/AmfStatusChangeNotification'

```

Responses:
  '204':
    Description: Expected response to a successful callback processing
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '403':
    Reference: 'TS29571_CommonData.yaml#/components/responses/403'
  '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'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          namf-comm: Access to the Namf_Communication API

schemas:
# STRUCTURED DATA TYPES
SubscriptionData:
  Type: object
  Properties:
    amfStatusUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    guamiList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
      minItems: 1
  Required:
    - amfStatusUri
AmfStatusChangeNotification:
  Type: object
  Properties:
    amfStatusInfoList:

```

```

    Type: array
    Items:
      Reference: '#/components/schemas/AmfStatusInfo'
    minItems: 1
  Required:
    - amfStatusInfo
  AmfStatusInfo:
    Type: object
    Properties:
      guamiList:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
        minItems: 1
      statusChange:
        Reference: '#/components/schemas/StatusChange'
      targetAmfRemoval:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AmfName'
      targetAmfFailure:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AmfName'
    Required:
      - guamis
      - statusChange
  AssignEbiData:
    Type: object
    Properties:
      pduSessionId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
      arpList:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
        minItems: 1
      releasedEbiList:
        Type: array
        Items:
          Reference: '#/components/schemas/EpsBearerId'
        minItems: 1
    Required:
      - pduSessionId
  AssignedEbiData:
    Type: object
    Properties:
      pduSessionId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
      assignedEbiList:
        Type: array
        Items:
          Reference: 'TS29502_Nsmf_PDUSession.yaml#/components/schemas/EbiArpMapping'
        minItems: 0
      failedArpList:
        Type: array

```

```

    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
    minItems: 1
  releasedEbiList:
    Type: array
    Items:
      Reference: '#/components/schemas/EpsBearerId'
    minItems: 1
  Required:
    - pduSessionId
    - assignedEbis
  AssignEbiFailed:
    Type: object
  Properties:
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    failedArpList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
      minItems: 1
  Required:
    - pduSessionId
  UEContextRelease:
    Type: object
  Properties:
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    unauthenticatedSupi:
      Type: boolean
      Default: false
    ngapCause:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NgapCause'
  Required:
    - ngapCause
  N2InformationTransferReqData:
    Type: object
  Properties:
    tailList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
      minItems: 1
    ratSelector:
      Reference: '#/components/schemas/RatSelector'
    ecgiList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
      minItems: 1
    ncgiList:
      Type: array

```



```

    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
    minItems: 1
  globalRanNodeList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GlobalRanNodeId'
    minItems: 1
  n2Information:
    Reference: '#/components/schemas/N2InfoContainer'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - n2Information
NonUeN2InfoSubscriptionCreateData:
  Type: object
  Properties:
    globalRanNodeList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/GlobalRanNodeId'
      minItems: 1
    anTypeList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      minItems: 1
    n2InformationClass:
      Reference: '#/components/schemas/N2InformationClass'
    n2NotifyCallbackUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    nfId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - n2InformationClass
    - n2NotifyCallbackUri
NonUeN2InfoSubscriptionCreatedData:
  Type: object
  Properties:
    n2NotifySubscriptionId:
      Type: string
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - n2NotifySubscriptionId
UeN1N2InfoSubscriptionCreateData:
  Type: object
  Properties:
    n2InformationClass:
      Reference: '#/components/schemas/N2InformationClass'

```

```

n2NotifyCallbackUri:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
n1MessageClass:
  Reference: '#/components/schemas/N1MessageClass'
n1NotifyCallbackUri:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
nfId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
supportedFeatures:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
UeN1N2InfoSubscriptionCreatedData:
  Type: object
  Properties:
    n1n2NotifySubscriptionId:
      Type: string
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - n1n2NotifySubscriptionId
N2InformationNotification:
  Type: object
  Properties:
    n2NotifySubscriptionId:
      Type: string
    n2InfoContainer:
      Reference: '#/components/schemas/N2InfoContainer'
    toReleaseSessionList:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
      minItems: 1
    lcsCorrelationId:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/CorrelationID'
    notifyReason:
      Reference: '#/components/schemas/N2InfoNotifyReason'
  Required:
    - n2NotifySubscriptionId
N2InfoContainer:
  Type: object
  Properties:
    n2InformationClass:
      Reference: '#/components/schemas/N2InformationClass'
    smInfo:
      Reference: '#/components/schemas/N2SmInformation'
    ranInfo:
      Reference: '#/components/schemas/N2RanInformation'
    nrppaInfo:
      Reference: '#/components/schemas/NrppaInformation'
    pwsInfo:
      Reference: '#/components/schemas/PwsInformation'
  Required:
    - n2InformationClass

```

**N1MessageNotification:****Type:** object**Properties:****n1NotifySubscriptionId:****Type:** string**n1MessageContainer:****Reference:** '#/components/schemas/N1MessageContainer'**lcsCorrelationId:****Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CorrelationID'**registrationCtxtContainer:****Reference:** '#/components/schemas/RegistrationContextContainer'**Required:**

- n1MessageContainer

**N1MessageContainer:****Type:** object**Properties:****n1MessageClass:****Reference:** '#/components/schemas/N1MessageClass'**n1MessageContent:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RefToBinaryData'**nfId:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'**Required:**

- n1MessageClass

- n1MessageContent

**N1N2MessageTransferReqData:****Type:** object**Properties:****n1MessageContainer:****Reference:** '#/components/schemas/N1MessageContainer'**n2InfoContainer:****Reference:** '#/components/schemas/N2InfoContainer'**skipInd:****Type:** boolean**Default:** false**lastMsgIndication:****Type:** boolean**pduSessionId:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PduSessionId'**lcsCorrelationId:****Reference:** 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CorrelationID'**ppi:****Reference:** '#/components/schemas/Ppi'**arp:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Arp'**5qi:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/5Qi'**n1n2FailureTxfNotifURI:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'**smfReallocationInd:****Type:** boolean**Default:** false

```

    areaOfValidity:
      Reference: '#/components/schemas/AreaOfValidity'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
N1N2MessageTransferRspData:
  Type: object
  Properties:
    cause:
      Reference: '#/components/schemas/N1N2MessageTransferCause'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - cause
RegistrationContextContainer:
  Type: object
  Properties:
    ueContext:
      Reference: '#/components/schemas/UeContext'
    localTimeZone:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
    anType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    anN2ApId:
      Type: integer
    ranNodeId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GlobalRanNodeId'
    initialAmfName:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AmfName'
    userLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    rrcEstCause:
      Type: string
      Pattern: '^[0-9a-fA-F]+$'
    ueContextRequest:
      Type: boolean
      Default: false
    anN2IPv4Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    anN2IPv6Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
    allowedNssai:
      Reference: 'TS29531_Nnssf_NSSelection.yaml#/components/schemas/AllowedNssai'
    configuredNssai:
      Type: array
      Items:
        Reference: 'TS29531_Nnssf_NSSelection.yaml#/components/schemas/ConfiguredNssai'

      minItems: 1
    rejectedNssaiInPlmn:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'

```

```

        minItems: 1
    rejectedNssaiInTa:
        Type: array
        Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
        minItems: 1
    Required:
        - ueContext
        - anType
        - anN2ApId
        - ranNodeId
        - initialAmfName
        - userLocation
    AreaOfValidity:
        Type: object
        Properties:
            taiList:
                Type: array
                Items:
                    Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
                minItems: 0
            Required:
                - taiList
    UeContextTransferReqData:
        Type: object
        Properties:
            reason:
                Reference: '#/components/schemas/TransferReason'
            accessType:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
            plmnId:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
            regRequest:
                Reference: '#/components/schemas/N1MessageContainer'
            supportedFeatures:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
            Required:
                - reason
                - accessType
    UeContextTransferRspData:
        Type: object
        Properties:
            ueContext:
                Reference: '#/components/schemas/UeContext'
            ueRadioCapability:
                Reference: '#/components/schemas/N2InfoContent'
            supportedFeatures:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
            Required:
                - ueContext
    UeContext:
        Type: object
        Properties:

```

```

supi:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
supiUnauthInd:
  Type: boolean
gpsiList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  minItems: 1
pei:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
udmGroupId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
ausfGroupId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
routingIndicator:
  Type: string
groupList:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
  minItems: 1
drxParameter:
  Reference: '#/components/schemas/DrxParameter'
subRfsp:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
usedRfsp:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
subUeAmbr:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
smsSupport:
  Reference: '#/components/schemas/SmsSupport'
smsfId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
seafData:
  Reference: '#/components/schemas/SeafData'
5gMmCapability:
  Reference: '#/components/schemas/5GMmCapability'
pcfId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
pcfAmPolicyUri:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
amPolicyReqTriggerList:
  Type: array
  Items:
    Reference: '#/components/schemas/AMPolicyReqTrigger'
  minItems: 1
hpcfId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
restrictedRatList:
  Type: array

```

```

    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    minItems: 1
  forbiddenAreaList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Area'
    minItems: 1
  serviceAreaRestriction:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
  restrictedCoreNwTypeList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/CoreNetworkType'
    minItems: 1
  eventSubscriptionList:
    Type: array
    Items:
      Reference:
'TS29518_Namf_EventExposure.yaml#/components/schemas/AmfEventSubscription'
    minItems: 1
  mmContextList:
    Type: array
    Items:
      Reference: '#/components/schemas/MmContext'
    minItems: 1
    maxItems: 2
  sessionContextList:
    Type: array
    Items:
      Reference: '#/components/schemas/PduSessionContext'
    minItems: 1
  traceData:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
  N2SmInformation:
    Type: object
    Properties:
      pduSessionId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
      n2InfoContent:
        Reference: '#/components/schemas/N2InfoContent'
      sNssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      subjectToHo:
        Type: boolean
    Required:
      - pduSessionId
  N2InfoContent:
    Type: object
    Properties:
      ngapMessageType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UInteger'

```

```

    ngapIeType:
      Reference: '#/components/schemas/NgapIeType'
    ngapData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
  Required:
    - ngapIeType
    - ngapData
  NrppaInformation:
    Type: object
    Properties:
      nfId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      nrppaPdu:
        Reference: '#/components/schemas/N2InfoContent'
    Required:
      - nfId
      - nrppaPdu
  PwsInformation:
    Type: object
    Properties:
      messageIdentifier:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint16'
      serialNumber:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint16'
      pwsContainer:
        Reference: '#/components/schemas/N2InfoContent'
      sendRanResponse:
        Type: boolean
        Default: false
      omcId:
        Reference: '#/components/schemas/OmcIdentifier'
    Required:
      - messageIdentifier
      - serialNumber
      - pwsContainer
  N1N2MsgTxfrFailureNotification:
    Type: object
    Properties:
      cause:
        Reference: '#/components/schemas/N1N2MessageTransferCause'
      n1n2MsgDataUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    Required:
      - cause
      - n1n2MsgDataUri
  N1N2MessageTransferError:
    Type: object
    Properties:
      error:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
      errInfo:
        Reference: '#/components/schemas/N1N2MsgTxfrErrDetail'
    Required:

```



```

- error
N1N2MsgTxfrErrDetail:
  Type: object
  Properties:
    retryAfter:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UInteger'
    highestPrioArp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Arp'
N2InformationTransferRspData:
  Type: object
  Properties:
    result:
      Reference: '#/components/schemas/N2InformationTransferResult'
    pwsRspData:
      Reference: '#/components/schemas/PWSResponseData'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - result
MmContext:
  Type: object
  Properties:
    accessType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    nasSecurityMode:
      Reference: '#/components/schemas/NasSecurityMode'
    nasDownlinkCount:
      Reference: '#/components/schemas/NasCount'
    nasUplinkCount:
      Reference: '#/components/schemas/NasCount'
    ueSecurityCapability:
      Reference: '#/components/schemas/UeSecurityCapability'
    s1UeNetworkCapability:
      Reference: '#/components/schemas/S1UeNetworkCapability'
    allowedNssai:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
    nssaiMappingList:
      Type: array
      Items:
        Reference: '#/components/schemas/NssaiMapping'
      minItems: 1
    nsInstanceList:
      Type: array
      Items:
        Reference: 'TS29531_Nnssf_NSSelection.yaml#/components/schemas/NsiId'
      minItems: 1
    expectedUEbehavior:
      Reference: '#/components/schemas/ExpectedUeBehavior'
  Required:

```

```

    - accessType
SeafData:
  Type: object
  Properties:
    ngKsi:
      Reference: '#/components/schemas/NgKsi'
    keyAmf:
      Reference: '#/components/schemas/KeyAmf'
    nh:
      Type: string
      Pattern: '^[A-Za-z0-9]+$'
    ncc:
      Type: integer
      Minimum: 0
      Maximum: 7
    keyAmfChangeInd:
      Type: boolean
    keyAmfHDerivationInd:
      Type: boolean
  Required:
    - ngKsi
    - keyAmf
NasSecurityMode:
  Type: object
  Properties:
    integrityAlgorithm:
      Reference: '#/components/schemas/IntegrityAlgorithm'
    cipheringAlgorithm:
      Reference: '#/components/schemas/CipheringAlgorithm'
  Required:
    - integrityAlgorithm
    - cipheringAlgorithm
PduSessionContext:
  Type: object
  Properties:
    pduSessionId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    smContextRef:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    accessType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    allocatedEbiList:
      Type: array
      Items:
        Reference: 'TS29502_Nsmf_PDUSession.yaml#/components/schemas/EbiArpMapping'
      minItems: 1
    hsmfId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'

```

```

vsmfId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
nsInstance:
  Reference: 'TS29531_Nnssf_NSSelection.yaml#/components/schemas/NsiId'
Required:
  - pduSessionId
  - smContextRef
  - sNssai
  - dnn
  - accessType
  - allocatedEbiList
NssaiMapping:
Type: object
Properties:
  mappedSnssai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  hSnssai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
Required:
  - mappedSnssai
  - hSnssai
UeRegStatusUpdateReqData:
Type: object
Properties:
  transferStatus:
    Reference: '#/components/schemas/UeContextTransferStatus'
  toReleaseSessionList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    minItems: 1
  pcfReselectedInd:
    Type: boolean
Required:
  - transferStatus
UeRegStatusUpdateRspData:
Type: object
Properties:
  regStatusTransferComplete:
    Type: boolean
Required:
  - regStatusTransferComplete
AssignEbiError:
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  failureDetails:
    Reference: '#/components/schemas/AssignEbiFailed'
Required:
  - error
  - failureDetails
UeContextCreateData:
Type: object

```

**Properties:**

- ueContext:**
  - Reference:** '#/components/schemas/UeContext'
- targetId:**
  - Reference:** '#/components/schemas/NgRanTargetId'
- sourceToTargetData:**
  - Reference:** '#/components/schemas/N2InfoContent'
- pduSessionList:**
  - Type:** array
  - Items:**
    - Reference:** '#/components/schemas/N2SmInformation'
  - minItems:** 1
- n2NotifyUri:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'
- ueRadioCapability:**
  - Reference:** '#/components/schemas/N2InfoContent'
- ngapCause:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NgApCause'
- supportedFeatures:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Required:**

- ueContext
- targetId
- sourceToTargetData
- pduSessions

**UeContextCreatedData:**

**Type:** object

**Properties:**

- ueContext:**
  - Reference:** '#/components/schemas/UeContext'
- targetToSourceData:**
  - Reference:** '#/components/schemas/N2InfoContent'
- pduSessionList:**
  - Type:** array
  - Items:**
    - Reference:** '#/components/schemas/N2SmInformation'
  - minItems:** 1
- ngapCause:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NgApCause'
- failedSessionList:**
  - Type:** array
  - Items:**
    - Reference:** '#/components/schemas/N2SmInformation'
  - minItems:** 1
- supportedFeatures:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- pcfReselectedInd:**
  - Type:** boolean

**Required:**

- ueContext
- targetToSourceData
- pduSessions

**UeContextCreateError:**

```
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  ngapCause:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NgapCause'
Required:
  - error
NgRanTargetId:
Type: object
Properties:
  ranNodeId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/GlobalRanNodeId'
  tai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
Required:
  - ranNodeId
  - tai
PWSResponseData:
Type: object
Properties:
  ngapMessageType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  serialNumber:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint16'
  messageIdentifier:
    Type: integer
  unknownTailList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
    minItems: 1
Required:
  - ngapMessageType
  - serialNumber
  - messageIdentifier
PWSErrorData:
Type: object
Properties:
  namfCause:
    Type: integer
Required:
  - namfCause
N2InformationTransferError:
Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  pwdErrorInfo:
    Reference: '#/components/schemas/PWSErrorData'
Required:
  - error
NgKsi:
```

```

Type: object
Properties:
  tsc:
    Reference: '#/components/schemas/ScType'
  ksi:
    Type: integer
    Minimum: 0
    Maximum: 6
Required:
  - tsc
  - ksi
KeyAmf:
Type: object
Properties:
  keyType:
    Reference: '#/components/schemas/KeyAmfType'
  keyVal:
    Type: string
Required:
  - keyType
  - keyVal
ExpectedUeBehavior:
Type: object
Properties:
  expMoveTrajectory:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    minItems: 1
  validityTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:
  - expMoveTrajectory
  - validityTime
N2RanInformation:
Type: object
Properties:
  n2InfoContent:
    Reference: '#/components/schemas/N2InfoContent'
Required:
  - n2InfoContent
# SIMPLE DATA TYPES
EpsBearerId:
Type: integer
Minimum: 0
Maximum: 15
Ppi:
Type: integer
Minimum: 0
Maximum: 7
NasCount:
Reference: 'TS29571_CommonData.yaml#/components/schemas/UInteger'
5GmmCapability:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  UeSecurityCapability:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  S1UeNetworkCapability:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  DrxParameter:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
  OmcIdentifier:
    Type: string
# ENUMERATIONS
  StatusChange:
    anyOf:
      - type: string
        enum:
          - AMF_UNAVAILABLE
          - AMF_AVAILABLE
      - type: string
  N2InformationClass:
    anyOf:
      - type: string
        enum:
          - SM
          - NRPPa
          - PWS
          - PWS-BCAL
          - PWS-RF
          - RAN
      - type: string
  N1MessageClass:
    anyOf:
      - type: string
        enum:
          - 5GMM
          - SM
          - LPP
          - SMS
          - UPDP
      - type: string
  N1N2MessageTransferCause:
    anyOf:
      - type: string
        enum:
          - ATTEMPTING_TO_REACH_UE
          - N1_N2_TRANSFER_INITIATED
          - WAITING_FOR_ASYNCHRONOUS_TRANSFER
          - UE_NOT_RESPONDING
          - N1_MSG_NOT_TRANSFERRED
          - UE_NOT_REACHABLE_FOR_SESSION
      - type: string
  UeContextTransferStatus:
    anyOf:
      - type: string
        enum:
          - TRANSFERRED
          - NOT_TRANSFERRED
      - type: string
  N2InformationTransferResult:
    anyOf:

```

```

- type: string
  enum:
    - N2_INFO_TRANSFER_INITIATED
- type: string
CipheringAlgorithm:
anyOf:
- type: string
  enum:
    - NEA0
    - NEA1
    - NEA2
    - NEA3
- type: string
IntegrityAlgorithm:
anyOf:
- type: string
  enum:
    - NIA0
    - NIA1
    - NIA2
    - NIA3
- type: string
SmsSupport:
anyOf:
- type: string
  enum:
    - 3GPP
    - NON_3GPP
    - BOTH
    - NONE
- type: string
ScType:
anyOf:
- type: string
  enum:
    - NATIVE
    - MAPPED
- type: string
KeyAmfType:
anyOf:
- type: string
  enum:
    - KAMF
    - KPRIMEAMF
- type: string
TransferReason:
anyOf:
- type: string
  enum:
    - INIT_REG
    - MOBI_REG
    - MOBI_REG_UE_VALIDATED
- type: string
AMPolicyReqTrigger:
anyOf:
- type: string
  enum:
    - LOCATION_CHANGE
    - PRA_CHANGE

```



```
- SARI_CHANGE
- RFSP_INDEX_CHANGE
- type: string
RatSelector:
  anyOf:
  - type: string
    enum:
    - E-UTRA
    - NR
  - type: string
NgapIeType:
  anyOf:
  - type: string
    enum:
    - PDU_RES_SETUP_REQ
    - PDU_RES_REL_CMD
    - PDU_RES_MOD_REQ
    - HANDOVER_CMD
    - HANDOVER_REQUIRED
    - HANDOVER_PREP_FAIL
    - SRC_TO_TAR_CONTAINER
    - TAR_TO_SRC_CONTAINER
    - RAN_STATUS_TRANS_CONTAINER
    - SON_CONFIG_TRANSFER
    - NRPPA_PDU
    - UE_RADIO_CAPABILITY
  - type: string
N2InfoNotifyReason:
  anyOf:
  - type: string
    enum:
    - HANDOVER_COMPLETED
  - type: string
```

## External Docs

**Description:** 3GPP TS 29.518 V15.2.0; 5G System; Access and Mobility Management Services

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.518/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.518/)'





## CHAPTER 44

# Namf Location

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- [Components, on page 594](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** 1.0.0  
**Title:** Namf\_Location  
**Description:** AMF Location Service

## Servers

**URL:** '{apiRoot}/namf-loc/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2Clientcredentials:
  - namf-loc
```

## Paths

### `{ueContextId}/provide-pos-info`

**Method:** Post

**Summary:** Namf\_Location ProvidePositioningInfo service Operation

**Tags:**

- Individual UE context (Document)

**Operation ID:** ProvidePositioningInfo

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**pattern:** `^(imsi-[0-9]{5,15}|nai-.+|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$`

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** `#/components/schemas/RequestPosInfo`

**Required/Optional:** true

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** `#/components/schemas/ProvidePosInfo`

'400':

**Reference:** `TS29571_CommonData.yaml#/components/responses/400`

'403':

**Reference:** `TS29571_CommonData.yaml#/components/responses/403`

'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'
  '504':
    Reference: 'TS29571_CommonData.yaml#/components/responses/504'
  Default:
    Description: Unexpected error
  Callbacks:
    onUELocationNotification:
      '{$request.body#/locationNotificationUri}':
        Method: Post
        Request Body:
          Description: UE Location Event Notification
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/NotifiedPosInfo'

  Responses:
    '204':
      Description: Expected response to a successful callback processing
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '403':
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
    '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'

```

## /{ueContextId}/provide-loc-info

**Method:** Post

**Summary:** Namf\_Location ProvideLocationInfo service Operation

**Tags:**

- Individual UE context (Document)

**Operation ID:** ProvideLocationInfo

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

```

    Required/Optional: true
    Schema:
      Type: string
      pattern: '^(imsi-[0-9]{5,15}|nai-.[+]|imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/RequestLocInfo'
    Required/Optional: true

  Responses:
    '200':
      Description: Expected response to a valid request
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/ProvideLocInfo'
    '400':
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
    '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:
    Description: Unexpected error

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          namf-loc: Access to the Namf_Location API

```

```

schemas:
  RequestPosInfo:
    Type: object
    Properties:
      lcsClientType:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/ExternalClientType'
      lcsLocation:
        Reference: '#/components/schemas/LocationType'
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      priority:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/LcsPriority'
      lcsQoS:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/LocationQoS'
      velocityRequested:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/VelocityRequested'
      lcsSupportedGADShapes:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/SupportedGADShapes'
      locationNotificationUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - lcsClientType
      - lcsLocation
  ProvidePosInfo:
    Type: object
    Properties:
      locationEstimate:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      accuracyFulfilmentIndicator:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/AccuracyFulfilmentIndicator'
      ageOfLocationEstimate:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/AgeOfLocationEstimate'
      velocityEstimate:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/VelocityEstimate'
      positioningDataList:
        Type: array
        Items:
          Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/PositioningMethodAndUsage'
        minItems: 0
        maxItems: 9
      gnssPositioningDataList:
        Type: array
        Items:
          Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GnssPositioningMethodAndUsage'

```

```

    minItems: 0
    maxItems: 9
  ecgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
  ncgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
  targetServingNode:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  civicAddress:
    Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/CivicAddress'
  barometricPressure:
    Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/BarometricPressure'
  altitude:
    Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/Altitude'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
NotifiedPosInfo:
  Type: object
  Properties:
    locationEvent:
      Reference: '#/components/schemas/LocationEvent'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    locationEstimate:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
    ageOfLocationEstimate:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/AgeOfLocationEstimate'

    velocityEstimate:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/VelocityEstimate'
    positioningDataList:
      Type: array
      Items:
        Reference:
'TS29572_Nlmf_Location.yaml#/components/schemas/PositioningMethodAndUsage'
        minItems: 0
        maxItems: 9
    gnssPositioningDataList:
      Type: array
      Items:
        Reference:
'TS29572_Nlmf_Location.yaml#/components/schemas/GnssPositioningMethodAndUsage'
        minItems: 0
        maxItems: 9
  ecgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
  ncgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'

```



```

servingNode:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
civicAddress:
  Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/CivicAddress'
barometricPressure:
  Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/BarometricPressure'
altitude:
  Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/Altitude'
Required:
  - locationEvent
RequestLocInfo:
Type: object
Properties:
  req5gsLoc:
    Type: boolean
    Default: false
  reqCurrentLoc:
    Type: boolean
    Default: false
  reqRatType:
    Type: boolean
    Default: false
  reqTimeZone:
    Type: boolean
    Default: false
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
ProvideLocInfo:
Type: object
Properties:
  currentLoc:
    Type: boolean
  location:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  geoInfo:
    Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
  locatoInAge:
    Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/AgeOfLocationEstimate'

  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  timezone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
LocationType:
anyOf:
  - type: string
enum:
  - CURRENT_LOCATION
  - CURRENT_OR_LAST_KNOWN_LOCATION
  - INITIAL_LOCATION
  - type: string

```

```
LocationEvent:
  anyOf:
  - type: string
  enum:
    - EMERGENCY_CALL_ORIGINATION
    - EMERGENCY_CALL_RELEASE
    - EMERGENCY_CALL_HANDOVER
  - type: string
```

## External Docs

**Description:** 3GPP TS 29.518 V15.2.0; 5G System; Access and Mobility Management Services

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.518/'



## CHAPTER 45

# Namf MT

---

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- [Security, on page 599](#)
- [Paths, on page 600](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** 1.0.0  
**Title:** Namf\_MT  
**Description:** AMF Mobile Termination Service

## Servers

**URL:** '{apiRoot}/namf-mt/v1'  
**Variables:**  
  **API Root:**  
    **Default:** https://example.com  
    **Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2Clientcredentials:
  - namf-mt
```

## Paths

```
'/ue-contexts/{ueContextId}':
```

```
get:
```

```
  Summary: Namf_MT Provide Domain Selection Info service Operation
```

```
  Tags:
```

```
    - ueContext (Document)
```

```
  Operation ID: Provide Domain Selection Info
```

```
  Parameters:
```

```
    - Name: ueContextId
```

```
      In: path
```

```
      Description: UE Context Identifier
```

```
      Required/Optional: true
```

```
      Schema:
```

```
        Type: string
```

```
        pattern: '^(imsi-[0-9]{5,15}|nai-.[+].+)$'
```

```
    - Name: info-class
```

```
      In: query
```

```
      Description: UE Context Information Class
```

```
      Schema:
```

```
        Reference: '#/components/schemas/UeContextInfoClass'
```

```
    - Name: supported-features
```

```
      In: query
```

```
      Description: Supported Features
```

```
      Schema:
```

```
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
```

```
  Responses:
```

```
    '200':
```

```
      Description: Requested UE Context Information returned
```

```
      Content:
```

```
        Application/JSON:
```

```
          Schema:
```

```
            Reference: '#/components/schemas/UeContextInfo'
```

```
    '307':
```

```
      Description: Temporary Redirect
```

```
      Content:
```

```
        application/problem+json:
```

```
          Schema:
```

```
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
```

```
    '400':
```

```
      Reference: 'TS29571_CommonData.yaml#/components/responses/400'
```

```
    '403':
```

```
      Reference: 'TS29571_CommonData.yaml#/components/responses/403'
```

```
    '404':
```

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'  
**'414':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'  
**'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:**  
**Description:** Unexpected error

## /ue-contexts/{ueContextId}/ue-reachind

**Method:** Post

**Summary:** Namf\_MT EnableUEReachability service Operation

**Tags:**

- ueReachInd (Document)

**Operation ID:** EnableUeReachability

**Parameters:**

- **Name:** ueContextId

**In:** path

**Description:** UE Context Identifier

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EnableUeReachabilityReqData'

**Required/Optional:** true

**Responses:**

**'200':**

**Description:** UE has become reachable as desired

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EnableUeReachabilityRspData'

**'307':**

**Description:** Temporary Redirect

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**'400':**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

**'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'
  '504':
    Reference: 'TS29571_CommonData.yaml#/components/responses/504'
Default:
  Description: Unexpected error

```

## Components

### securitySchemes:

#### oAuth2ClientCredentials:

**Type:** oauth2

#### Flows:

##### clientCredentials:

**tokenUrl:** '{nrfApiRoot}/oauth2/token'

##### scopes:

**namf-mt:** Access to the Namf\_MT API

### schemas:

#### EnableUeReachabilityReqData:

**Type:** object

#### Properties:

##### reachability:

**Reference:** 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/UeReachability'

##### supportedFeatures:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

#### Required:

- reachability

#### EnableUeReachabilityRspData:

**Type:** object

#### Properties:

##### reachability:

**Reference:** 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/UeReachability'

##### supportedFeatures:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

#### Required:

- reachability

```
UeContextInfo:
  Type: object
  Properties:
    supportVoPS:
      Type: boolean
    supportVoPSn3gpp:
      Type: boolean
    lastActTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    accessType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    ratType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
UeContextInfoClass:
  anyOf:
  - type: string
  enum:
    - TADS
  - type: string
```

## External Docs

**Description:** 3GPP TS 29.518 V15.2.0; 5G System; Access and Mobility Management Services  
**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.518/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.518/)'







## CHAPTER 46

# ApplicationData

---

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- [Info](#), on page 605
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- [Components](#), on page 623
- [External Docs](#), on page 628

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '-'

**Title:** 'Unified Data Repository Service API file for policy data'

**Description:** 'The API version is defined in 3GPP TS 29.504'

## Paths

### /policy-data/ues/{ueId}/am-data

**Parameters:**

- **Name:** ueId
- In:** path
- Required/Optional:** true
- Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**get:**

**Responses:**

```

'200':
  Description: Upon success, a response body containing access and mobility policies
shall be returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/AmPolicyData'
'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'

```

## /policy-data/ues/{ueId}/ue-policy-set

### Parameters:

- Name: ueId

In: path

Required/Optional: true

### Schema:

Reference: 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

### get:

### Responses:

```

'200':
  Description: Upon success, a response body containing UE policies shall be
returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/UePolicySet'
'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'
put:
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/UePolicySet'

  Responses:
    '201':
      Description: Successful case. The resource has been successfully created and a
      response body containing a representation of the created UePolicySet resource shall be
      returned.
      Headers:
        Location:
          Description: 'Contains the URI of the newly created resource'
          Required/Optional: true
          Schema:
            Type: string
    '204':
      Description: Successful case. The resource has been successfully updated and no
      additional content is to be sent in the response message.
    '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'
  patch:
    Request Body:
      Content:
        application/merge-patch+json:
          Schema:
            Reference: '#/components/schemas/UePolicySet'

  Responses:
    '204':
      Description: Successful case. The resource has been successfully updated and no
additional content is to be sent in the response message.
    '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'

```

## /policy-data/ues/{ueId}/sm-data

get:

Parameters:

- Name: ueId
  - In: path
  - Required/Optional: true
  - Schema:
    - Reference: 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- Name: snssai
  - In: query
  - Required/Optional: false
  - Schema:

```
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
- Name: dnn
  In: query
  Required/Optional: false
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
- Name: fields
  In: query
  Description: attributes to be retrieved
  Required/Optional: false
  Schema:
    Type: array
    Items:
      Type: string

Responses:
  '200':
    Description: Upon success, a response body containing SmPolicyData shall be
returned.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SmPolicyData'
  '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'
  '414':
    Reference: 'TS29571_CommonData.yaml#/components/responses/414'
  '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'
patch:

Parameters:
- Name: ueId
  In: path
  Required/Optional: true
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
Request Body:
```

**Content:****application/merge-patch+json:****Schema:****Type:** object**additionalProperties:****Reference:** '#/components/schemas/UsageMonData'**Responses:****'204':****Description:** Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.**'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'

## /policy-data/ues/{ueId}/sm-data/{usageMonId}

**get:****Parameters:****- Name:** ueId**In:** path**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'**- Name:** usageMonId**In:** path**Required/Optional:** true**Schema:****Type:** string**Responses:**

```

'200':
  Description: Successful case. The usage monitoring data is returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/UsageMonData'
'204':
  Description: The resource was found but no usage monitoring data is available.
'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'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'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'
put:

Parameters:
- Name: ueId
  In: path
  Required/Optional: true
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- Name: usageMonId
  In: path
  Required/Optional: true
  Schema:
    Type: string
Request Body:
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/UsageMonData'

Responses:
'201':
  Description: Successful case. The resource has been successfully created and a
  response body is returned containing a representation of the resource.
  Headers:

```

```

    Location:
      Description: 'Contains the URI of the newly created resource'
      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'
  '414':
    Reference: 'TS29571_CommonData.yaml#/components/responses/414'
  '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'
delete:

Parameters:
- Name: ueId
  In: path
  Required/Optional: true
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- Name: usageMonId
  In: path
  Required/Optional: true
  Schema:
    Type: string

Responses:
  '204':
    Description: Successful case. The resource has been successfully 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'

```

## /policy-data/sponsor-connectivity-data/{sponsorId}

### Parameters:

```

- Name: sponsorId
  In: path
  Required/Optional: true
  Schema:
    Type: string

```

### get:

#### Responses:

```

'200':
  Description: Upon success, a response body containing Sponsor Connectivity Data shall be returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SponsorConnectivityData'
'204':
  Description: The resource was found but no Sponsor Connectivity Data is available.
'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'

```

## /policy-data/bdt-data

```

get:

  Responses:
    '200':
      Description: Upon success, a response body containing the BDT data shall be
returned.
      Content:
        Application/JSON:
          Schema:
            Type: array
            Items:
              Reference: '#/components/schemas/BdtData'
    '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'

```

## /policy-data/bdt-data/{bdtReferenceId}

```

Parameters:
- Name: bdtReferenceId
  In: path
  Required/Optional: true
  Schema:
    Type: string
get:

  Responses:
    '200':
      Description: Upon success, a response body containing the BDT data shall be
returned.
      Content:
        Application/JSON:

```

```
    Schema:
      Reference: '#/components/schemas/BdtData'
  '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'
put:
  Request Body:
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/BdtData'

Responses:
  '201':
    Description: Successful case. The resource has been successfully created.
    Headers:
      Location:
        Description: 'Contains the URI of the newly created resource'
        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'
  '414':
    Reference: 'TS29571_CommonData.yaml#/components/responses/414'
  '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'
delete:

```

**Responses:**

```

'204':
  Description: Successful case. The resource has been successfully 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'

```

## /policy-data/subs-to-notify

**Method:** Post**Request Body:****Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/PolicyDataSubscription'**Responses:**

'201':

**Description:** Upon success, a response body containing a representation of each Individual subscription resource shall be returned.**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/PolicyDataSubscription'**Headers:****Location:****Description:** 'Contains the URI of the newly created resource'**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:
    policyDataChangeNotification:
      '{$request.body#/notificationUri}':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Type: array
                Items:
                  Reference: '#/components/schemas/PolicyDataChangeNotification'
                Min Items: 1

  Responses:
    '204':
      Description: No Content, Notification was succesfull
    '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'

## /policy-data/subs-to-notify/{subsid}

### Parameters:

**- Name:** subsid  
**In:** path  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### put:

#### Request Body:

**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PolicyDataSubscription'

### Responses:

**'200':**  
**Description:** The individual subscription resource was updated successfully.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PolicyDataSubscription'

**'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'  
**delete:**

**Responses:**

**'204':**  
**Description:** Upon success, an empty response body shall be returned.  
**'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'

## /policy-data/ues/{ueId}/operator-specific-data

**get:**

**Parameters:**

**- Name:** ueId  
**In:** path  
**Description:** UE Id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'  
**- Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string

**Responses:**

**'200':**

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Type:** object

**additionalProperties:**

**Reference:**

'TS29505\_Subscription\_Data.yaml#/components/schemas/OperatorSpecificDataContainer'

'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'

'414':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

'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'

**patch:**

**Parameters:**

- **Name:** ueId

**In:** path

**Description:** UE Id

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**

**Content:**

**application/json-patch+json:**

**Schema:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PatchItem'

**Required/Optional:** true

**Responses:**

'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'
put:
  Parameters:
    - Name: ueId
      In: path
      Description: UE Id
      Required/Optional: true
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Type: object
          additionalProperties:
            Reference:
'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
  Responses:
    '200':
      Description: OK
      Content:
        Application/JSON:
          Schema:
            Reference:
'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
    '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'

```

## /policy-data/plmns/{plmnId}/ue-policy-set

### Parameters:

```

- Name: plmnId
  In: path
  Required/Optional: true
  Schema:
    Type: string

```

### get:

### Responses:

```

'200':
  Description: Upon success, a response body containing UE policies shall be
returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/UePolicySet'
'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'
'412':
  Reference: 'TS29571_CommonData.yaml#/components/responses/412'
'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

### schemas:

#### AmPolicyData:

**Description:** Contains the AM policy data for a given subscriber.

**Type:** object

#### Properties:

##### subscCats:

**Type:** array

##### Items:

**Type:** string

**minItems:** 1

#### UePolicySet:

**Description:** Contains the UE policy data for a given subscriber.

**Type:** object

#### Properties:

##### subscCats:

**Type:** array

##### Items:

**Type:** string

**minItems:** 1

##### uePolicySections:

**Type:** object

##### additionalProperties:

**Reference:** '#/components/schemas/UePolicySection'

**minProperties:** 1

##### upsis:

**Type:** array

##### Items:

**Type:** string

**minItems:** 1

#### UePolicySetPatch:

**Description:** Contains the UE policy set for a given subscriber.

**Type:** object

#### Properties:

##### uePolicySections:

**Type:** object

##### additionalProperties:

**Reference:** '#/components/schemas/UePolicySection'

**minProperties:** 1

##### upsis:

**Type:** array

##### Items:

**Type:** string

```

    minItems: 1
  UePolicySection:
    Description: Contains the UE policy section.
    Type: object
    Properties:
      uePolicySectionInfo:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
      upsi:
        Type: string
    Required:
      - uePolicySectionInfo
      - upsi
  SmPolicyData:
    Description: Contains the SM policy data for a given subscriber.
    Type: object
    Properties:
      smPolicySnssaiData:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/SmPolicySnssaiData'
        minProperties: 1
      umDataLimits:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/UsageMonDataLimit'
        minProperties: 1
      umData:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/UsageMonData'
        minProperties: 1
    Required:
      - smPolicySnssaiData
  SmPolicySnssaiData:
    Description: Contains the SM policy data for a given subscriber and S-NSSAI.
    Type: object
    Properties:
      snssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      smPolicyDnnData:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/SmPolicyDnnData'
        minProperties: 1
    Required:
      - snssai
  SmPolicyDnnData:
    Description: Contains the SM policy data for a given DNN (and S-NSSAI).
    Type: object
    Properties:
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'

```

```

allowedServices:
  Type: array
  Items:
    Type: string
  minItems: 1
subscCats:
  Type: array
  Items:
    Type: string
  minItems: 1
gbrUl:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
gbrDl:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
adcSupport:
  Type: boolean
subscSpendingLimits:
  Type: boolean
ipv4Index:
  Reference: '#/components/schemas/IpIndex'
ipv6Index:
  Reference: '#/components/schemas/IpIndex'
offline:
  Type: boolean
online:
  Type: boolean
chfInfo:
  Reference: 'TS29512_CommonData.yaml#/components/schemas/ChargingInformation'
refUmDataLimitIds:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/LimitIdToMonitoringKey'
  minProperties: 1
mpsPriority:
  Type: boolean
imsSignallingPrio:
  Type: boolean
mpsPriorityLevel:
  Type: integer
Required:
  - dnn
UsageMonDataLimit:
Description: Contains usage monitoring control data for a subscriber.
Type: object
Properties:
  limitId:
    Type: string
  scopes:
    Type: object
    additionalProperties:
      Reference: '#/components/schemas/UsageMonDataScope'
    minProperties: 1

```

```

umLevel:
  Reference: '#/components/schemas/UsageMonLevel'
startDate:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
endDate:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
usageLimit:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
resetPeriod:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
Required:
  - limitId
UsageMonData:
Description: Contains remain allowed usage data for a subscriber.
Type: object
Properties:
  limitId:
    Type: string
  scopes:
    Type: object
  additionalProperties:
    Reference: '#/components/schemas/UsageMonDataScope'
  minProperties: 1
  umLevel:
    Reference: '#/components/schemas/UsageMonLevel'
  allowedUsage:
    Reference: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
  resetTime:
    Reference: '#/components/schemas/TimePeriod'
Required:
  - limitId
LimitIdToMonitoringKey:
Description: Contains the limit identifier and the corresponding monitoring key for
a given S-NSSAI and DNN.
Type: object
Properties:
  limitId:
    Type: string
  monkey:
    Type: array
    Items:
      Type: string
    minItems: 1
Required:
  - limitId
UsageMonDataScope:
Description: Contains a SNSSAI and DNN combinations to which the UsageMonData instance
belongs to.
Type: object
Properties:
  snssai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'

```

```
dnn:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  minItems: 1
Required:
- snssai
TimePeriod:
  Description: Contains the periodicity for the defined usage monitoring data limits.
  Type: object
  Properties:
    period:
      Reference: '#/components/schemas/Periodicity'
    maxNumPeriod:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  Required:
- period
SponsorConnectivityData:
  Description: Contains the sponsored data connectivity related information for a
sponsor identifier.
  Type: object
  Properties:
    aspIds:
      Type: array
      Items:
        Type: string
  Required:
- aspIds
BdtData:
  Description: Contains the background data transfer data.
  Type: object
  Properties:
    aspId:
      Type: string
    transPolicy:
      Reference: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/TransferPolicy'
    bdtRefId:
      Type: string
    nwAreaInfo:
      Reference: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'
  Required:
- aspIds
- transPolicy
PolicyDataSubscription:
  Description: Identifies a subscription to policy data change notification.
  Type: object
  Properties:
    notificationUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    monitoredResourceUris:
      Type: array
```

```

    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - notificationUri
      - monitoredResourceUris
  PolicyDataChangeNotification:
    Description: Contains changed policy data for which notification was requested.
    Type: object
    Properties:
      amPolicyData:
        Reference: '#/components/schemas/AmPolicyData'
      uePolicySet:
        Reference: '#/components/schemas/UePolicySet'
      smPolicyData:
        Reference: '#/components/schemas/SmPolicyData'
      usageMonData:
        Reference: '#/components/schemas/UsageMonData'
      SponsorConnectivityData:
        Reference: '#/components/schemas/SponsorConnectivityData'
      bdtData:
        Reference: '#/components/schemas/BdtData'
  IpIndex:
    Type: integer
  UsageMonLevel:
    anyOf:
      - type: string
        enum:
          - SESSION_LEVEL
          - SERVICE_LEVEL
      - type: string
  Periodicity:
    anyOf:
      - type: string
        enum:
          - YEARLY
          - MONTHLY
          - WEEKLY
          - DAILY
          - HOURLY
      - type: string

```

## External Docs

**Description:** 3GPP TS 29.519 V15.2.0; 5G System; Usage of the Unified Data Repository Service for Policy Data, Application Data and Structured Data for Exposure.

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.519/'





## CHAPTER 47

# ExposureData

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- [Paths](#), on page 629
- [Components](#), on page 639

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '-'

**Title:** 'Unified Data Repository Service API file for structured data for exposure'

**Description:** 'The API version is defined in 3GPP TS 29.504'

## Paths

### **/exposure-data/{ueId}/access-and-mobility-data**

**put:**

**Summary:** Creates and updates the access and mobility exposure data for a UE

**Operation ID:** CreateAccessAndMobilityData

**Tags:**

- AccessAndMobilityData

**Parameters:**

- **Name:** ueId

**In:** path

**Description:** UE id

**Required/Optional:** true

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Request Body:**  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AccessAndMobilityData'

**Responses:**

**'201':**  
**Description:** Upon success, a response body is returned containing a representation of the access and mobility data  
**Headers:**  
**Location:**  
**Description:** 'Contains the URI of the newly created resource'  
**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'

**get:**  
**Summary:** Retrieves the access and mobility exposure data for a UE  
**Operation ID:** QueryAccessAndMobilityData

**Tags:**  
- AccessAndMobilityData

**Parameters:**  
- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** supp-feat  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':  
**Description:** The response body contains the access and mobility data  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AccessAndMobilityData'

'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'

'414':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

'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:**  
**Summary:** Deletes the access and mobility exposure data for a UE  
**Operation ID:** DeleteAccessAndMobilityData

**Tags:**  
- AccessAndMobilityData

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

**Responses:**

'204':

**Description:** Upon success, an empty response body shall be returned

'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'

## /exposure-data/{ueId}/session-management-data/{pduSessionId}

### put:

**Summary:** Creates and updates the session management data for a UE and for an individual PDU session

**Operation ID:** CreateSessionManagementData

### Tags:

- PduSessionManagementData

### Parameters:

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'

- **Name:** pduSessionId  
**In:** path  
**Description:** PDU session id  
**Required/Optional:** true  
**Schema:**  
**Type:** integer

### Request Body:

**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PduSessionManagementData'

### Responses:

'201':  
**Description:** Upon success, a response body is returned containing a representation of the session management data

**Headers:****Location:****Description:** 'Contains the URI of the newly created resource'**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'**get:****Summary:** Retrieves the session management data for a UE and for an individual PDU session**Operation ID:** QuerySessionManagementData**Tags:**

- PduSessionManagementData

**Parameters:**- **Name:** ueId**In:** path**Description:** UE id**Required/Optional:** true**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'- **Name:** pduSessionId**In:** path**Description:** PDU session id**Required/Optional:** true**Schema:****Type:** integer- **Name:** ipv4-addr**In:** query**Description:** IPv4 Address of the UE

**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

- **Name:** ipv6-prefix  
**In:** query  
**Description:** IPv6 Address Prefix of the UE  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'
- **Name:** dnn  
**In:** query  
**Description:** DNN of the UE  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'
- **Name:** fields  
**In:** query  
**Description:** attributes to be retrieved  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string
- **Name:** supp-feat  
**In:** query  
**Description:** Supported Features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Responses:**

'200':  
**Description:** The response body contains the session management data  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PduSessionManagementData'

'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'

'414':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

'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:**

**Summary:** Deletes the session management data for a UE and for an individual PDU session

**Operation ID:** DeleteSessionManagementData

**Tags:**

- PduSessionManagementData

**Parameters:**

- **Name:** ueId  
**In:** path  
**Description:** UE id  
**Required/Optional:** true  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** pduSessionId  
**In:** path  
**Description:** PDU session id  
**Required/Optional:** true  
**Schema:**  
**Type:** integer

**Responses:**

- '204':  
**Description:** Upon success, an empty response body shall be returned
- '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'

## /exposure-data/subs-to-notify

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

```

    Reference: '#/components/schemas/ExposureDataSubscription'

Responses:
  '201':
    Description: Created
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/ExposureDataSubscription'
    Headers:
      Location:
        Description: 'Contains the URI of the newly created resource'
        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:
  exposureDataChangeNotification:
    '{$request.body#/notificationUri}':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Type: array
              Items:
                Reference: '#/components/schemas/ExposureDataChangeNotification'
                Min Items: 1

      Responses:

```



```

'204':
  Description: No Content, Notification was succesfull
'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'

```

## /exposure-data/subs-to-notify/{subId}

**put:**

**Summary:** updates a subscription for notifications

**Parameters:**

- **Name:** subId
- In:** path
- Description:** Subscription id
- Required/Optional:** true
- Schema:**
  - Type:** string

**Request Body:**

- Required/Optional:** true
- Content:**
  - Application/JSON:**
    - Schema:**
      - Reference:** '#/components/schemas/ExposureDataSubscription'

**Responses:**

- '200':
  - Description:** Resource was succesfully modified.
  - Content:**
    - Application/JSON:**
      - Schema:**

```

    Reference: '#/components/schemas/ExposureDataSubscription'
  '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'
delete:
  Summary: Deletes a subscription for notifications

  Parameters:
    - Name: subId
      In: path
      Description: Subscription id
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '204':
      Description: 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'

# Components

**schemas:****AccessAndMobilityData:**

**Type:** object

**Properties:****location:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/UserLocation'

**locationTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**timeZone:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TimeZone'

**timeZoneTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**accessType:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

**regStates:**

**Type:** array

**Items:**

**Reference:** 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/RmInfo'

**regStatesTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**connStates:**

**Type:** array

**Items:**

**Reference:** 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/CmInfo'

**connStatesTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**reachabilityStatus:**

**Reference:** 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/UeReachability'

**reachabilityStatusTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**smsOverNasStatus:**

**Reference:** 'TS29518\_Namf\_Communication.yaml#/components/schemas/SmsSupport'

**smsOverNasStatusTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**roamingStatus:**

**Type:** boolean

**Description:** True The serving PLMN of the UE is different from the HPLMN of the UE; False The serving PLMN of the UE is the HPLMN of the UE.

**roamingStatusTs:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**currentPlmn:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

**currentPlmnTs:**

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  ratType:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  ratTypesTs:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
PduSessionManagementData:
  Type: object
  Properties:
    pduSessionStatus:
      Reference: '#/components/schemas/PduSessionStatus'
    pduSessionStatusTs:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    dnai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnai'
    dnaiTs:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    n6TrafficRoutingInfo:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
    n6TrafficRoutingInfoTs:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    ipv4Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    ipv6Prefix:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      minItems: 1
      Description: UE IPv6 prefix.
    ipAddrTs:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
ExposureDataSubscription:
  Type: object
  Properties:
    notificationUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    monitoredResourceUris:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      minItems: 1
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - notificationUri
    - monitoredResourceUris
ExposureDataChangeNotification:

```

**Type:** object

**Properties:**

- ueId:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/VarUeId'
- accessAndMobilityData:**
  - Reference:** '#/components/schemas/AccessAndMobilityData'
- pduSessionManagementData:**
  - Type:** array
  - Items:**
    - Reference:** '#/components/schemas/PduSessionManagementData'
  - minItems:** 1
- PduSessionStatus:**
  - anyOf:**
    - type: string
    - enum:**
      - "ACTIVE"
      - "RELEASED"
  - 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

  - "ACTIVE"
  - "RELEASED"





## CHAPTER 48

# PolicyData

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- [OpenAPI, on page 643](#)
- [Info, on page 643](#)
- [Paths, on page 643](#)
- [Components, on page 656](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** "-"

**Title:** 'Unified Data Repository Service API file for Application Data'

**Description:** 'The API version is defined in 3GPP TS 29.504'

## Paths

### /application-data/pfds

**get:**

**Parameters:**

- **Name:** appId

**In:** query

**Description:** Contains the information of the application identifier(s) for the querying PFD Data resource. If none appId is included in the URI, it applies to all application identifier(s) for the querying PFD Data resource.

**Required/Optional:** false

**Schema:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ApplicationId'

**Responses:**

'200':

**Description:** A representation of PFDs for request applications is returned.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:**

'TS29551\_Nnef\_PFDmanagement.yaml#/components/schemas/PfdDataForApp'

'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'

'414':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

'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'

## /application-data/pfds/{appld}

**get:**

**Parameters:**

- **Name:** appId

**In:** path

**Description:** Indicate the application identifier for the request pfd(s).It shall apply the format of Data type ApplicationId.

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** A representation of PFDs for the request application identified by the application identifier is returned.

**Content:**



**Application/JSON:**

**Schema:**

**Reference:** 'TS29551\_Nnef\_PFDmanagement.yaml#/components/schemas/PfdDataForApp'

'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:** appId
- In:** path
- Description:** Indicate the application identifier for the request pfd(s).It shall apply the format of Data type ApplicationId.
- Required/Optional:** true
- Schema:**
- Type:** string

**Responses:**

'204':

**Description:** Successful case.The Individual PFD Data resource related to the application identifier was 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'

**put:**

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29551\_Nnef\_PFDmanagement.yaml#/components/schemas/PfdDataForApp'

**Parameters:**

- **Name:** appId

**In:** path

**Description:** Indicate the application identifier for the request pfd(s).It shall apply the format of Data type ApplicationId.

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'201':

**Description:** The creation of an Individual PFD Data resource related to the application-identifier is confirmed and a representation of that resource is returned.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29551\_Nnef\_PFDmanagement.yaml#/components/schemas/PfdDataForApp'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nudr-dr/v1/application-data/pfds/{application-identifier}'

**Required/Optional:** true

**Schema:**

**Type:** string

'200':

**Description:** Successful case.The upgrade of an Individual PFD Data resource related to the application identifier is confirmed and a representation of that resource is returned.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29551\_Nnef\_PFDmanagement.yaml#/components/schemas/PfdDataForApp'

'204':

**Description:** No content

'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'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'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'

```

## /application-data/influenceData

get:

### Parameters:

- **Name:** influence-Ids  
**In:** query  
**Description:** Each element identifies a service.  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string
- **Name:** dnns  
**In:** query  
**Description:** Each element identifies a DNN.  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'
- **Name:** snssais  
**In:** query  
**Description:** Each element identifies a slice.  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- **Name:** internal-Group-Ids  
**In:** query

**/application-data/influenceData/{influenceId}**

**Description:** Each element identifies a group of users.  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Type:** string  
- **Name:** supis  
**In:** query  
**Description:** Each element identifies the user.  
**Required/Optional:** false  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Responses:**

'200':  
**Description:** The Traffic Influence Data stored in the UDR are returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/TrafficInfluData'  
'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'  
'414':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'  
'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'

## **/application-data/influenceData/{influenceId}**

**put:**  
**Request Body:**  
**Required/Optional:** true

**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/TrafficInfluData'**Parameters:****- Name:** influenceId**In:** path**Description:** The Identifier of an Individual Influence Data to be created or updated. It shall apply the format of Data type string.**Required/Optional:** true**Schema:****Type:** string**Responses:****'201':****Description:** The creation of an Individual Traffic Influence Data resource is confirmed and a representation of that resource is returned.**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/TrafficInfluData'**Headers:****Location:****description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nudr-dr/v1/application-data/influenceData/{influenceId}'

**Required/Optional:** true**Schema:****Type:** string**'200':****Description:** The update of an Individual Traffic Influence Data resource is confirmed and a response body containing Traffic Influence Data shall be returned.**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/TrafficInfluData'**'204':****Description:** No content**'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'**'414':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

```

    '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'
  patch:
    Request Body:
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/TrafficInfluDataPatch'

  Parameters:
    - Name: influenceId
      In: path
      Description: The Identifier of an Individual Influence Data to be updated.It shall apply the format of Data type string.
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '200':
      Description: The update of an Individual Traffic Influence Data resource is confirmed and a response body containing Traffic Influence Data shall be returned.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/TrafficInfluData'
    '204':
      Description: No content
    '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'
delete:

Parameters:
  - Name: influenceId
    In: path
    Description: The Identifier of an Individual Influence Data to be updated.It
shall apply the format of Data type string.
    Required/Optional: true
    Schema:
      Type: string

Responses:
  '204':
    Description: The Individual Influence Data was deleted successfully.
  '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'
```

## /application-data/influenceData/subs-to-notify

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

Responses:
  '201':
    Description: The subscription was created successfully.
```

```

Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/TrafficInfluSub'
Headers:
  Location:
    Description: 'Contains the URI of the newly created resource'
    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:
  trafficInfluenceDataChangeNotification:
    '{$request.body#/notificationUri}':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Type: array
              Items:
                Reference: '#/components/schemas/TrafficInfluData'
                Min Items: 1

Responses:
  '204':
    Description: No Content, Notification was succesfull
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '403':

```



**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'  
**'404':**  
**Reference:** 'TS29122\_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'

**get:**

**Parameters:**

- **Name:** dnn  
**In:** query  
**Description:** Identifies a DNN.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'
- **Name:** snssai  
**In:** query  
**Description:** Identifies a slice.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- **Name:** internal-Group-Id  
**In:** query  
**Description:** Identifies a group of users.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'
- **Name:** supi  
**In:** query  
**Description:** Identifies a user.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Responses:**

**'200':**  
**Description:** The subscription information as request in the request URI query parameter(s) are returned.  
**Content:**  
**Application/JSON:**  
**Schema:**

```

    Type: array
    Items:
      Reference: '#/components/schemas/TrafficInfluSub'
    Min Items: 0
  '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'
  '414':
    Reference: 'TS29571_CommonData.yaml#/components/responses/414'
  '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'

```

## /application-data/influenceData/subs-to-notify/{subscriptionId}

get:

**Parameters:**

```

- Name: subscriptionId
  In: path
  Description: String identifying a subscription to the Individual Influence Data
Subscription
  Required/Optional: true
  Schema:
    Type: string

```

**Responses:**

```

'200':
  Description: The subscription information is returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/TrafficInfluSub'
'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'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'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'
put:
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/TrafficInfluSub'

  Parameters:
    - Name: subscriptionId
      In: path
      Description: String identifying a subscription to the Individual Influence Data
Subscription
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '200':
      Description: The subscription was updated successfully.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/TrafficInfluSub'
    '204':
      Description: No content
    '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'
delete:

Parameters:
  - Name: subscriptionId
    In: path
    Description: String identifying a subscription to the Individual Influence Data
Subscription
    Required/Optional: true
    Schema:
      Type: string

Responses:
  '204':
    Description: The subscription was terminated successfully.
  '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'

```

## Components

```

schemas:
  TrafficInfluData:
    Type: object
    Properties:
      upPathChgNotifCorreId:
        Type: string

```

**Description:** Contains the Notification Correlation Id allocated by the NEF for the UP path change notification.

**appReloInd:**  
**Type:** boolean  
**Description:** Identifies whether an application can be relocated once a location of the application has been selected.

**afAppId:**  
**Type:** string  
**Description:** Identifies an application.

**dnn:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

**ethTrafficFilters:**  
**Type:** array  
**Items:**  
**Reference:**  
'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'  
**minItems:** 1  
**Description:** Identifies Ethernet packet filters. Either "trafficFilters" or "ethTrafficFilters" shall be included if applicable.

**snssai:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**interGroupId:**  
**Type:** string  
**Description:** Identifies a group of users.

**supi:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**trafficFilters:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'  
**minItems:** 1  
**Description:** Identifies IP packet filters. Either "trafficFilters" or "ethTrafficFilters" shall be included if applicable.

**trafficRoutes:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'  
**minItems:** 1  
**Description:** Identifies the N6 traffic routing requirement.

**validStartTime:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**validEndTime:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

**nwAreaInfo:**  
**Reference:** 'TS29554\_Npcf\_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

**upPathChgNotifUri:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'

**Required:**

- trafficRoutes

**allOf:**

- oneOf:
  - required: [afAppId]

```

    - required: [trafficFilters]
    - required: [ethTrafficFilters]
  - oneOf:
    - required: [supi]
    - required: [interGroupId]
TrafficInfluDataPatch:
  Type: object
  Properties:
    upPathChgNotifCorreId:
      Type: string
      Description: Contains the Notification Correlation Id allocated by the NEF for
the UP path change notification.
    appReloInd:
      Type: boolean
      Description: Identifies whether an application can be relocated once a location
of the application has been selected.
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    ethTrafficFilters:
      Type: array
      Items:
        Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
        minItems: 1
        Description: Identifies Ethernet packet filters.Either "trafficFilters" or
"ethTrafficFilters" shall be included if applicable.
    snssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    internalGroupId:
      Type: string
      Description: Identifies a group of users.
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    trafficFilters:
      Type: array
      Items:
        Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
        minItems: 1
        Description: Identifies IP packet filters.Either "trafficFilters" or
"ethTrafficFilters" shall be included if applicable.
    trafficRoutes:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
        minItems: 1
        Description: Identifies the N6 traffic routing requirement.
    validStartTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    validEndTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    nwAreaInfo:
      Reference: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

upPathChgNotifUri:

```

```
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
TrafficInfluSub:
  Type: object
  Properties:
    dnns:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
      Description: Each element identifies a DNN.
    snssais:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
      Description: Each element identifies a slice.
    internalGroupIds:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Each element identifies a group of users.
    supis:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
      Description: Each element identifies the user.
    notificationUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - notificationUri
  oneOf:
    - required: [dnns]
    - required: [snssais]
    - required: [internalGroupIds]
    - required: [supis]
```







## CHAPTER 49

# Nnwdaf AnalyticsInfo

---

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Nnwdaf\_AnalyticsInfo Service API  
**Version:** "1.0.0"  
**Title:** Nnwdaf\_AnalyticsInfo

## Servers

**URL:** '{apiRoot}/nnwdaf-analyticsinfo/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

## Security

- {}

- oAuth2ClientCredentials:
- nnwdaf-analyticsinfo

# Paths

## /analytics

### get:

#### Parameters:

- **Name:** event-id  
**In:** query  
**Description:** Identify the analytics.  
**Required/Optional:** true  
**Schema:**  
**Reference:** '#/components/schemas/EventId'
- **Name:** event-filter  
**In:** query  
**Description:** Identify the analytics when the eventId is "Load\_Level\_Information".  
**Required/Optional:** false  
**Schema:**  
**Reference:** '#/components/schemas/EventFilter'
- **Name:** supported-features  
**In:** query  
**Description:** To filter irrelevant responses related to unsupported features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

#### Responses:

- '200':  
**Description:** The individual PCF session binding session binding information resource matching the query parameter(s) is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/AnalyticsData'
- '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':  
**Description:** Indicates that the NWDAF Analytics resource does not exist.  
**Content:**  
**application/problem+json:**  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

```

'406':
  Reference: 'TS29571_CommonData.yaml#/components/responses/406'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'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:
          nnwdaf-analyticsinfo: Access to the Nnwdaf_AnalyticsInfo API

schemas:
  AnalyticsData:
    Type: object
    Properties:
      sliceLoadLevelInfos:
        Type: array
        Items:
          Reference:
            'TS29520_Nnwdaf_EventsSubscription.yaml#/components/schemas/SliceLoadLevelInformation'
          minItems: 1
          Description: The slices and there load level information.
  EventFilter:
    Type: object
    Properties:
      anySlice:
        Reference: 'TS29520_Nnwdaf_EventsSubscription.yaml#/components/schemas/AnySlice'

  snssais:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    minItems: 1
    Description: Identification(s) of network slice to which the subscription belongs.
    When eventId is "Load_level_Information", either information about slice(s) identified by
    snssai, or anySlice set to "TRUE" shall be included.
  not:

```

**Required:** [anySlice, snssais]

**EventId:**

**anyOf:**

- type: string

**enum:**

- LOAD\_LEVEL\_INFORMATION

- 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

- LOAD\_LEVEL\_INFORMATION: Represent the analytics of load level information of corresponding network slice instance.

## External Docs

**Description:** 3GPP TS 29.520 V15.2.0; 5G System; Network Data Analytics Services.

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.520/'



## CHAPTER 50

# EventsSubscription

---

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- [Info, on page 665](#)
- [Servers, on page 665](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Nnwdaf\_EventsSubscription Service API  
**Version:** "1.0.0"  
**Title:** Nnwdaf\_EventsSubscription

## Servers

**URL:** '{apiRoot}/nnwdaf-eventssubscription/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

## Security

- {}

- oAuth2ClientCredentials:
- nnwdaf-eventssubscription

# Paths

## /subscriptions

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NnwdafEventsSubscription'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nnwdaf-eventssubscription/v1/subscriptions/{subscriptionId}

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'201':

**Description:** Create a new Individual NWDAF Event Subscription resource.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NnwdafEventsSubscription'

'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:
    myNotification:
      '{$request.body#/notificationURI}':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Type: array
                Items:
                  Reference: '#/components/schemas/NnwdafEventsSubscriptionNotification'

          Min Items: 1

  Responses:
    '204':
      Description: The receipt of the Notification is acknowledged.
    '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'

```

## /subscriptions/{subscriptionId}

**delete:**

**Parameters:**

- **Name:** subscriptionId
- In:** path

**Description:** String identifying a subscription to the Nnwdaf\_EventsSubscription Service

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'204':

**Description:** No Content. The Individual NWDAF Event Subscription resource matching the subscriptionId was 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':

**Description:** The Individual NWDAF Event Subscription resource does not exist.

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'429':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

**put:**

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NnwdafEventsSubscription'

**Parameters:**

- **Name:** subscriptionId

**In:** path

**Description:** String identifying a subscription to the Nnwdaf\_EventsSubscription Service

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** The Individual NWDAF Event Subscription resource was modified successfully and a representation of that resource is returned.



```

    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/NnwdafEventsSubscription'
    '204':
      Description: The Individual NWDAF Event Subscription resource was modified
successfully.
    '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':
      Description: The Individual NWDAF Event Subscription resource does not exist.
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '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'
    '501':
      Reference: 'TS29571_CommonData.yaml#/components/responses/501'
    '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:
          nnwdaf-eventssubscription: Access to the Nnwdaf_EventsSubscription API

schemas:
  NnwdafEventsSubscription:

```

```

Type: object
Properties:
  eventSubscriptions:
    Type: array
    Items:
      Reference: '#/components/schemas/EventSubscription'
    minItems: 1
    Description: Subscribed events
  notificationURI:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schema/SupportedFeature'
Required:
  - eventSubscriptions
EventSubscription:
Type: object
Properties:
  anySlice:
    Reference: '#/components/schemas/AnySlice'
  event:
    Reference: '#/components/schemas/NwdafEvent'
  loadLevelThreshold:
    Type: integer
    Description: Shall be supplied for notification method "THRESHOLD". Indicates
that the NWDAF shall report the corresponding network slice load level to the NF service
consumer where the load level of the network slice instance identified by snssai is reached.

  notificationMethod:
    Reference: '#/components/schemas/NotificationMethod'
  repetitionPeriod:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  snssaia:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    minItems: 1
    Description: Identification(s) of network slice to which the subscription applies.
When subscribed event is "SLICE_LOAD_LEVEL", either information about slice(s) identified
by snssai, or anySlice set to "TRUE" shall be included.
  Required:
  - event
NnwdafEventsSubscriptionNotification:
Type: object
Properties:
  eventNotifications:
    Type: array
    Items:
      Reference: '#/components/schemas/EventNotification'
    minItems: 1
    Description: Notifications about Individual Events
  subscriptionId:
    Type: string
    Description: String identifying a subscription to the Nnwdaf_EventsSubscription

```

```

Service
  Required:
    - eventNotifications
    - subscriptionId
  EventNotification:
    Type: object
    Properties:
      event:
        Reference: '#/components/schemas/NwdafEvent'
      sliceLoadLevelInfo:
        Reference: '#/components/schemas/SliceLoadLevelInformation'
    Required:
      - event
      - sliceLoadLevelInfo
  SliceLoadLevelInformation:
    Type: object
    Properties:
      loadLevelInformation:
        Reference: '#/components/schemas/LoadLevelInformation'
      snssais:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
        minItems: 1
        Description: Identification(s) of network slice to which the subscription.
    Required:
      - loadLevelInformation
      - snssais
  AnySlice:
    Type: boolean
    Description: FALSE represents not applicable for all slices. TRUE represents applicable
    for all slices.
  LoadLevelInformation:
    Type: integer
    Description: Load level information of the network slice instance.
  NotificationMethod:
    anyOf:
      - type: string
        enum:
          - PERIODIC
          - THRESHOLD
      - 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
          - PERIODIC: The subscribe of NWDAF Event is periodically. The periodic of the
            notification is identified by repetitionPeriod defined in subclause 5.1.6.2.3.
          - THRESHOLD: The subscribe of NWDAF Event is upon threshold exceeded. The threshold
            of the notification is identified by loadLevelThreshold defined in subclause 5.1.6.2.3.
  NwdafEvent:
    anyOf:
      - type: string
        enum:

```

- SLICE\_LOAD\_LEVEL
- 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

- SLICE\_LOAD\_LEVEL: Indicates that the event subscribed is load level information of Network Slice instance

## External Docs

**Description:** 3GPP TS 29.520 V15.2.0; 5G System; Network Data Analytics Services.

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.520/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.520/)'



# CHAPTER 51

## Nbsf Management

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### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Description:** Binding Support Management Service API  
**Version:** "1.0.0"  
**Title:** Nbsf\_Management

### Servers

**URL:** '{apiRoot}/nbsf-management/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

### Security

- {}

```
- oAuth2ClientCredentials:
  - nbsf-management
```

# Paths

## /pcfBindings

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PcfBinding'

**Responses:**

'201':

**Description:** The creation of an individual PCF session binding.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PcfBinding'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nbsf-management/v1//pcfBindings/{bindingId}'

**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'**get:****Parameters:**

- **Name:** ipv4Addr  
**In:** query  
**Description:** The IPv4 Address of the served UE.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'
- **Name:** ipv6Prefix  
**In:** query  
**Description:** The IPv6 Address Prefix of the served UE.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'
- **Name:** macAddr48  
**In:** query  
**Description:** The MAC Address of the served UE.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'
- **Name:** dnn  
**In:** query  
**Description:** DNN.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'
- **Name:** supi  
**In:** query  
**Description:** Subscription Permanent Identifier.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'
- **Name:** gpsi  
**In:** query  
**Description:** Generic Public Subscription Identifier  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'
- **Name:** snssai  
**In:** query  
**Description:** The identification of slice.  
**Required/Optional:** false  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'
- **Name:** ipDomain  
**In:** query  
**Description:** The IPv4 address domain identifier.  
**Required/Optional:** false  
**Schema:**

**Type:** string

**Responses:**

**'200':**  
**Description:** The individual PCF session binding session binding information resource matching the query parameter(s) is returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PcfBinding'

**'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'

**'414':**  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'

**'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'

## /pcfBindings/{bindingId}

**delete:**

**Parameters:**

- **Name:** bindingId  
**In:** path  
**Description:** Represents the individual PCF Session Binding.  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

**'204':**  
**Description:** No Content. The Individual PCF session binding information resource is 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'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nbsf-management: Access to the Nbsf_Management API

schemas:
  PcfBinding:
    Type: object
    Properties:
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      ipv4Addr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      ipv6Prefix:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      ipDomain:
        Type: string
      macAddr48:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      pcfFqdn:
        Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
      pcfIpEndpoints:
        Type: array
        Items:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/IpEndPoint'
        minItems: 1

```

**Description:** IP end points of the PCF or the IP end points of the PCF hosting the Npcf\_PolicyAuthorization service. At least one of pcfFqdn or pcfIpEndPoints shall be included if the PCF supports N5 interface. If the pcfIpEndPoints is provided at the PCF level, the transport and port in the pcfIpEndPoints are not required.

**pcfDiamHost:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

**pcfDiamRealm:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

**snssai:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**Required:**

- dnn
- snssai

**oneOf:**

- anyOf:
  - required: [ipv4Addr]
  - required: [ipv6Prefix]
- required: [macAddr48]

## External Docs

**Description:** 3GPP TS 29.521 V15.2.0; 5G System; Binding Support Management Service.

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.521/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.521/)'



## CHAPTER 52

# TrafficInfluence

---

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-traffic-influence  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-traffic-influence/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{afld}/subscriptions`

### Parameters:

- **Name:** afId
- In:** path
- Description:** Identifier of the AF
- Required/Optional:** true
- Schema:**
  - Type:** string

### get:

**Summary:** read all of the active subscriptions for the AF

### Tags:

- TrafficInfluence API SCS/AS level GET Operation

### Responses:

- '200':
  - Description:** OK.
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Type:** array
        - Items:**
          - Reference:** '#/components/schemas/TrafficInfluSub'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'
- Default:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** Creates a new subscription resource

### Tags:

- TrafficInfluence API Subscription level POST Operation

**Request Body:**

**Description:** Request to create a new subscription resource

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/TrafficInfluSub'

**Callbacks:**

**notificationDestination:**

'{request.body#/notificationDestination}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EventNotification'

**Responses:**

'204':

**Description:** No Content (successful notification)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**Responses:**

'201':

**Description:** Created (Successful creation of subscription)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/TrafficInfluSub'

```

Headers:
  Location:
    Description: 'Contains the URI of the newly created resource'
    Required/Optional: true
    Schema:
      Type: string
'400':
  Reference: 'TS29122_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29122_CommonData.yaml#/components/responses/401'
'403':
  Reference: 'TS29122_CommonData.yaml#/components/responses/403'
'404':
  Reference: 'TS29122_CommonData.yaml#/components/responses/404'
'411':
  Reference: 'TS29122_CommonData.yaml#/components/responses/411'
'413':
  Reference: 'TS29122_CommonData.yaml#/components/responses/413'
'415':
  Reference: 'TS29122_CommonData.yaml#/components/responses/415'
'429':
  Reference: 'TS29122_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29122_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## /{afId}/subscriptions/{subscriptionId}

```

Parameters:
- Name: afId
  In: path
  Description: Identifier of the AF
  Required/Optional: true
  Schema:
    Type: string
- Name: subscriptionId
  In: path
  Description: Identifier of the subscription resource
  Required/Optional: true
  Schema:
    Type: string
get:
  Summary: read an active subscriptions for the SCS/AS and the subscription Id
Tags:
- TrafficInfluence API Subscription level GET Operation

```

**Responses:**

- '200':
  - Description:** OK (Successful get the active subscription)
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/TrafficInfluSub'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'
- '406':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'
- '429':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'
- '500':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'
- '503':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**

- Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**put:**

**Summary:** Updates/replaces an existing subscription resource

**Tags:**

- TrafficInfluence API subscription level PUT Operation

**Request Body:**

**Description:** Parameters to update/replace the existing subscription

**Required/Optional:** true

**Content:**

- Application/JSON:**
  - Schema:**
    - Reference:** '#/components/schemas/TrafficInfluSub'

**Responses:**

- '200':
  - Description:** OK (Successful update of the subscription)
  - Content:**
    - Application/JSON:**
      - Schema:**
        - Reference:** '#/components/schemas/TrafficInfluSub'
- '400':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'
- '401':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'
- '403':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'
- '404':
  - Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'  
**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'  
**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'  
**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'  
**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'  
**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'  
**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'  
**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**patch:**

**Summary:** Updates/replaces an existing subscription resource

**Tags:**

- TrafficInfluence API subscription level PATCH Operation

**Request Body:**

**Required/Optional:** true

**Content:**

**application/merge-patch+json:**

**Schema:**

**Reference:** '#/components/schemas/TrafficInfluSubPatch'

**Responses:**

**'200':**

**Description:** OK. The subscription was modified successfully.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/TrafficInfluSub'

**'400':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'



```

    '503':
      Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29122_CommonData.yaml#/components/responses/default'
  delete:
    Summary: Deletes an already existing subscription

    Tags:
      - TrafficInfluence API Subscription level DELETE Operation

    Responses:
      '204':
        Description: No Content (Successful deletion of the existing subscription)
      '400':
        Reference: 'TS29122_CommonData.yaml#/components/responses/400'
      '401':
        Reference: 'TS29122_CommonData.yaml#/components/responses/401'
      '403':
        Reference: 'TS29122_CommonData.yaml#/components/responses/403'
      '404':
        Reference: 'TS29122_CommonData.yaml#/components/responses/404'
      '429':
        Reference: 'TS29122_CommonData.yaml#/components/responses/429'
      '500':
        Reference: 'TS29122_CommonData.yaml#/components/responses/500'
      '503':
        Reference: 'TS29122_CommonData.yaml#/components/responses/503'
    Default:
      Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  TrafficInfluSub:
    Type: object
    Properties:
      afServiceId:
        Type: string
        Description: Identifies a service on behalf of which the AF is issuing the request.

      afAppId:
        Type: string

```

**Description:** Identifies an application.

**afTransId:**  
**Type:** string  
**Description:** Identifies an NEF Northbound interface transaction, generated by the AF.

**appReloInd:**  
**Type:** boolean  
**Description:** Identifies whether an application can be relocated once a location of the application has been selected.

**dnn:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

**snssai:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**externalGroupId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'

**anyUeInd:**  
**Type:** boolean  
**Description:** Identifies whether the AF request applies to any UE. This attribute shall set to "true" if applicable for any UE, otherwise, set to "false".

**subscribedEvents:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/SubscribedEvent'  
**minItems:** 1  
**Description:** Identifies the requirement to be notified of the event(s).

**gpsi:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

**ipv4Addr:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

**ipv6Addr:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

**macAddr:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/macAddr48'

**dnaiChgType:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DnaiChangeType'

**notificationDestination:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**requestTestNotification:**  
**Type:** boolean  
**Description:** Set to true by the SCS/AS to request the NEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.

**websockNotifConfig:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

**self:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**trafficFilters:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'  
**minItems:** 1  
**Description:** Identifies IP packet filters.

**ethTrafficFilters:**

```

    Type: array
    Items:
      Reference:
        'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
      minItems: 1
      Description: Identifies Ethernet packet filters.
    trafficRoutes:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
        minItems: 1
        Description: Identifies the N6 traffic routing requirement.
    tempValidities:
      Type: array
      Items:
        Reference:
          'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TemporalValidity'
        validGeoZoneIds:
          Type: array
          Items:
            Type: string
            minItems: 1
            Description: Identifies a geographic zone that the AF request applies only to
            the traffic of UE(s) located in this specific zone.
          suppFeat:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        allOf:
          - oneOf:
            - required: [afAppId]
            - required: [trafficFilters]
            - required: [ethTrafficFilters]
          - oneOf:
            - required: [ipv4Addr]
            - required: [ipv6Addr]
            - required: [macAddr]
            - required: [gpsi]
            - required: [externalGroupId]
            - required: [anyUeInd]
        anyOf:
          - not:
            Required: [subscribedEvents]
          - required: [notificationDestination]
    TrafficInfluSubPatch:
      Type: object
      Properties:
        appReloInd:
          Type: boolean
          Description: Identifies whether an application can be relocated once a location
          of the application has been selected.
          nullable: true
        trafficFilters:
          Type: array
          Items:
            Reference: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
            minItems: 1

```

**Description:** Identifies IP packet filters.

**ethTrafficFilters:**

- Type:** array
- Items:**
  - Reference:**  
'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
  - minItems:** 1
  - Description:** Identifies Ethernet packet filters.

**trafficRoutes:**

- Type:** array
- Items:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'
  - minItems:** 1
  - Description:** Identifies the N6 traffic routing requirement.

**tempValidities:**

- Type:** array
- Items:**
  - Reference:**  
'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/TemporalValidity'
  - minItems:** 1
  - nullable:** true

**validGeoZoneIds:**

- Type:** array
- Items:**
  - Type:** string
  - minItems:** 1
  - Description:** Identifies a geographic zone that the AF request applies only to the traffic of UE(s) located in this specific zone.
  - nullable:** true

**EventNotification:**

- Type:** object
- Properties:**
  - afTransId:**
    - Type:** string
    - Description:** Identifies an NEF Northbound interface transaction, generated by the AF.

**dnaiChgType:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/DnaiChangeType'

**sourceTrafficRoute:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLocation'

**subscribedEvent:**

- Reference:** '#/components/schemas/SubscribedEvent'

**targetTrafficRoute:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/RouteToLoaction'

**gpsi:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

**srcUeIpv4Addr:**

- Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

**srcUeIpv6Prefix:**

- Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**tgtUeIpv4Addr:**

- Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

**tgtUeIpv6Prefix:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

**ueMac:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

**Required:**

- dnaiChgType
- subscribedEvent

**SubscribedEvent:****anyOf:**

- type: string

**enum:**

- UP\_PATH\_CHANGE
- type: string

**Description:**

Possible values are

- CHANGE\_OF\_DNAI: The AF requests to be notified when the UP path changes for the PDU session.





## CHAPTER 53

# EventExposure

---

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- [Security](#), on page 691
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Policy Control Event Exposure Service API

**Version:** "1.0.0"

**Title:** Npcf\_EventExposure

## Servers

**URL:** '{apiRoot}/npcf-eventexposure/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - npcfeventexposure
```

# Paths

## /subscriptions

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

Responses:
  '201':
    Description: Success
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/PcEventExposureSubsc'
    Headers:
      Location:
        description: 'Contains the URI of the created individual policy
control events subscription resource, according to the structure:
{apiRoot}/npcfeventexposure/v1/subscriptions/{subscriptionId}'
        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:
    PcEventNotification:
      '{$request.body#/notifUri}':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/PcEventExposureNotif'

  Responses:
    '204':
      Description: No Content, Notification was succesfull
    '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'

```

## /subscriptions/{subscriptionId}

get:

Parameters:

- Name: subscriptionId
- In: path
- Description: Policy Control Event Subscription ID
- Required/Optional: true
- Schema:

**Type:** string

**Responses:**

'200':  
**Description:** OK. Resource representation is returned  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PcEventExposureSubsc'  
'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'

**put:**

**Request Body:**

**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PcEventExposureSubsc'

**Parameters:**

- **Name:** subscriptionId  
**In:** path  
**Description:** Policy Control Event Subscription ID  
**Required/Optional:** true  
**Schema:**  
**Type:** string

**Responses:**

'200':  
**Description:** OK. Resource was succesfully modified and representation is returned  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/PcEventExposureSubsc'  
'204':

**Description:** No Content. Resource was succesfully modified

'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'

**delete:**

**Parameters:**

- **Name:** subscriptionId  
**In:** path  
**Description:** Policy Control Event Subscription ID  
**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'

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          npcf-eventexposure: Access to the Npcf_EventExposure API.

schemas:
  PcEventExposureNotif:
    Type: object
    Properties:
      notifId:
        Type: string
      eventNotifs:
        Type: array
        Items:
          Reference: '#/components/schemas/PcEventNotification'
          minItems: 1
    Required:
      - notifId
      - eventNotifs
  PcEventExposureSubsc:
    Type: object
    Properties:
      eventSubscs:
        Type: array
        Items:
          Reference: '#/components/schemas/PcEvent'
          minItems: 1
      eventsRepInfo:
        Reference: '#/components/schemas/ReportingInformation'
      groupId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      filterDnns:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
          minItems: 1
      filterSnssais:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
          minItems: 1
      filterServices:
        Type: array

```

```

    Items:
      Reference: '#/components/schemas/ServiceIdentification'
    minItems: 1
  notifUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Link'
  notifId:
    Type: string
  suppFeat:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
Required:
- eventSubs
- notifId
- notifUri
ReportingInformation:
  Type: object
  Properties:
    immRep:
      Type: boolean
    notifMethod:
      Reference: 'TS29508_Nsmf_EventExposure.yaml#/components/schemas/NotificationMethod'

    maxReportNbr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UInteger'
    monDur:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    repPeriod:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
ServiceIdentification:
  Type: object
  Properties:
    servEthFlows:
      Type: array
      Items:
        Reference: '#/components/schemas/EthernetFlowInfo'
      minItems: 1
    servIpFlows:
      Type: array
      Items:
        Reference: '#/components/schemas/IpFlowInfo'
      minItems: 1
    afAppId:
      Reference: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/AfAppId'
EthernetFlowInfo:
  Type: object
  Properties:
    ethFlows:
      Type: array
      Items:
        Reference:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
      minItems: 1
      maxItems: 2

```

```

    flowNumber:
      Type: integer
    Required:
      - flowNumber
  IpFlowInfo:
    Type: object
    Properties:
      ipFlows:
        Type: array
        Items:
          Reference:
            'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/FlowDescription'
          minItems: 1
          maxItems: 2
          flowNumber:
            Type: integer
        Required:
          - flowNumber
  PcEventNotification:
    Type: object
    Properties:
      event:
        Reference: '#/components/schemas/PcEvent'
      accType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      ratType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
      plmnId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      timeStamp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
      pduSessionInfo:
        Reference: '#/components/schemas/PduSessionInformation'
      repServices:
        Reference: '#/components/schemas/ServiceIdentification'
    Required:
      - event
      - timeStamp
  PduSessionInformation:
    Type: object
    Properties:
      snssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      ueIpv4:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      ueIpv6:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      ipDomain:
        Type: string
      ueMac:

```

```
    Reference: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'  
  Required:  
    - snssai  
    - dnn  
# Simple data types and Enumerations  
PcEvent:  
  anyOf:  
    - type: string  
    enum:  
      - AC_TY_CH  
      - PLMN_CH  
    - type: string
```







## CHAPTER 54

# UEPolicyControl

---

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- [Info, on page 701](#)
- [Servers, on page 701](#)
- [Security, on page 701](#)
- [Paths, on page 702](#)
- [Components, on page 706](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** UE Policy Control Service API  
**Version:** "1.0.0"  
**Title:** Npcf\_UEPolicyControl

## Servers

**URL:** '{apiRoot}/npcf-ue-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:
  - npcfc-ue-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}/npcfc-ue-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
    '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/{polAssold}

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/{polAssold}/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-ue-policy-control:** Access to the Npcf\_AMPolicyControl API

**schemas:**

**PolicyAssociation:**

**Type:** object

**Properties:**

**request:**

**Reference:** '#/components/schemas/PolicyAssociationRequest'

**uePolicy:**

**Reference:** '#/components/schemas/UePolicy'

**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.

**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'

**altNotifIpv4Adrrs:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

**minItems:** 1

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

**altNotifIpv6Adrrs:**

**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'  
**groupId:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/GroupId'  
**hPcfId:**  
**Type:** string  
**Description:** H-PCF Identifier. Shall be provided when available.  
**uePolReq:**  
**Reference:** '#/components/schemas/UePolicyRequest'  
**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\_UEPolicyControl\_UpdateNotify service operation.  
**suppFeat:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'  
**Required:**

- notificationUri
- suppFeat

**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.
- praStatuses:**  
**Type:** object
- additionalProperties:**



```

        Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
        Description: Map of PRA status information.
        minProperties: 1
    userLoc:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    uePolDelResult:
        Reference: '#/components/schemas/UePolicyDeliveryResult'
PolicyUpdate:
    Type: object
    Properties:
        resourceUri:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        uePolicy:
            Reference: '#/components/schemas/UePolicy'
        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.
        pras:
            Type: object
            additionalProperties:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
            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
UePolicy:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
UePolicyDeliveryResult:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
UePolicyRequest:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
RequestTrigger:
    anyOf:
    - type: string
    enum:
    - LOC_CH
    - PRA_CH

```

- UE\_POLICY
- 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.
- UE\_POLICY: A MANAGE UE POLICY COMPLETE message or a MANAGE UE POLICY COMMAND REJECT message, as defined in Annex D.5 of 3GPP TS 24.501, has been received by the AMF and is being forwarded.

**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.



## CHAPTER 55

# NSSAI Availability

---

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- [Info, on page 711](#)
- [Servers, on page 711](#)
- [Security, on page 711](#)
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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'NSSF NSSAI Availability'  
**Description:** 'NSSF NSSAI Availability Service'

## Servers

**URL:** '{apiRoot}/nssf-nssaiavailability/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

- oAuth2Clientcredentials:
- nssf-nssaiavailability

## Paths

### /nssai-availability/{nfId}

#### put:

**Summary:** Updates/replaces the NSSF with the S-NSSAIs the NF service consumer (e.g AMF)supports per TA

#### Tags:

- NF Instance ID (Document)

**Operation ID:** NSSAIAvailabilityPut

#### Parameters:

- **Name:** nfId

**In:** path

**Description:** Identifier of the NF service consumer instance

**Required/Optional:** true

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

#### Request Body:

**Description:** Parameters to update/replace at the NSSF, the S-NSSAIs supported per TA

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NssaiAvailabilityInfo'

#### Responses:

'200':

**Description:** OK (Successful update of SNSSAI information per TA)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthorizedNssaiAvailabilityInfo'

'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:
    Description: Unexpected error
patch:
  Summary: Updates an already existing S-NSSAIs per TA provided by the NF service consumer
(e.g AMF)

  Tags:
    - NF Instance ID (Document)
  Operation ID: NSSAIAvailabilityPatch

  Parameters:
    - Name: nfId
      In: path
      Description: Identifier of the NF service consumer instance
      Required/Optional: true
      Schema:
        Type: string
  Request Body:
    Description: JSON Patch instructions to update at the NSSF, the S-NSSAIs supported
per TA
    Required/Optional: true
    Content:
      application/json-patch+json::
        Schema:
          Reference: '#/components/schemas/PatchDocument'

  Responses:
    '200':
      Description: OK (Successful update of SNSSAI information per TA)
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/AuthorizedNssaiAvailabilityInfo'
    '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:
  Description: Unexpected error
delete:
  Summary: Deletes an already existing S-NSSAIs per TA provided by the NF service consumer
(e.g AMF)

Tags:
- NF Instance ID (Document)
Operation ID: NSSAIAvailabilityDelete

Parameters:
- Name: nfId
  In: path
  Description: Identifier of the NF service consumer instance
  Required/Optional: true
  Schema:
    Type: string

Responses:
'204':
  Description: No Content (Successful deletion of SNSSAI information per TA)
'400':
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'401':
  Reference: 'TS29571_CommonData.yaml#/components/responses/401'
'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:
  Description: Unexpected error

```

## /nssai-availability/subscriptions

**Method:** Post

**Summary:** Creates subscriptions for notification about updates to NSSAI availability information

**Tags:**

- Subscriptions (Collection)

**Operation ID:** NSSAIAvailabilityPost

**Request Body:**

**Description:** Subscription for notification about updates to NSSAI availability information

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NssfEventSubscriptionCreateData'

**Callbacks:**

**nssaiAvailabilityNotification:**

'{request.body#/nfNssaiAvailabilityUri}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NssfEventNotification'

**Responses:**

'204':

**Description:** No Content (successful notification)

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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:**

**Description:** Unexpected error

**Responses:**

'201':

**Description:** Created (Successful creation of subscription for notification)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/NssfEventSubscriptionCreatedData'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure:

{apiRoot}/nssf-nssaiavailability/v1/nssai-availability/subscriptions/{subscriptionId}'

```

    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:
  Description: Unexpected error

```

## /nssai-availability/subscriptions/{subscriptionId}

### delete:

**Summary:** Deletes an already existing NSSAI availability notification subscription

### Tags:

- Subscription ID (Document)

**Operation ID:** NSSAIAvailabilityUnsubscribe

### Parameters:

- **Name:** subscriptionId

**In:** path

**Description:** Identifier of the subscription for notification

**Required/Optional:** true

**Schema:**

**Type:** string

### Responses:

'204':

**Description:** No Content (Successful deletion of subscription for NSSAI Availability notification)

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/401'



```

'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:
  Description: Unexpected error

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nssf-nssaiavailability: Access to the Nssf_NSSAIAvailability API

schemas:
  NssaiAvailabilityInfo:
    Type: object
    Required:
      - supportedNssaiAvailabilityData
    Properties:
      supportedNssaiAvailabilityData:
        Type: array
        Items:
          Reference: '#/components/schemas/SupportedNssaiAvailabilityData'
        minItems: 1
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  SupportedNssaiAvailabilityData:
    Type: object
    Required:
      - tai
      - supportedSnssaiList
    Properties:
      tai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
      supportedSnssaiList:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
        minItems: 1
  AuthorizedNssaiAvailabilityData:
    Type: object

```

```

Required:
- tai
- supportedSnssaiList
Properties:
  tai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
  supportedSnssaiList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    minItems: 1
  restrictedSnssaiList:
    Type: array
    Items:
      Reference: '#/components/schemas/RestrictedSnssai'
    minItems: 1
RestrictedSnssai:
Type: object
Required:
- homePlmnId
- sNssaiList
Properties:
  homePlmnId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  sNssaiList:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    minItems: 1
AuthorizedNssaiAvailabilityInfo:
Type: object
Required:
- authorizedNssaiAvailabilityData
Properties:
  authorizedNssaiAvailabilityData:
    Type: array
    Items:
      Reference: '#/components/schemas/AuthorizedNssaiAvailabilityData'
    minItems: 1
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
NssfEventSubscriptionCreateData:
Type: object
Required:
- nfNssaiAvailabilityUri
- taiList
- event
Properties:
  nfNssaiAvailabilityUri:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  taiList:
    Type: array
    Items:

```

```

      Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
    minItems: 1
  event:
    Reference: '#/components/schemas/NssfEventType'
  expiry:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
NssfEventSubscriptionCreatedData:
  Type: object
  Required:
    - subscriptionId
  Properties:
    subscriptionId:
      Type: string
    expiry:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    authorizedNssaiAvailabilityData:
      Type: array
      Items:
        Reference: '#/components/schemas/AuthorizedNssaiAvailabilityData'
      minItems: 1
NssfEventNotification:
  Type: object
  Required:
    - subscriptionId
    - authorizedNssaiAvailabilityData
  Properties:
    subscriptionId:
      Type: string
    authorizedNssaiAvailabilityData:
      Type: array
      Items:
        Reference: '#/components/schemas/AuthorizedNssaiAvailabilityData'
      minItems: 1
NssfEventType:
  anyOf:
    - type: string
      enum:
        - SNSSAI_STATUS_CHANGE_REPORT
    - type: string
PatchDocument:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
  minItems: 1

```

## External Docs

**Description:** 3GPP TS 29.531 V15.2.0; 5G System; Network Slice Selection Services; Stage 3

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.531/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.531/)





## CHAPTER 56

# NSSelection

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'NSSF NS Selection'  
**Description:** 'NSSF Network Slice Selection Service'

## Servers

**URL:** '{apiRoot}/nssf-nselection/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

- oAuth2Clientcredentials:
- nssf-nssselection

## Paths

### /network-slice-information

#### get:

**Summary:** Retrieve the Network Slice Selection Information

#### Tags:

- Network Slice Information (Document)

**Operation ID:** NSSelectionGet

#### Parameters:

- **Name:** nf-type

**In:** query

**Description:** NF type of the NF service consumer

**Required/Optional:** true

#### Schema:

**Reference:** 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'

- **Name:** nf-id

**In:** query

**Description:** NF Instance ID of the NF service consumer

**Required/Optional:** true

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

- **Name:** slice-info-request-for-registration

**In:** query

**Description:** Requested network slice information during Registration procedure

#### Content:

**Application/JSON:**

#### Schema:

**Reference:** '#/components/schemas/SliceInfoForRegistration'

- **Name:** slice-info-request-for-pdu-session

**In:** query

**Description:** Requested network slice information during PDU session establishment procedure

#### Content:

**Application/JSON:**

#### Schema:

**Reference:** '#/components/schemas/SliceInfoForPDUSession'

- **Name:** home-plmn-id

**In:** query

**Description:** PLMN ID of the HPLMN

#### Content:

**Application/JSON:**

#### Schema:

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

```

- Name: tai
  In: query
  Description: TAI of the UE
  Content:
    Application/JSON:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
- Name: supported-features
  In: query
  Description: Features required to be supported by the NFs in the target slice
instance
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

Responses:
'200':
  Description: OK (Successful Network Slice Selection)
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/AuthorizedNetworkSliceInfo'
'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'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'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:
  Description: Unexpected error

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oAuth2
    Flows:
      clientCredentials:

```

```

    tokenUrl: '{nrfApiRoot}/oauth2/token'
    scopes:
      nssf-nsselection: Access to the Nssf_NSSelection API

```

**schemas:**

**AuthorizedNetworkSliceInfo:**

**Type:** object

**Properties:**

**allowedNssaiList:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/AllowedNssai'

**minItems:** 1

**configuredNssai:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/ConfiguredSnssai'

**minItems:** 1

**targetAmfSet:**

**Type:** string

**candidateAmfList:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

**minItems:** 1

**rejectedNssaiInPlmn:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**minItems:** 1

**rejectedNssaiInTa:**

**Type:** array

**Items:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**minItems:** 1

**nsiInformation:**

**Reference:** '#/components/schemas/NsiInformation'

**supportedFeatures:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**nrfAmfSet:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'

**SubscribedSnssai:**

**Type:** object

**Required:**

- subscribedSnssai

**Properties:**

**subscribedSnssai:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**defaultIndication:**

**Type:** boolean

**AllowedSnssai:**

**Type:** object



**Required:**  
- allowedSnssai

**Properties:**  
**allowedSnssai:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'  
**nsiInformationList:**  
  **Type:** array  
  **Items:**  
    **Reference:** '#/components/schemas/NsiInformation'  
  **minItems:** 1  
**mappedHomeSnssai:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**AllowedNssai:**  
**Type:** object

**Required:**  
- allowedSnssaiList  
- accessType

**Properties:**  
**allowedSnssaiList:**  
  **Type:** array  
  **Items:**  
    **Reference:** '#/components/schemas/AllowedSnssai'  
  **minItems:** 1  
**accessType:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

**NsiInformation:**  
**Type:** object

**Required:**  
- nrfId

**Properties:**  
**nrfId:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uri'  
**nsiId:**  
  **Reference:** '#/components/schemas/NsiId'

**MappingOfSnssai:**  
**Type:** object

**Required:**  
- servingSnssai  
- homeSnssai

**Properties:**  
**servingSnssai:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'  
**homeSnssai:**  
  **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

**SliceInfoForRegistration:**  
**Type:** object

**Properties:**  
**subscribedNssai:**  
  **Type:** array  
  **Items:**  
    **Reference:** '#/components/schemas/SubscribedSnssai'  
  **minItems:** 1  
**allowedNssaiCurrentAccess:**

```

    Reference: '#/components/schemas/AllowedNssai'
  allowedNssaiOtherAccess:
    Reference: '#/components/schemas/AllowedNssai'
  sNssaiForMapping:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
  requestedNssai:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
  defaultConfiguredSnssaiInd:
    Type: boolean
  mappingOfNssai:
    Type: array
    Items:
      Reference: '#/components/schemas/MappingOfSnssai'
      minItems: 1
  requestMapping:
    Type: boolean
SliceInfoForPDUSession:
  Type: object
  Required:
    - sNssai
    - roamingIndication
  Properties:
    sNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    roamingIndication:
      Reference: '#/components/schemas/RoamingIndication'
    homeSnssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
ConfiguredSnssai:
  Type: object
  Required:
    - configuredSnssai
  Properties:
    configuredSnssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    mappedHomeSnssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
RoamingIndication:
  anyOf:
    - type: string
      enum:
        - NON_ROAMING
        - LOCAL_BREAKOUT
        - HOME_ROUTED_ROAMING
    - type: string
NsiId:
  Type: string

```

# External Docs

**Description:** 3GPP TS 29.531 V15.2.0; 5G System; Network Slice Selection Services; Stage 3

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.531/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.531/)





## CHAPTER 57

# Nsmsf SMSService

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'Nsmsf\_SMSService Service API'  
**Description:** 'SMSF SMSService Service API'

## Servers

**URL:** '{apiRoot}/nsmsf-sms/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

## Security

- oAuth2ClientCredentials:

```
- nsmsf-sms
- {}
```

## Paths

### /ue-contexts/{supi}

#### put:

**Summary:** Activate SMS Service for a given UE

**Operation ID:** SMSserviceActivation

#### Tags:

- UEContext (Document)

#### Parameters:

- **Name:** supi

**In:** path

**Required/Optional:** true

**Description:** Subscriber Permanent Identifier (SUPI)

#### Schema:

**Type:** string

#### Request Body:

##### Content:

**Application/JSON:**

##### Schema:

**Reference:** '#/components/schemas/UeSmsContextData'

**Required/Optional:** true

#### Responses:

'201':

**Description:** UE Context for SMS is created in SMSF

##### Content:

**Application/JSON:**

##### Schema:

**Reference:** '#/components/schemas/UeSmsContextData'

##### Headers:

##### Location:

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nsmsf-sms/v1/ue-contexts/{supi}'

**Required/Optional:** true

##### Schema:

**Type:** string

'204':

**Description:** UE Context for SMS is updated in SMSF

'400':

**Description:** Invalid Service Request

##### Content:

**application/problem+json:**

##### Schema:

```

        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'403':
  Description: Unable to create/update UE Context for SMS in SMSF
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'404':
  Description: Unable to found subscription for service user or UE Context for SMS
in SMSF
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'503':
  Description: Service Unavailable
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
Default:
  Description: Unexpected error
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
delete:
  Summary: Deactivate SMS Service for a given UE
  Operation ID: SMSServiceDeactivation

Tags:
- UEContext (Document)

Parameters:
- Name: supi
  In: path
  Required/Optional: true
  Description: Subscriber Permanent Identifier (SUPI)
  Schema:
    Type: string

Responses:
'204':
  Description: UE Context for SMS is deleted from SMSF
'400':
  Description: Invalid Service Request
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'404':
  Description: Unable to found UE Context for SMS in SMSF

```

```

Content:
  application/problem+json:
    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
'503':
  Description: Service Unavailable
  Content:
    application/problem+json:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## /ue-contexts/{supi}/sendsms

**Method:** Post

**Summary:** Send SMS payload for a given UE

**Operation ID:** SendSMS

**Tags:**

- UEContext (Document)

**Parameters:**

- **Name:** supi

**In:** path

**Required/Optional:** true

**Description:** Subscriber Permanent Identifier (SUPI)

**Schema:**

**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmsRecordData'

**Required/Optional:** true

**Responses:**

'200':

**Description:** SMS payload is received by SMSF, and is being delivered out

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SmsRecordDeliveryData'

'400':

**Description:** Invalid Service Request

**Content:**

**application/problem+json:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'403':

**Description:** Unable to deliver SMS at SMSF

**Content:**

**application/problem+json:**



```

    Schema:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '404':
    Description: Unable to found UE Context for SMS in SMSF
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  '503':
    Description: Service Unavailable
    Content:
      application/problem+json:
        Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nsmf-sms: Access to the nsmf-sms API

schemas:
  UeSmsContextData:
    Type: object
    Required:
      - supi
      - amfId
      - accessType
    Properties:
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      pei:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
      amfId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      guamis:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
        minItems: 1
      accessType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      ueLocation:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  traceData:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
  backupAmfInfo:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BackupAmfInfo'
    minItems: 1
  udmGroupId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfGroupId'
  routingIndicator:
    Type: string
SmsRecordData:
  Type: object
  Required:
    - smsRecordId
    - smsPayloads
  Properties:
    smsRecordId:
      Reference: '#/components/schemas/RecordId'
    smsPayloads:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
    accessType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    pei:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    ueLocation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    ueTimeZone:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
RecordId:
  Type: string
SmsRecordDeliveryData:
  Type: object
  Required:
    - smsRecordId
    - deliveryStatus
  Properties:
    smsRecordId:
      Reference: '#/components/schemas/RecordId'
    deliveryStatus:
      Reference: '#/components/schemas/SmsDeliveryStatus'
SmsDeliveryStatus:
  Type: string
  enum:
    - SMS_DELIVERY_PENDING

```

- SMS\_DELIVERY\_COMPLETED
- SMS\_DELIVERY\_FAILED

## External Docs

**Description:** 3GPP TS 29.540 V15.2.0; 5G System; SMS Services; Stage 3

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.540/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.540/)'





## CHAPTER 58

# PFDmanagement

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** Nnef\_PFDmanagement Service API  
**Version:** "1.0.0"  
**Description:** Packet Flow Description Management Service

## Servers

**URL:** '{apiRoot}/nnef-pfdmanagement/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501

## Security

- {}

- oAuth2ClientCredentials:
  - nef-pfdmanagement

# Paths

## /applications

### get:

**Summary:** Retrieve PFDs for all applications or for one or multiple applications with query parameter.

### Tags:

- PFD of applications

**Operation ID:** Nnef\_PFDmanagement\_Fetch

### Parameters:

- **Name:** application-ids  
**Description:** The required application identifier(s) for the returned PFDs.  
**In:** query  
**Required/Optional:** true  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ApplicationId'  
**Min Items:** 1
- **Name:** supported-features  
**In:** query  
**Description:** To filter irrelevant responses related to unsupported features  
**Schema:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

### Responses:

- '200':  
**Description:** The PFDs for one or more application identifier(s) in the request URI are returned.  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/PfdDataForApp'  
**Min Items:** 0
- '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'
'414':
  Reference: 'TS29571_CommonData.yaml#/components/responses/414'
'429':
  Reference: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'

```

## /applications/{appld}

### get:

**Summary:** Retrieve the PFD for an application.

### Tags:

- Individual application PFD

**Operation ID:** Nnef\_PFDmanagement\_Fetch

### Parameters:

```

- Name: appId
  Description: The required application identifier(s) for the returned PFDs.
  In: path
  Required/Optional: true
  Schema:
    Type: string
- Name: supported-features
  In: query
  Description: To filter irrelevant responses related to unsupported features
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

### Responses:

```

'200':
  Description: A representation of PFDs for an application in the request URI is
returned.
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/PfdDataForApp'
'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'  
 '414':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/414'  
 '500':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'  
 '503':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

## /subscriptions

**Method:** Post

**Summary:** Subscribe the notification of PFD changes.

**Tags:**

- PFD subscriptions

**Operation ID:** Nnef\_PFDmanagement\_Subscribe

**Request Body:**

**Description:** a PfdSubscription resource to be created.

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PfdSubscription'

**Callbacks:**

**PfdChangeNotification:**

'{request.body#/notifyUri}':

**Method:** Post

**Summary:** Notification of PFD change.

**Tags:**

- PfdChangeNotification data

**Operation ID:** Nnef\_PFDmanagement\_Notify

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/PfdChangeNotification'

**Min Items:** 1

**Responses:**

'200':

**Description:** The PFD operation in the notification is performed and the PfdChangeReport indicates failure reason.

**Content:**

**Application/JSON:**

**Schema:**

**Type:** array



```

        Items:
          Reference: '#/components/schemas/PfdChangeReport'
          Min Items: 1
      '204':
        Description: The PFD operation in the notification is performed
successfully.
      '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'

Responses:
  '201':
    Description: The creation of a PfdSubscription resource is confirmed and a
representation of that resource is returned.
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/PfdSubscription'
        Headers:
          Location:
            description: 'Contains the URI of the newly created resource,
according to the structure:
{apiRoot}/nnef-pfdmanagement/v1/subscriptions/{subscriptionId}'
            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'

## /subscriptions/{subscriptionId}

### delete:

**Summary:** Delete a subscription of PFD change notification.

### Tags:

- Individual PFD subscription

**Operation ID:** Nnef\_PFDmanagement\_Unsubscribe

### Parameters:

- **Name:** subscriptionId

**Description:** Identify the subscription.

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

### Responses:

**'204':**

**Description:** The PfdSubscription resource matching the subscriptionId was deleted successfully.

**'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'

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nnef-pfdmanagement: Access to the Nnef_PFDmanagement API

schemas:
# STRUCTURED DATA TYPES
PfdContent:
  Type: object
  Properties:
    pfdId:
      Type: string
      Description: Identifies a PDF of an application identifier.
    flowDescriptions:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Represents a 3-tuple with protocol, server ip and server port for
UL/DL application traffic.
    urls:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Indicates a URL or a regular expression which is used to match the
significant parts of the URL.
    domainNames:
      Type: array
      Items:
        Type: string
      minItems: 1
      Description: Indicates an FQDN or a regular expression as a domain name matching
criteria.
PfdDataForApp:
  Type: object
  Properties:
    applicationId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
    pfd:
      Type: array
      Items:
        Reference: '#/components/schemas/PfdContent'
      minItems: 1

```

```

    cachingTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  Required:
    - applicationId
    - pfd
PfdSubscription:
  Type: object
  Properties:
    applicationIds:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
      minItems: 1
    notifyUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - notifyUri
    - supportedFeatures
PfdChangeNotification:
  Type: object
  Properties:
    applicationId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
    removalFlag:
      Type: boolean
      Default: false
    partialFlag:
      Type: boolean
      Default: false
    pfd:
      Type: array
      Items:
        Reference: '#/components/schemas/PfdContent'
      minItems: 1
  Required:
    - applicationId
PfdChangeReport:
  Type: object
  Properties:
    pfdError:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    applicationId:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
      minItems: 1
  Required:
    - pfdError
    - applicationId

```

## External Docs

**Description:** 3GPP TS 29.551 v15.1.0, 5G System; Packet Flow Description Management Service

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.551/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.551/)'





## CHAPTER 59

# BDTPolicyControl

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- [Security, on page 748](#)
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- [External Docs, on page 753](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** Npcf\_BDTPolicyControl Service API

**Version:** "1.0.0"

**Description:** The Npcf\_BDTPolicyControl Service is used by an NF service consumer to retrieve background data transfer policies from the PCF and to update the PCF with the background data transfer policy selected by the NF service consumer.

## Servers

**URL:** '{apiRoot}/npcf-bdtpolicycontrol/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

# Security

```
- {}
- oAuth2ClientCredentials:
  - npcf-bdtpolicycontrol
```

## Paths

### /bdtpolicies

**Method:** Post

**Summary:** Create a new Individual BDT policy

**Operation ID:** CreateBDTPolicy

**Tags:**

- BDT policies (Collection)

**Request Body:**

**Description:** Contains information for the creation of a new Individual BDT policy resource.

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/BdtReqData'

**Responses:**

'201':

**Description:** Background data transfer policies offered to an ASP.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/BdtPolicy'

**Headers:**

**Location:**

**description:** 'Contains the URI of the created individual BDT policy resource, according to the structure:

{apiRoot}/npcf-bdtpolicycontrol/v1/bdtpolicies/{bdtPolicyId}'

**Required/Optional:** true

**Schema:**

**Type:** string

# Error scenarios POST

'303':

**Description:** See Other. The result of the POST request would be equivalent to the existing Individual BDT policy resource. The HTTP response shall contain a Location header field set to the URI of the existing individual BDT policy resource.

'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'
# End error scenarios POST

```

## /bdtpolicies/{bdtPolicyId}

### get:

**Summary:** Read an Individual BDT policy

**Operation ID:** GetBDTPolicy

### Tags:

- Individual BDT policy (Document)

### Parameters:

- **Name:** bdtPolicyId

**Description:** String identifying the individual BDT policy resource in the PCF.

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

### Responses:

'200':

**Description:** Background data transfer policies offered to and selected by an ASP.

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/BdtPolicy'

# Error scenarios GET

'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'
# End error scenarios GET
patch:
  Summary: Update an Individual BDT policy
  Operation ID: UpdateBDTPolicy

  Tags:
    - Individual BDT policy (Document)

  Parameters:
    - Name: bdtPolicyId
      Description: String identifying the individual BDT policy resource in the PCF.
      In: path
      Required/Optional: true
      Schema:
        Type: string
  Request Body:
    Description: Contains modification instruction to be performed on the BdtPolicy
data structure to select a transfer policy.
    Required/Optional: true
    Content:
      application/merge-patch+json:
        Schema:
          Reference: '#/components/schemas/BdtPolicyDataPatch'

  Responses:
    '200':
      Description: The Individual BDT Policy resource is modified and a representation
of that resource is returned.
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/BdtPolicy'
    '204':
      Description: The Individual BDT Policy resource is modified.
# Error scenarios PATCH
    '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'
# End error scenarios PATCH

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          npcf-bdtpolicycontrol: Access to the Npcf_BDTPolicyControl API

schemas:
# Structured data types
  BdtPolicy:
    Description: Represents an Individual BDT policy resource.
    Type: object
    Properties:
      bdtPolData:
        Reference: '#/components/schemas/BdtPolicyData'
      bdtReqData:
        Reference: '#/components/schemas/BdtReqData'
  BdtReqData:
    Description: Contains service requirements for creation a new Individual BDT policy
    resource.
    Type: object
    Required:
      - aspId
      - desTimeInt
      - numOfUes
      - volPerUe
    Properties:

```

**aspId:**  
**Reference:** '#/components/schemas/AspId'

**desTimeInt:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

**nwAreaInfo:**  
**Reference:** '#/components/schemas/NetworkAreaInfo'

**numOfUes:**  
**Description:** Indicates a number of UEs.  
**Type:** integer

**volPerUe:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

**suppFeat:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**BdtPolicyData:**  
**Description:** Describes the authorization data of an Individual BDT policy resource.  
**Type:** object  
**Required:**  
- bdtRefId  
- transfPolicies  
**Properties:**  
**bdtRefId:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'  
**transfPolicies:**  
**Description:** Contains transfer policies.  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/TransferPolicy'  
**minItems:** 1  
**selTransPolicyId:**  
**Description:** Contains an identity of the selected transfer policy.  
**Type:** integer  
**suppFeat:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**BdtPolicyDataPatch:**  
**Description:** A JSON Merge Patch body schema containing modification instruction to be performed on the BdtPolicy data structure to select a transfer policy. Adds selTransPolicyId to BdtPolicyData data structure.  
**Type:** object  
**Required:**  
- selTransPolicyId  
**Properties:**  
**selTransPolicyId:**  
**Description:** Contains an identity (i.e. transPolicyId value) of the selected transfer policy.  
**Type:** integer

**TransferPolicy:**  
**Description:** Describes a transfer policy.  
**Type:** object  
**Required:**  
- ratingGroup  
- recTimeInt  
- transPolicyId  
**Properties:**

```

maxBitRateDl:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
maxBitRateUl:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
ratingGroup:
  Description: Indicates a rating group for the recommended time window.
  Type: integer
recTimeInt:
  Reference: 'TS29122_CommonData.yaml#/components/schemas/TimeWindow'
transPolicyId:
  Description: Contains an identity of a transfer policy.
  Type: integer
NetworkAreaInfo:
  Description: Describes a network area information in which the NF service consumer
requests the number of UEs.
  Type: object
Properties:
  ecgis:
    Description: Contains a list of E-UTRA cell identities.
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
    minItems: 1
  ncgis:
    Description: Contains a list of NR cell identities.
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
    minItems: 1
  gRanNodeIds:
    Description: Contains a list of NG RAN nodes.
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GlobalRanNodeId'
    minItems: 1
  tais:
    Description: Contains a list of tracking area identities.
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
    minItems: 1
# Simple data types
AspId:
  Description: Contains an identity of an application service provider.
  Type: string

```

## External Docs

**Description:** 3GPP TS 29.554 V15.2.0; 5G System; Background Data Transfer Policy Control

Service.

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.554/'



## CHAPTER 60

# CommonData

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'Common Data Types'  
**Description:** 'Common Data Types for Service Based Interfaces '

## Paths

## Components

```
schemas:  
# Common Data Types for Generic usage definitions as defined in subclause 5.2  
# COMMON SIMPLE DATA TYPES  
  Binary:  
    format: binary  
    Type: string  
  BinaryRm:  
    format: binary  
    Type: string
```

```
    nullable: true
Bytes:
  format: byte
  Type: string
BytesRm:
  format: byte
  Type: string
  nullable: true
Date:
  format: date
  Type: string
DateRm:
  format: date
  Type: string
  nullable: true
DateTime:
  format: date-time
  Type: string
DateTimeRm:
  format: date-time
  Type: string
  nullable: true
DiameterIdentity:
  Type: string
  Pattern: '^[A-Za-z0-9]+(-[A-Za-z0-9]+)+[a-z]{2,}$'
DiameterIdentityRm:
  Type: string
  Pattern: '^[A-Za-z0-9]+(-[A-Za-z0-9]+)+[a-z]{2,}$'
  nullable: true
Double:
  format: double
  Type: number
DoubleRm:
  format: double
  Type: number
  nullable: true
DurationSec:
  Type: integer
DurationSecRm:
  Type: integer
  nullable: true
Float:
  format: float
  Type: number
FloatRm:
  format: float
  Type: number
  nullable: true
Int32:
  format: int32
  Type: integer
```



```

Int32Rm:
  format: int32
  Type: integer
  nullable: true
Int64:
  Type: integer
  format: int64
Int64Rm:
  format: int64
  Type: integer
  nullable: true
Ipv4Addr:
  Type: string
  Pattern:
'^(((0-9)|[1-9][0-9]|1[0-9][0-9]|2[0-4][0-9]|25[0-5])\.){3}((0-9)|[1-9][0-9]|1[0-9][0-9]|2[0-4][0-9]|25[0-5])$'

  example: '198.51.100.1'
Ipv4AddrRm:
  Type: string
  Pattern:
'^(((0-9)|[1-9][0-9]|1[0-9][0-9]|2[0-4][0-9]|25[0-5])\.){3}((0-9)|[1-9][0-9]|1[0-9][0-9]|2[0-4][0-9]|25[0-5])$'

  example: '198.51.100.1'
  nullable: true
Ipv6Addr:
  Type: string
  allOf:
  - pattern:
'^((:|(0?|([1-9a-f][0-9a-f]{0,3})))|((0?|([1-9a-f][0-9a-f]{0,3})):){0,6}(:|(0?|([1-9a-f][0-9a-f]{0,3})))$'

  - pattern: '^(((([:]+:){7}([[:]+))|((([:]+:)*[[:]+)??:(([:]+:)*[[:]+)?))$'
  example: '2001:db8:85a3::8a2e:370:7334'
Ipv6AddrRm:
  Type: string
  allOf:
  - pattern:
'^((:|(0?|([1-9a-f][0-9a-f]{0,3})))|((0?|([1-9a-f][0-9a-f]{0,3})):){0,6}(:|(0?|([1-9a-f][0-9a-f]{0,3})))$'

  - pattern: '^(((([:]+:){7}([[:]+))|((([:]+:)*[[:]+)??:(([:]+:)*[[:]+)?))$'
  example: '2001:db8:85a3::8a2e:370:7334'
  nullable: true
Ipv6Prefix:
  Type: string
  allOf:
  - pattern:
'^((:|(0?|([1-9a-f][0-9a-f]{0,3})))|((0?|([1-9a-f][0-9a-f]{0,3})):){0,6}(:|(0?|([1-9a-f][0-9a-f]{0,3})))\(\sqrt{((0-9)|([0-9]{2})|1[0-1][0-9])|(12[0-8]))}$'

  - pattern: '^(((([:]+:){7}([[:]+))|((([:]+:)*[[:]+)??:(([:]+:)*[[:]+)?))\(\./.\)$'
  example: '2001:db8:abcd:12::0/64'
Ipv6PrefixRm:
  Type: string
  allOf:
  - pattern:
'^((:|(0?|([1-9a-f][0-9a-f]{0,3})))|((0?|([1-9a-f][0-9a-f]{0,3})):){0,6}(:|(0?|([1-9a-f][0-9a-f]{0,3})))\(\sqrt{((0-9)|([0-9]{2})|1[0-1][0-9])|(12[0-8]))}$'

```

```

    - pattern: '^(((^[^:]+){7}([^:]+)|(((^[^:]+)*[^:]+)?::((^[^:]+)*[^:]+?))(\./.+))$'
  nullable: true
MacAddr48:
  Type: string
  Pattern: '^([0-9a-fA-F]{2})((-[0-9a-fA-F]{2}){5})$'
MacAddr48Rm:
  Type: string
  Pattern: '^([0-9a-fA-F]{2})((-[0-9a-fA-F]{2}){5})$'
  nullable: true
SupportedFeatures:
  Type: string
  Pattern: '^[A-Fa-f0-9]*$'
UInteger:
  Type: integer
  Minimum: 0
UIntegerRm:
  Type: integer
  Minimum: 0
  nullable: true
Uint16:
  Type: integer
  Minimum: 0
  Maximum: 65535
Uint16Rm:
  Type: integer
  Minimum: 0
  Maximum: 65535
  nullable: true
Uint32:
  format: int32
  Type: integer
  Minimum: 0
Uint32Rm:
  format: int32
  Type: integer
  Minimum: 0
  nullable: true
Uint64:
  format: int64
  Type: integer
  Minimum: 0
Uint64Rm:
  format: int64
  Type: integer
  Minimum: 0
  nullable: true
Uri:
  Type: string
UriRm:
  Type: string
  nullable: true
VarUeId:

```

```

    Type: string
    Pattern: '^(imsi-[0-9]{5,15}|nai-.\+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+\+|.+)\$'
VarUeIdRm:
    Type: string
    Pattern: '^(imsi-[0-9]{5,15}|nai-.\+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+\+|.+)\$'
    nullable: true
TimeZone:
    Type: string
TimeZoneRm:
    Type: string
    nullable: true
# COMMON ENUMERATED DATA TYPES
PatchOperation:
  anyOf:
    - type: string
      enum:
        - add
        - copy
        - move
        - remove
        - replace
        - test
    - type: string
UriScheme:
  anyOf:
    - type: string
      enum:
        - http
        - https
    - type: string
ChangeType:
  anyOf:
    - type: string
      enum:
        - ADD
        - MOVE
        - REMOVE
        - REPLACE
    - type: string
# COMMON STRUCTURED DATA TYPES
ProblemDetails:
  Type: object
  Properties:
    Type:
      Reference: '#/components/schemas/Uri'
    title:
      Type: string
    status:
      Type: integer
    detail:
      Type: string
    instance:
      Reference: '#/components/schemas/Uri'
    cause:
      Type: string

```

```
    invalidParams:
      Type: array
      Items:
        Reference: '#/components/schemas/InvalidParam'
      minItems: 1
  Link:
    Type: object
    Properties:
      href:
        Reference: '#/components/schemas/Uri'
  LinkRm:
    Type: object
    Properties:
      href:
        Reference: '#/components/schemas/Uri'
  nullable: true
  PatchItem:
    Type: object
    Properties:
      op:
        Reference: '#/components/schemas/PatchOperation'
      path:
        Type: string
      from:
        Type: string
      value:
        nullable: true
  Required:
    - op
    - path
  LinksValueSchema:
    oneOf:
      - type: array
        Items:
          Reference: '#/components/schemas/Link'
        minItems: 1
      - $ref: '#/components/schemas/Link'
  SelfLink:
    Type: object
    Properties:
      self:
        Reference: '#/components/schemas/Link'
    Required:
      - self
  InvalidParam:
    Type: object
    Properties:
      param:
        Type: string
      reason:
        Type: string
    Required:
      - param
```

**ChangeItem:**  
**Type:** object  
**Properties:**  
  **op:**  
    **Reference:** '#/components/schemas/ChangeType'  
  **path:**  
    **Type:** string  
  **from:**  
    **Type:** string  
  **origValue:** {}  
  **newValue:** {}  
**Required:**  
  - op  
  - path

**NotifyItem:**  
**Type:** object  
**Properties:**  
  **resourceId:**  
    **Reference:** '#/components/schemas/Uri'  
  **changes:**  
    **Type:** array  
    **Items:**  
      **Reference:** '#/components/schemas/ChangeItem'  
    **minItems:** 1

**ComplexQuery:**  
**oneOf:**  
  - \$ref: '#/components/schemas/Cnf'  
  - \$ref: '#/components/schemas/Dnf'

**Cnf:**  
**Type:** object  
**Required:**  
  - cnfUnits  
**Properties:**  
  **cnfUnits:**  
    **Type:** array  
    **Items:**  
      **Reference:** '#/components/schemas/CnfUnit'  
    **minItems:** 1

**Dnf:**  
**Type:** object  
**Required:**  
  - dnfUnits  
**Properties:**  
  **dnfUnits:**  
    **Type:** array  
    **Items:**  
      **Reference:** '#/components/schemas/DnfUnit'  
    **minItems:** 1

**CnfUnit:**  
**Type:** object  
**Required:**  
  - cnfUnit  
**Properties:**

```

    cnfUnit:
      Type: array
      Items:
        Reference: '#/components/schemas/Atom'
      minItems: 1
  DnfUnit:
    Type: object
    Required:
      - dnfUnit
    Properties:
      dnfUnit:
        Type: array
        Items:
          Reference: '#/components/schemas/Atom'
        minItems: 1
  Atom:
    Type: object
    Required:
      - attr
      - value
    Properties:
      attr:
        Type: string
      value: {}
      negative:
        Type: boolean
# Data Types related to Subscription, Identification and Numbering as defined in subclause
5.3
# SIMPLE DATA TYPES
  Dnn:
    Type: string
  DnnRm:
    Type: string
    nullable: true
  Gpsi:
    Type: string
    Pattern: '^ (msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+) $'
  GpsiRm:
    Type: string
    Pattern: '^ (msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+) $'
    nullable: true
  GroupId:
    Type: string
    Pattern: '^ [A-Za-f0-9]{8}-[0-9]{3}-[0-9]{2,3}-([A-Za-f0-9][A-Za-f0-9]){1,10} $'
  GroupIdRm:
    Type: string
    Pattern: '^ [A-Za-f0-9]{8}-[0-9]{3}-[0-9]{2,3}-([A-Za-f0-9][A-Za-f0-9]){1,10} $'
    nullable: true
  Pei:
    Type: string
    Pattern: '^ (imei-[0-9]{15}|imeisv-[0-9]{16}|.+) $'
  PeiRm:
    Type: string

```

```

    Pattern: '^(imei-[0-9]{15}|imeisv-[0-9]{16}|.+)$'
    nullable: true
Supi:
  Type: string
  Pattern: '^(imsi-[0-9]{5,15}|nai-.+|.+$)'
SupiRm:
  Type: string
  Pattern: '^(imsi-[0-9]{5,15}|nai-.+|.+$)'
  nullable: true
NfInstanceId:
  Type: string
  format: uuid
AmfId:
  Type: string
  Pattern: '^[A-Za-f0-9]{6}$'
RfspIndex:
  Type: integer
  Minimum: 1
  Maximum: 256
RfspIndexRm:
  Type: integer
  Minimum: 1
  Maximum: 256
  nullable: true
NfGroupId:
  Type: string
# STRUCTURED DATA TYPES
Guami:
  Type: object
  Properties:
    plmnId:
      Reference: '#/components/schemas/PlmnId'
    amfId:
      Reference: '#/components/schemas/AmfId'
  Required:
    - plmnId
    - amfId
GuamiRm:
  Type: object
  Properties:
    plmnId:
      Reference: '#/components/schemas/PlmnId'
    amfId:
      Reference: '#/components/schemas/AmfId'
  Required:
    - plmnId
    - amfId
  nullable: true
NetworkId:
  Type: object
  Properties:
    mnc:

```

```

        Reference: '#/components/schemas/Mnc'
    mcc:
        Reference: '#/components/schemas/Mcc'
# Data Types related to 5G Network as defined in subclause 5.4
# SIMPLE DATA TYPES
ApplicationId:
    Type: string
ApplicationIdRm:
    Type: string
    nullable: true
PduSessionId:
    Type: integer
    Minimum: 0
    Maximum: 255
Mcc:
    Type: string
    Pattern: '^\\d{3}$'
MccRm:
    Type: string
    Pattern: '^\\d{3}$'
    nullable: true
Mnc:
    Type: string
    Pattern: '^\\d{2,3}$'
MncRm:
    Type: string
    Pattern: '^\\d{2,3}$'
    nullable: true
Tac:
    Type: string
    Pattern: '^[A-Fa-f0-9]{4}$|^[A-Fa-f0-9]{6}$'
TacRm:
    Type: string
    Pattern: '^[A-Fa-f0-9]{4}$|^[A-Fa-f0-9]{6}$'
    nullable: true
EutraCellId:
    Type: string
    Pattern: '^[A-Fa-f0-9]{7}$'
EutraCellIdRm:
    Type: string
    Pattern: '^[A-Fa-f0-9]{7}$'
    nullable: true
NrCellId:
    Type: string
    Pattern: '^[A-Fa-f0-9]{9}$'
NrCellIdRm:
    Type: string
    Pattern: '^[A-Fa-f0-9]{9}$'
    nullable: true
Dnai:
    Type: string
DnaiRm:

```



```

    Type: string
    nullable: true
  5GMMCause:
    Reference: '#/components/schemas/UInteger'
  AmfName:
    Type: string
  AreaCode:
    Type: string
  AreaCodeRm:
    Type: string
    nullable: true
  N3IwfId:
    Type: string
  NgeNbId:
    Type: string
  Pattern:
    '^(\MacroNGeNB-[A-Fa-f0-9]{5}|LMacroNGeNB-[A-Fa-f0-9]{6}|SMacroNGeNB-[A-Fa-f0-9]{5})$'
# ENUMERATED DATA TYPES
  AccessType:
    Type: string
    enum:
      - 3GPP_ACCESS
      - NON_3GPP_ACCESS
  AccessTypeRm:
    Type: string
    enum:
      - 3GPP_ACCESS
      - NON_3GPP_ACCESS
    nullable: true
  RatType:
    anyOf:
      - type: string
        enum:
          - NR
          - EUTRA
          - WLAN
          - VIRTUAL
      - type: string
  RatTypeRm:
    anyOf:
      - type: string
        enum:
          - NR
          - EUTRA
          - WLAN
          - VIRTUAL
      - type: string
    nullable: true
  PduSessionType:
    anyOf:
      - type: string
        enum:
          - IPV4
          - IPV6
          - IPV4V6
          - UNSTRUCTURED

```

```

    - ETHERNET
  - type: string
PduSessionTypeRm:
  anyOf:
  - type: string
    enum:
    - IPV4
    - IPV6
    - IPV4V6
    - UNSTRUCTURED
    - ETHERNET
  - type: string
  nullable: true
UpIntegrity:
  anyOf:
  - type: string
    enum:
    - REQUIRED
    - PREFERRED
    - NOT_NEEDED
  - type: string
UpIntegrityRm:
  anyOf:
  - type: string
    enum:
    - REQUIRED
    - PREFERRED
    - NOT_NEEDED
  - type: string
  nullable: true
UpConfidentiality:
  anyOf:
  - type: string
    enum:
    - REQUIRED
    - PREFERRED
    - NOT_NEEDED
  - type: string
UpConfidentialityRm:
  anyOf:
  - type: string
    enum:
    - REQUIRED
    - PREFERRED
    - NOT_NEEDED
  - type: string
  nullable: true
SscMode:
  anyOf:
  - type: string
    enum:
    - SSC_MODE_1
    - SSC_MODE_2
    - SSC_MODE_3
  - type: string
SscModeRm:
  anyOf:
  - type: string

```

```

    enum:
      - SSC_MODE_1
      - SSC_MODE_2
      - SSC_MODE_3
    - type: string
  nullable: true
DnaiChangeType:
  anyOf:
    - type: string
    enum:
      - EARLY
      - EARLY_LATE
      - LATE
    - 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
    - EARLY: Early notification of UP path reconfiguration.
    - EARLY_LATE: Early and late notification of UP path reconfiguration. This value shall
    only be present in the subscription to the DNAI change event.
    - LATE: Late notification of UP path reconfiguration.
DnaiChangeTypeRm:
  anyOf:
    - type: string
    enum:
      - EARLY
      - EARLY_LATE
      - LATE
    - type: string
  nullable: true
RestrictionType:
  anyOf:
    - type: string
    enum:
      - ALLOWED_AREAS
      - NOT_ALLOWED_AREAS
    - type: string
RestrictionTypeRm:
  anyOf:
    - type: string
    enum:
      - ALLOWED_AREAS
      - NOT_ALLOWED_AREAS
    - type: string
  nullable: true
CoreNetworkType:
  anyOf:
    - type: string
    enum:
      - 5GC
      - EPC
    - type: string
CoreNetworkTypeRm:
  anyOf:
    - type: string

```

```

        enum:
          - 5GC
          - EPC
        - type: string
    nullable: true
  PresenceState:
    anyOf:
      - type: string
        enum:
          - IN_AREA
          - OUT_OF_AREA
          - UNKNOWN
          - INACTIVE
      - type: string
# STRUCTURED DATA TYPES
Sns sai:
  Type: object
  Properties:
    sst:
      Type: integer
      Minimum: 0
      Maximum: 255
    sd:
      Type: string
      Pattern: '^[A-Fa-f0-9]{6}$'
  Required:
    - sst
PlmnId:
  Type: object
  Properties:
    mcc:
      Reference: '#/components/schemas/Mcc'
    mnc:
      Reference: '#/components/schemas/Mnc'
  Required:
    - mcc
    - mnc
PlmnIdRm:
  Type: object
  Properties:
    mcc:
      Reference: '#/components/schemas/Mcc'
    mnc:
      Reference: '#/components/schemas/Mnc'
  Required:
    - mcc
    - mnc
  nullable: true
Tai:
  Type: object
  Properties:
    plmnId:
      Reference: '#/components/schemas/PlmnId'
    tac:

```

```

    Reference: '#/components/schemas/Tac'
  Required:
    - plmnId
    - tac
  TaiRm:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
      tac:
        Reference: '#/components/schemas/Tac'
    Required:
      - plmnId
      - tac
    nullable: true
  Ecgi:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
        # PLMN Identity
      eutraCellId:
        Reference: '#/components/schemas/EutraCellId'
    Required:
      - plmnId
      - eutraCellId
  EcgiRm:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
        # PLMN Identity
      eutraCellId:
        Reference: '#/components/schemas/EutraCellId'
    Required:
      - plmnId
      - eutraCellId
    nullable: true
  Ncgi:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
      nrCellId:
        Reference: '#/components/schemas/NrCellId'
    Required:
      - plmnId
      - nrCellId
  NcgiRm:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
      nrCellId:

```

```

    Reference: '#/components/schemas/NrCellId'
  Required:
    - plmnId
    - nrCellId
  nullable: true
  UserLocation:
    Type: object
    Properties:
      eutraLocation:
        Reference: '#/components/schemas/EutraLocation'
      nrLocation:
        Reference: '#/components/schemas/NrLocation'
      n3gaLocation:
        Reference: '#/components/schemas/N3gaLocation'
  EutraLocation:
    Type: object
    Properties:
      tai:
        Reference: '#/components/schemas/Tai'
      ecgi:
        Reference: '#/components/schemas/Ecgi'
      ageOfLocationInformation:
        Type: integer
        Minimum: 0
        Maximum: 32767
      ueLocationTimestamp:
        Reference: '#/components/schemas/DateTime'
      geographicalInformation:
        Type: string
        Pattern: '^[0-9A-F]{16}$'
      geodeticInformation:
        Type: string
        Pattern: '^[0-9A-F]{20}$'
      globalNgenbId:
        Reference: '#/components/schemas/GlobalRanNodeId'
  Required:
    - tai
    - ecgi
  EutraLocationRm:
    Type: object
    Properties:
      tai:
        Reference: '#/components/schemas/Tai'
      ecgi:
        Reference: '#/components/schemas/Ecgi'
      ageOfLocationInformation:
        Type: integer
        Minimum: 0
        Maximum: 32767
      ueLocationTimestamp:
        Reference: '#/components/schemas/DateTime'
      geographicalInformation:

```

```

    Type: string
    Pattern: '^[0-9A-F]{16}$'
  geodeticInformation:
    Type: string
    Pattern: '^[0-9A-F]{20}$'
  globalNgenbId:
    Reference: '#/components/schemas/GlobalRanNodeId'
Required:
  - tai
  - ecgi
nullable: true
NrLocation:
  Type: object
  Properties:
    tai:
      Reference: '#/components/schemas/Tai'
    ncgi:
      Reference: '#/components/schemas/Ncgi'
    ageOfLocationInformation:
      Type: integer
      Minimum: 0
      Maximum: 32767
    ueLocationTimestamp:
      Reference: '#/components/schemas/DateTime'
    geographicalInformation:
      Type: string
      Pattern: '^[0-9A-F]{16}$'
    geodeticInformation:
      Type: string
      Pattern: '^[0-9A-F]{20}$'
    globalGnbId:
      Reference: '#/components/schemas/GlobalRanNodeId'
Required:
  - tai
  - ncgi
NrLocationRm:
  Type: object
  Properties:
    tai:
      Reference: '#/components/schemas/Tai'
    ncgi:
      Reference: '#/components/schemas/Ncgi'
    ageOfLocationInformation:
      Type: integer
      Minimum: 0
      Maximum: 32767
    ueLocationTimestamp:
      Reference: '#/components/schemas/DateTime'
    geographicalInformation:
      Type: string
      Pattern: '^[0-9A-F]{16}$'
    geodeticInformation:

```

```

    Type: string
    Pattern: '^[0-9A-F]{20}$'
  globalGnbId:
    Reference: '#/components/schemas/GlobalRanNodeId'
  Required:
    - tai
    - ncgi
  nullable: true
N3gaLocation:
  Type: object
  Properties:
    n3gppTai:
      Reference: '#/components/schemas/Tai'
    n3IwfId:
      Type: string
      Pattern: '^[A-Za-f0-9]+$'
    ueIpv4Addr:
      Reference: '#/components/schemas/Ipv4Addr'
    ueIpv6Addr:
      Reference: '#/components/schemas/Ipv6Addr'
    portNumber:
      Reference: '#/components/schemas/UInteger'
UpSecurity:
  Type: object
  Properties:
    upIntegr:
      Reference: '#/components/schemas/UpIntegrity'
    upConfid:
      Reference: '#/components/schemas/UpConfidentiality'
  Required:
    - upIntegr
    - upConfid
UpSecurityRm:
  Type: object
  Properties:
    upIntegr:
      Reference: '#/components/schemas/UpIntegrity'
    upConfid:
      Reference: '#/components/schemas/UpConfidentiality'
  Required:
    - upIntegr
    - upConfid
  nullable: true
NgApCause:
  Type: object
  Properties:
    group:
      Reference: '#/components/schemas/UInteger'
    value:
      Reference: '#/components/schemas/UInteger'
  Required:
    - group
    - value

```



```
BackupAmfInfo:
  Type: object
  Properties:
    backupAmf:
      Reference: '#/components/schemas/AmfName'
    guamiList:
      Type: array
      Items:
        Reference: '#/components/schemas/Guami'
      minItems: 1
  Required:
    - backupAmf
RefToBinaryData:
  Type: object
  Properties:
    contentId:
      Type: string
  Required:
    - contentId
RefToBinaryDataRm:
  Type: object
  Properties:
    contentId:
      Type: string
  Required:
    - contentId
  nullable: true
RouteToLocation:
  Type: object
  Properties:
    dnai:
      Reference: '#/components/schemas/Dnai'
    routeInfo:
      Reference: '#/components/schemas/RouteInformation'
    routeProfId:
      Type: string
      nullable: true
  Required:
    - dnai
  nullable: true
RouteInformation:
  Type: object
  Properties:
    ipv4Addr:
      Reference: '#/components/schemas/Ipv4Addr'
    ipv6Addr:
      Reference: '#/components/schemas/Ipv6Addr'
    portNumber:
      Reference: '#/components/schemas/UInteger'
  Required:
    - portNumber
  nullable: true
```

**SubscribedDefaultQos:****Type:** object**Required:**

- 5qi
- arp

**Properties:****5qi:****Reference:** '#/components/schemas/5Qi'**arp:****Reference:** '#/components/schemas/Arp'**priorityLevel:****Reference:** '#/components/schemas/5QiPriorityLevel'**Area:****Type:** object**oneOf:**

- required:
  - tacs
- required:
  - areaCode

**Properties:****tacs:****Type:** array**Items:****Reference:** '#/components/schemas/Tac'**minItems:** 1**areaCodes:****Reference:** '#/components/schemas/AreaCode'**ServiceAreaRestriction:****Type:** object**Properties:****restrictionType:****Reference:** '#/components/schemas/RestrictionType'**areas:****Type:** array**Items:****Reference:** '#/components/schemas/Area'**maxNumOfTAs:****Reference:** '#/components/schemas/UInteger'**allOf:**

- ```
#
# 1st condition: restrictionType and areas attributes shall be either both absent
#                  or both present
#
- oneOf:
  - not:
    Required: [ restrictionType ]
    - required: [ areas ]
  #
  # 2nd condition: if restrictionType takes value NOT_ALLOWED_AREAS,
  #                  then maxNumOfTAs shall be absent
  #
- anyOf:
  - not:
    Required: [ restrictionType ]
    Properties:
```

```
        restrictionType:
          Type: string
          enum: [ NOT_ALLOWED_AREAS ]
        - not:
          Required: [ maxNumOfTAS ]
PresenceInfo:
  Type: object
  Properties:
    praId:
      Type: string
    presenceState:
      Reference: '#/components/schemas/PresenceState'
    trackingAreaList:
      Type: array
      Items:
        Reference: '#/components/schemas/Tai'
      minItems: 1
    ecgiList:
      Type: array
      Items:
        Reference: '#/components/schemas/Ecgi'
      minItems: 1
    ncgiList:
      Type: array
      Items:
        Reference: '#/components/schemas/Ncgi'
      minItems: 1
    globalRanNodeIdList:
      Type: array
      Items:
        Reference: '#/components/schemas/GlobalRanNodeId'
      minItems: 1
PresenceInfoRm:
  Type: object
  Properties:
    praId:
      Type: string
    presenceState:
      Reference: '#/components/schemas/PresenceState'
    trackingAreaList:
      Type: array
      Items:
        Reference: '#/components/schemas/Tai'
      minItems: 0
    ecgiList:
      Type: array
      Items:
        Reference: '#/components/schemas/Ecgi'
      minItems: 0
    ncgiList:
      Type: array
      Items:
```

```

        Reference: '#/components/schemas/Ncgi'
      minItems: 0
    globalRanNodeIdList:
      Type: array
      Items:
        Reference: '#/components/schemas/GlobalRanNodeId'
    nullable: true
  GlobalRanNodeId:
    Type: object
    Properties:
      plmnId:
        Reference: '#/components/schemas/PlmnId'
      n3IwfId:
        Reference: '#/components/schemas/N3IwfId'
      gNbId:
        Reference: '#/components/schemas/GNbId'
      ngeNbId:
        Reference: '#/components/schemas/NgeNbId'
    oneOf:
      - required: [ n3IwfId ]
      - required: [ gNbId ]
      - required: [ ngeNbId ]
    Required:
      - plmnId
  GNbId:
    Type: object
    Properties:
      bitLength:
        Type: integer
        Minimum: 22
        Maximum: 32
      gNBValue:
        Type: string
        Pattern: '^[A-Za-f0-9]{6,8}$'
    Required:
      - bitLength
      - gNBValue
# Data Types related to 5G QoS as defined in subclause 5.5
# SIMPLE DATA TYPES
  Qfi:
    Type: integer
    Minimum: 0
    Maximum: 63
  QfiRm:
    Type: integer
    Minimum: 0
    Maximum: 63
    nullable: true
  5Qi:
    Type: integer
    Minimum: 0
    Maximum: 255
  5QiRm:

```

```
    Type: integer
    Minimum: 0
    Maximum: 255
    nullable: true
BitRate:
    Type: string
    Pattern: '^\\d+(\\.\\d+)? (bps|Kbps|Mbps|Gbps|Tbps)$'
BitRateRm:
    Type: string
    Pattern: '^\\d+(\\.\\d+)? (bps|Kbps|Mbps|Gbps|Tbps)$'
    nullable: true
ArpPriorityLevel:
    Type: integer
    Minimum: 1
    Maximum: 15
    nullable: true
5QiPriorityLevel:
    Type: integer
    Minimum: 1
    Maximum: 127
5QiPriorityLevelRm:
    Type: integer
    Minimum: 1
    Maximum: 127
    nullable: true
PacketDelBudget:
    Type: integer
    Minimum: 1
PacketDelBudgetRm:
    Type: integer
    Minimum: 1
    nullable: true
PacketErrRate:
    Type: string
    Pattern: '^([0-9]E-[0-9])$'
PacketErrRateRm:
    Type: string
    Pattern: '^([0-9]E-[0-9])$'
    nullable: true
PacketLossRate:
    Type: integer
    Minimum: 0
    Maximum: 1000
PacketLossRateRm:
    Type: integer
    Minimum: 0
    Maximum: 1000
    nullable: true
AverWindow:
    Type: integer
    Minimum: 1
```

```

    Maximum: 4095
    Default: 2000
AverWindowRm:
    Type: integer
    Maximum: 4095
    Default: 2000
    Minimum: 1
    nullable: true
MaxDataBurstVol:
    Type: integer
    Minimum: 1
    Maximum: 4095
MaxDataBurstVolRm:
    Type: integer
    Minimum: 1
    Maximum: 4095
    nullable: true
# ENUMERATED DATA TYPES
PreemptionCapability:
  anyOf:
    - type: string
      enum:
        - NOT_PREEMPT
        - MAY_PREEMPT
    - type: string
PreemptionCapabilityRm:
  anyOf:
    - type: string
      enum:
        - NOT_PREEMPT
        - MAY_PREEMPT
    - type: string
  nullable: true
PreemptionVulnerability:
  anyOf:
    - type: string
      enum:
        - NOT_PREEMPTABLE
        - PREEMPTABLE
    - type: string
PreemptionVulnerabilityRm:
  anyOf:
    - type: string
      enum:
        - NOT_PREEMPTABLE
        - PREEMPTABLE
    - type: string
  nullable: true
ReflectiveQoSAttribute:
  anyOf:
    - type: string
      enum:
        - RQOS
        - NO_RQOS
    - type: string
ReflectiveQoSAttributeRm:

```

```

anyOf:
  - type: string
    enum:
      - RQOS
      - NO_RQOS
  - type: string
nullable: true
NotificationControl:
anyOf:
  - type: string
    enum:
      - REQUESTED
      - NOT_REQUESTED
  - type: string
NotificationControlRm:
anyOf:
  - type: string
    enum:
      - REQUESTED
      - NOT_REQUESTED
  - type: string
nullable: true
QosResourceType:
anyOf:
  - type: string
    enum:
      - NON_GBR
      - NON_CRITICAL_GBR
      - CRITICAL_GBR
  - type: string
QosResourceTypeRm:
anyOf:
  - type: string
    enum:
      - NON_GBR
      - NON_CRITICAL_GBR
      - CRITICAL_GBR
  - type: string
nullable: true
AdditionalQosFlowInfo:
anyOf:
  - type: string
    enum:
      - MORE_LIKELY
  - type: string
nullable: true
# STRUCTURED DATA TYPES
Arp:
Type: object
Properties:
  priorityLevel:
    Reference: '#/components/schemas/ArpPriorityLevel'
  preemptCap:
    Reference: '#/components/schemas/PreemptionCapability'
  preemptVuln:
    Reference: '#/components/schemas/PreemptionVulnerability'
Required:

```

- priorityLevel
- preemptCap
- preemptVuln

**ArpRm:****Type:** object**Properties:****priorityLevel:****Reference:** '#/components/schemas/ArpPriorityLevel'**preemptCap:****Reference:** '#/components/schemas/PreemptionCapability'**preemptVuln:****Reference:** '#/components/schemas/PreemptionVulnerability'**Required:**

- priorityLevel
- preemptCap
- preemptVuln

**nullable:** true**Ambr:****Type:** object**Properties:****uplink:****Reference:** '#/components/schemas/BitRate'**downlink:****Reference:** '#/components/schemas/BitRate'**Required:**

- uplink
- downlink

**AmbrRm:****Type:** object**Properties:****uplink:****Reference:** '#/components/schemas/BitRate'**downlink:****Reference:** '#/components/schemas/BitRate'**Required:**

- uplink
- downlink

**nullable:** true**Dynamic5Qi:****Type:** object**Properties:****resourceType:****Reference:** '#/components/schemas/QosResourceType'**priorityLevel:****Reference:** '#/components/schemas/5QIPriorityLevel'**packetDelayBudget:****Reference:** '#/components/schemas/PacketDelBudget'**packetErrRate:****Reference:** '#/components/schemas/PacketErrRate'**averWindow:****Reference:** '#/components/schemas/AverWindow'**maxDataBurstVol:****Reference:** '#/components/schemas/MaxDataBurstVol'



```

Required:
  - resourceType
  - priorityLevel
  - packetDelayBudget
  - packetErrRate
NonDynamic5Qi:
Type: object
Properties:
  priorityLevel:
    Reference: '#/components/schemas/5QiPriorityLevel'
  averWindow:
    Reference: '#/components/schemas/AverWindow'
  maxDataBurstVol:
    Reference: '#/components/schemas/MaxDataBurstVol'
  minProperties: 0
# Data Types related to 5G Trace as defined in subclause 5.6
# SIMPLE DATA TYPES
# Enumerations
TraceDepth:
  anyOf:
    - type: string
      enum:
        - MINIMUM
        - MEDIUM
        - MAXIMUM
        - MINIMUM_WO_VENDOR_EXTENSION
        - MEDIUM_WO_VENDOR_EXTENSION
        - MAXIMUM_WO_VENDOR_EXTENSION
    - type: string
TraceDepthRm:
  anyOf:
    - type: string
      enum:
        - MINIMUM
        - MEDIUM
        - MAXIMUM
        - MINIMUM_WO_VENDOR_EXTENSION
        - MEDIUM_WO_VENDOR_EXTENSION
        - MAXIMUM_WO_VENDOR_EXTENSION
    - type: string
  nullable: true
# STRUCTURED DATA TYPES
TraceData:
Type: object
nullable: true
Properties:
  traceRef:
    Type: string
    Pattern: '^[0-9]{3}[0-9]{2,3}-[A-Fa-f0-9]{6}$'
  traceDepth:
    Reference: '#/components/schemas/TraceDepth'
  neTypeList:
    Type: string
    Pattern: '^[A-Fa-f0-9]+$'
  eventList:
    Type: string

```

```

    Pattern: '[A-Fa-f0-9]+$'
  collectionEntityIpv4Addr:
    Reference: '#/components/schemas/Ipv4Addr'
  collectionEntityIpv6Addr:
    Reference: '#/components/schemas/Ipv6Addr'
  interfaceList:
    Type: string
    Pattern: '[A-Fa-f0-9]+$'
  Required:
    - traceRef
    - traceDepth
    - neTypeList
    - eventList
# Data Types related to 5G ODB as defined in subclause 5.7
# SIMPLE DATA TYPES
# Enumerations
RoamingOdb:
  anyOf:
    - type: string
    enum:
      - OUTSIDE_HOME_PLMN
      - OUTSIDE_HOME_PLMN_COUNTRY
    - type: string
OdbPacketServices:
  anyOf:
    - type: string
    enum:
      - ALL_PACKET_SERVICES
      - ROAMER_ACCESS_HPLMN_AP
      - ROAMER_ACCESS_VPLMN_AP
    - type: string
  nullable: true
# STRUCTURED DATA TYPES
OdbData:
  Type: object
  Properties:
    roamingOdb:
      Reference: '#/components/schemas/RoamingOdb'
    odbPacketServices:
      Reference: '#/components/schemas/OdbPacketServices'
# Data Types related to Charging as defined in subclause 5.8
# SIMPLE DATA TYPES
ChargingId:
  Reference: '#/components/schemas/Uint32'
RatingGroup:
  Reference: '#/components/schemas/Uint32'
ServiceId:
  Reference: '#/components/schemas/Uint32'
# Enumerations
# STRUCTURED DATA TYPES
SecondaryRatUsageReport:
  Type: object
  Properties:
    secondaryRatType:
      Reference: '#/components/schemas/RatType'
    qosFlowsUsageData:

```

```

    Type: array
    Items:
      Reference: '#/components/schemas/QosFlowUsageReport'
    minItems: 1
  Required:
    - secondaryRatType
    - qosFlowsUsageData
QosFlowUsageReport:
  Type: object
  Properties:
    qfi:
      Reference: '#/components/schemas/Qfi'
    startTimeStamp:
      Reference: '#/components/schemas/DateTime'
    endTimeStamp:
      Reference: '#/components/schemas/DateTime'
    downlinkVolume:
      Reference: '#/components/schemas/Int64'
    uplinkVolume:
      Reference: '#/components/schemas/Int64'
  Required:
    - qfi
    - startTimeStamp
    - endTimeStamp
    - downlinkVolume
    - uplinkVolume
# HTTP responses
responses:
  '400':
    Description: Bad request
    content:
      application/problem+json:
        schema:
          Reference: '#/components/schemas/ProblemDetails'
  '401':
    Description: Unauthorized
    content:
      application/problem+json:
        schema:
          Reference: '#/components/schemas/ProblemDetails'
  '403':
    Description: Forbidden
    content:
      application/problem+json:
        schema:
          Reference: '#/components/schemas/ProblemDetails'
  '404':
    Description: Not Found
    content:
      application/problem+json:
        schema:
          Reference: '#/components/schemas/ProblemDetails'
  '405':
    Description: Method Not Allowed

```

```
'408':
  Description: Request Timeout
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'406':
  Description: 406 Not Acceptable
'409':
  Description: Conflict
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'410':
  Description: Gone
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'411':
  Description: Length Required
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'412':
  Description: Precondition Failed
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'413':
  Description: Payload Too Large
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'414':
  Description: URI Too Long
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'415':
  Description: Unsupported Media Type
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'429':
  Description: Too Many Requests
  content:
```

```
application/problem+json:
  schema:
    Reference: '#/components/schemas/ProblemDetails'
'500':
  Description: Internal Server Error
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'501':
  Description: Not Implemented
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'503':
  Description: Service Unavailable
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
'504':
  Description: Gateway Timeout
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
Default:
  Description: Generic Error
  content:
    application/problem+json:
      schema:
        Reference: '#/components/schemas/ProblemDetails'
```

## External Docs

**Description:** 3GPP TS 29.571 Common Data Types for Service Based Interfaces, version 15.2.0  
**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.571/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.571/)'





# CHAPTER 61

## Nlmf Location

---

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### OpenAPI

OpenAPI Version: 3.0.0

### Info

**Version:** '1.0.0'  
**Title:** 'LMF Location'  
**Description:** 'LMF Location Service'

### Servers

**URL:** '{apiRoot}/nlmf-loc/v1'  
**Variables:**  
  **API Root:**  
    **Default:** https://example.com  
    **Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

### Security

- {}

```
- oAuth2ClientCredentials:
  - nlmf-loc
```

## Paths

### /determine-location

**Method:** Post

**Summary:** Determine Location of an UE

**Operation ID:** DetermineLocation

**Tags:**

- Determine Location

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/InputData'

**Required/Optional:** true

**Responses:**

'200':

**Description:** Expected response to a valid request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/LocationData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/501'

'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:
          nlmf-loc: Access to the Nlmf_Location API

schemas:
# COMPLEX TYPES
  InputData:
    Type: object
    not:
      Required: [ ecgi, ncgi ]
    Properties:
      externalClientType:
        Reference: '#/components/schemas/ExternalClientType'
      correlationID:
        Reference: '#/components/schemas/CorrelationID'
      amfId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      locationQoS:
        Reference: '#/components/schemas/LocationQoS'
      supportedGADShapes:
        Type: array
        Items:
          Reference: '#/components/schemas/SupportedGADShapes'
        minItems: 1
      supi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      pei:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
      gpsi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      ecgi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
      ncgi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
      priority:
        Reference: '#/components/schemas/LcsPriority'
      velocityRequested:
        Reference: '#/components/schemas/VelocityRequested'
  LocationData:
    Type: object
    Required:
      - locationEstimate

```

**Properties:****locationEstimate:****Reference:** '#/components/schemas/GeographicArea'**accuracyFulfilmentIndicator:****Reference:** '#/components/schemas/AccuracyFulfilmentIndicator'**ageOfLocationEstimate:****Reference:** '#/components/schemas/AgeOfLocationEstimate'**velocityEstimate:****Reference:** '#/components/schemas/VelocityEstimate'**civicAddress:****Reference:** '#/components/schemas/CivicAddress'**positioningDataList:****Type:** array**Items:****Reference:** '#/components/schemas/PositioningMethodAndUsage'**minItems:** 1**gnssPositioningDataList:****Type:** array**Items:****Reference:** '#/components/schemas/GnssPositioningMethodAndUsage'**minItems:** 1**ecgi:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ecgi'**ncgi:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Ncgi'**altitude:****Reference:** '#/components/schemas/Altitude'**barometricPressure:****Reference:** '#/components/schemas/BarometricPressure'**GeographicArea:****oneOf:**

- \$ref: '#/components/schemas/Point'
- \$ref: '#/components/schemas/PointUncertaintyCircle'
- \$ref: '#/components/schemas/PointUncertaintyEllipse'
- \$ref: '#/components/schemas/Polygon'
- \$ref: '#/components/schemas/PointAltitude'
- \$ref: '#/components/schemas/PointAltitudeUncertainty'
- \$ref: '#/components/schemas/EllipsoidArc'

**GADShape:****Type:** object**Required:**

- shape

**Properties:****shape:****Reference:** '#/components/schemas/SupportedGADShapes'**discriminator:****propertyName:** shape**mapping:****POINT:** '#/components/schemas/Point'**POINT\_UNCERTAINTY\_CIRCLE:** '#/components/schemas/PointUncertaintyCircle'**POINT\_UNCERTAINTY\_ELLIPSE:** '#/components/schemas/PointUncertaintyEllipse'**POLYGON:** '#/components/schemas/Polygon'**POINT\_ALTITUDE:** '#/components/schemas/PointAltitude'

```

POINT_ALTITUDE_UNCERTAINTY: '#/components/schemas/PointAltitudeUncertainty'
ELLIPSOID_ARC: '#/components/schemas/EllipsoidArc'
Point:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
  Required:
    - point
  Properties:
    point:
      Reference: '#/components/schemas/GeographicalCoordinates'
PointUncertaintyCircle:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
  Required:
    - point
    - uncertainty
  Properties:
    point:
      Reference: '#/components/schemas/GeographicalCoordinates'
    uncertainty:
      Reference: '#/components/schemas/Uncertainty'
PointUncertaintyEllipse:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
  Required:
    - point
    - uncertaintyEllipse
    - confidence
  Properties:
    point:
      Reference: '#/components/schemas/GeographicalCoordinates'
    uncertaintyEllipse:
      Reference: '#/components/schemas/UncertaintyEllipse'
    confidence:
      Reference: '#/components/schemas/Confidence'
Polygon:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
  Required:
    - pointList
  Properties:
    pointList:
      Reference: '#/components/schemas/PointList'
PointAltitude:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
  Required:
    - point
    - altitude
  Properties:

```

```

    point:
      Reference: '#/components/schemas/GeographicalCoordinates'
    altitude:
      Reference: '#/components/schemas/Altitude'
PointAltitudeUncertainty:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
    Required:
      - point
      - altitude
      - uncertaintyEllipse
      - uncertaintyAltitude
      - confidence
    Properties:
      point:
        Reference: '#/components/schemas/GeographicalCoordinates'
      altitude:
        Reference: '#/components/schemas/Altitude'
      uncertaintyEllipse:
        Reference: '#/components/schemas/UncertaintyEllipse'
      uncertaintyAltitude:
        Reference: '#/components/schemas/Uncertainty'
      confidence:
        Reference: '#/components/schemas/Confidence'
EllipsoidArc:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
    Required:
      - point
      - innerRadius
      - uncertaintyRadius
      - offsetAngle
      - includedAngle
      - confidence
    Properties:
      point:
        Reference: '#/components/schemas/GeographicalCoordinates'
      innerRadius:
        Reference: '#/components/schemas/InnerRadius'
      uncertaintyRadius:
        Reference: '#/components/schemas/Uncertainty'
      offsetAngle:
        Reference: '#/components/schemas/Angle'
      includedAngle:
        Reference: '#/components/schemas/Angle'
      confidence:
        Reference: '#/components/schemas/Confidence'
GeographicalCoordinates:
  Type: object
  Required:
    - lon
    - lat
  Properties:

```

```
lon:
  Type: number
  format: float
  Minimum: -180
  Maximum: 180
lat:
  Type: number
  format: float
  Minimum: -90
  Maximum: 90
UncertaintyEllipse:
  Type: object
  Required:
    - semiMajor
    - semiMinor
    - orientationMajor
  Properties:
    semiMajor:
      Reference: '#/components/schemas/Uncertainty'
    semiMinor:
      Reference: '#/components/schemas/Uncertainty'
    orientationMajor:
      Reference: '#/components/schemas/Orientation'
PointList:
  Type: array
  Items:
    Reference: '#/components/schemas/GeographicalCoordinates'
  minItems: 3
  maxItems: 15
LocationQoS:
  Type: object
  Properties:
    hAccuracy:
      Reference: '#/components/schemas/Accuracy'
    vAccuracy:
      Reference: '#/components/schemas/Accuracy'
    verticalRequested:
      Type: boolean
    responseTime:
      Reference: '#/components/schemas/ResponseTime'
PositioningMethodAndUsage:
  Type: object
  Required:
    - method
    - mode
    - usage
  Properties:
    method:
      Reference: '#/components/schemas/PositioningMethod'
    mode:
      Reference: '#/components/schemas/PositioningMode'
    usage:
      Reference: '#/components/schemas/Usage'
```

**GnssPositioningMethodAndUsage:****Type:** object**Required:**

- mode
- gnss
- usage

**Properties:****mode:****Reference:** '#/components/schemas/PositioningMode'**gnss:****Reference:** '#/components/schemas/GnssId'**usage:****Reference:** '#/components/schemas/Usage'**CivicAddress:****Type:** object**Properties:****country:****Type:** string**A1:****Type:** string**A2:****Type:** string**A3:****Type:** string**A4:****Type:** string**A5:****Type:** string**A6:****Type:** string**PRD:****Type:** string**POD:****Type:** string**STS:****Type:** string**HNO:****Type:** string**HNS:****Type:** string**LMK:****Type:** string**LOC:****Type:** string**NAM:****Type:** string**PC:****Type:** string**BLD:****Type:** string**UNIT:****Type:** string

```

ROOM:
  Type: string
PLC:
  Type: string
PCN:
  Type: string
POBOX:
  Type: string
ADDCODE:
  Type: string
SEAT:
  Type: string
RD:
  Type: string
RDSEC:
  Type: string
RDBR:
  Type: string
RDSUBBR:
  Type: string
PRM:
  Type: string
POM:
  Type: string
VelocityEstimate:
  oneOf:
    - $ref: '#/components/schemas/HorizontalVelocity'
    - $ref: '#/components/schemas/HorizontalWithVerticalVelocity'
    - $ref: '#/components/schemas/HorizontalVelocityWithUncertainty'
    - $ref: '#/components/schemas/HorizontalWithVerticalVelocityAndUncertainty'
HorizontalVelocity:
  Type: object
  Required:
    - hSpeed
    - bearing
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
HorizontalWithVerticalVelocity:
  Type: object
  Required:
    - hSpeed
    - bearing
    - vSpeed
    - vDirection
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
    vSpeed:

```

```

    Reference: '#/components/schemas/VerticalSpeed'
vDirection:
    Reference: '#/components/schemas/VerticalDirection'
HorizontalVelocityWithUncertainty:
Type: object
Required:
  - hSpeed
  - bearing
  - hUncertainty
Properties:
  hSpeed:
    Reference: '#/components/schemas/HorizontalSpeed'
  bearing:
    Reference: '#/components/schemas/Angle'
  hUncertainty:
    Reference: '#/components/schemas/SpeedUncertainty'
HorizontalWithVerticalVelocityAndUncertainty:
Type: object
Required:
  - hSpeed
  - bearing
  - vSpeed
  - vDirection
  - hUncertainty
  - vUncertainty
Properties:
  hSpeed:
    Reference: '#/components/schemas/HorizontalSpeed'
  bearing:
    Reference: '#/components/schemas/Angle'
  vSpeed:
    Reference: '#/components/schemas/VerticalSpeed'
  vDirection:
    Reference: '#/components/schemas/VerticalDirection'
  hUncertainty:
    Reference: '#/components/schemas/SpeedUncertainty'
  vUncertainty:
    Reference: '#/components/schemas/SpeedUncertainty'
# SIMPLE TYPES
Altitude:
Type: number
format: float
Minimum: -32767
Maximum: 32767
Angle:
Type: integer
Minimum: 0
Maximum: 360
Uncertainty:
Type: number
format: float
Minimum: 0
Orientation:

```



```
    Type: integer
    Minimum: 0
    Maximum: 180
Confidence:
    Type: integer
    Minimum: 0
    Maximum: 100
Accuracy:
    Type: number
    format: float
    Minimum: 0
InnerRadius:
    Type: integer
    format: int32
    Minimum: 0
CorrelationID:
    Type: string
    minLength: 1
    maxLength: 255
AgeOfLocationEstimate:
    Type: integer
    Minimum: 0
    Maximum: 32767
HorizontalSpeed:
    Type: number
    format: float
    Minimum: 0
    Maximum: 2047
VerticalSpeed:
    Type: number
    format: float
    Minimum: 0
    Maximum: 255
SpeedUncertainty:
    Type: number
    format: float
    Minimum: 0
    Maximum: 255
BarometricPressure:
    Type: integer
    Minimum: 30000
    Maximum: 115000
# ENUMS
ExternalClientType:
  anyOf:
    - type: string
      enum:
        - EMERGENCY_SERVICES
        - VALUE_ADDED_SERVICES
        - PLMN_OPERATOR_SERVICES
        - LAWFUL_INTERCEPT_SERVICES
        - PLMN_OPERATOR_BROADCAST_SERVICES
        - PLMN_OPERATOR_OM
```

```

- PLMN_OPERATOR_ANONYMOUS_STATISTICS
- PLMN_OPERATOR_TARGET_MS_SERVICE_SUPPORT
- type: string
SupportedGADShapes:
anyOf:
- type: string
  enum:
  - POINT
  - POINT_UNCERTAINTY_CIRCLE
  - POINT_UNCERTAINTY_ELLIPSE
  - POLYGON
  - POINT_ALTITUDE
  - POINT_ALTITUDE_UNCERTAINTY
  - ELLIPSOID_ARC
- type: string
ResponseTime:
anyOf:
- type: string
  enum:
  - LOW_DELAY
  - DELAY_TOLERANT
- type: string
PositioningMethod:
anyOf:
- type: string
  enum:
  - CELLID
  - ECID
  - OTDOA
  - BAROMETRIC_PRESSURE
  - WLAN
  - BLUETOOTH
  - MBS
- type: string
PositioningMode:
anyOf:
- type: string
  enum:
  - UE_BASED
  - UE_ASSISTED
  - CONVENTIONAL
- type: string
GnssId:
anyOf:
- type: string
  enum:
  - GPS
  - GALILEO
  - SBAS
  - MODERNIZED_GPS
  - QZSS
  - GLONASS
- type: string
Usage:
anyOf:
- type: string
  enum:
  - UNSUCCESS
  - SUCCESS_RESULTS_NOT_USED
  - SUCCESS_RESULTS_USED_TO_VERIFY_LOCATION

```

```
    - SUCCESS_RESULTS_USED_TO_GENERATE_LOCATION
    - SUCCESS_METHOD_NOT_DETERMINED
  - type: string
LcsPriority:
  anyOf:
    - type: string
    enum:
      - HIGHEST_PRIORITY
      - NORMAL_PRIORITY
    - type: string
VelocityRequested:
  anyOf:
    - type: string
    enum:
      - VELOCITY_IS_NOT_REQUESTED
      - VELOCITY_IS_REQUESTED
    - type: string
AccuracyFulfilmentIndicator:
  anyOf:
    - type: string
    enum:
      - REQUESTED_ACCURACY_FULFILLED
      - REQUESTED_ACCURACY_NOT_FULFILLED
    - type: string
VerticalDirection:
  Type: string
  enum:
    - UPWARD
    - DOWNWARD
```

## External Docs

**Description:** 3GPP TS 29.572 V15.2.0; 5G System; Location Management Services; Stage 3

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.572/'





## CHAPTER 62

# JOSE Protected Message Forwarding

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- [Info, on page 801](#)
- [Servers, on page 801](#)
- [Paths, on page 802](#)
- [Components, on page 802](#)
- [External Docs, on page 806](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'JOSE Protected Message Forwarding API'  
**Description:** 'N32-f Message Forwarding'

## Servers

**URL:** '{apiRoot}/n32f-forward/v1'  
**Variables:**  
**API Root:**  
**Default:** https://example.com  
**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

# Paths

## /n32f-process

**Method:** Post

**Summary:** N32-f Message Forwarding

**Tags:**

- N32-f Forward

**Operation ID:** PostN32fProcess

**Request Body:**

**Description:** Custom operation N32-f Message Forwarding

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/N32fReformattedReqMsg'

**Responses:**

'200':

**Description:** OK (Successful forwarding of reformatted message over N32-f)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/N32fReformattedRspMsg'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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:**

**Description:** Unexpected error

## Components

schemas:

**FlatJweJson:**  
**Type:** object  
**Required:**  
- ciphertext  
**Properties:**  
**protected:**  
**Type:** string  
**unprotected:**  
**Type:** object  
**header:**  
**Type:** object  
**encrypted\_key:**  
**Type:** string  
**aad:**  
**Type:** string  
**iv:**  
**Type:** string  
**ciphertext:**  
**Type:** string  
**tag:**  
**Type:** string

**FlatJwsJson:**  
**Type:** object  
**Required:**  
- payload  
- signature  
**Properties:**  
**payload:**  
**Type:** string  
**protected:**  
**Type:** string  
**header:**  
**Type:** object  
**signature:**  
**Type:** string

**N32fReformattedReqMsg:**  
**Type:** object  
**Required:**  
- reformattedData  
**Properties:**  
**reformattedData:**  
**Reference:** '#/components/schemas/FlatJweJson'  
**modificationsBlock:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/FlatJwsJson'  
**minItems:** 1

**N32fReformattedRspMsg:**  
**Type:** object  
**Required:**  
- reformattedData  
**Properties:**

```

    reformattedData:
      Reference: '#/components/schemas/FlatJweJson'
    modificationsBlock:
      Type: array
      Items:
        Reference: '#/components/schemas/FlatJwsJson'
      minItems: 1
  DataToIntegrityProtectAndCipherBlock:
    Type: object
    Required:
      - dataToEncrypt
    Properties:
      dataToEncrypt:
        Type: array
        Items:
          Type: object
        minItems: 1
  DataToIntegrityProtectBlock:
    Type: object
    Properties:
      metaData:
        Reference: '#/components/schemas/MetaData'
      requestLine:
        Reference: '#/components/schemas/RequestLine'
      statusLine:
        Type: string
      headers:
        Type: array
        Items:
          Reference: '#/components/schemas/HTTPHeader'
        minItems: 1
      payload:
        Type: array
        Items:
          Reference: '#/components/schemas/HttpPayload'
        minItems: 1
  RequestLine:
    Type: object
    Required:
      - method
      - scheme
      - authority
      - path
      - protocolVersion
    Properties:
      method:
        Reference: 'TS29573_N32_Handshake.yaml#/components/schemas/HttpMethod'
      scheme:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UriScheme'
      authority:
        Type: string
      path:
        Type: string

```



```
    protocolVersion:
      Type: string
    queryFragment:
      Type: string
  HttpHeaders:
    Type: object
    Required:
      - header
      - value
    Properties:
      header:
        Type: string
      value:
        Reference: '#/components/schemas/EncodedHeaderValue'
  HttpPayload:
    Type: object
    Required:
      - iePath
      - ieValueLocation
      - value
    Properties:
      iePath:
        Type: string
      ieValueLocation:
        Reference: 'TS29573_N32_Handshake.yaml#/components/schemas/IeLocation'
      value:
        Type: object
  MetaData:
    Type: object
    Required:
      - n32fContextId
      - messageId
      - authorizedIpxId
    Properties:
      n32fContextId:
        Type: string
      messageId:
        Type: string
      authorizedIpxId:
        Type: string
  Modifications:
    Type: object
    Required:
      - identity
    Properties:
      identity:
        Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
      operations:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
        minItems: 1
  IndexToEncryptedValue:
```

**Type:** object  
**Required:**  
- encBlockIndex  
**Properties:**  
  **encBlockIndex:**  
    **Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'  
**EncodedHttpHeaderValue:**  
  **oneOf:**  
    - type: string  
    - \$ref: '#/components/schemas/IndexToEncryptedValue'

## External Docs

**Description:** 3GPP TS 29.573 V15.1.0; 5G System; Public Land Mobile Network (PLMN) Interconnection; Stage 3

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.573/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.573/)



## CHAPTER 63

# Handshake

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- [Info, on page 807](#)
- [Servers, on page 807](#)
- [Paths, on page 808](#)
- [Components, on page 811](#)
- [External Docs, on page 815](#)

## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Version:** '1.0.0'  
**Title:** 'N32 Handshake API'  
**Description:** 'N32-c Handshake'

## Servers

**URL:** '{apiRoot}/n32c-handshake/v1'

**Variables:**

**API Root:**

**Default:** `https://example.com`

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

# Paths

## /exchange-capability

**Method:** Post

**Summary:** Security Capability Negotiation

**Tags:**

- Security Capability Negotiation

**Operation ID:** PostExchangeCapability

**Request Body:**

**Description:** Custom operation for security capability negotiation

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SecNegotiateReqData'

**Responses:**

'200':

**Description:** OK (Successful negotiation of security capabilities)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/SecNegotiateRspData'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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:**

**Description:** Unexpected error

## /exchange-params

**Method:** Post

**Summary:** Parameter Exchange

**Tags:**

- Parameter Exchange

**Operation ID:** PostExchangeParams**Request Body:****Description:** Custom operation for parameter exchange**Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SecParamExchReqData'**Responses:****'200':****Description:** OK (Successful exchange of parameters)**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/SecParamExchRspData'**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'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:****Description:** Unexpected error

## /n32f-terminate

**Method:** Post**Summary:** N32-f Context Terminate**Tags:**

- N32-f Context Terminate

**Operation ID:** PostN32fTerminate**Request Body:****Description:** Custom operation for n32-f context termination**Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/N32fContextInfo'

**Responses:**

'200':  
**Description:** OK (Successful exchange of parameters)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/N32fContextInfo'

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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:**  
**Description:** Unexpected error

## /n32f-error

**Method:** Post**Summary:** N32-f Error Reporting Procedure**Tags:**

- N32-f Error Report

**Operation ID:** PostN32fError**Request Body:****Description:** Custom operation for n32-f error reporting procedure**Required/Optional:** true**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/N32fErrorInfo'**Responses:**

'204':  
**Description:** successful error reporting

'400':  
**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'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:
  Description: Unexpected error

```

## Components

```

schemas:
  SecurityCapability:
    anyOf:
      - type: string
        enum:
          - TLS
          - ALS
      - type: string
  ApiSignature:
    oneOf:
      - $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      - $ref: '#/components/schemas/CallbackName'
  HttpMethod:
    anyOf:
      - type: string
        enum:
          - GET
          - PUT
          - POST
          - DELETE
          - PATCH
          - HEAD
          - OPTIONS
          - CONNECT
          - TRACE
      - type: string
  IeType:
    anyOf:
      - type: string
        enum:
          - UEID
          - LOCATION
          - KEY_MATERIAL
          - AUTHENTICATION_MATERIAL
          - AUTHORIZATION_TOKEN
          - OTHER
          - NONSENSITIVE
      - type: string
  IeLocation:
    anyOf:
      - type: string
        enum:
          - URI_PARAM

```

```
- HEADER
- BODY
- MULTIPART_BINARY
- type: string
IeInfo:
  Type: object
  Required:
    - ieLoc
    - ieType
  Properties:
    ieLoc:
      Reference: '#/components/schemas/IeLocation'
    ieType:
      Reference: '#/components/schemas/IeType'
    reqIe:
      Type: string
    rspIe:
      Type: string
    isModifiable:
      Type: boolean
ApiIeMapping:
  Type: object
  Required:
    - apiSignature
    - apiMethod
    - IeList
  Properties:
    apiSignature:
      Reference: '#/components/schemas/ApiSignature'
    apiMethod:
      Reference: '#/components/schemas/HttpMethod'
    IeList:
      Type: array
      Items:
        Reference: '#/components/schemas/IeInfo'
      minItems: 1
ProtectionPolicy:
  Type: object
  Required:
    - apiIeMappingList
  Properties:
    apiIeMappingList:
      Type: array
      Items:
        Reference: '#/components/schemas/ApiIeMapping'
      minItems: 1
    dataTypeEncPolicy:
      Type: array
      Items:
        Reference: '#/components/schemas/IeType'
      minItems: 1
SecNegotiateReqData:
  Type: object
```



```

Required:
  - sender
  - supportedSecCapabilityList
Properties:
  sender:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
  supportedSecCapabilityList:
    Type: array
    Items:
      Reference: '#/components/schemas/SecurityCapability'
    minItems: 1
SecNegotiateRspData:
  Type: object
  Required:
  - sender
  - selectedSecCapability
  Properties:
  sender:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
  selectedSecCapability:
    Reference: '#/components/schemas/SecurityCapability'
SecParamExchReqData:
  Type: object
  Required:
  - n32fContextId
  Properties:
  n32fContextId:
    Type: string
  jweCipherSuiteList:
    Type: array
    Items:
      Type: string
    minItems: 1
  jwsCipherSuiteList:
    Type: array
    Items:
      Type: string
    minItems: 1
  protectionPolicyInfo:
    Reference: '#/components/schemas/ProtectionPolicy'
SecParamExchRspData:
  Type: object
  Required:
  - n32fContextId
  Properties:
  n32fContextId:
    Type: string
  selectedJweCipherSuite:
    Type: string
  selectedJwsCipherSuite:
    Type: string
  selProtectionPolicyInfo:
    Reference: '#/components/schemas/ProtectionPolicy'

```

```
N32fContextInfo:
  Type: object
  Required:
    - n32fContextId
  Properties:
    n32fContextId:
      Type: string
CallbackName:
  Type: object
  Required:
    - callbackType
  Properties:
    callbackType:
      Type: string
N32fErrorInfo:
  Type: object
  Required:
    - n32fMessageId
    - n32fErrorType
  Properties:
    n32fMessageId:
      Type: string
    n32fErrorType:
      Reference: '#/components/schemas/N32fErrorType'
    failedModificationList:
      Type: array
      Items:
        Reference: '#/components/schemas/FailedModificationInfo'
      minItems: 1
    errorDetailsList:
      Type: array
      Items:
        Reference: '#/components/schemas/N32fErrorDetail'
      minItems: 1
FailedModificationInfo:
  Type: object
  Required:
    - ipxId
    - n32fErrorType
  Properties:
    ipxId:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
    n32fErrorType:
      Reference: '#/components/schemas/N32fErrorType'
N32fErrorDetail:
  Type: object
  Required:
    - attribute
    - msgReconstructFailReason
  Properties:
    attribute:
      Type: string
    msgReconstructFailReason:
```

```
    Reference: '#/components/schemas/FailureReason'
N32fErrorType:
  anyOf:
    - type: string
    enum:
      - INTEGRITY_CHECK_FAILED
      - INTEGRITY_CHECK_ON_MODIFICATIONS_FAILED
      - MODIFICATIONS_INSTRUCTIONS_FAILED
      - DECIPHERING_FAILED
      - MESSAGE_RECONSTRUCTION_FAILED
    - type: string
  FailureReason:
    anyOf:
      - type: string
      enum:
        - INVALID_JSON_POINTER
        - INVALID_INDEX_TO_ENCRYPTED_BLOCK
        - INVALID_HTTP_HEADER
      - type: string
```

## External Docs

**Description:** 3GPP TS 29.573 V15.1.0; 5G System; Public Land Mobile Network (PLMN) Interconnection; Stage 3

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.573/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.573/)





## CHAPTER 64

# Nchf SpendingLimitControl Callbacks

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Spending Limit Control Service API Callbacks  
**Version:** "1.0.0"  
**Title:** Nchf\_SpendingLimitControl Callbacks

## Servers

**URL:** 'http://{apiRoot}/'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - nchf-spendinglimitcontrol
```

## Paths

### /npcf/callbacks/nchf-spendinglimitcontrol/v1/subscriptions/{subscriptionId}/notify

**Method:** Post

**Parameters:**

```
- in: path
  name: subscriptionId
  Description: Identifies an individual spending limit retrieval subscription.
  Required/Optional: true
  Schema:
    Type: string
```

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:**

'./TS29594\_Nchf\_SpendingLimitControl.yaml#/components/schemas/SpendingLimitStatus'

**Responses:**

'204':

**Description:** No Content, Notification was succesfull

'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'

## /npcf/callbacks/nchf-spendinglimitcontrol/v1/subscriptions/{subscriptionId}/terminate

**Method:** Post

**Parameters:**

- **in:** path

**name:** subscriptionId

**Description:** Identifies an individual spending limit retrieval subscription.

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:**

'./TS29594\_Nchf\_SpendingLimitControl.yaml#/components/schemas/SubscriptionTerminationInfo'

**Responses:**

'204':

**Description:** No Content, Notification was succesfull

'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:**

**nchf-spendinglimitcontrol:** Access to the Nchf\_SpendingLimitControl API





## CHAPTER 65

# Nchf SpendingLimitControl

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Spending Limit Control Service API

**Version:** "1.0.0"

**Title:** Nchf\_SpendingLimitControl

## Servers

**URL:** 'http://{apiRoot}/nchf-spendinglimitcontrol/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

## Security

- {}

```
- oAuth2ClientCredentials:
  - nchf-spendinglimitcontrol
```

# Paths

## /subscriptions

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

Responses:
  '201':
    Description: Success
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SpendingLimitStatus'
    Headers:
      Location:
        description: 'Contains the URI of the created individual spending
limit resource, according to the structure:
{apiRoot}/nchf-spendinglimitcontrol/v1/subscriptions/{subscriptionId}'
      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:
    statusNotification:
      '{$request.body#/notifUri}/notify':
        Method: Post
        Request Body:
          Required/Optional: true
          Content:
            Application/JSON:
              Schema:
                Reference: '#/components/schemas/SpendingLimitStatus'

  Responses:
    '204':
      Description: No Content, Notification was succesfull
    '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'
  subscriptionTermination:
    '{$request.body#/notifUri}/terminate':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/SubscriptionTerminationInfo'

  Responses:
    '204':
      Description: No Content, Notification was succesfull

```

```

'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'

```

## /subscriptions/{subscriptionId}

### Parameters:

```

- in: path
  name: subscriptionId
  Description: Identifies an individual spending limit retrieval subscription.
  Required/Optional: true
  Schema:
    Type: string

```

### put:

```

Request Body:
Required/Optional: true
Content:
  Application/JSON:
    Schema:
      Reference: '#/components/schemas/SpendingLimitContext'

```

### Responses:

```

'200':
  Description: OK. Resource was succesfully modified and representation is returned

  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/SpendingLimitStatus'
'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'
delete:

```

#### 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'

```

## Components

#### securitySchemes:

##### oAuth2ClientCredentials:

**Type:** oAuth2

##### Flows:

**clientCredentials:**

```

    tokenUrl: '{nrfApiRoot}/oauth2/token'
    scopes:
      nchf-spendinglimitcontrol: Access to the Nchf_SpendingLimitControl API
  schemas:
    SpendingLimitContext:
      Type: object
      Properties:
        supi:
          Description: The Subscription Permanent Identifier (Supi) shall be present within
            the initial spending limit retrieval procedure (creation of a new individual subscription).
          Reference: './TS29571_CommonData.yaml#/components/schemas/Supi'
        gpsi:
          Description: The Generic Public Subscription Identifier (Gpsi) may be present
            within the initial spending limit retrieval procedure (creation of a new individual
            subscription).
          Reference: './TS29571_CommonData.yaml#/components/schemas/Gpsi'
        policyCounterIds:
          Type: array
          Items:
            Reference: '#/components/schemas/PolicyCounterId'
          minItems: 1
          Description: This is a list of policy counter identifier(s), which identifies
            policy counters maintained per subscriber within the CHF.
        notifUri:
          Description: This attribute identifies the recipient of spending limit
            notifications sent to the NF service consumer by the CHF. The notifUri shall be present
            within the initial spending limit retrieval procedure (creation of a new individual
            subscription). It may be present within the intermediate spending limit retrieval procedure
            (modification of an existing subscription).
          Reference: './TS29571_CommonData.yaml#/components/schemas/Uri'
        supportedFeatures:
          Description: The list of supported features as described in subclause 5.8 shall
            be supplied by the NF service consumer in the POST request that request the creation of a
            spending limit report resource.
          Reference: './TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    SpendingLimitStatus:
      Type: object
      Properties:
        supi:
          Description: The Subscription Permanent Identifier (Supi) shall be present within
            the callback notify service operation (notification of the status of subscribed policy
            counters).
          Reference: './TS29571_CommonData.yaml#/components/schemas/Supi'
        statusInfos:
          Type: object
          additionalProperties:
            Reference: '#/components/schemas/PolicyCounterInfo'
          minProperties: 1
          Description: Status of the requested policy counters. The key of the map is the
            attribute "policyCounterId".
        supportedFeatures:
          Description: If the supportedFeatures is included in the request by the NF service
            consumer, it shall be supplied in the reply of the corresponding request by the CHF.

```

**Reference:** './TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

**Required:**

- statusInfos

**PolicyCounterInfo:**

**Type:** object

**Properties:**

**policyCounterId:**

**Reference:** '#/components/schemas/PolicyCounterId'

**currentStatus:**

**Type:** string

**Description:** Identifies the policy counter status applicable for a specific policy counter identified by the policyCounterId. The values (e.g. valid, invalid or any other status) are not specified. The interpretation and actions related to the defined values are out of scope of 3GPP.

**penPolCounterStatuses:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/PendingPolicyCounterStatus'

**minItems:** 1

**Description:** Provides the pending policy counter status.

**Required:**

- policyCounterId
- currentStatus

**PendingPolicyCounterStatus:**

**Type:** object

**Properties:**

**policyCounterStatus:**

**Type:** string

**Description:** Identifies the policy counter status applicable for a specific policy counter identified by the policyCounterId. The values (e.g. valid, invalid or any other status) are not specified. The interpretation and actions related to the defined values are out of scope of 3GPP.

**activationTime:**

**Description:** Indicates the activation times per required policy counter.

**Reference:** './TS29571\_CommonData.yaml#/components/schemas/DateTime'

**Required:**

- policyCounterStatus
- activationTime

**PolicyCounterId:**

**Type:** string

**Description:** Identifies a policy counter.

**SubscriptionTerminationInfo:**

**Type:** object

**Properties:**

**supi:**

**Reference:** './TS29571\_CommonData.yaml#/components/schemas/Supi'

**termCause:**

**Reference:** '#/components/schemas/TerminationCause'

**Required:**

- supi

**TerminationCause:**

**Type:** string

**enum:**

- REMOVED\_SUBSCRIBER

## External Docs

**Description:** 3GPP TS 29.594 V15.2.0; 5G System; Spending Limit Control Service.

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.594/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.594/)'





## CHAPTER 66

# Nchf-Converged-Charging

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** ConvergedCharging Service

**Version:** 1.R15.0.0

**Title:** Nchf\_ConvergedCharging

## Servers

**URL:** '{apiRoot}/nchf-convergedcharging/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

# Paths

## /chargingdata

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ChargingDataRequest'

**Responses:**

'201':

**Description:** Created

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ChargingDataResponse'

'400':

**Description:** Bad request

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'403':

**Description:** Forbidden

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'404':

**Description:** Not Found

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'410':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/410'

**Default:**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

**Callbacks:**

**myNotification:**

'{\$request.body#/notifyUri}':

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

```

    Application/JSON:
      Schema:
        Reference: '#/components/schemas/ChargingNotifyRequest'

  Responses:
    '204':
      Description: 'No Content, Notification was succesfull'
    '400':
      Description: Bad request
      Content:
        Application/JSON:
          Schema:
            Reference: >-
              TS29571_CommonData.yaml#/components/schemas/ProblemDetails
      Default:
        Reference: 'TS29571_CommonData.yaml#/components/responses/default'
  '/chargingdata/{ChargingDataRef}/update':
    Method: Post
    Request Body:
      Required/Optional: true
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/ChargingDataRequest'

  Parameters:
    - Name: ChargingDataRef
      In: path
      Description: a unique identifier for a charging data resource in a PLMN
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '200':
      Description: OK. Updated Charging Data resource is returned
      Content:
        Application/JSON:
          Schema:
            Reference: '#/components/schemas/ChargingDataResponse'
    '400':
      Description: Bad request
      Content:
        Application/JSON:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '403':
      Description: Forbidden
      Content:
        Application/JSON:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

```

```

    '404':
      Description: Not Found
      Content:
        Application/JSON:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '410':
      Reference: 'TS29571_CommonData.yaml#/components/responses/410'
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'
'/chargingdata/{ChargingDataRef}/release':
  Method: Post
  Request Body:
    Required/Optional: true
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/ChargingDataRequest'

  Parameters:
    - Name: ChargingDataRef
      In: path
      Description: a unique identifier for a charging data resource in a PLMN
      Required/Optional: true
      Schema:
        Type: string

  Responses:
    '204':
      Description: No Content.
    '404':
      Description: Not Found
      Content:
        Application/JSON:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    '410':
      Reference: 'TS29571_CommonData.yaml#/components/responses/410'
  Default:
    Reference: 'TS29571_CommonData.yaml#/components/responses/default'

```

## Components

```

schemas:
  ChargingDataRequest:
    Type: object
    Properties:
      subscriberIdentifier:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'

```

```

nfConsumerIdentification:
  Reference: '#/components/schemas/NFConsumerIdentification'
invocationTimeStamp:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
invocationSequenceNumber:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
oneTimeEvent:
  Type: boolean
notifyUri:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
multipleUnitUsage:
  Type: array
  Items:
    Reference: '#/components/schemas/MultipleUnitUsage'
  minItems: 0
triggers:
  Type: array
  Items:
    Reference: '#/components/schemas/Trigger'
  minItems: 0
pDUSessionChargingInformation:
  Reference: '#/components/schemas/PDUSessionChargingInformation'
roamingQBCInformation:
  Reference: '#/components/schemas/RoamingQBCInformation'
sMSChargingInformation:
  Reference: '#/components/schemas/SMSChargingInformation'
Required:
  - nfConsumerIdentification
  - invocationTimeStamp
  - invocationSequenceNumber
ChargingDataResponse:
Type: object
Properties:
  invocationTimeStamp:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  invocationSequenceNumber:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
  invocationResult:
    Reference: '#/components/schemas/InvocationResult'
  sessionFailover:
    Reference: '#/components/schemas/SessionFailover'
  multipleUnitInformation:
    Type: array
    Items:
      Reference: '#/components/schemas/MultipleUnitInformation'
    minItems: 0
  triggers:
    Type: array
    Items:
      Reference: '#/components/schemas/Trigger'
    minItems: 0
  pDUSessionChargingInformation:

```

```

    Reference: '#/components/schemas/PDUSessionChargingInformation'
  roamingQBCInformation:
    Reference: '#/components/schemas/RoamingQBCInformation'
  Required:
    - invocationTimeStamp
    - invocationSequenceNumber
  ChargingNotifyRequest:
    Type: object
    Properties:
      notificationType:
        Reference: '#/components/schemas/NotificationType'
      reauthorizationDetails:
        Type: array
        Items:
          Reference: '#/components/schemas/ReauthorizationDetails'
        minItems: 0
    Required:
      - notificationType
  NFConsumerIdentification:
    Type: object
    Properties:
      nFName:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      nFIPv4Address:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      nFIPv6Address:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
      nFPLMNID:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      nodeFunctionality:
        Reference: '#/components/schemas/NodeFunctionality'
    Required:
      - nFName
      - nFIPv4Address
      - nFIPv6Address
      - nodeFunctionality
  MultipleUnitUsage:
    Type: object
    Properties:
      ratingGroup:
        Reference: '#/components/schemas/RatingGroup'
      requestedUnit:
        Reference: '#/components/schemas/RequestedUnit'
      UsedUnitContainer:
        Type: array
        Items:
          Reference: '#/components/schemas/UsedUnitContainer'
        minItems: 0
      uPFID:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    Required:
      - ratingGroup
  InvocationResult:

```

```

Type: object
Properties:
  error:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  failureHandling:
    Reference: '#/components/schemas/FailureHandling'
Trigger:
Type: object
Properties:
  triggerType:
    Reference: '#/components/schemas/TriggerType'
  triggerCategory:
    Reference: '#/components/schemas/TriggerCategory'
  timeLimit:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  volumeLimit:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UInt32'
  maxNumberOfccc:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UInt32'
Required:
  - triggerType
  - triggerCategory
MultipleUnitInformation:
Type: object
Properties:
  resultCode:
    Reference: '#/components/schemas/ResultCode'
  ratingGroup:
    Reference: '#/components/schemas/RatingGroup'
  grantedUnit:
    Reference: '#/components/schemas/GrantedUnit'
  triggers:
    Type: array
    Items:
      Reference: '#/components/schemas/Trigger'
    minItems: 0
  validityTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  quotaHoldingTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  finalUnitIndication:
    Reference: '#/components/schemas/FinalUnitIndication'
  timeQuotaThreshold:
    Type: integer
  volumeQuotaThreshold:
    Type: integer
  unitQuotaThreshold:
    Type: integer
  uPFID:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
Required:
  - ratingGroup

```

```

RequestedUnit:
  Type: object
  Properties:
    time:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
    totalVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    uplinkVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    downlinkVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    serviceSpecificUnits:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
UsedUnitContainer:
  Type: object
  Properties:
    serviceId:
      Reference: '#/components/schemas/ServiceId'
    quotaManagementIndicator:
      Reference: '#/components/schemas/QuotaManagementIndicator'
    triggers:
      Type: array
      Items:
        Reference: '#/components/schemas/Trigger'
      minItems: 0
    triggerTimestamp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    time:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
    totalVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    uplinkVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    downlinkVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    serviceSpecificUnits:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    eventTimeStamps:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    localSequenceNumber:
      Type: integer
    pDUContainerInformation:
      Reference: '#/components/schemas/PDUContainerInformation'
  Required:
    - localSequenceNumber
GrantedUnit:
  Type: object
  Properties:
    tariffTimeChange:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    time:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'

```



```

totalVolume:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
uplinkVolume:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
downlinkVolume:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
serviceSpecificUnits:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
FinalUnitIndication:
Type: object
Properties:
  finalUnitAction:
    Reference: '#/components/schemas/FinalUnitAction'
  restrictionFilterRule:
    Reference: '#/components/schemas/IPFilterRule'
  filterId:
    Type: string
  redirectServer:
    Reference: '#/components/schemas/RedirectServer'
Required:
  - finalUnitAction
RedirectServer:
Type: object
Properties:
  redirectAddressType:
    Reference: '#/components/schemas/RedirectAddressType'
  redirectServerAddress:
    Type: string
Required:
  - redirectAddressType
  - redirectServerAddress
ReauthorizationDetails:
Type: object
Properties:
  serviceId:
    Reference: '#/components/schemas/ServiceId'
  ratingGroup:
    Reference: '#/components/schemas/RatingGroup'
  quotaManagementIndicator:
    Reference: '#/components/schemas/QuotaManagementIndicator'
PDUSessionChargingInformation:
Type: object
Properties:
  chargingId:
    Reference: '#/components/schemas/ChargingId'
  userInformation:
    Reference: '#/components/schemas/UserInformation'
  userLocationinfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  userLocationTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
presenceReportingAreaInformation:

```

```

    Type: object
    additionalProperties:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
    minProperties: 0
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  pduSessionInformation:
    Reference: '#/components/schemas/PDUSessionInformation'
  unitCountInactivityTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  rANSecondaryRATUsageReport:
    Reference: '#/components/schemas/RANSecondaryRATUsageReport'
  Required:
  - userInformation
  - pduSessionInformation
UserInformation:
  Type: object
  Properties:
    servedGPSI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    servedPEI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    unauthenticatedFlag:
      Type: boolean
    roamerInOut:
      Reference: '#/components/schemas/RoamerInOut'
  Required:
  - servedGPSI
PDUSessionInformation:
  Type: object
  Properties:
    networkSlicingInfo:
      Reference: '#/components/schemas/NetworkSlicingInfo'
    pduSessionID:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    pduType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
    sscMode:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ScsMode'
    hPlmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    servingNetworkFunctionID:
      Reference: '#/components/schemas/ServingNetworkFunctionID'
    ratType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    dnnId:
      Type: string
    chargingCharacteristics:
      Type: string
    chargingCharacteristicsSelectionMode:
      Reference: '#/components/schemas/ChargingCharacteristicsSelectionMode'
    startTime:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
stopTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
3gppPSDataOffStatus:
    Reference: '#/components/schemas/3GPPPSDataOffStatus'
sessionStopIndicator:
    Type: boolean
pduAddress:
    Reference: '#/components/schemas/PDUAddress'
diagnostics:
    Reference: '#/components/schemas/Diagnostics'
qoSInformation:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DefaultQoSInformation'
servingCNPlmnId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
Required:
- pduSessionID
- dnnId
PDUContainerInformation:
    Type: object
Properties:
    timeofFirstUsage:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    timeofLastUsage:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    qosInformation:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DefaultQoSInformation'
    aFCorrelationInformation:
        Type: string
    userLocationInformation:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    uetimeZone:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
    rATType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    servingNodeID:
        Type: array
        Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
        minItems: 0
    presenceReportingAreaInformation:
        Type: object
        additionalProperties:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
        minProperties: 0
    3gppPSDataOffStatus:
        Reference: '#/components/schemas/3GPPPSDataOffStatus'
    sponsorIdentity:
        Type: string
    applicationServiceProviderIdentity:
        Type: string
    chargingRuleBaseName:

```

```

    Type: string
NetworkSlicingInfo:
  Type: object
  Properties:
    sNSSAI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    Required:
      - sNSSAI
PDUAddress:
  Type: object
  Properties:
    pduIPv4Address:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    pduIPv6Address:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
    pduAddressprefixlength:
      Type: integer
    IPv4dynamicAddressFlag:
      Type: boolean
    IPv6dynamicAddressFlag:
      Type: boolean
ServingNetworkFunctionID:
  Type: object
  Properties:
    servingNetworkFunctionName:
      Type: string
    servingNetworkFunctionInstanceid:
      Type: string
    gUAMI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
RoamingQBCInformation:
  Type: object
  Properties:
    multipleQFIcontainer:
      Type: array
      Items:
        Reference: '#/components/schemas/MultipleQFIcontainer'
      minItems: 0
    uPFID:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    roamingChargingProfile:
      Reference: '#/components/schemas/RoamingChargingProfile'
MultipleQFIcontainer:
  Type: object
  Properties:
    triggers:
      Type: array
      Items:
        Reference: '#/components/schemas/Trigger'
      minItems: 0
    triggerTimestamp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

```

```

    time:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
    totalVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    uplinkVolume:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
    localSequenceNumber:
      Type: integer
    qFIContainerInformation:
      Reference: '#/components/schemas/QFIContainerInformation'
  Required:
    - localSequenceNumber
  QFIContainerInformation:
    Type: object
  Properties:
    qFI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'
    timeofFirstUsage:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    timeofLastUsage:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    qosInformation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DefaultQosInformation'
    userLocationInformation:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
    uetimeZone:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
    presenceReportingAreaInformation:
      Type: object
      additionalProperties:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
      minProperties: 0
    rATType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    servingNetworkFunctionID:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
      minItems: 0
    3gppPSDataOffStatus:
      Reference: '#/components/schemas/3GPPPSDataOffStatus'
  RoamingChargingProfile:
    Type: object
  Properties:
    triggers:
      Type: array
      Items:
        Reference: '#/components/schemas/Trigger'
      minItems: 0
    partialRecordMethod:
      Reference: '#/components/schemas/PartialRecordMethod'
  SMSChargingInformation:

```

```
Type: object
Properties:
  originatorInfo:
    Reference: '#/components/schemas/OriginatorInfo'
  recipientInfo:
    Type: array
    Items:
      Reference: '#/components/schemas/RecipientInfo'
    minItems: 0
  userEquipmentInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
  userLocationInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  ueTimeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  rATType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  sMSCAddress:
    Type: string
  sMDataCodingScheme:
    Type: integer
  sMMessageType:
    Reference: '#/components/schemas/SMMMessageType'
  sMReplyPathRequested:
    Reference: '#/components/schemas/ReplyPathRequested'
  sMUserDataHeader:
    Type: string
  sMStatus:
    Type: string
  sMDischargeTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  numberOfMessagesSent:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
  sMServiceType:
    Reference: '#/components/schemas/SMSServiceType'
  sMSequenceNumber:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
  sMResult:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
  submissionTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  sMPriority:
    Reference: '#/components/schemas/SMPriority'
  messageReference:
    Type: string
  messageSize:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
  messageClass:
    Reference: '#/components/schemas/MessageClass'
  deliveryReportRequested:
    Reference: '#/components/schemas/DeliveryReportRequested'
```

**OriginatorInfo:**  
**Type:** object  
**Properties:**  
**originatorSUPI:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'  
**originatorGPSI:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'  
**originatorOtherAddress:**  
**Reference:** '#/components/schemas/SMAddressInfo'  
**originatorReceivedAddress:**  
**Reference:** '#/components/schemas/SMAddressInfo'  
**originatorSCCPAddress:**  
**Type:** string  
**sMOriginatorInterface:**  
**Reference:** '#/components/schemas/SMInterface'  
**sMOriginatorProtocolId:**  
**Type:** string

**RecipientInfo:**  
**Type:** object  
**Properties:**  
**recipientSUPI:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'  
**recipientGPSI:**  
**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'  
**recipientOtherAddress:**  
**Reference:** '#/components/schemas/SMAddressInfo'  
**recipientReceivedAddress:**  
**Reference:** '#/components/schemas/SMAddressInfo'  
**recipientSCCPAddress:**  
**Type:** string  
**sMDestinationInterface:**  
**Reference:** '#/components/schemas/SMInterface'  
**sMrecipientProtocolId:**  
**Type:** string

**SMAddressInfo:**  
**Type:** object  
**Properties:**  
**sMAddressType:**  
**Reference:** '#/components/schemas/SMAddressType'  
**sMAddressData:**  
**Type:** string  
**sMAddressDomain:**  
**Reference:** '#/components/schemas/SMAddressDomain'

**RecipientAddress:**  
**Type:** object  
**Properties:**  
**recipientAddressInfo:**  
**Reference:** '#/components/schemas/SMAddressInfo'  
**sMAddresseeType:**  
**Reference:** '#/components/schemas/SMAddresseeType'

**MessageClass:**

```

Type: object
Properties:
  classIdentifier:
    Reference: '#/components/schemas/ClassIdentifier'
  tokenText:
    Type: string
SMAddressDomain:
Type: object
Properties:
  domainName:
    Type: string
  3GPPIMSIMCCMNC:
    Type: string
SMInterface:
Type: object
Properties:
  interfaceId:
    Type: string
  interfaceText:
    Type: string
  interfacePort:
    Type: string
  interfaceType:
    Reference: '#/components/schemas/InterfaceType'
RANSecondaryRATUsageReport:
Type: object
Properties:
  rANSecondaryRATType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  qosFlowsUsageReports:
    Type: array
    Items:
      Reference: '#/components/schemas/QosFlowsUsageReport'
RatingGroup:
Type: Uint32
ServiceId:
Type: Uint32
Diagnostics:
Type: integer
IPFilterRule:
Type: string
ChargingId:
Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
QosFlowsUsageReport:
Type: object
Properties:
  qFI:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Qfi'
  startTimestamp:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  endTimestamp:

```



```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  uplinkVolume:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
  downlinkVolume:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint64'
  NotificationType:
    anyOf:
      - type: string
      enum:
        - REAUTHORIZATION
        - ABORT_CHARGING
      - type: string
  NodeFunctionality:
    anyOf:
      - type: string
      enum:
        - SMF
      - type: string
  ChargingCharacteristicsSelectionMode:
    anyOf:
      - type: string
      enum:
        - HOME_DEFAULT
        - ROAMING_DEFAULT
        - VISITING_DEFAULT
      - type: string
  TriggerType:
    anyOf:
      - type: string
      enum:
        - QUOTA_THRESHOLD
        - QHT
        - FINAL
        - QUOTA_EXHAUSTED
        - VALIDITY_TIME
        - OTHER_QUOTA_TYPE
        - FORCED_REAUTHORISATION
        - UNUSED_QUOTA_TIMER
        - ABNORMAL_RELEASE
        - QOS_CHANGE
        - VOLUME_LIMIT
        - TIME_LIMIT
        - PLMN_CHANGE
        - USER_LOCATION_CHANGE
        - RAT_CHANGE
        - UE_TIMEZONE_CHANGE
        - TARIFF_TIME_CHANGE
        - MAX_NUMBER_OF_CHANGES_IN_CHARGING_CONDITIONS
        - MANAGEMENT_INTERVENTION
        - CHANGE_OF_UE_PRESENCE_IN_PRESENCE_REPORTING_AREA
        - CHANGE_OF_3GPP_PS_DATA_OFF_STATUS
        - SERVING_NODE_CHANGE
        - REMOVAL_OF_UPF
        - ADDITION_OF_UPF
      - type: string
  FinalUnitAction:
    anyOf:
      - type: string
      enum:

```

```

- TERMINATE
- REDIRECT
- RESTRICT_ACCESS
- type: string
RedirectAddressType:
  anyOf:
  - type: string
    enum:
    - IPV4
    - IPV6
    - URL
  - type: string
TriggerCategory:
  anyOf:
  - type: string
    enum:
    - IMMEDIATE_REPORT
    - DEFERRED_REPORT
  - type: string
QuotaManagementIndicator:
  anyOf:
  - type: string
    enum:
    - ONLINE_CHARGING
    - OFFLINE_CHARGING
  - type: string
FailureHandling:
  anyOf:
  - type: string
    enum:
    - TERMINATE
    - CONTINUE
    - RETRY_AND_TERMINATE
  - type: string
SessionFailover:
  anyOf:
  - type: string
    enum:
    - FAILOVER_NOT_SUPPORTED
    - FAILOVER_SUPPORTED
  - type: string
3GPPPSDataOffStatus:
  anyOf:
  - type: string
    enum:
    - ACTIVE
    - INACTIVE
  - type: string
ResultCode:
  anyOf:
  - type: string
    enum:
    - SUCCESS
    - END_USER_SERVICE_DENIED
    - QUOTA_MANAGEMENT_NOT_APPLICABLE
    - QUOTA_LIMIT_REACHED
    - END_USER_SERVICE_REJECTED
    - USER_UNKNOWN
    - RATING_FAILED

```

```

    - type: string
PartialRecordMethod:
  anyOf:
    - type: string
      enum:
        - DEFAULT
        - INDIVIDUAL
    - type: string
RoamerInOut:
  anyOf:
    - type: string
      enum:
        - IN_BOUND
        - OUT_BOUND
    - type: string
SMMessageType:
  anyOf:
    - type: string
      enum:
        - SUBMISSION
        - DELIVERY_REPORT
        - SM_SERVICE_REQUEST
    - type: string
SMPriority:
  anyOf:
    - type: string
      enum:
        - LOW
        - NORMAL
        - HIGH
    - type: string
DeliveryReportRequested:
  anyOf:
    - type: string
      enum:
        - YES
        - NO
    - type: string
InterfaceType:
  anyOf:
    - type: string
      enum:
        - UNKNOWN
        - MOBILE_ORIGINATING
        - MOBILE_TERMINATING
        - APPLICATION_ORIGINATING
        - APPLICATION_TERMINATING
    - type: string
ClassIdentifier:
  anyOf:
    - type: string
      enum:
        - PERSONAL
        - ADVERTISEMENT
        - INFORMATIONAL
        - AUTO
    - type: string
SMAddressType:
  anyOf:

```

```

- type: string
  enum:
    - EMAIL_ADDRESS
    - MSISDN
    - IPV4_ADDRESS
    - IPV6_ADDRESS
    - NUMERIC_SHORTCODE
    - ALPHANUMERIC_SHORTCODE
    - OTHER
    - IMSI
- type: string
SMAddresseeType:
  anyOf:
    - type: string
      enum:
        - TO
        - CC
        - BCC
    - type: string
SMSServiceType:
  anyOf:
    - type: string
      enum:
        - VAS4SMS_SHORT_MESSAGE_CONTENT_PROCESSING
        - VAS4SMS_SHORT_MESSAGE_FORWARDING
        - VAS4SMS_SHORT_MESSAGE_FORWARDING_MULTIPLE_SUBSCRIPTIONS
        - VAS4SMS_SHORT_MESSAGE_FILTERING
        - VAS4SMS_SHORT_MESSAGE_RECEIPT
        - VAS4SMS_SHORT_MESSAGE_NETWORK_STORAGE
        - VAS4SMS_SHORT_MESSAGE_TO_MULTIPLE_DESTINATIONS
        - VAS4SMS_SHORT_MESSAGE_VIRTUAL_PRIVATE_NETWORK(VPN)
        - VAS4SMS_SHORT_MESSAGE_AUTO_REPLY
        - VAS4SMS_SHORT_MESSAGE_PERSONAL_SIGNATURE
        - VAS4SMS_SHORT_MESSAGE_DEFERRED_DELIVERY
        - VAS4SMS_SHORT_MESSAGE_CONTENT_PROCESSING
    - type: string
ReplyPathRequested:
  anyOf:
    - type: string
      enum:
        - NO_REPLY_PATH_SET
        - REPLY_PATH_SET
    - type: string

```

## External Docs

### Description:-

3GPP TS 32.291 Telecommunication management; Charging management; 5G system, charging service; Stage 3.

**URL:** 'http://www.3gpp.org/ftp/Specs/archive/32\_series/32.291/'