



Ultra Cloud Core 5G Session Management Function, Release 2021.02 - API Reference

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Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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About this Guide



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

- [OpenAPI, on page 1](#)
- [Info, on page 1](#)
- [Servers, on page 1](#)
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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:

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

- [OpenAPI, on page 11](#)
- [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

- [OpenAPI](#), on page 21
- [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

- [OpenAPI, on page 33](#)
- [Info, on page 33](#)
- [Servers, on page 33](#)
- [Security, on page 33](#)
- [Paths, on page 34](#)
- [Components, on page 42](#)

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

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- [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

- [OpenAPI, on page 57](#)
- [Info, on page 57](#)
- [Servers, on page 57](#)
- [Security, on page 57](#)
- [Paths, on page 58](#)
- [Components, on page 59](#)

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

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'
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:
 - 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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- [Servers](#), on page 97
- [Security](#), on page 97
- [Paths](#), on page 98
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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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- [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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- [Info, on page 133](#)
- [Servers, on page 133](#)
- [Security, on page 133](#)
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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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- [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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- [Servers](#), on page 155
- [Security](#), on page 155
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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

- [OpenAPI](#), on page 171
- [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/



CHAPTER 17

CAPIF Access Control Policy API

- [OpenAPI, on page 175](#)
- [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/



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/



CHAPTER 19

CAPIF Auditing API

- [OpenAPI, on page 185](#)
- [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/



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/



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/



CHAPTER 22

CAPIF Logging API Invocation API

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- [Servers, on page 199](#)
- [Paths, on page 200](#)
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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/



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/



CHAPTER 24

CAPIF Security API

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- [Servers, on page 217](#)
- [Paths, on page 218](#)
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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/AccessTokenResp'
'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/



CHAPTER 25

Nsmf PDUSession

- [OpenAPI, on page 229](#)
- [Info, on page 229](#)
- [Servers, on page 229](#)
- [Security, on page 230](#)
- [Paths, on page 230](#)
- [Components, on page 250](#)

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/'



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/'



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/'



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-Za-f0-9]{32}$'
Auts:
  Type: string
  Pattern: '^[A-Za-f0-9]{28}$'
CkPrime:
  Type: string
  Pattern: '^[A-Za-f0-9]{32}$'
IkPrime:
  Type: string
  Pattern: '^[A-Za-f0-9]{32}$'
Kausf:
  Type: string
  Pattern: '^[A-Za-f0-9]{64}$'
Rand:
  Type: string
  Pattern: '^[A-Za-f0-9]{32}$'
Xres:
  Type: string
  Pattern: '^[A-Za-f0-9]{8,32}$'
XresStar:
  Type: string
  Pattern: '^[A-Za-f0-9]{32}$'
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/'



CHAPTER 30

Nudm UECM

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- [Info, on page 327](#)
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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/'



CHAPTER 31

Nudr DataRepository

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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

- [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:
  onDataChange:
    '{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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- [Servers](#), on page 411
- [Security](#), on page 411
- [Paths](#), on page 412
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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'
  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-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'**altNotifIpv4Adrs:****Type:** array**Items:****Reference:** 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'**minItems:** 1**Description:** Alternate or backup IPv4 Address(es) where to send Notifications.**altNotifIpv6Adrs:****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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- [Info, on page 421](#)
- [Servers, on page 421](#)
- [Security, on page 421](#)
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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'



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



CHAPTER 37

Nnrf AccessToken

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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/'



CHAPTER 38

Nnrf NFDiscovery

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- [Servers, on page 447](#)
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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:** hnrfs-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/'



CHAPTER 39

Nnrf NfManagement

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- [External Docs, on page 484](#)

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-pdusection
                - 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/'



CHAPTER 40

N5g-eir EquipmentIdentityCheck

- [OpenAPI](#), on page 485
- [Info](#), on page 485
- [Servers](#), on page 485
- [Security](#), on page 485
- [Paths](#), on page 486
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- [External Docs](#), on page 488

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

- [OpenAPI, on page 489](#)
- [Info, on page 489](#)
- [Servers, on page 489](#)
- [Security, on page 489](#)
- [Paths, on page 490](#)
- [Components, on page 495](#)
- [External Docs, on page 521](#)

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 GFBR 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 from the packet filter 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 guranteed 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_REDIRECT_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/'



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
  mpsId:
    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/'



CHAPTER 44

Namf Location

- [OpenAPI, on page 591](#)
- [Info, on page 591](#)
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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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- [Info, on page 599](#)
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- [External Docs, on page 603](#)

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/'



CHAPTER 46

ApplicationData

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- [Paths](#), on page 605
- [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

- [OpenAPI](#), on page 629
- [Info](#), on page 629
- [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

- [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/{appId}

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

- [OpenAPI](#), on page 661
- [Info](#), on page 661
- [Servers](#), on page 661
- [Security](#), on page 661
- [Paths](#), on page 662
- [Components](#), on page 663
- [External Docs](#), on page 664

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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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/'



CHAPTER 51

Nbsf Management

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- [Info, on page 673](#)
- [Servers, on page 673](#)
- [Security, on page 673](#)
- [Paths, on page 674](#)
- [Components, on page 677](#)
- [External Docs, on page 678](#)

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/'



CHAPTER 52

TrafficInfluence

- [OpenAPI, on page 679](#)
- [Info, on page 679](#)
- [Servers, on page 679](#)
- [Security, on page 679](#)
- [Paths, on page 680](#)
- [Components, on page 685](#)

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

- [OpenAPI](#), on page 691
- [Info](#), on page 691
- [Servers](#), on page 691
- [Security](#), on page 691
- [Paths](#), on page 692
- [Components](#), on page 696

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

- [OpenAPI](#), on page 701
- [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'
  policyAssociationTerminationRequestNotification:
    '{$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.
supFeat:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
Required:
- notificationUri
- supFeat
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

- [OpenAPI, on page 711](#)
- [Info, on page 711](#)
- [Servers, on page 711](#)
- [Security, on page 711](#)
- [Paths, on page 712](#)
- [Components, on page 717](#)
- [External Docs, on page 719](#)

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/



CHAPTER 56

NSSelection

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- [Info, on page 721](#)
- [Servers, on page 721](#)
- [Security, on page 721](#)
- [Paths, on page 722](#)
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- [External Docs, on page 727](#)

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/



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/'



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/'



CHAPTER 59

BDTPolicyControl

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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

- [OpenAPI, on page 755](#)
- [Info, on page 755](#)
- [Paths, on page 755](#)
- [Components, on page 755](#)
- [External Docs, on page 785](#)

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-Za-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-Za-f0-9]{6}$'
  traceDepth:
    Reference: '#/components/schemas/TraceDepth'
  neTypeList:
    Type: string
    Pattern: '^ [A-Za-f0-9]+$'
  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/'



CHAPTER 61

Nlmf Location

- [OpenAPI, on page 787](#)
- [Info, on page 787](#)
- [Servers, on page 787](#)
- [Security, on page 787](#)
- [Paths, on page 788](#)
- [Components, on page 789](#)
- [External Docs, on page 799](#)

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

- [OpenAPI, on page 801](#)
- [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'
EncodedHeaderValue:
 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/



CHAPTER 63

Handshake

- [OpenAPI, on page 807](#)
- [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/



CHAPTER 64

Nchf SpendingLimitControl Callbacks

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- [Info](#), on page 817
- [Servers](#), on page 817
- [Security](#), on page 817
- [Paths](#), on page 818
- [Components](#), on page 819

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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- [Info](#), on page 821
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- [External Docs](#), on page 828

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/'



CHAPTER 66

Nchf-Converged-Charging

- [OpenAPI, on page 829](#)
- [Info, on page 829](#)
- [Servers, on page 829](#)
- [Paths, on page 830](#)
- [Components, on page 832](#)
- [External Docs, on page 848](#)

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/'