



Nnrf_NFManagement

The Network Repository Function uses the Nnrf_NFManagement service to manage the create, update, and delete an NF.

- [OpenAPI, on page 1](#)
- [Info, on page 1](#)
- [Servers, on page 1](#)
- [Security, on page 2](#)
- [Paths, on page 2](#)
- [Components, on page 10](#)
- [External Docs, on page 28](#)

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:
  - nnrf-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
  SnsaiSmfInfoItem:
    Type: object
    Required:
      - snsai
      - dnnSmfInfoList
    Properties:
      snsai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snsai'
      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:
      - snsaiUpfInfoList
    Properties:
      snsaiUpfInfoList:
        Type: array
        Items:
          Reference: '#/components/schemas/SnsaiUpfInfoItem'
        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-pdusession
            - nsmf-event-exposure
            - nausf-auth
            - nausf-sorprotection
            - nnef-pfdmanagement
            - npcfc-am-policy-control
            - npcfc-smpolicycontrol
            - npcfc-policyauthorization
            - npcfc-bdtpolicycontrol
            - npcfc-eventexposure

```

```

- npcf-ue-policy-control
- nsmsf-sms
- nnsf-nssselection
- nnsf-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-Za-f0-9]{4}|[A-Za-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/'