



Nnrf NFManagement

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OpenAPI

OpenAPI Version: 3.0.0

Info

Version: '1.0.0'
Title: 'NRF NFManagement Service'
Description: 'NRF NFManagement Service'

Servers

URL: '{apiRoot}/nnrf-nfm/v1'

Variables:

API Root:

Default: <https://example.com>

Description: apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

Security

- {}

```
- oAuth2ClientCredentials:
  - 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'

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'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':

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    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'

```

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'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'


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'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
```

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    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'

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```

    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:

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    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:

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```

    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:
      - sNssai
      - dnnSmfInfoList
    Properties:
      sNssai:
        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:
      - sNssaiUpfInfoList
    Properties:
      sNssaiUpfInfoList:
        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:

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    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

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    - 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

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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:

```



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        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

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    - 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:

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```
    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/'