



# Nnrf NFDiscovery

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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

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    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      Min Items: 1
- Name: requester-plmn-list
  In: query
  Description: Id of the PLMN where the NF issuing the Discovery request is located

  Content:
    Application/JSON:
      Schema:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
          Min Items: 1
- Name: target-nf-instance-id
  In: query
  Description: Identity of the NF instance being discovered
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
- Name: target-nf-fqdn
  In: query
  Description: FQDN of the NF instance being discovered
  Schema:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
- Name: hnr-uri
  In: query
  Description: Uri of the home NRF
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
- Name: snssais
  In: query
  Description: Slice info of the target NF
  Content:
    Application/JSON:
      Schema:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
          Min Items: 1
- Name: dnn
  In: query
  Description: Dnn supported by the BSF, SMF or UPF
  Schema:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
- Name: nsi-list
  In: query
  Description: NSI IDs that are served by the services being discovered
  Schema:
    Type: array
    Items:
      Type: string
    Min Items: 1
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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':

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    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

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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:

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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'

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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

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    Items:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/IpEndPoint'
    minItems: 1
  apiPrefix:
    Type: string
  defaultNotificationSubscriptions:
    Type: array
    Items:
      Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/DefaultNotificationSubscription'
    minItems: 1
  capacity:
    Type: integer
    Minimum: 0
    Maximum: 65535
  load:
    Type: integer
    Minimum: 0
    Maximum: 100
  priority:
    Type: integer
    Minimum: 0
    Maximum: 65535
  recoveryTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  chfServiceInfo:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ChfServiceInfo'
  supportedFeatures:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

## External Docs

**Description:** 3GPP TS 29.510 V15.2.0; 5G System; Network Function Repository Services; Stage 3

**URL:** '[http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.510/](http://www.3gpp.org/ftp/Specs/archive/29_series/29.510/)'