Nnrf_NFDiscovery

The Network Repository Function authorizes an NF client to perform the discovery operation using the Nnrf_NFDiscovery service to detect an NF.

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OpenAPI

OpenAPI Version: 3.0.0

Info

```
Version: '1.1.4'
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 clause 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: Accept-Encoding
      #  in: header
      #  description: Accept-Encoding, described in IETF RFC 7231
       #  schema:
      #    type: string
      - 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: requester-nf-instance-id
        #  in: query
        #  description: NfInstanceId of the requester NF
        #  schema:
        #    $ref: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      - Name: service-names
        In: query
        Description: Name of the service offered by the NF
        Schema:
          Type: array
          Items:
        #    $ref: 'TS29571_CommonData.yaml#/components/schemas/ServiceName'
```

```
      Min Items: 1

      Unique Items: False


    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: hnrf-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: plmn-specific-snssai-list
        In: query
        Description: PLMN specific Slice info of the target NF
        Content:
          Application/JSON:
            Schema:
              Type: array
              Items:
              Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PlmnSnssai'

              Min Items: 1
      #- Name: requester-plmn-specific-snssai-list
        # In: query
        # Description: PLMN-specific slice info of the NF issuing the Discovery request

        # Content:
          # Application/JSON:
            # Schema:
              # Type: array
              # Items:
                # Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PlmnSnssai'
              # 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
  Content:
    Application/JSON:
  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:
      # Reference: 'TS29503_Nudm_SDM.yaml#/components/schemas/ExtGroupId'
  # - Name: internal-group-identity
    # In: query
    # Description: internal group identifier of the user
    # Schema:
      # Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
  # - Name: pfd-data
    # In: query
    # Description: pfd-data
    # Content:
      # Application/JSON:
    # Schema:
      # Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PfdData'
  - 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: pdu-session-types
        In: query
        Description: list of PDU Session Type required to be supported by the target NF
        Schema:
          Type: array
          Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
          Min Items: 1
        Style: form
        Explode: false
      #- Name:  event-id-list
        # In: query
        # Description: Analytics event(s) requested to be supported by the
Nnwdaf_AnalyticsInfo service
        # Schema:
          # Type: array
          # Items:
           # Reference: 'TS29520_Nnwdaf_AnalyticsInfo.yaml#/components/schemas/EventId'

          # Min Items: 1
        # Style: form
        # Explode: false
      #- Name:  nwdaf-event-list
        # In: query
        # Description: Analytics event(s) requested to be supported by the
Nnwdaf_EventsSubscription service.
        # Schema:
          # Type: array
          # Items:
            # Reference:
'TS29520_Nnwdaf_EventsSubscription.yaml#/components/schemas/NwdafEvent'
          # 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: limit
      In: query
      Description: Maximum number of NFProfiles to return in the response
      required: false
      Schema:
        Type: integer
        minimum: 1
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
    - Name: required-features
      In: query
      Description: Features required to be supported by the target NF
      Schema:
        Type: array
        Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        Min Items: 1
      Style: form
      Explode: false
    - Name: complex-query
      In: query
      Description: the complex query condition expression
      Content:
        Application/JSON:
      Schema:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ComplexQuery'
    - Name: max-payload-size
      In: query
      Description: Maximum payload size of the response expressed in kilo octets
      required: false
      Schema:
        Type: integer
        maximum: 2000
        default: 124
    #- Name: max-payload-size-ext
      # In: query
     # Description: Extended query for maximum payload size of the response expressed
in kilo octets
      # required: false
      # Schema:
        # Type: integer
        # default: 124
    #- Name: ATSSS Capability
```

```
    # Content:
      # Application/JSON:
    # Schema:
      # Reference: 'TS29571_CommonData.yaml#/components/schemas/AtsssCapability'
  #- Name: upf-ue-ip-addr-ind
    # In: query
    # Description: UPF supporting allocating UE IP addresses/prefixes
    # Schema:
      # Type: boolean
  #- Name: client-type
    # In: query
    # Description: Requested client type served by the NF
    # Content:
      # Application/JSON:
    # Schema:
     # Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/ExternalClientType'

  #- Name: lmf-id
    # In: query
    # Description: LMF identification to be discovered
    # Content:
      # Application/JSON:
    # Schema:
     # Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/LMFIdentification'

  #- Name: an-node-type
    # In: query
    # Description: Requested AN node type served by the NF
    # Content:
      # Application/JSON:
    # Schema:
      # Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AnNodeType'
  #- Name: rat-type
    # In: query
    # Description: Requested AN node type served by the NF
    # Content:
      # Application/JSON:
    # Schema:
      # Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  #- Name: preferred-tai
    # In: query
    # Description: preferred Tracking Area Identity
    # Content:
      # Application/JSON:
    # Schema:
      # Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
  #- Name: preferred-nf-instances
    # In: query
    # Description: preferred NF Instances
    # Schema:
      # Type: array
      # Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
```

```
        # Min Items: 1
      # Style: form
      # Explode: false
    - Name: If-None-Match
      In: header
      Description: Validator for conditional requests, as described in IETF RFC 7232,
3.2
      Schema:
        Type: string
    #- Name: target-snpn
      # In: query
      Description: Target SNPN Identity
      # Content:
        # Application/JSON:
      Schema:
        # Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnIdNid'
    #- Name: requester-snpn-list
      # In: query
      Description: SNPN ID(s) of the NF instance issuing the Discovery request
      # Content:
        # Application/JSON:
      # Schema:
        # Type: array
        # Items:
        # Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnIdNid'
        # Min Items: 1
    #- Name: af-ee-data
      # In: query
      # Description: NEF exposured by the AF
      # Content:
        # Application/JSON:
      # Schema:
        # Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AfEventExposureData'
    #- Name: w-agf-info
      # In: query
      Description: UPF collocated with W-AGF
      # Content:
        # Application/JSON:
      # Schema:
        # Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/WAgfInfo'
    #- Name: tngf-info
      # In: query
      # Description: UPF collocated with TNGF
      # Content:
        # Application/JSON:
      # Schema:
        # Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/TngfInfo'
    #- Name: twif-info
      # In: query
      # Description: UPF collocated with TWIF
      # Content:
```

```
          # Application/JSON:
        Schema:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/TwifInfo'
      #- Name: target-nf-set-id
        # In: query
        Description: Target NF Set ID
        Schema:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/TwifInfo'
      #- Name: target-nf-service-set-id
        # In: query
        # Description: Target NF Service Set ID
        # Schema:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/NfServiceSetId'
      #- Name: nef-id
        # In: query
        # Description: NEF ID
        # Schema:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NefId'
      #- Name: notification-type
        # In: query
        # Description: Notification Type
        # Schema:
         Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NotificationType'

      #- Name: n1-msg-class
        # In: query
        #  Description: N1 Message Class
        # Schema:
         Reference: 'TS29518_Namf_Communication.yaml#/components/schemas/N1MessageClass'

      #- Name: n2-info-class
        # In: query
        # Description: N2 Information Class
        # Schema:
          # Reference:
'TS29518_Namf_Communication.yaml#/components/schemas/N2InformationClass'
      #- Name: serving-scope
        # In: query
        # Description: areas that can be served by the target NF
        # Schema:
          # Type: array
          # Items:
          # Type: string
          # Min Items: 1
        # Style: form
        # Explode: false
      #- Name: imsi
        # In: query
        # Description: IMSI of the requester UE to search for an appropriate NF (e.g.
HSS)
        # Schema:
          # Type: string
```

```
      #- Name: ims-private-identity
        # In: query
        # Description: IMPI of the requester UE to search for a target HSS
        # Schema:
          # Type: string
      #- Name: ims-public-identity
        # In: query
        # Description: IMS Public Identity of the requester UE to search for a target
HSS
        # Schema:
          # Type: string
      #- Name: msisdn
        # In: query
        # Description: MSISDN of the requester UE to search for a target HSS
        # Schema:
          # Type: string
      #- Name: preferred-api-versions
        # In: query
        # Description: Preferred API version of the services to be discovered
        # Content:
          # Application/JSON:
        # Schema:
          # Type: object
          # additionalProperties:
          #   Type: string
          # minProperties: 1
      #- Name: v2x-support-ind
        # In: query
        # Description: PCF supports V2X
        # Schema:
        #   Type: boolean
      #- Name: redundant-gtpu
        # In: query
        # Description: UPF supports redundant gtp-u to be discovered
        # Schema:
        #   Type: boolean
      #- Name: ipups
        # In: query
        # Description: UPF which is configured for IPUPS functionality to be discovered

        # Schema:
        #   Type: boolean
      #- Name: scp-domain-list
        # In: query
        # Description: SCP domains the target SCP belongs to
        # Schema:
        #   Type: array
        #   Items:
          #   Type: string
          # Min Items: 1
        # Style: form
        # Explode: false
```

```
      #- Name: scp-domain-list
        # In: query
        # Description: SCP domains the target SCP belongs to        # Schema:
        # Schema:
        # Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/Fqdn'
      #- Name: ipv4-addr
        # In: query
        # Description: IPv4 address reachable through the SCP
        # Schema:
            # Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      #- Name: ipv6-prefix
        # In: query
        # Description: IPv6 prefix reachable through the SCP
        # Schema:
            # Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      #- Name: served-nf-set-id
        # In: query
        # Description: NF Set ID served by the SCP
        # Schema:
            # Reference: 'TS29571_CommonData.yaml#/components/schemas/NfSetId'
      #- Name: remote-plmn-id
        # In: query
        # Description: Id of the PLMN reachable through the SCP
        # Content:
          # Application/JSON:
        # Schema:
            # Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      #- Name: data-forwarding
        # In: query
        # Description: UPF Instance(s) configured for data forwarding are requested
        # Schema:
        #   Type: boolean
      #- Name: preferred-full-plmn
        # In: query
        # Description: NF Instance(s) serving the full PLMN are preferred
        # Schema:
        #   Type: boolean
      #- Name: requester-features
        # In: query
        # Description: Features supported by the NF Service Consumer that is invoking
the Nnrf_NFDiscovery service
        # Schema:
           # Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

      #- Name: realm-id
        # In: query
        # Description: realm-id to search for an appropriate UDSF
        # Schema:
        #   Type: string
      #- Name: storage-id
        # In: query
        # Description: storage-id to search for an appropriate UDSF
```

```
        # Schema:
        #   Type: string
      #- Name: vsmf-support-ind
        # In: query
        # Description: storage-id to search for an appropriate UDSF
        # Schema:
        #   Type: boolean

    Responses:
      '200':
        Description: Expected response to a valid request
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/SearchResult'
        Links:
          search:
            operationId: RetrieveStoredSearch
            parameters:
              searchId: $response.body#/searchId
            Description:
                        The 'searchId' parameter returned in the response can be used as
the 'searchId' parameter in the GET request to '/searches/{searchId}'
          completeSearch:
            operationId: RetrieveCompleteSearch
            parameters:
              searchId: $response.body#/searchId
            Description:
                        The 'searchId' parameter returned in the response can be used as
the 'searchId' parameter in the GET request to '/searches/{searchId}/complete'
        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
          Content-Encoding:
            Description: Entity Tag containing a strong validator, described in IETF RFC
 7232, 2.3
            Schema:
              Type: string
      '307':
        Description: Temporary Redirect
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/SearchResult'
        Headers:
```

```
        Location:
         Description: 'The URI pointing to the resource located on the redirect target
NRF'
          required: true
          schema:
           Type: string
      '308':
       Description: Permanent Redirect
       Content:
         Application/JSON:
          Schema:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/RedirectResponse'
       Headers:
         Location:
          Description: 'The URI pointing to the resource located on the redirect target
NRF'
          required: 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'
```

/searches/{searchId}:

```
    get:
    operationId: RetrieveStoredSearch
    tags:
     - Stored Search (Document)
    parameters:
      - $ref: '#/components/parameters/searchId'
      - name: Accept-Encoding
        in: header
```

```
        description: Accept-Encoding, described in IETF RFC 7231
        schema:
          type: string
      responses:
        '200':
          $ref: '#/components/responses/200'
        '307':
          description: Temporary Redirect
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/RedirectResponse'
          headers:
            Location:
              description: 'The URI pointing to the resource located on the redirect
target NRF'
              required: true
              schema:
                type: string
        '308':
          description: Permanent Redirect
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/RedirectResponse'
          headers:
            Location:
              description: 'The URI pointing to the resource located on the redirect
target NRF'
              required: true
              schema:
                type: string
```

/searches/{searchId}/complete:

```
    get:
      operationId: RetrieveCompleteSearch
      tags:
        - Complete Stored Search (Document)
      parameters:
        - $ref: '#/components/parameters/searchId'
        - name: Accept-Encoding
          in: header
          description: Accept-Encoding, described in IETF RFC 7231
          schema:
            type: string
      responses:
        '200':
          $ref: '#/components/responses/200'
        '307':
```

```
          description: Temporary Redirect
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/RedirectResponse'
          headers:
            Location:
              description: 'The URI pointing to the resource located on the redirect
target NRF'
              required: true
              schema:
                type: string
        '308':
          description: Permanent Redirect
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/RedirectResponse'
          headers:
            Location:
              description: 'The URI pointing to the resource located on the redirect
target NRF'
              required: true
              schema:
                type: string
```

Components

```
securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '/oauth2/token'
        scopes:
          nnrf-disc: Access to the Nnrf_NFDiscovery API
  parameters:
    searchId:
      name: searchId
      in: path
      description: Id of a stored search
      required: true
      schema:
        type: string
  responses:
    '200':
      description: Expected response to a valid request
      content:
        application/json:
```

```
          schema:
            $ref: '#/components/schemas/StoredSearchResult'
        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
          Content-Encoding:
            description: Content-Encoding, described in IETF RFC 7231
            schema:
              type: string

schemas:
  SearchResult:
      description: Contains the list of NF Profiles returned in a Discovery response
    Type: object
    Required:
      - nfInstances
    Properties:
      validityPeriod:
        Type: integer
      nfInstances:
        Type: array
        Items:
          Reference: '#/components/schemas/NFProfile'
        searchId:
          type: string
        numNfInstComplete:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint32'
        preferredSearch:
          Reference: '#/components/schemas/PreferredSearch'
        nrfSupportedFeatures:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    StoredSearchResult:
      description: Contains a complete search result (i.e. a number of discovered NF
Instances), stored by NRF as a consequence of a prior search result
      type: object
      required:
        - nfInstances
      properties:
        nfInstances:
          type: array
          items:
            Reference: '#/components/schemas/NFProfile'
      description: Information of an NF Instance discovered by the NRF
  NFProfile:
    Type: object
```

```
Required:
  - nfInstanceId
  - nfType
  - nfStatus
Properties:
  nfInstanceId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
    nfInstanceName:
      type: string
  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'
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ExtSnssai'
    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'
      udrInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UdrInfo'
        minProperties: 1
    udmInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UdmInfo'
      udmInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UdmInfo'
        minProperties: 1
    ausfInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AusfInfo'
      ausfInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AusfInfo'
        minProperties: 1
    amfInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AmfInfo'
      amfInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/AmfInfo'
        minProperties: 1
    smfInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/SmfInfo'
      smfInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/smfInfo'
        minProperties: 1
    upfInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/UpfInfo'
      upfInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/upfInfo'
        minProperties: 1
    pcfInfo:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PcfInfo'
      pcffInfoList:
        type: object
        additionalProperties:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/pcfInfo'
```

```
    minProperties: 1
bsfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/bsfInfo'
  bsfInfoList:
    type: object
    additionalProperties:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/bsfInfo'
    minProperties: 1
chfInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ChfInfo'
  chfInfoList:
    type: object
    additionalProperties:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/chfInfo'
    minProperties: 1
udsInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/udsInfo'
  udsInfoList:
    type: object
    additionalProperties:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/udsInfo'
    minProperties: 1
nwdafInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/nwdafInfo'
nefInfo:
  Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/nefInfo'
  pcscfInfoList:
    type: object
    additionalProperties:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/pcscfInfo'
    minProperties: 1
  hssInfoList:
    type: object
    additionalProperties:
      Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/hssInfo'
    minProperties: 1
customInfo:
  Type: object
recoveryTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
nfServicePersistence:
  Type: boolean
  Default: false
nfServices:
    deprecated: true
  Type: array
  Items:
    Reference: '#/components/schemas/NFService'
  minItems: 1
    deprecated: true
  nfServiceList:
```

```
            type: object
            additionalProperties:
              Reference: '#/components/schemas/NFService'
            minProperties: 1
          defaultNotificationSubscriptions:
            type: array
            items:
              Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/DefaultNotificationSubscription'
        lmfInfo:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/lmfInfo'
        gmlcInfo:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/gmlcInfo'
          snpnList:
            type: array
            items:
              Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PlmnIdNid'
            minItems: 1
          nfSetIdList:
            type: array
            items:
              Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NfSetId'
            minItems: 1
          servingScope:
            type: array
            items:
              type: string
            minItems: 1
          lcHSupportInd:
            type: boolean
            default: false
          olcHSupportInd:
            type: boolean
            default: false
          nfSetRecoveryTimeList:
            type: object
            additionalProperties:
              Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
            minProperties: 1
          serviceSetRecoveryTimeList:
            type: object
            additionalProperties:
              Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
            minProperties: 1
          scpDomains:
            type: array
            items:
              type: string
            minItems: 1
          scpInfo:
            Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ScpInfo'
    NFService:
```

```
    description: Information of a given NF Service Instance; it is part of the NFProfile
of an NF Instance discovered by the NRF
   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
       loadTimeStamp:
         Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
     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'
        nfServiceSetIdList:
          type: array
          items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/NfServiceSetId'
          minItems: 1
        sNssais:
          type: array
          items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/ExtSnssai'
          minItems: 1
        perPlmnSnssaiList:
          type: array
          items:
            Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/PlmnSnssai'
          minItems: 1
        vendorId:
          Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/VendorId'
        supportedVendorSpecificFeatures:
          type: object
          additionalProperties:
            type: array
            items:
              Reference:
'TS29510_Nnrf_NFManagement.yaml#/components/schemas/VendorSpecificFeature'
            minItems: 1
          minProperties: 1
externalDocs:
  description: 3GPP TS 29.510 V15.3.0; 5G System; Network Function Repository Services;
 Stage 3
  url: 'http://www.3gpp.org/ftp/Specs/archive/29_series/29.510/'
      oauth2Required:
        type: boolean
      allowedOperationsPerNfType:
        type: object
        additionalProperties:
          type: array
          items:
            type: string
          minItems: 1
        minProperties: 1
      allowedOperationsPerNfInstance:
        type: object
        additionalProperties:
          type: array
          items:
            type: string
```

```
          minItems: 1
        minProperties: 1
    PreferredSearch:
      description: Contains information on whether the returned NFProfiles match the
preferred query parameters
      type: object
      properties:
        preferredTaiMatchInd:
          type: boolean
          default: false
        preferredFullPlmnMatchInd:
          type: boolean
          default: false
        preferredApiVersionsMatchInd:
          type: boolean
        otherApiVersionsInd:
          type: boolean
        preferredLocalityMatchInd:
          type: boolean
          default: false
        otherLocalityInd:
          type: boolean
          default: false
```

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/'
```