**3GPP TSG-CT WG4 Meeting #110-eC4-223xyz**

**E-Meeting, 12th – 20th May 2022 (was C4-223204)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.510** | **CR** | **0704** | **rev** | **2** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Fqdn Data Type Definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc17 | | | | |  | ***Date:*** | | | 2022-04-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 29.571 defines the common type Fqdn for reuse by any APIs.  The agreement reached in previous meetings was to update all APIs that were previosly referring to the Fqdn definition in TS 29.510, and migrate to the new definition in TS 29.571.  Currently, the only API pending to be updated is TS 29.521 (BSF), and CT3 intends to update it during the ongoing CT3#122-e meeting, so now it can be safely removed from TS 29.510 since it is not used by any API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Reuse Fqdn from TS 29.571.  Remove the existing definition from TS 29.510. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The API descriptions are vague in which values are allowed or not as data parameters in signaling messages, leading to inter-operability issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.1, 6.1.6.3.2, 6.2.6.1, 6.3.5.1, A.2, A.3, A.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 29.521 CR 0145,  TS 29.563 CR 0061,  TS 29.573 CR 0100,  TS 29.556 CR 0004 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces backwards-compatible corrections, with impacts on the following APIs:  - TS29510\_Nnrf\_NFManagement.yaml  - TS29510\_Nnrf\_NFDiscovery.yaml  - TS29510\_Nnrf\_AccessToken.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev. 1 (to CT4#110-e):  - Remove the definition of Fqdn from this TS 29.510, instead of keeping it as an obsoleted data type, after all APIs that were using it have been successfully updated to make use of the definiton in TS 29.571.  Rev. 2:  - Add dependency to CR#0145 to TS 29.521 | | | | | | | | |

\* \* \* First Change \* \* \* \*

#### 6.1.6.1 General

This clause specifies the application data model supported by the API.

Table 6.1.6.1-1 specifies the data types defined for the Nnrf\_NFManagement service-based interface protocol.

Table 6.1.6.1-1: Nnrf\_NFManagement specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| NFProfile | 6.1.6.2.2 | Information of an NF Instance registered in the NRF. |
| NFService | 6.1.6.2.3 | Information of a given NF Service Instance; it is part of the NFProfile of an NF Instance. |
| DefaultNotificationSubscription | 6.1.6.2.4 | Data structure for specifying the notifications the NF service subscribes by default along with callback URI. |
| IpEndPoint | 6.1.6.2.5 | IP addressing information of a given NFService; it consists on, e.g. IP address, TCP port, transport protocol... |
| UdrInfo | 6.1.6.2.6 | Information of an UDR NF Instance. |
| UdmInfo | 6.1.6.2.7 | Information of an UDM NF Instance. |
| AusfInfo | 6.1.6.2.8 | Information of an AUSF NF Instance. |
| SupiRange | 6.1.6.2.9 | A range of SUPIs (subscriber identities), either based on a numeric range, or based on regular-expression matching. |
| IdentityRange | 6.1.6.2.10 | A range of subscriber identities, either based on a numeric range, or based on regular-expression matching. |
| AmfInfo | 6.1.6.2.11 | Information of an AMF NF Instance. |
| SmfInfo | 6.1.6.2.12 | Information of an SMF NF Instance. |
| UpfInfo | 6.1.6.2.13 | Information of an UPF NF Instance. |
| SnssaiUpfInfoItem | 6.1.6.2.14 | Set of parameters supported by UPF for a given S-NSSAI. |
| DnnUpfInfoItem | 6.1.6.2.15 | Set of parameters supported by UPF for a given DNN. |
| SubscriptionData | 6.1.6.2.16 | Information of a subscription to notifications to NRF events, included in subscription requests and responses. |
| NotificationData | 6.1.6.2.17 | Data sent in notifications from NRF to subscribed NF Instances. |
| NFServiceVersion | 6.1.6.2.19 | Contains the version details of an NF service. |
| PcfInfo | 6.1.6.2.20 | Information of a PCF NF Instance. |
| BsfInfo | 6.1.6.2.21 | Information of a BSF NF Instance. |
| Ipv4AddressRange | 6.1.6.2.22 | Range of IPv4 addresses. |
| Ipv6PrefixRange | 6.1.6.2.23 | Range of IPv6 prefixes. |
| InterfaceUpfInfoItem | 6.1.6.2.24 | Information of a given IP interface of an UPF. |
| UriList | 6.1.6.2.25 | Set of URIs following 3GPP hypermedia format (containing a "\_links" attribute). |
| N2InterfaceAmfInfo | 6.1.6.2.26 | AMF N2 interface information |
| TaiRange | 6.1.6.2.27 | Range of TAIs (Tracking Area Identities). |
| TacRange | 6.1.6.2.28 | Range of TACs (Tracking Area Codes). |
| SnssaiSmfInfoItem | 6.1.6.2.29 | Set of parameters supported by SMF for a given S-NSSAI. |
| DnnSmfInfoItem | 6.1.6.2.30 | Set of parameters supported by SMF for a given DNN. |
| NrfInfo | 6.1.6.2.31 | Information of an NRF NF Instance, used in hierarchical NRF deployments. |
| ChfInfo | 6.1.6.2.32 | Information of a CHF NF Instance. |
| PlmnRange | 6.1.6.2.34 | Range of PLMN IDs. |
| SubscrCond | 6.1.6.2.35 | Condition to determine the set of NFs to monitor under a certain subscription in NRF. |
| NfInstanceIdCond | 6.1.6.2.36 | Subscription to a given NF Instance Id. |
| NfTypeCond | 6.1.6.2.37 | Subscription to a set of NFs based on their NF Type. |
| ServiceNameCond | 6.1.6.2.38 | Subscription to a set of NFs based on their support for a given Service Name. |
| AmfCond | 6.1.6.2.39 | Subscription to a set of AMFs, based on AMF Set Id and/or AMF Region Id. |
| GuamiListCond | 6.1.6.2.40 | Subscription to a set of AMFs, based on their GUAMIs. |
| NetworkSliceCond | 6.1.6.2.41 | Subscription to a set of NFs, based on the slices (S-NSSAI and NSI) they support . |
| NfGroupCond | 6.1.6.2.42 | Subscription to a set of NFs based on their Group Id. |
| NotifCondition | 6.1.6.2.43 | Condition (list of attributes in the NF Profile) to determine whether a notification must be sent by NRF. |
| PlmnSnssai | 6.1.6.2.44 | List of network slices (S-NSSAIs) for a given PLMN ID. |
| NwdafInfo | 6.1.6.2.45 | Information of a NWDAF NF Instance. |
| LmfInfo | 6.1.6.2.46 | Information of an LMF NF Instance. |
| GmlcInfo | 6.1.6.2.47 | Information of a GMLC NF Instance. |
| NefInfo | 6.1.6.2.48 | Information of an NEF NF Instance. |
| PfdData | 6.1.6.2.49 | List of Application IDs and/or AF IDs managed by a given NEF Instance. |
| AfEventExposureData | 6.1.6.2.50 | AF Event Exposure data managed by a given NEF Instance. |
| WAgfInfo | 6.1.6.2.51 | Information of the W-AGF endpoints. |
| TngfInfo | 6.1.6.2.52 | Information of the TNGF endpoints. |
| PcscfInfo | 6.1.6.2.53 | Information of a P-CSCF NF Instance. |
| NfSetCond | 6.1.6.2.54 | Subscription to a set of NFs based on their Set Id. |
| NfServiceSetCond | 6.1.6.2.55 | Subscription to a set of NFs based on their Service Set Id. |
| NfInfo | 6.1.6.2.56 | Information of a generic NF Instance. |
| HssInfo | 6.1.6.2.57 | Information of an HSS NF Instance. |
| ImsiRange | 6.1.6.2.58 | A range of IMSIs (subscriber identities), either based on a numeric range, or based on regular-expression matching. |
| InternalGroupIdRange | 6.1.6.2.59 | A range of Group IDs (internal group identities), either based on a numeric range, or based on regular-expression matching. |
| UpfCond | 6.1.6.2.60 | Subscription to a set of NF Instances (UPFs), able to serve a certain service area (i.e. SMF serving area or TAI list). |
| TwifInfo | 6.1.6.2.61 | Addressing information (IP addresses, FQDN) of the TWIF. |
| VendorSpecificFeature | 6.1.6.2.62 | Information about a vendor-specific feature |
| UdsfInfo | 6.1.6.2.63 | Information related to UDSF |
| ScpInfo | 6.1.6.2.65 | Information of an SCP Instance |
| ScpDomainInfo | 6.1.6.2.66 | SCP domain information |
| ScpDomainCond | 6.1.6.2.67 | Subscription to an SCP domain |
| OptionsResponse | 6.1.6.2.68 | Communication options of the NRF |
| NwdafCond | 6.1.6.2.69 | Subscription to a set of NF Instances (NWDAFs), identified by Analytics ID(s), S-NSSAI(s) or NWDAF Serving Area information, i.e. list of TAIs for which the NWDAF can provide analytics. |
| NefCond | 6.1.6.2.70 | Subscription to a set of NF Instances (NEFs), identified by Event ID(s) provided by AF, S-NSSAI(s), AF Instance ID, Application Identifier, External Identifier, External Group Identifier, or domain name. |
| SuciInfo | 6.1.6.2.71 | SUCI information containing Routing Indicator and Home Network Public Key ID. |
| SeppInfo | 6.1.6.2.72 | Information of a SEPP Instance |
| AanfInfo | 6.1.6.2.73 | Information of an AAnF NF Instance. |
| 5GDdnmfInfo | 6.1.6.2.74 | Information of a 5G DDNMF NF Instance. |
| MfafInfo | 6.1.6.2.75 | Information of the MFAF NF Instance. |
| NwdafCapability | 6.1.6.2.76 | Indicates the capability supported by the NWDAF. |
| DccfInfo | 6.1.6.2.80 | Information of a DCCF NF Instance. |
| NsacfInfo | 6.1.6.2.81 | Information of an NSACF NF Instance. |
| NsacfCapability | 6.1.6.2.82 | NSACF service capability. |
| DccfCond | 6.1.6.2.83 | Subscription to a set of NF Instances (DCCFs), identified by NF types, NF Set Id(s) or DCCF Serving Area information, i.e. list of TAIs served by the DCCF. |
| MlAnalyticsInfo | 6.1.6.2.84 | ML Analytics Filter information supported by the Nnwdaf\_MLModelProvision service |
| MbSmfInfo | 6.1.6.2.85 | Information of a MB-SMF NF Instance |
| TmgiRange | 6.1.6.2.86 | Range of TMGIs |
| MbsSession | 6.1.6.2.87 | MBS Session served by an MB-SMF |
| SnssaiMbSmfInfoItem | 6.1.6.2.88 | Parameters supported by an MB-SMF for a given S-NSSAI |
| DnnMbSmfInfoItem | 6.1.6.2.89 | Parameters supported by an MB-SMF for a given DNN |
| MbsAreaSession | 6.1.6.2.90 | MBS Session in a specific MBS Service Area |
| TsctsfInfo | 6.1.6.2.91 | Information of a TSCTSF NF Instance. |
| SnssaiTsctsfInfoItem | 6.1.6.2.92 | Set of parameters supported by TSCTSF for a given S-NSSAI. |
| DnnTsctsfInfoItem | 6.1.6.2.93 | Set of parameters supported by TSCTSF for a given DNN. |
| MbUpfInfo | 6.1.6.2.94 | Information of a MB-UPF NF Instance. |
| UnTrustAfInfo | 6.1.6.2.95 | Information of a untrusted AF Instance. |
| TrustAfInfo | 6.1.6.2.96 | Information of a trusted AF Instance |
| SnssaiInfoItem | 6.1.6.2.97 | Set of parameters supported by NF for a given S-NSSAI. |
| DnnInfoItem | 6.1.6.2.98 | Set of parameters supported by NF for a given DNN. |
| CollocatedNfInstance | 6.1.6.2.99 | Information related to collocated NF type(s) and corresponding NF Instance(s) when the NF is collocated with NFs supporting other NF types. |
| ServiceNameListCond | 6.1.6.2.100 | Subscription to a set of NF Instances that offer a service name in the Service Name list. |
| NfGroupListCond | 6.1.6.2.101 | Subscription to a set of NF Instances, identified by a NF Group Identity in the NF Group Identity list. |
| PlmnOauth2 | 6.1.6.2.102 | Per PLMN Oauth2.0 indication. |
| V2xCapability | 6.1.6.2.103 | Indicate the supported V2X Capability by the PCF. |
| NssaafInfo | 6.1.6.2.104 | Information of a NSSAAF NF Instance. |
| ProSeCapability | 6.1.6.2.105 | Indicate the supported ProSe Capability by the PCF. |
| SharedDataIdRange | 6.1.6.2.106 |  |
| SubscriptionContext | 6.1.6.2.107 | Context data related to a created subscription, to be included in notifications sent by NRF. |
| NefId | 6.1.6.3.2 | Identity of the NEF. |
| VendorId | 6.1.6.3.2 | Vendor ID of the NF Service instance (Private Enterprise Number assigned by IANA) |
| WildcardDnai | 6.1.6.3.2 | Wildcard DNAI |
| NFType | 6.1.6.3.3 | NF types known to NRF. |
| NotificationType | 6.1.6.3.4 | Types of notifications used in Default Notification URIs in the NF Profile of an NF Instance. |
| TransportProtocol | 6.1.6.3.5 | Types of transport protocol used in a given IP endpoint of an NF Service Instance. |
| NotificationEventType | 6.1.6.3.6 | Types of events sent in notifications from NRF to subscribed NF Instances. |
| NFStatus | 6.1.6.3.7 | Status of a given NF Instance stored in NRF. |
| DataSetId | 6.1.6.3.8 | Types of data sets stored in UDR. |
| UPInterfaceType | 6.1.6.3.9 | Types of User-Plane interfaces of the UPF. |
| ServiceName | 6.1.6.3.11 | Service names known to NRF. |
| NFServiceStatus | 6.1.6.3.12 | Status of a given NF Service Instance of an NF Instance stored in NRF. |
| AnNodeType | 6.1.6.3.13 | Access Network Node Type (gNB, ng-eNB...). |
| ConditionEventType | 6.1.6.3.14 | Indicates whether a notification is due to the NF Instance to start or stop being part of a condition for a subscription to a set of NFs |
| IpReachability | 6.1.6.3.15 | Indicates the type(s) of IP addresses reachable via an SCP. |
| CollocatedNfType | 6.1.6.3.17 | Possible NF types supported by a collocated NF. |

Editor's Note: A general solution of NRF handling towards absent attributes (not registered by the NF or not supported by NF with early version) is FFS.

Table 6.1.6.1-2 specifies data types re-used by the Nnrf\_NFManagement service-based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nnrf\_NFManagement service-based interface.

Table 6.1.6.1-2: Nnrf\_NFManagement re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| N1MessageClass | 3GPP TS 29.518 [6] | The N1 message type |
| N2InformationClass | 3GPP TS 29.518 [6] | The N2 information type |
| IPv4Addr | 3GPP TS 29.571 [7] |  |
| IPv6Addr | 3GPP TS 29.571 [7] |  |
| IPv6Prefix | 3GPP TS 29.571 [7] |  |
| Uri | 3GPP TS 29.571 [7] |  |
| Dnn | 3GPP TS 29.571 [7] |  |
| SupportedFeatures | 3GPP TS 29.571 [7] |  |
| Snssai | 3GPP TS 29.571 [7] |  |
| PlmnId | 3GPP TS 29.571 [7] |  |
| Guami | 3GPP TS 29.571 [7] |  |
| Tai | 3GPP TS 29.571 [7] |  |
| NfInstanceId | 3GPP TS 29.571 [7] |  |
| LinksValueSchema | 3GPP TS 29.571 [7] | 3GPP Hypermedia link |
| UriScheme | 3GPP TS 29.571 [7] |  |
| AmfName | 3GPP TS 29.571 [7] |  |
| DateTime | 3GPP TS 29.571 [7] |  |
| Dnai | 3GPP TS 29.571 [7] |  |
| ChangeItem | 3GPP TS 29.571 [7] |  |
| DiameterIdentity | 3GPP TS 29.571 [7] |  |
| AccessType | 3GPP TS 29.571 [7] |  |
| NfGroupId | 3GPP TS 29.571 [7] | Network Function Group Id |
| AmfRegionId | 3GPP TS 29.571 [7] |  |
| AmfSetId | 3GPP TS 29.571 [7] |  |
| PduSessionType | 3GPP TS 29.571 [7] |  |
| AtsssCapability | 3GPP TS 29.571 [7] | Capability to support procedures related to Access Traffic Steering, Switching, Splitting. |
| Nid | 3GPP TS 29.571 [7] |  |
| PlmnIdNid | 3GPP TS 29.571 [7] |  |
| NfSetId | 3GPP TS 29.571 [7] | NF Set ID (see clause 28.12 of 3GPP TS 23.003 [12]) |
| NfServiceSetId | 3GPP TS 29.571 [7] | NF Service Set ID (see clause 28.13 of 3GPP TS 23.003 [12]) |
| GroupId | 3GPP TS 29.571 [7] | Internal Group Identifier |
| RatType | 3GPP TS 29.571 [7] | RAT Type |
| DurationSec | 3GPP TS 29.571 [7] |  |
| RedirectResponse | 3GPP TS 29.571 [7] | Response body of the redirect response message. |
| ExtSnssai | 3GPP TS 29.571 [7] |  |
| AreaSessionId | 3GPP TS 29.571 [7] | Area Session Identifier used for an MBS session with location dependent content |
| MbsSessionId | 3GPP TS 29.571 [7] | MBS Session Identifier |
| MbsServiceArea | 3GPP TS 29.571 [7] | MBS Service Area |
| IpAddr | 3GPP TS 29.571 [7] | IP Address |
| Fqdn | 3GPP TS 29.571 [7] | Fully Qualified Domain Name |
| EventId | 3GPP TS 29.520 [32] | Defined in Nnwdaf\_AnalyticsInfo API. |
| NwdafEvent | 3GPP TS 29.520 [32] | Defined in Nnwdaf\_EventsSubscription API. |
| ExternalClientType | 3GPP TS 29.572 [33] |  |
| LMFIdentification | 3GPP TS 29.572 [33] | LMF Identification |
| AfEvent | 3GPP TS 29.517 [35] | Defined in Naf\_EventExposure API |
| SupportedGADShapes | 3GPP TS 29.572 [33] | Supported GAD Shapes |

\* \* \* Next Change \* \* \* \*

##### 6.1.6.3.2 Simple data types

The simple data types defined in table 6.1.6.3.2-1 shall be supported.

Table 6.1.6.3.2-1: Simple data types

|  |  |  |
| --- | --- | --- |
| Type Name | Type Definition | Description |
| NefId | string | The NEF ID as specified in clause 4.25.2 of 3GPP TS 23.502 [3].  For combined SCEF+NEF, the NEF ID shall contain the SCEF ID encoded as specified in clause 8.4.5 of 3GPP TS 29.336 [37]. |
| VendorId | string | Vendor ID, according to the IANA-assigned "SMI Network Management Private Enterprise Codes" [38].  It shall be formatted as a fixed 6-digit string, padding with leading digits "0" to complete a 6-digit length.  Pattern: "^[0-9]{6}$" |
| WildcardDnai | string | String representing the Wildcard DNAI.  It shall contain the string "\*".  Pattern: '^[\*]$' |

\* \* \* Next Change \* \* \* \*

#### 6.2.6.1 General

This clause specifies the application data model supported by the API.

Table 6.2.6.1-1 specifies the data types defined for the Nnrf service based interface protocol.

Table 6.2.6.1-1: Nnrf\_NFDiscovery specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| SearchResult | 6.2.6.2.2 | Contains the list of NF Profiles returned in a Discovery response. |
| NFProfile | 6.2.6.2.3 | Information of an NF Instance discovered by the NRF. |
| NFService | 6.2.6.2.4 | Information of a given NF Service Instance; it is part of the NFProfile of an NF Instance discovered by the NRF. |
| StoredSearchResult | 6.2.6.2.5 | Contains a complete search result (i.e. a number of discovered NF Instances), stored by NRF as a consequence of a prior search result. |
| PreferredSearch | 6.2.6.2.6 | Contains information on whether the returned NFProfiles match the preferred query parameters. |
| NfInstanceInfo | 6.2.6.2.7 | Contains information on an NF profile matching a discovery request. |
| ScpDomainRoutingInfo | 6.2.6.2.8 | SCP Domain Routing Information |
| ScpDomainConnectivity | 6.2.6.2.9 | SCP Domain Routing Information |
| ScpDomainRoutingInfoSubscription | 6.2.6.2.10 | SCP Domain Routing Information Subscription |
| ScpDomainRoutingInfoNotification | 6.2.6.2.11 | Notification for SCP Domain Routing Information Update |

Table 6.2.6.1-2 specifies data types re-used by the Nnrf\_NFDiscovery service-based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nnrf\_NFDiscovery service-based interface.

Table 6.2.6.1-2: Nnrf\_NFDiscovery re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| Snssai | 3GPP TS 29.571 [7] |  |
| PlmnId | 3GPP TS 29.571 [7] |  |
| Dnn | 3GPP TS 29.571 [7] |  |
| Tai | 3GPP TS 29.571 [7] |  |
| SupportedFeatures | 3GPP TS 29.571 [7] |  |
| NfInstanceId | 3GPP TS 29.571 [7] |  |
| Uri | 3GPP TS 29.571 [7] |  |
| Gpsi | 3GPP TS 29.571 [7] |  |
| GroupId | 3GPP TS 29.571 [7] |  |
| Guami | 3GPP TS 29.571 [7] |  |
| IPv4Addr | 3GPP TS 29.571 [7] |  |
| IPv6Addr | 3GPP TS 29.571 [7] |  |
| UriScheme | 3GPP TS 29.571 [7] |  |
| Dnai | 3GPP TS 29.571 [7] |  |
| NfGroupId | 3GPP TS 29.571 [7] | Identifier of a NF Group |
| PduSessionType | 3GPP TS 29.571 [7] |  |
| AtsssCapability | 3GPP TS 29.571 [7] |  |
| PlmnIdNid | 3GPP TS 29.571 [7] |  |
| NfSetId | 3GPP TS 29.571 [7] |  |
| NfServiceSetId | 3GPP TS 29.571 [7] |  |
| ExtSnssai | 3GPP TS 29.571 [7] |  |
| DurationSec | 3GPP TS 29.571 [7] |  |
| RedirectResponse | 3GPP TS 29.571 [7] | Response body of the redirect response message. |
| MbsSessionId | 3GPP TS 29.571 [7] | MBS Session Identifier |
| IpAddr | 3GPP TS 29.571 [7] | IP Address |
| AreaSessionId | 3GPP TS 29.571 [7] | Area Session Identifier used for an MBS session with location dependent content |
| Fqdn | 3GPP TS 29.571 [7] | Fully Qualified Domain Name |
| EventId | 3GPP TS 29.520 [32] | Defined in Nnwdaf\_AnalyticsInfo API. |
| NwdafEvent | 3GPP TS 29.520 [32] | Defined in Nnwdaf\_EventsSubscription API. |
| ExtGroupId | 3GPP TS 29.503 [36] |  |
| SharedDataId | 3GPP TS 29.503 [36] |  |
| ExternalClientType | 3GPP TS 29.572 [33] |  |
| SupportedGADShapes | 3GPP TS 29.572 [33] | Supported GAD Shapes |
| DefaultNotificationSubscription | 3GPP TS 29.510 | See clause 6.1.6.2.4 |
| IPEndPoint | 3GPP TS 29.510 | See clause 6.1.6.2.5 |
| NFType | 3GPP TS 29.510 | See clause 6.1.6.3.3 |
| UdrInfo | 3GPP TS 29.510 | See clause 6.1.6.2.6 |
| UdmInfo | 3GPP TS 29.510 | See clause 6.1.6.2.7 |
| AusfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.8 |
| SupiRange | 3GPP TS 29.510 | See clause 6.1.6.2.9 |
| AmfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.11 |
| SmfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.12 |
| UpfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.13 |
| PcfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.20 |
| BsfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.21 |
| ChfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.32 |
| NFServiceVersion | 3GPP TS 29.510 | See clause 6.1.6.2.19 |
| PlmnSnssai | 3GPP TS 29.510 | See clause 6.1.6.2.44 |
| NwdafInfo | 3GPP TS 29.510 | See clause 6.1.6.2.45 |
| NFStatus | 3GPP TS 29.510 | See clause 6.1.6.3.7 |
| DataSetId | 3GPP TS 29.510 | See clause 6.1.6.3.8 |
| ServiceName | 3GPP TS 29.510 | See clause 6.1.6.3.11 |
| NFServiceStatus | 3GPP TS 29.510 | See clause 6.1.6.3.12 |
| LmfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.46 |
| GmlcInfo | 3GPP TS 29.510 | See clause 6.1.6.2.47 |
| NefInfo | 3GPP TS 29.510 | See clause 6.1.6.2.48 |
| PfdData | 3GPP TS 29.510 | See clause 6.1.6.2.49 |
| AfEventExposureData | 3GPP TS 29.510 | See clause 6.1.6.2.50 |
| PcscfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.53 |
| HssInfo | 3GPP TS 29.510 | See clause 6.1.6.2.57 |
| ImsiRange | 3GPP TS 29.510 | See clause 6.1.6.2.58 |
| VendorSpecificFeature | 3GPP TS 29.510 | See clause 6.1.6.2.62 |
| ScpInfo | 3GPP TS 29.510 | See clause 6.1.6.2.65 |
| NefId | 3GPP TS 29.510 | See clause 6.1.6.3 |
| VendorId | 3GPP TS 29.510 | See clause 6.1.6.3 |
| AnNodeType | 3GPP TS 29.510 | See clause 6.1.6.3.13 |
| SuciInfo | 3GPP TS 29.510 | See clause 6.1.6.2.71 |
| SeppInfo | 3GPP TS 29.510 | See clause 6.1.6.2.72 |
| NsacfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.81 |
| NsacfCapability | 3GPP TS 29.510 | See clause 6.1.6.2.82 |
| MbSmfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.85 |
| TsctsfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.91 |
| MbUpfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.94 |
| TrustAfInfo | 3GPP TS 29.510 | See clause 6.1.6.2.96 |
| CollocatedNfInstance | 3GPP TS 29.510 | See clause 6.1.6.2.99 |
| NssaafInfo | 3GPP TS 29.510 | See clause 6.1.6.2.104 |

\* \* \* Next Change \* \* \* \*

#### 6.3.5.1 General

This clause specifies the application data model supported by the API.

Table 6.3.5.1-1 specifies the data types defined for the OAuth 2.0 Authorization Service API. The AccessTokenReq data structure shall be converted to the content type "application/x-www-form-urlencoded" when the OAuth 2.0 Access Token Request is invoked.

Table 6.3.5.1-1: OAuth 2.0 Authorization service specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| AccessTokenReq | 6.3.5.2.2 | Contains information related to the access token request. |
| AccessTokenRsp | 6.3.5.2.3 | Contains information related to the access token response. |
| AccessTokenClaims | 6.3.5.2.4 | The claims data structure for the access token. |
| AccessTokenErr | 6.3.5.2.5 | Contains error information returned in the access token response. |
| Audience | 6.3.5.4.1 | Contains the audience claim of the access token. |

Table 6.3.5.1-2 specifies data types re-used by the OAuth 2.0 Authorization service from other specifications, including a reference to their respective specifications and when needed, a short description of their use.

Table 6.3.5.1-2: OAuth 2.0 Authorization service re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| NfInstanceId | 3GPP TS 29.571 [7] |  |
| PlmnId | 3GPP TS 29.571 [7] | PLMN ID |
| NFType | 3GPP TS 29.510 | See clause 6.1.6.3.3 |
| Snssai | 3GPP TS 29.571 [7] |  |
| NfSetId | 3GPP TS 29.571 [7] | NF Set ID (see clause 28.12 of 3GPP TS 23.003 [12]) |
| Uri | 3GPP TS 29.571 [7] |  |
| RedirectResponse | 3GPP TS 29.571 [7] | Response body of the redirect response message. |
| Fqdn | 3GPP TS 29.571 [7] | Fully Qualified Domain Name |

\* \* \* Next Change \* \* \* \*

## A.2 Nnrf\_NFManagement API

*(... text not shown for clarity ...)*

NFProfile:

description: Information of an NF Instance registered in the NRF

type: object

required:

- nfInstanceId

- nfType

- nfStatus

anyOf:

- required: [ fqdn ]

- required: [ ipv4Addresses ]

- required: [ ipv6Addresses ]

properties:

nfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

nfInstanceName:

type: string

nfType:

$ref: '#/components/schemas/NFType'

nfStatus:

$ref: '#/components/schemas/NFStatus'

collocatedNfInstances:

type: array

items:

$ref: '#/components/schemas/CollocatedNfInstance'

minimum: 1

heartBeatTimer:

type: integer

minimum: 1

plmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

snpnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

sNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

perPlmnSnssaiList:

type: array

items:

$ref: '#/components/schemas/PlmnSnssai'

minItems: 1

nsiList:

type: array

items:

type: string

minItems: 1

fqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

interPlmnFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

ipv4Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

allowedPlmns:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

allowedSnpns:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

allowedNfTypes:

type: array

items:

$ref: '#/components/schemas/NFType'

minItems: 1

allowedNfDomains:

type: array

items:

type: string

minItems: 1

allowedNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

priority:

type: integer

minimum: 0

maximum: 65535

capacity:

type: integer

minimum: 0

maximum: 65535

load:

type: integer

minimum: 0

maximum: 100

loadTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

locality:

type: string

udrInfo:

$ref: '#/components/schemas/UdrInfo'

udrInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdrInfo

type: object

additionalProperties:

$ref: '#/components/schemas/UdrInfo'

minProperties: 1

udmInfo:

$ref: '#/components/schemas/UdmInfo'

udmInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdmInfo

type: object

additionalProperties:

$ref: '#/components/schemas/UdmInfo'

minProperties: 1

ausfInfo:

$ref: '#/components/schemas/AusfInfo'

ausfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of AusfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/AusfInfo'

minProperties: 1

amfInfo:

$ref: '#/components/schemas/AmfInfo'

amfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of AmfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/AmfInfo'

minProperties: 1

smfInfo:

$ref: '#/components/schemas/SmfInfo'

smfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of SmfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/SmfInfo'

minProperties: 1

upfInfo:

$ref: '#/components/schemas/UpfInfo'

upfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UpfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/UpfInfo'

minProperties: 1

pcfInfo:

$ref: '#/components/schemas/PcfInfo'

pcfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of PcfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/PcfInfo'

minProperties: 1

bsfInfo:

$ref: '#/components/schemas/BsfInfo'

bsfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of BsfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/BsfInfo'

minProperties: 1

chfInfo:

$ref: '#/components/schemas/ChfInfo'

chfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of ChfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/ChfInfo'

minProperties: 1

nefInfo:

$ref: '#/components/schemas/NefInfo'

nrfInfo:

$ref: '#/components/schemas/NrfInfo'

udsfInfo:

$ref: '#/components/schemas/UdsfInfo'

udsfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdsfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/UdsfInfo'

minProperties: 1

nwdafInfo:

$ref: '#/components/schemas/NwdafInfo'

nwdafInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/NwdafInfo'

minProperties: 1

pcscfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of PcscfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/PcscfInfo'

minProperties: 1

hssInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of HssInfo

type: object

additionalProperties:

$ref: '#/components/schemas/HssInfo'

minProperties: 1

customInfo:

type: object

recoveryTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

nfServicePersistence:

type: boolean

default: false

nfServices:

deprecated: true

type: array

items:

$ref: '#/components/schemas/NFService'

minItems: 1

nfServiceList:

description: A map (list of key-value pairs) where serviceInstanceId serves as key of NFService

type: object

additionalProperties:

$ref: '#/components/schemas/NFService'

minProperties: 1

nfProfileChangesSupportInd:

type: boolean

default: false

writeOnly: true

nfProfileChangesInd:

type: boolean

default: false

readOnly: true

defaultNotificationSubscriptions:

type: array

items:

$ref: '#/components/schemas/DefaultNotificationSubscription'

lmfInfo:

$ref: '#/components/schemas/LmfInfo'

gmlcInfo:

$ref: '#/components/schemas/GmlcInfo'

nfSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.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:

description: A map (list of key-value pairs) where NfSetId serves as key of DateTime

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

minProperties: 1

serviceSetRecoveryTimeList:

description: A map (list of key-value pairs) where NfServiceSetId serves as key of DateTime

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

minProperties: 1

scpDomains:

type: array

items:

type: string

minItems: 1

scpInfo:

$ref: '#/components/schemas/ScpInfo'

seppInfo:

$ref: '#/components/schemas/SeppInfo'

vendorId:

$ref: '#/components/schemas/VendorId'

supportedVendorSpecificFeatures:

description: the key of the map is the IANA-assigned SMI Network Management Private Enterprise Codes

type: object

additionalProperties:

type: array

items:

$ref: '#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

aanfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/AanfInfo'

minProperties: 1

5gDdnmfInfo:

$ref: '#/components/schemas/5GDdnmfInfo'

mfafInfo:

$ref: '#/components/schemas/MfafInfo'

easdfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/EasdfInfo'

minProperties: 1

dccfInfo:

$ref: '#/components/schemas/DccfInfo'

nsacfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of nsacfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/NsacfInfo'

minProperties: 1

mbSmfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of MbSmfInfo

type: object

additionalProperties:

$ref: '#/components/schemas/MbSmfInfo'

minProperties: 1

tsctsfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/TsctsfInfo'

minProperties: 1

mbUpfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/MbUpfInfo'

minProperties: 1

trustAfInfo:

$ref: '#/components/schemas/TrustAfInfo'

nssaafInfo:

$ref: '#/components/schemas/NssaafInfo'

hniList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

minItems: 1

NFService:

description: Information of a given NF Service Instance; it is part of the NFProfile of an NF Instance

type: object

required:

- serviceInstanceId

- serviceName

- versions

- scheme

- nfServiceStatus

properties:

serviceInstanceId:

type: string

serviceName:

$ref: '#/components/schemas/ServiceName'

versions:

type: array

items:

$ref: '#/components/schemas/NFServiceVersion'

minItems: 1

scheme:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UriScheme'

nfServiceStatus:

$ref: '#/components/schemas/NFServiceStatus'

fqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

interPlmnFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

ipEndPoints:

type: array

items:

$ref: '#/components/schemas/IpEndPoint'

minItems: 1

apiPrefix:

type: string

defaultNotificationSubscriptions:

type: array

items:

$ref: '#/components/schemas/DefaultNotificationSubscription'

minItems: 1

allowedPlmns:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

allowedSnpns:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

allowedNfTypes:

type: array

items:

$ref: '#/components/schemas/NFType'

minItems: 1

allowedNfDomains:

type: array

items:

type: string

minItems: 1

allowedNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

allowedOperationsPerNfType:

description: A map (list of key-value pairs) where NF Type serves as key

type: object

additionalProperties:

type: array

items:

type: string

minItems: 1

minProperties: 1

allowedOperationsPerNfInstance:

description: A map (list of key-value pairs) where NF Instance Id serves as key

type: object

additionalProperties:

type: array

items:

type: string

minItems: 1

minProperties: 1

priority:

type: integer

minimum: 0

maximum: 65535

capacity:

type: integer

minimum: 0

maximum: 65535

load:

type: integer

minimum: 0

maximum: 100

loadTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

recoveryTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

nfServiceSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfServiceSetId'

minItems: 1

sNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

perPlmnSnssaiList:

type: array

items:

$ref: '#/components/schemas/PlmnSnssai'

minItems: 1

vendorId:

$ref: '#/components/schemas/VendorId'

supportedVendorSpecificFeatures:

description: A map (list of key-value pairs) where IANA-assigned SMI Network Management Private Enterprise Codes serves as key

type: object

additionalProperties:

type: array

items:

$ref: '#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

oauth2Required:

type: boolean

perPlmnOauth2ReqList:

$ref: '#/components/schemas/PlmnOauth2'

NFType:

description: NF types known to NRF

anyOf:

- type: string

enum:

- NRF

- UDM

- AMF

- SMF

- AUSF

- NEF

- PCF

- SMSF

- NSSF

- UDR

- LMF

- GMLC

- 5G\_EIR

- SEPP

- UPF

- N3IWF

- AF

- UDSF

- BSF

- CHF

- NWDAF

- PCSCF

- CBCF

- HSS

- UCMF

- SOR\_AF

- SPAF

- MME

- SCSAS

- SCEF

- SCP

- NSSAAF

- ICSCF

- SCSCF

- DRA

- IMS\_AS

- AANF

- 5G\_DDNMF

- NSACF

- MFAF

- EASDF

- DCCF

- MB-SMF

- TSCTSF

- ADRF

- GBA\_BSF

- CEF

- MB-UPF

- NSWOF

- type: string

NefId:

description: Identity of the NEF

type: string

IpEndPoint:

description: IP addressing information of a given NFService; it consists on, e.g. IP address, TCP port, transport protocol...

type: object

properties:

ipv4Address:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

ipv6Address:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

transport:

$ref: '#/components/schemas/TransportProtocol'

port:

type: integer

minimum: 0

maximum: 65535

SubscriptionData:

description: Information of a subscription to notifications to NRF events, included in subscription requests and responses

type: object

required:

- nfStatusNotificationUri

- subscriptionId

properties:

nfStatusNotificationUri:

type: string

reqNfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

subscrCond:

$ref: '#/components/schemas/SubscrCond'

subscriptionId:

type: string

pattern: '^([0-9]{5,6}-)?[^-]+$'

readOnly: true

validityTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

reqNotifEvents:

type: array

items:

$ref: '#/components/schemas/NotificationEventType'

minItems: 1

plmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

nid:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Nid'

notifCondition:

$ref: '#/components/schemas/NotifCondition'

reqNfType:

$ref: '#/components/schemas/NFType'

reqNfFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

reqSnssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

reqPerPlmnSnssais:

type: array

items:

$ref: '#/components/schemas/PlmnSnssai'

minItems: 1

reqPlmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

reqSnpnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

servingScope:

type: array

items:

type: string

minItems: 1

requesterFeatures:

writeOnly: true

allOf:

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

nrfSupportedFeatures:

readOnly: true

allOf:

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

hnrfUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

onboardingCapability:

type: boolean

default: false

targetHni:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

SubscrCond:

oneOf:

- $ref: '#/components/schemas/NfInstanceIdCond'

- $ref: '#/components/schemas/NfInstanceIdListCond'

- $ref: '#/components/schemas/NfTypeCond'

- $ref: '#/components/schemas/ServiceNameCond'

- $ref: '#/components/schemas/ServiceNameListCond'

- $ref: '#/components/schemas/AmfCond'

- $ref: '#/components/schemas/GuamiListCond'

- $ref: '#/components/schemas/NetworkSliceCond'

- $ref: '#/components/schemas/NfGroupCond'

- $ref: '#/components/schemas/NfGroupListCond'

- $ref: '#/components/schemas/NfSetCond'

- $ref: '#/components/schemas/NfServiceSetCond'

- $ref: '#/components/schemas/UpfCond'

- $ref: '#/components/schemas/ScpDomainCond'

- $ref: '#/components/schemas/NwdafCond'

- $ref: '#/components/schemas/NefCond'

- $ref: '#/components/schemas/DccfCond'

NfInstanceIdCond:

description: Subscription to a given NF Instance Id

type: object

required:

- nfInstanceId

properties:

nfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

NfInstanceIdListCond:

description: Subscription to a list of NF Instances

type: object

required:

- nfInstanceIdList

properties:

nfInstanceIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

minItems: 1

NfTypeCond:

description: Subscription to a set of NFs based on their NF Type

type: object

required:

- nfType

not:

required: [ nfGroupId ]

properties:

nfType:

$ref: '#/components/schemas/NFType'

ServiceNameCond:

description: Subscription to a set of NFs based on their support for a given Service Name

type: object

required:

- serviceName

properties:

serviceName:

$ref: '#/components/schemas/ServiceName'

ServiceNameListCond:

description: Subscription to a set of NFs based on their support for a Service Name in the Servic Name list

type: object

required:

- conditionType

- serviceNameList

properties:

conditionType:

type: string

enum: [ SERVICE\_NAME\_LIST\_COND ]

serviceNameList:

type: array

items:

$ref: '#/components/schemas/ServiceName'

minItems: 1

AmfCond:

description: Subscription to a set of AMFs, based on AMF Set Id and/or AMF Region Id

type: object

anyOf:

- required: [ amfSetId ]

- required: [ amfRegionId ]

properties:

amfSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfSetId'

amfRegionId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfRegionId'

GuamiListCond:

description: Subscription to a set of AMFs, based on their GUAMIs

type: object

required:

- guamiList

properties:

guamiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Guami'

NetworkSliceCond:

description: Subscription to a set of NFs, based on the slices (S-NSSAI and NSI) they support

type: object

required:

- snssaiList

properties:

snssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

nsiList:

type: array

items:

type: string

NfGroupCond:

description: Subscription to a set of NFs based on their Group Id

type: object

required:

- nfType

- nfGroupId

properties:

nfType:

type: string

enum:

- UDM

- AUSF

- UDR

- PCF

- CHF

- HSS

nfGroupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

NfGroupListCond:

description: Subscription to a set of NFs based on their Group Ids

type: object

required:

- conditionType

- nfType

- nfGroupIdList

properties:

conditionType:

type: string

enum: [ NF\_GROUP\_LIST\_COND ]

nfType:

type: string

enum:

- UDM

- AUSF

- UDR

- PCF

- CHF

- HSS

nfGroupIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

minItems: 1

NotifCondition:

description: Condition (list of attributes in the NF Profile) to determine whether a notification must be sent by NRF

type: object

not:

required: [ monitoredAttributes, unmonitoredAttributes ]

properties:

monitoredAttributes:

type: array

items:

type: string

minItems: 1

unmonitoredAttributes:

type: array

items:

type: string

minItems: 1

UdrInfo:

description: Information of an UDR NF Instance

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

externalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

supportedDataSets:

type: array

items:

$ref: '#/components/schemas/DataSetId'

minItems: 1

sharedDataIdRanges:

type: array

items:

$ref: '#/components/schemas/SharedDataIdRange'

minItems: 1

SharedDataIdRange:

description: A range of SharedDataIds based on regular-expression matching

type: object

properties:

pattern:

type: string

SupiRange:

description: A range of SUPIs (subscriber identities), either based on a numeric range, or based on regular-expression matching

type: object

properties:

start:

type: string

pattern: '^[0-9]+$'

end:

type: string

pattern: '^[0-9]+$'

pattern:

type: string

IdentityRange:

description: A range of GPSIs (subscriber identities), either based on a numeric range, or based on regular-expression matching

type: object

properties:

start:

type: string

pattern: '^[0-9]+$'

end:

type: string

pattern: '^[0-9]+$'

pattern:

type: string

InternalGroupIdRange:

description: A range of Group IDs (internal group identities), either based on a numeric range, or based on regular-expression matching

type: object

properties:

start:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/GroupId'

end:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/GroupId'

pattern:

type: string

DataSetId:

description: Types of data sets and subsets stored in UDR

anyOf:

- type: string

enum:

- SUBSCRIPTION

- POLICY

- EXPOSURE

- APPLICATION

- A\_PFD

- A\_AFTI

- A\_IPTV

- A\_BDT

- A\_SPD

- A\_EASD

- A\_AMI

- A\_TSD

- P\_UE

- P\_SCD

- P\_BDT

- P\_PLMNUE

- P NSSCD

- type: string

UdmInfo:

description: Information of an UDM NF Instance

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

externalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

routingIndicators:

type: array

items:

type: string

pattern: '^[0-9]{1,4}$'

minItems: 1

internalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/InternalGroupIdRange'

minItems: 1

suciInfos:

type: array

items:

$ref: '#/components/schemas/SuciInfo'

minItems: 1

AusfInfo:

description: Information of an AUSF NF Instance

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

routingIndicators:

type: array

items:

type: string

pattern: '^[0-9]{1,4}$'

minItems: 1

suciInfos:

type: array

items:

$ref: '#/components/schemas/SuciInfo'

minItems: 1

AmfInfo:

description: Information of an AMF NF Instance

type: object

required:

- amfSetId

- amfRegionId

- guamiList

properties:

amfSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfSetId'

amfRegionId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfRegionId'

guamiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Guami'

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

backupInfoAmfFailure:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Guami'

minItems: 1

backupInfoAmfRemoval:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Guami'

minItems: 1

n2InterfaceAmfInfo:

$ref: '#/components/schemas/N2InterfaceAmfInfo'

amfOnboardingCapability:

type: boolean

default: false

SmfInfo:

description: Information of an SMF NF Instance

type: object

required:

- sNssaiSmfInfoList

properties:

sNssaiSmfInfoList:

type: array

items:

$ref: '#/components/schemas/SnssaiSmfInfoItem'

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

pgwFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

pgwIpAddrList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

minItems: 1

accessType:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

minItems: 1

priority:

type: integer

minimum: 0

maximum: 65535

vsmfSupportInd:

type: boolean

default: false

pgwFqdnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

minItems: 1

smfOnboardingCapability:

type: boolean

default: false

SnssaiSmfInfoItem:

description: Set of parameters supported by SMF for a given S-NSSAI

type: object

required:

- sNssai

- dnnSmfInfoList

properties:

sNssai:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

dnnSmfInfoList:

type: array

items:

$ref: '#/components/schemas/DnnSmfInfoItem'

minItems: 1

DnnSmfInfoItem:

description: Set of parameters supported by SMF for a given DNN

type: object

required:

- dnn

properties:

dnn:

anyOf:

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/WildcardDnn'

dnaiList:

type: array

items:

anyOf:

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

- $ref: '#/components/schemas/WildcardDnai'

minItems: 1

UpfInfo:

description: Information of an UPF NF Instance

type: object

required:

- sNssaiUpfInfoList

properties:

sNssaiUpfInfoList:

type: array

items:

$ref: '#/components/schemas/SnssaiUpfInfoItem'

minItems: 1

smfServingArea:

type: array

items:

type: string

minItems: 1

interfaceUpfInfoList:

type: array

items:

$ref: '#/components/schemas/InterfaceUpfInfoItem'

minItems: 1

iwkEpsInd:

type: boolean

default: false

pduSessionTypes:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSessionType'

minItems: 1

atsssCapability:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AtsssCapability'

ueIpAddrInd:

type: boolean

default: false

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

wAgfInfo:

$ref: '#/components/schemas/WAgfInfo'

tngfInfo:

$ref: '#/components/schemas/TngfInfo'

twifInfo:

$ref: '#/components/schemas/TwifInfo'

priority:

type: integer

minimum: 0

maximum: 65535

redundantGtpu:

type: boolean

default: false

ipups:

type: boolean

default: false

dataForwarding:

type: boolean

default: false

supportedPfcpFeatures:

type: string

SnssaiUpfInfoItem:

description: Set of parameters supported by UPF for a given S-NSSAI

type: object

required:

- sNssai

- dnnUpfInfoList

properties:

sNssai:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

dnnUpfInfoList:

type: array

items:

$ref: '#/components/schemas/DnnUpfInfoItem'

minItems: 1

redundantTransport:

type: boolean

default: false

DnnUpfInfoItem:

description: Set of parameters supported by UPF for a given DNN

type: object

required:

- dnn

properties:

dnn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

dnaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

minItems: 1

pduSessionTypes:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSessionType'

minItems: 1

ipv4AddressRanges:

type: array

items:

$ref: '#/components/schemas/Ipv4AddressRange'

minItems: 1

ipv6PrefixRanges:

type: array

items:

$ref: '#/components/schemas/Ipv6PrefixRange'

minItems: 1

dnaiNwInstanceList:

description: Map of network instance per DNAI for the DNN, where the key of the map is the DNAI. When present, the value of each entry of the map shall contain a N6 network instance that is configured for the DNAI indicated by the key.

type: object

additionalProperties:

type: string

minProperties: 1

InterfaceUpfInfoItem:

description: Information of a given IP interface of an UPF

type: object

required:

- interfaceType

properties:

interfaceType:

$ref: '#/components/schemas/UPInterfaceType'

ipv4EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

endpointFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

networkInstance:

type: string

UPInterfaceType:

description: Types of User-Plane interfaces of the UPF

anyOf:

- type: string

enum:

- N3

- N6

- N9

- DATA\_FORWARDING

- N3MB

- N6MB

- N19MB

- NMB9

- type: string

WAgfInfo:

description: Information of the W-AGF end-points

type: object

properties:

ipv4EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

endpointFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

TngfInfo:

description: Infomation of the TNGF endpoints

type: object

properties:

ipv4EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

endpointFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

PcfInfo:

description: Information of a PCF NF Instance

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

dnnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

minItems: 1

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

rxDiamHost:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

rxDiamRealm:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

v2xSupportInd:

type: boolean

default: false

proseSupportInd:

type: boolean

default: false

proseCapability:

$ref: '#/components/schemas/ProSeCapability'

v2xCapability:

$ref: '#/components/schemas/V2xCapability'

BsfInfo:

description: Information of a BSF NF Instance

type: object

properties:

dnnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

minItems: 1

ipDomainList:

type: array

items:

type: string

minItems: 1

ipv4AddressRanges:

type: array

items:

$ref: '#/components/schemas/Ipv4AddressRange'

minItems: 1

ipv6PrefixRanges:

type: array

items:

$ref: '#/components/schemas/Ipv6PrefixRange'

minItems: 1

rxDiamHost:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

rxDiamRealm:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DiameterIdentity'

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

ChfInfo:

description: Information of a CHF NF Instance

type: object

not:

required: [ primaryChfInstance, secondaryChfInstance ]

properties:

supiRangeList:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

gpsiRangeList:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

plmnRangeList:

type: array

items:

$ref: '#/components/schemas/PlmnRange'

minItems: 1

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

primaryChfInstance:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

secondaryChfInstance:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

Ipv4AddressRange:

description: Range of IPv4 addresses

type: object

properties:

start:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

end:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

Ipv6PrefixRange:

description: Range of IPv6 prefixes

type: object

properties:

start:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

end:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

DefaultNotificationSubscription:

description: Data structure for specifying the notifications the NF service subscribes by default along with callback URI

type: object

required:

- notificationType

- callbackUri

properties:

notificationType:

$ref: '#/components/schemas/NotificationType'

callbackUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

n1MessageClass:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N1MessageClass'

n2InformationClass:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N2InformationClass'

versions:

type: array

items:

type: string

minItems: 1

binding:

type: string

acceptedEncoding:

type: string

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

NfSetCond:

description: Subscription to a set of NFs based on their Set Id

type: object

required:

- nfSetId

properties:

nfSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

NfServiceSetCond:

description: Subscription to a set of NFs based on their Service Set Id

type: object

required:

- nfServiceSetId

properties:

nfServiceSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfServiceSetId'

nfSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

UpfCond:

description: Subscription to a set of NF Instances (UPFs), able to serve a certain service area (i.e. SMF serving area or TAI list)

type: object

required:

- conditionType

properties:

conditionType:

type: string

enum: [ UPF\_COND ]

smfServingArea:

type: array

items:

type: string

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

NwdafCond:

description: Subscription to a set of NF Instances (NWDAFs), identified by Analytics ID(s), S-NSSAI(s) or NWDAF Serving Area information, i.e. list of TAIs for which the NWDAF can provide analytics.

type: object

required:

- conditionType

properties:

conditionType:

type: string

enum: [ NWDAF\_COND ]

analyticsIds:

type: array

items:

type: string

minItems: 1

snssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

servingNfTypeList:

type: array

items:

$ref: '#/components/schemas/NFType'

minItems: 1

servingNfSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

minItems: 1

mlAnalyticsList:

type: array

items:

$ref: '#/components/schemas/MlAnalyticsInfo'

minItems: 1

NefCond:

description: Subscription to a set of NF Instances (NEFs), identified by Event ID(s) provided by AF, S-NSSAI(s), AF Instance ID, Application Identifier, External Identifier, External Group Identifier, or domain name.

type: object

required:

- conditionType

properties:

conditionType:

type: string

enum: [ NEF\_COND ]

afEvents:

type: array

items:

$ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/AfEvent'

minItems: 1

snssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

pfdData:

$ref: '#/components/schemas/PfdData'

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

externalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

servedFqdnList:

type: array

items:

type: string

minItems: 1

NotificationType:

description: Types of notifications used in Default Notification URIs in the NF Profile of an NF Instance

anyOf:

- type: string

enum:

- N1\_MESSAGES

- N2\_INFORMATION

- LOCATION\_NOTIFICATION

- DATA\_REMOVAL\_NOTIFICATION

- DATA\_CHANGE\_NOTIFICATION

- LOCATION\_UPDATE\_NOTIFICATION

- NSSAA\_REAUTH\_NOTIFICATION

- NSSAA\_REVOC\_NOTIFICATION

- MATCH\_INFO\_NOTIFICATION

- DATA\_RESTORATION\_NOTIFICATION

- type: string

TransportProtocol:

description: Types of transport protocol used in a given IP endpoint of an NF Service Instance

anyOf:

- type: string

enum:

- TCP

- type: string

NotificationEventType:

description: Types of events sent in notifications from NRF to subscribed NF Instances

anyOf:

- type: string

enum:

- NF\_REGISTERED

- NF\_DEREGISTERED

- NF\_PROFILE\_CHANGED

- type: string

NotificationData:

description: Data sent in notifications from NRF to subscribed NF Instances

type: object

required:

- event

- nfInstanceUri

allOf:

#

# Condition: If 'event' takes value 'NF\_PROFILE\_CHANGED',

# then either 'nfProfile' or 'profileChanges' (but not both) must be present

#

- anyOf:

- not:

properties:

event:

type: string

enum:

- NF\_PROFILE\_CHANGED

- oneOf:

- required: [ nfProfile ]

- required: [ profileChanges ]

#

# Condition: If 'event' takes value 'NF\_REGISTERED',

# then 'nfProfile' must be present

#

- anyOf:

- not:

properties:

event:

type: string

enum:

- NF\_REGISTERED

- required: [ nfProfile ]

properties:

event:

$ref: '#/components/schemas/NotificationEventType'

nfInstanceUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

nfProfile:

allOf:

- $ref: '#/components/schemas/NFProfile'

- not:

required: [ interPlmnFqdn ]

- not:

required: [ allowedPlmns ]

- not:

required: [ allowedSnpns ]

- not:

required: [ allowedNfTypes ]

- not:

required: [ allowedNfDomains ]

- not:

required: [ allowedNssais ]

- properties:

nfServices:

type: array

items:

allOf:

- $ref: '#/components/schemas/NFService'

- not:

required: [ interPlmnFqdn ]

- not:

required: [ allowedPlmns ]

- not:

required: [ allowedSnpns ]

- not:

required: [ allowedNfTypes ]

- not:

required: [ allowedNfDomains ]

- not:

required: [ allowedNssais ]

profileChanges:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ChangeItem'

minItems: 1

conditionEvent:

$ref: '#/components/schemas/ConditionEventType'

subscriptionContext:

$ref: '#/components/schemas/SubscriptionContext'

NFStatus:

description: Status of a given NF Instance stored in NRF

anyOf:

- type: string

enum:

- REGISTERED

- SUSPENDED

- UNDISCOVERABLE

- type: string

NFServiceVersion:

description: Contains the version details of an NF service

type: object

required:

- apiVersionInUri

- apiFullVersion

properties:

apiVersionInUri:

type: string

apiFullVersion:

type: string

expiry:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

ServiceName:

description: Service names known to NRF

anyOf:

- type: string

enum:

- nnrf-nfm

- nnrf-disc

- nnrf-oauth2

- nudm-sdm

- nudm-uecm

- nudm-ueau

- nudm-ee

- nudm-pp

- nudm-niddau

- nudm-mt

- nudm-ssau

- namf-comm

- namf-evts

- namf-mt

- namf-loc

- namf-mbs-comm

- namf-mbs-bc

- nsmf-pdusession

- nsmf-event-exposure

- nsmf-nidd

- nausf-auth

- nausf-sorprotection

- nausf-upuprotection

- nnef-pfdmanagement

- nnef-smcontext

- nnef-eventexposure

- nnef-eas-deployment-info

- 3gpp-cp-parameter-provisioning

- 3gpp-device-triggering

- 3gpp-bdt

- 3gpp-traffic-influence

- 3gpp-chargeable-party

- 3gpp-as-session-with-qos

- 3gpp-msisdn-less-mo-sms

- 3gpp-service-parameter

- 3gpp-monitoring-event

- 3gpp-nidd-configuration-trigger

- 3gpp-nidd

- 3gpp-analyticsexposure

- 3gpp-racs-parameter-provisioning

- 3gpp-ecr-control

- 3gpp-applying-bdt-policy

- 3gpp-mo-lcs-notify

- 3gpp-time-sync

- 3gpp-am-influence

- 3gpp-am-policyauthorization

- 3gpp-akma

- 3gpp-eas-deployment

- 3gpp-iptvconfiguration

- 3gpp-mbs-tmgi

- 3gpp-mbs-session

- 3gpp-authentication

- npcf-am-policy-control

- npcf-smpolicycontrol

- npcf-policyauthorization

- npcf-bdtpolicycontrol

- npcf-eventexposure

- npcf-ue-policy-control

- npcf-am-policyauthorization

- nsmsf-sms

- nnssf-nsselection

- nnssf-nssaiavailability

- nudr-dr

- nudr-group-id-map

- nlmf-loc

- n5g-eir-eic

- nbsf-management

- nchf-spendinglimitcontrol

- nchf-convergedcharging

- nchf-offlineonlycharging

- nnwdaf-eventssubscription

- nnwdaf-analyticsinfo

- nnwdaf-datamanagement

- nnwdaf-mlmodelprovision

- ngmlc-loc

- nucmf-provisioning

- nucmf-uecapabilitymanagement

- nhss-sdm

- nhss-uecm

- nhss-ueau

- nhss-ee

- nhss-ims-sdm

- nhss-ims-uecm

- nhss-ims-ueau

- nhss-gba-sdm

- nhss-gba-ueau

- nsepp-telescopic

- nsoraf-sor

- nspaf-secured-packet

- nudsf-dr

- nudsf-timer

- nnssaaf-nssaa

- nnssaaf-aiw

- naanf-akma

- n5gddnmf-discovery

- nmfaf-3dadm

- nmfaf-3cadm

- neasdf-dnscontext

- neasdf-baselinednspattern

- ndccf-dm

- ndccf-cm

- nnsacf-nsac

- nnsacf-slice-ee

- nmbsmf-tmgi

- nmbsmf-mbssession

- nadrf-dm

- nbsp-gba

- ntsctsf-time-sync

- ntsctsf-qos-tscai

- type: string

N2InterfaceAmfInfo:

description: AMF N2 interface information

type: object

properties:

ipv4EndpointAddress:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6EndpointAddress:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

amfName:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfName'

NFServiceStatus:

description: Status of a given NF Service Instance of an NF Instance stored in NRF

anyOf:

- type: string

enum:

- REGISTERED

- SUSPENDED

- UNDISCOVERABLE

- type: string

TaiRange:

description: Range of TAIs (Tracking Area Identities)

type: object

required:

- plmnId

- tacRangeList

properties:

plmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

tacRangeList:

type: array

items:

$ref: '#/components/schemas/TacRange'

minItems: 1

nid:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Nid'

TacRange:

description: Range of TACs (Tracking Area Codes)

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

PlmnRange:

description: Range of PLMN IDs

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:

description: Information of an NRF NF Instance, used in hierarchical NRF deployments

type: object

properties:

servedUdrInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdrInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedUdrInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdrInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedUdmInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdmInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedUdmInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdmInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedAusfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/AusfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedAusfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/AusfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedAmfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/AmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedAmfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/AmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedSmfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/SmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedSmfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/SmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedUpfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UpfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedUpfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UpfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedPcfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/PcfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedPcfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/PcfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedBsfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/BsfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedBsfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/BsfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedChfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/ChfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedChfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/ChfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedNefInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/NefInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedNwdafInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/NwdafInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedNwdafInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/NwdafInfo'

minProperties: 1

minProperties: 1

servedPcscfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/PcscfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedGmlcInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/GmlcInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedLmfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/LmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedNfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

$ref: '#/components/schemas/NfInfo'

minProperties: 1

servedHssInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/HssInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedUdsfInfo:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdsfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedUdsfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/UdsfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedScpInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/ScpInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedSeppInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/SeppInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

servedAanfInfoList:

description: A map (list of key-value pairs) where NF Instance Id serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/AanfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

served5gDdnmfInfo:

type: object

additionalProperties:

$ref: '#/components/schemas/5GDdnmfInfo'

minProperties: 1

servedMfafInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

$ref: '#/components/schemas/MfafInfo'

minProperties: 1

servedEasdfInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/EasdfInfo'

minProperties: 1

servedDccfInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

$ref: '#/components/schemas/DccfInfo'

minProperties: 1

servedMbSmfInfoList:

description: A map (list of key-value pairs) where nfInstanceId serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where a valid JSON string serves as key

type: object

additionalProperties:

anyOf:

- $ref: '#/components/schemas/MbSmfInfo'

- $ref: 'TS29571\_CommonData.yaml#/components/schemas/EmptyObject'

minProperties: 1

minProperties: 1

servedTsctsfInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/TsctsfInfo'

minProperties: 1

minProperties: 1

servedMbUpfInfoList:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: '#/components/schemas/MbUpfInfo'

minProperties: 1

minProperties: 1

servedTrustAfInfo:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

$ref: '#/components/schemas/TrustAfInfo'

minProperties: 1

servedNssaafInfo:

type: object

description: A map (list of key-value pairs) where NF Instance Id serves as key

additionalProperties:

$ref: '#/components/schemas/NssaafInfo'

minProperties: 1

PlmnSnssai:

description: List of network slices (S-NSSAIs) for a given PLMN ID

type: object

required:

- plmnId

- sNssaiList

properties:

plmnId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

sNssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

nid:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Nid'

NefInfo:

description: Information of an NEF NF Instance

type: object

properties:

nefId:

$ref: '#/components/schemas/NefId'

pfdData:

$ref: '#/components/schemas/PfdData'

afEeData:

$ref: '#/components/schemas/AfEventExposureData'

gpsiRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

externalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

servedFqdnList:

type: array

items:

type: string

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

dnaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

minItems: 1

unTrustAfInfoList:

type: array

items:

$ref: '#/components/schemas/UnTrustAfInfo'

minItems: 1

uasNfFunctionalityInd:

type: boolean

default: false

PfdData:

description: List of Application IDs and/or AF IDs managed by a given NEF Instance

type: object

properties:

appIds:

type: array

items:

type: string

minItems: 1

afIds:

type: array

items:

type: string

minItems: 1

NwdafInfo:

description: Information of a NWDAF NF Instance

type: object

properties:

eventIds:

type: array

items:

$ref: 'TS29520\_Nnwdaf\_AnalyticsInfo.yaml#/components/schemas/EventId'

minItems: 1

nwdafEvents:

type: array

items:

$ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/NwdafEvent'

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

nwdafCapability:

$ref: '#/components/schemas/NwdafCapability'

analyticsDelay:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

servingNfSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

minItems: 1

servingNfTypeList:

type: array

items:

$ref: '#/components/schemas/NFType'

minItems: 1

mlAnalyticsList:

type: array

items:

$ref: '#/components/schemas/MlAnalyticsInfo'

minItems: 1

LmfInfo:

description: Information of an LMF NF Instance

type: object

properties:

servingClientTypes:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/ExternalClientType'

minItems: 1

lmfId:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/LMFIdentification'

servingAccessTypes:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

minItems: 1

servingAnNodeTypes:

type: array

items:

$ref: '#/components/schemas/AnNodeType'

minItems: 1

servingRatTypes:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

minItems: 1

taiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

taiRangeList:

type: array

items:

$ref: '#/components/schemas/TaiRange'

minItems: 1

supportedGADShapes:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/SupportedGADShapes'

minItems: 1

GmlcInfo:

description: Information of a GMLC NF Instance

type: object

properties:

servingClientTypes:

type: array

items:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/ExternalClientType'

minItems: 1

gmlcNumbers:

type: array

items:

type: string

pattern: '^[0-9]{5,15}$'

minItems: 1

AfEventExposureData:

description: AF Event Exposure data managed by a given NEF Instance

type: object

required:

- afEvents

properties:

afEvents:

type: array

items:

$ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/AfEvent'

minItems: 1

afIds:

type: array

items:

type: string

minItems: 1

appIds:

type: array

items:

type: string

minItems: 1

PcscfInfo:

description: Information of a P-CSCF NF Instance

type: object

properties:

accessType:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AccessType'

minItems: 1

dnnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

minItems: 1

gmFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

gmIpv4Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

gmIpv6Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

mwFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

mwIpv4Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

mwIpv6Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

servedIpv4AddressRanges:

type: array

items:

$ref: '#/components/schemas/Ipv4AddressRange'

minItems: 1

servedIpv6PrefixRanges:

type: array

items:

$ref: '#/components/schemas/Ipv6PrefixRange'

minItems: 1

NfInfo:

description: Information of a generic NF Instance

type: object

properties:

nfType:

$ref: '#/components/schemas/NFType'

HssInfo:

description: Information of an HSS NF Instance

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

imsiRanges:

type: array

items:

$ref: '#/components/schemas/ImsiRange'

minItems: 1

imsPrivateIdentityRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

imsPublicIdentityRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

msisdnRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

externalGroupIdentifiersRanges:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

ImsiRange:

description: A range of IMSIs (subscriber identities), either based on a numeric range, or based on regular-expression matching

type: object

properties:

start:

type: string

pattern: '^[0-9]+$'

end:

type: string

pattern: '^[0-9]+$'

pattern:

type: string

TwifInfo:

description: Addressing information (IP addresses, FQDN) of the TWIF

type: object

properties:

ipv4EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6EndpointAddresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

endpointFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

VendorId:

description: Vendor ID of the NF Service instance (Private Enterprise Number assigned by IANA)

type: string

pattern: '^[0-9]{6}$'

VendorSpecificFeature:

description: Information about a vendor-specific feature

type: object

required:

- featureName

- featureVersion

properties:

featureName:

type: string

featureVersion:

type: string

AnNodeType:

description: Access Network Node Type (gNB, ng-eNB...)

anyOf:

- type: string

enum:

- GNB

- NG\_ENB

- type: string

UdsfInfo:

description: Information related to UDSF

type: object

properties:

groupId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

supiRanges:

type: array

items:

$ref: '#/components/schemas/SupiRange'

minItems: 1

storageIdRanges:

description: A map (list of key-value pairs) where realmId serves as key and each value in the map is an array of IdentityRanges. Each IdentityRange is a range of storageIds.

type: object

additionalProperties:

type: array

items:

$ref: '#/components/schemas/IdentityRange'

minItems: 1

minProperties: 1

ScpInfo:

description: Information of an SCP Instance

type: object

properties:

scpDomainInfoList:

description: A map (list of key-value pairs) where the key of the map shall be the string identifying an SCP domain

type: object

additionalProperties:

$ref: '#/components/schemas/ScpDomainInfo'

minProperties: 1

scpPrefix:

type: string

scpPorts:

description: Port numbers for HTTP and HTTPS. The key of the map shall be "http" or "https"

type: object

additionalProperties:

type: integer

minimum: 0

maximum: 65535

minProperties: 1

addressDomains:

type: array

items:

type: string

minItems: 1

ipv4Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6Prefixes:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

minItems: 1

ipv4AddrRanges:

type: array

items:

$ref: '#/components/schemas/Ipv4AddressRange'

minItems: 1

ipv6PrefixRanges:

type: array

items:

$ref: '#/components/schemas/Ipv6PrefixRange'

minItems: 1

servedNfSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

minItems: 1

remotePlmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

ipReachability:

$ref: '#/components/schemas/IpReachability'

scpCapabilities:

type: array

items:

$ref: '#/components/schemas/ScpCapability'

ScpDomainInfo:

description: SCP Domain specific information

type: object

properties:

scpFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

scpIpEndPoints:

type: array

items:

$ref: '#/components/schemas/IpEndPoint'

minItems: 1

scpPrefix:

type: string

scpPorts:

description: Port numbers for HTTP and HTTPS. The key of the map shall be "http" or "https"

type: object

additionalProperties:

type: integer

minimum: 0

maximum: 65535

minProperties: 1

*(... text not shown for clarity ...)*

\* \* \* Next Change \* \* \* \*

## A.3 Nnrf\_NFDiscovery API

*(... text not shown for clarity ...)*

- name: requester-nf-instance-fqdn

in: query

description: FQDN of the requester NF

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

- name: target-plmn-list

in: query

description: Id of the PLMN of either the target NF, or in SNPN scenario the Credentials Holder in the PLMN

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 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:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

- name: target-nf-instance-id

in: query

description: Identity of the NF instance being discovered

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

- name: target-nf-fqdn

in: query

description: FQDN of the NF instance being discovered

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

- name: hnrf-uri

in: query

description: Uri of the home NRF

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

- name: snssais

in: query

description: Slice info of the target NF

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

- name: requester-snssais

in: query

description: Slice info of the requester NF

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

- name: plmn-specific-snssai-list

in: query

description: PLMN specific Slice info of the target NF

content:

application/json:

schema:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PlmnSnssai'

minItems: 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:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PlmnSnssai'

minItems: 1

- name: dnn

in: query

description: Dnn supported by the BSF, SMF or UPF

schema:

$ref: '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

minItems: 1

style: form

explode: false

- name: smf-serving-area

in: query

schema:

type: string

- name: mbsmf-serving-area

in: query

schema:

type: string

- name: tai

in: query

description: Tracking Area Identity

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

- name: amf-region-id

in: query

description: AMF Region Identity

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfRegionId'

- name: amf-set-id

in: query

description: AMF Set Identity

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AmfSetId'

- name: guami

in: query

description: Guami used to search for an appropriate AMF

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Guami'

- name: supi

in: query

description: SUPI of the user

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

- name: ue-ipv4-address

in: query

description: IPv4 address of the UE

schema:

$ref: '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:

$ref: '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: preferred-pgw-ind

in: query

description: Indicates combined PGW-C+SMF or standalone SMF are preferred

schema:

type: boolean

- name: pgw

in: query

description: PGW FQDN of a combined PGW-C and SMF

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

- name: pgw-ip

in: query

description: PGW IP Address of a combined PGW-C and SMF

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

- name: gpsi

in: query

description: GPSI of the user

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

- name: external-group-identity

in: query

description: external group identifier of the user

schema:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/ExtGroupId'

- name: internal-group-identity

in: query

description: internal group identifier of the user

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/GroupId'

- name: pfd-data

in: query

description: PFD data

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PfdData'

- name: data-set

in: query

description: data set supported by the NF

schema:

$ref: '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:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfGroupId'

minItems: 1

style: form

explode: false

- name: dnai-list

in: query

description: Data network access identifiers of the NFs being discovered

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnai'

minItems: 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:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PduSessionType'

minItems: 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:

$ref: 'TS29520\_Nnwdaf\_AnalyticsInfo.yaml#/components/schemas/EventId'

minItems: 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:

$ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/NwdafEvent'

minItems: 1

style: form

explode: false

- name: supported-features

in: query

description: Features required to be supported by the target NF

schema:

$ref: '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:

$ref: '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:

$ref: '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

- name: required-features

in: query

description: Features required to be supported by the target NF

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

minItems: 1

style: form

explode: false

- name: complex-query

in: query

description: the complex query condition expression

content:

application/json:

schema:

$ref: '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

in: query

description: ATSSS Capability

content:

application/json:

schema:

$ref: '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:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/ExternalClientType'

- name: lmf-id

in: query

description: LMF identification to be discovered

content:

application/json:

schema:

$ref: '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:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AnNodeType'

- name: rat-type

in: query

description: Requested RAT type served by the NF

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/RatType'

- name: preferred-tai

in: query

description: preferred Tracking Area Identity

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

- name: preferred-nf-instances

in: query

description: preferred NF Instances

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

minItems: 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, or the Credentials Holder in the SNPN

content:

application/json:

schema:

$ref: '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:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

- name: af-ee-data

in: query

description: NEF exposured by the AF

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AfEventExposureData'

- name: w-agf-info

in: query

description: UPF collocated with W-AGF

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/WAgfInfo'

- name: tngf-info

in: query

description: UPF collocated with TNGF

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/TngfInfo'

- name: twif-info

in: query

description: UPF collocated with TWIF

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/TwifInfo'

- name: target-nf-set-id

in: query

description: Target NF Set ID

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

- name: target-nf-service-set-id

in: query

description: Target NF Service Set ID

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfServiceSetId'

- name: nef-id

in: query

description: NEF ID

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NefId'

- name: notification-type

in: query

description: Notification Type

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NotificationType'

- name: n1-msg-class

in: query

description: N1 Message Class

schema:

$ref: 'TS29518\_Namf\_Communication.yaml#/components/schemas/N1MessageClass'

- name: n2-info-class

in: query

description: N2 Information Class

schema:

$ref: '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

minItems: 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

pattern: '^[0-9]{5,15}$'

- 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:

description: A map (list of key-value pairs) where ServiceName serves as key

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: redundant-transport

in: query

description: UPF supports redundant transport path 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 or SEPP belongs to

schema:

type: array

items:

type: string

minItems: 1

style: form

explode: false

- name: address-domain

in: query

description: Address domain reachable through the SCP

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

- name: ipv4-addr

in: query

description: IPv4 address reachable through the SCP

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

- name: ipv6-prefix

in: query

description: IPv6 prefix reachable through the SCP

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

- name: served-nf-set-id

in: query

description: NF Set ID served by the SCP

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

- name: remote-plmn-id

in: query

description: Id of the PLMN reachable through the SCP or SEPP

content:

application/json:

schema:

$ref: '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:

$ref: '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: V-SMF capability supported by the target NF instance(s)

schema:

type: boolean

- name: nrf-disc-uri

in: query

description: Uri of the NRF holding the NF profile of a target NF Instance

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

- name: preferred-vendor-specific-features

in: query

description: Preferred vendor specific features of the services to be discovered

content:

application/json:

schema:

description: A map (list of key-value pairs) where ServiceName serves as key

type: object

additionalProperties:

description: A map (list of key-value pairs) where IANA-assigned SMI Network Management Private Enterprise Codes serves as key

type: object

additionalProperties:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

minProperties: 1

- name: preferred-vendor-specific-nf-features

in: query

description: Preferred vendor specific features of the network function to be discovered

content:

application/json:

schema:

description: A map (list of key-value pairs) where IANA-assigned SMI Network Management Private Enterprise Codes serves as key

type: object

additionalProperties:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

- name: required-pfcp-features

in: query

description: PFCP features required to be supported by the target UPF

schema:

type: string

- name: home-pub-key-id

in: query

description: Indicates the Home Network Public Key ID which shall be able to be served by the NF instance

schema:

type: integer

- name: prose-support-ind

in: query

description: PCF supports ProSe Capability

schema:

type: boolean

- name: analytics-aggregation-ind

in: query

description: analytics aggregation is supported by NWDAF or not

schema:

type: boolean

- name: serving-nf-set-id

in: query

description: NF Set Id served by target NF

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

- name: serving-nf-type

in: query

description: NF type served by the target NF

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'

- name: ml-analytics-id-list

in: query

description: Analytics Id(s) of Nnwdaf\_MLModelProvision service

content:

application/json:

schema:

type: array

items:

$ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/NwdafEvent'

minItems: 1

- name: analytics-metadata-prov-ind

in: query

description: analytics matadata provisioning is supported by NWDAF or not

schema:

type: boolean

- name: nsacf-capability

in: query

description: the service capability supported by the target NSACF

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NsacfCapability'

- name: mbs-session-id-list

in: query

description: List of MBS Session ID(s)

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MbsSessionId'

minItems: 1

- name: area-session-id

in: query

description: Area Session ID

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/AreaSessionId'

- name: gmlc-number

in: query

description: The GMLC Number supported by the GMLC

schema:

type: string

pattern: '^[0-9]{5,15}$'

- name: upf-n6-ip

in: query

description: N6 IP address of PSA UPF supported by the EASDF

content:

application/json:

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/IpAddr'

- name: tai-list

in: query

description: Tracking Area Identifiers of the NFs being discovered

content:

application/json:

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

minItems: 1

- name: preferences-precedence

in: query

description: Indicating the precedence of the preference query parameters (from higher to lower).

content:

application/json:

schema:

type: array

items:

type: string

minItems: 2

- name: support-onboarding-capability

in: query

description: Indicating the support for onboarding.

schema:

type: boolean

default: false

- name: uas-nf-functionality-ind

in: query

description: UAS NF functionality is supported by NEF or not

schema:

type: boolean

- name: v2x-capability

in: query

description: indicates the V2X capability that the target PCF needs to support.

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/V2xCapability'

- name: prose-capability

in: query

description: indicates the ProSe capability that the target PCF needs to support.

content:

application/json:

schema:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/ProSeCapability'

- name: shared-data-id

in: query

description: Identifier of shared data stored in the NF being discovered

schema:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/SharedDataId'

- name: target-hni

in: query

description: Home Network Identifier query.

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

$ref: '#/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: Content-Encoding, described in IETF RFC 7231

schema:

type: string

'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

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: '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

/scp-domain-routing-info:

get:

operationId: SCPDomainRoutingInfoGet

tags:

- SCP Domain Routing Information (Document)

security:

- {}

- oAuth2ClientCredentials:

- nnrf-disc

- oAuth2ClientCredentials:

- nnrf-disc

- nnrf-disc:scp-domain:read

parameters:

- name: local

in: query

description: Indication of local SCP Domain Routing Information

required: false

schema:

type: boolean

default: false

- name: Accept-Encoding

in: header

description: Accept-Encoding, described in IETF RFC 7231

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

$ref: '#/components/schemas/ScpDomainRoutingInformation'

headers:

Content-Encoding:

description: Content-Encoding, described in IETF RFC 7231

schema:

type: string

'307':

description: Temporary Redirect

headers:

Location:

description: 'The URI pointing to the resource located on the redirect target NRF'

required: true

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/scp-domain-routing-info-subs:

post:

summary: Create a new subscription

operationId: ScpDomainRoutingInfoSubscribe

tags:

- SCP Domain Routing Information Subscriptions (Collection)

security:

- {}

- oAuth2ClientCredentials:

- nnrf-disc

- oAuth2ClientCredentials:

- nnrf-disc

- nnrf-disc:scp-domain-subs:write

parameters:

- name: Content-Encoding

in: header

description: Content-Encoding, described in IETF RFC 7231

schema:

type: string

- name: Accept-Encoding

in: header

description: Accept-Encoding, described in IETF RFC 7231

schema:

type: string

requestBody:

content:

application/json:

schema:

$ref: '#/components/schemas/ScpDomainRoutingInfoSubscription'

required: true

responses:

'201':

description: Expected response to a valid request

content:

application/json:

schema:

$ref: '#/components/schemas/ScpDomainRoutingInfoSubscription'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nnrf-disc/v1/scp-domain-routing-info-subs/{subscriptionID}'

required: true

schema:

type: string

Accept-Encoding:

description: Accept-Encoding, described in IETF RFC 7694

schema:

type: string

Content-Encoding:

description: Content-Encoding, described in IETF RFC 7231

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

onScpDomainRoutingInformationChange:

'{$request.body#/callbackUri}':

post:

parameters:

- name: Content-Encoding

in: header

description: Content-Encoding, described in IETF RFC 7231

schema:

type: string

requestBody:

description: Notification Payload

content:

application/json:

schema:

$ref: '#/components/schemas/ScpDomainRoutingInfoNotification'

responses:

'204':

description: Expected response to a successful callback processing

headers:

Accept-Encoding:

description: Accept-Encoding, described in IETF RFC 7694

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/scp-domain-routing-info-subs/{subscriptionID}:

delete:

summary: Deletes a subscription

operationId: ScpDomainRoutingInfoUnsubscribe

tags:

- Individual SCP Domain Routing Information Subscription (Document)

security:

- {}

- oAuth2ClientCredentials:

- nnrf-disc

- oAuth2ClientCredentials:

- nnrf-disc

- nnrf-disc:scp-domain-subs-id:write

parameters:

- name: subscriptionID

in: path

required: true

description: Unique ID of the subscription to remove

schema:

type: string

responses:

'204':

description: Expected response to a successful subscription removal

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '/oauth2/token'

scopes:

nnrf-disc: Access to the Nnrf\_NFDiscovery API

nnrf-disc:scp-domain:read: Access to read the scp-domain-routing-info resource

nnrf-disc:scp-domain-subs:write: Access to create/delete a scp-domain subscription resource

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:

$ref: '#/components/schemas/NFProfile'

searchId:

type: string

numNfInstComplete:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

preferredSearch:

$ref: '#/components/schemas/PreferredSearch'

nrfSupportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

nfInstanceList:

description: List of matching NF instances. The key of the map is the NF instance ID.

type: object

additionalProperties:

$ref: '#/components/schemas/NfInstanceInfo'

minProperties: 1

alteredPriorityInd:

type: boolean

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:

$ref: '#/components/schemas/NFProfile'

NFProfile:

description: Information of an NF Instance discovered by the NRF

type: object

required:

- nfInstanceId

- nfType

- nfStatus

properties:

nfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

nfInstanceName:

type: string

nfType:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'

nfStatus:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFStatus'

collocatedNfInstances:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/CollocatedNfInstance'

minimum: 1

plmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

sNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

perPlmnSnssaiList:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PlmnSnssai'

minItems: 1

nsiList:

type: array

items:

type: string

minItems: 1

fqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

interPlmnFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

ipv4Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

ipv6Addresses:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

capacity:

type: integer

minimum: 0

maximum: 65535

load:

type: integer

minimum: 0

maximum: 100

loadTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

locality:

type: string

priority:

type: integer

minimum: 0

maximum: 65535

udrInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdrInfo'

udrInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdrInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdrInfo'

minProperties: 1

udmInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdmInfo'

udmInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdmInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdmInfo'

minProperties: 1

ausfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AusfInfo'

ausfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of AusfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AusfInfo'

minProperties: 1

amfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AmfInfo'

amfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of AmfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AmfInfo'

minProperties: 1

smfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/SmfInfo'

smfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of SmfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/SmfInfo'

minProperties: 1

upfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UpfInfo'

upfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UpfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UpfInfo'

minProperties: 1

pcfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PcfInfo'

pcfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of PcfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PcfInfo'

minProperties: 1

bsfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/BsfInfo'

bsfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of BsfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/BsfInfo'

minProperties: 1

chfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/ChfInfo'

chfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of ChfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/ChfInfo'

minProperties: 1

udsfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdsfInfo'

udsfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of UdsfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/UdsfInfo'

minProperties: 1

nwdafInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NwdafInfo'

nwdafInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NwdafInfo'

minProperties: 1

nefInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NefInfo'

pcscfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of PcscfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PcscfInfo'

minProperties: 1

hssInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of HssInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/HssInfo'

minProperties: 1

customInfo:

type: object

recoveryTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

nfServicePersistence:

type: boolean

default: false

nfServices:

deprecated: true

type: array

items:

$ref: '#/components/schemas/NFService'

minItems: 1

nfServiceList:

description: A map (list of key-value pairs) where serviceInstanceId serves as key of NFService

type: object

additionalProperties:

$ref: '#/components/schemas/NFService'

minProperties: 1

defaultNotificationSubscriptions:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/DefaultNotificationSubscription'

lmfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/LmfInfo'

gmlcInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/GmlcInfo'

snpnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

nfSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.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:

description: A map (list of key-value pairs) where NfSetId serves as key of DateTime

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

minProperties: 1

serviceSetRecoveryTimeList:

description: A map (list of key-value pairs) where NfServiceSetId serves as key of DateTime

type: object

additionalProperties:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

minProperties: 1

scpDomains:

type: array

items:

type: string

minItems: 1

scpInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/ScpInfo'

seppInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/SeppInfo'

vendorId:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorId'

supportedVendorSpecificFeatures:

description: the key of the map is the IANA-assigned SMI Network Management Private Enterprise Codes

type: object

additionalProperties:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

aanfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/AanfInfo'

minProperties: 1

mfafInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/MfafInfo'

easdfInfoList:

type: object

description: A map(list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/EasdfInfo'

minProperties: 1

dccfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/DccfInfo'

nsacfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of nsacfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NsacfInfo'

minProperties: 1

mbSmfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of MbSmfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/MbSmfInfo'

minProperties: 1

tsctsfInfoList:

type: object

description: A map (list of key-value pairs) where a valid JSON string serves as key

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/TsctsfInfo'

minProperties: 1

mbUpfInfoList:

description: A map (list of key-value pairs) where a (unique) valid JSON string serves as key of MbUpfInfo

type: object

additionalProperties:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/MbUpfInfo'

minProperties: 1

trustAfInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/TrustAfInfo'

nssaafInfo:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NssaafInfo'

hniList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

minItems: 1

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:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/ServiceName'

versions:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFServiceVersion'

minItems: 1

scheme:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UriScheme'

nfServiceStatus:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFServiceStatus'

fqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

interPlmnFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

ipEndPoints:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/IpEndPoint'

minItems: 1

apiPrefix:

type: string

defaultNotificationSubscriptions:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/DefaultNotificationSubscription'

minItems: 1

capacity:

type: integer

minimum: 0

maximum: 65535

load:

type: integer

minimum: 0

maximum: 100

loadTimeStamp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

priority:

type: integer

minimum: 0

maximum: 65535

recoveryTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

nfServiceSetIdList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfServiceSetId'

minItems: 1

sNssais:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/ExtSnssai'

minItems: 1

perPlmnSnssaiList:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/PlmnSnssai'

minItems: 1

vendorId:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorId'

supportedVendorSpecificFeatures:

description: the key of the map is the IANA-assigned SMI Network Management Private Enterprise Codes

type: object

additionalProperties:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/VendorSpecificFeature'

minItems: 1

minProperties: 1

oauth2Required:

type: boolean

allowedOperationsPerNfType:

description: A map (list of key-value pairs) where NF Type serves as key

type: object

additionalProperties:

type: array

items:

type: string

minItems: 1

minProperties: 1

allowedOperationsPerNfInstance:

description: A map (list of key-value pairs) where NF Instance Id serves as key

type: object

additionalProperties:

type: array

items:

type: string

minItems: 1

minProperties: 1

*(... text not shown for clarity ...)*

\* \* \* Next Change \* \* \* \*

## A.4 Nnrf\_AccessToken API (NRF OAuth2 Authorization)

*(... text not shown for clarity ...)*

schemas:

AccessTokenReq:

description: Contains information related to the access token request

type: object

required:

- grant\_type

- nfInstanceId

- scope

properties:

grant\_type:

type: string

enum:

- client\_credentials

nfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

nfType:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'

targetNfType:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NFType'

scope:

type: string

pattern: '^([a-zA-Z0-9\_:-]+)( [a-zA-Z0-9\_:-]+)\*$'

targetNfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

requesterPlmn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

requesterPlmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 2

requesterSnssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

requesterFqdn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Fqdn'

requesterSnpnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnIdNid'

minItems: 1

targetPlmn:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

targetSnssaiList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

minItems: 1

targetNsiList:

type: array

items:

type: string

minItems: 1

targetNfSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

targetNfServiceSetId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfServiceSetId'

hnrfAccessTokenUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

sourceNfInstanceId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

*(... text not shown for clarity ...)*

\* \* \* End of Changes \* \* \* \*