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Usage of the Unified Data Repository Service for Policy Data,
Application Data and Structured Data for Exposure;
Stage 3
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1 Scope

The present specification provides the stage 3 definition for the usage of the Unified Data Repository service (Nudr_DataRepository) of 5G System for Policy Data, Application Data and Structured Data for Exposure.

The Unified Data Repository (UDR) provides the Unified Data Repository service. This service provides a repository for policy data, application data and exposure data.

The stage 3 protocol definition for Nudr Service Based Interface which is common for subscription data, policy data, application data and exposure data is specified in 3GPP TS 29.504 [6].

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- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] Void.
- [3] OpenAPI: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.
- [4] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".
- [5] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".
- [6] 3GPP TS 29.504: "5G System; Unified Data Repository Services; Stage 3".
- [7] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces Stage 3".
- [8] 3GPP TS 29.551: "5G System; Packet Flow Description Management Service; Stage 3".
- [9] 3GPP TS 29.122: "T8 reference point for Northbound APIs".
- [10] 3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".
- [11] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".
- [12] 3GPP TS 29.512: "5G System; Session Management Policy Control Service; Stage 3".
- [13] 3GPP TS 29.554: "5G System; Background Data Transfer Policy Control Service; Stage 3".
- [14] Void.
- [15] 3GPP TS 29.505: "5G System; Usage of the Unified Data Repository services for Subscription Data; Stage 3".
- [16] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".
- [17] IETF RFC 4122: "A Universally Unique Identifier (UUID) URN Namespace".
- [18] 3GPP TR 21.900: "Technical Specification Group working methods".
- [19] 3GPP TS 29.522: "5G System; Network Exposure Function Northbound APIs; Stage 3".

- [20] IETF RFC 6901: "JavaScript Object Notation (JSON) Pointer".
- [21] IETF RFC 9110: "HTTP Semantics".
- [22] 3GPP TS 29.534: "5G System; Access and Mobility Policy Authorization Service; Stage 3".
- [23] 3GPP TS 29.591: "5G System; Network Exposure Function Southbound Services; Stage 3".
- [24] 3GPP TS 29.510: "Network Function Repository Services; Stage 3".
- [25] 3GPP TS 29.543: "5G System; Data Transfer Policy Control Services; Stage 3".
- [26] 3GPP TS 32.421: "Telecommunication management; Subscriber and equipment trace; Trace concepts and requirements".
- [27] 3GPP TS 29.565: "5G System; Time Sensitive Communication and Time Synchronization Function Services; Stage 3".
- [28] 3GPP TS 29.594: "5G System; Spending Limit Control Service; Stage 3".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

A2X	Aircraft-to-Everything
AM	Access and Mobility Management
ATSSS	Access Traffic Steering, Switching, Splitting
BDT	Background Data Transfer
DNAI	DN Access Identifier
DNN	Data Network Name
EAS	Edge Application Server
ECS	Edge Configuration Server
GPSI	Generic Public Subscription Identifier
JSON	JavaScript Object Notation
MA	Multi Access
NEF	Network Exposure Function
NR	New Radio
NRF	Network Repository Function
PCF	Policy Control Function
PDTQ	Planned Data Transfer with QoS requirements
PF	Packet Flow Description
PSA	PDU Session Anchor
SFC	Service Function Chain
SM	Session Management
S-NSSAI	Single Network Slice Selection Assistance Information
SUPI	Subscription Permanent Identifier
TNAP	Trusted Network Access Point
UDR	Unified Data Repository
UPF	User Plane Function
UPSI	UE Policy Section Identifier

4 Overview

The resources, data model and usage defined in the present document are used by the 5GC NFs (e.g. PCF, NEF) to access the policy data, application data or exposure data via the Unified Data Repository services as specified in 3GPP TS 29.504 [6].

5 Usage of Nudr_DataRepository Service API for Policy Data

5.1 Introduction

The following clauses specify the usage of Nudr_DataRepository service for policy data. The principles specified in 3GPP TS 29.504 [6] are followed unless explicitly specified otherwise in the following clauses.

5.2 Resources

5.2.1 Overview

This clause specifies the resources for the usage of the Unified Data Repository service for Policy Data.

5.2.2 Resource Structure

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 5.2.2-1 depicts the resource URIs structure for the Nudr_DataRepository API for policy data.

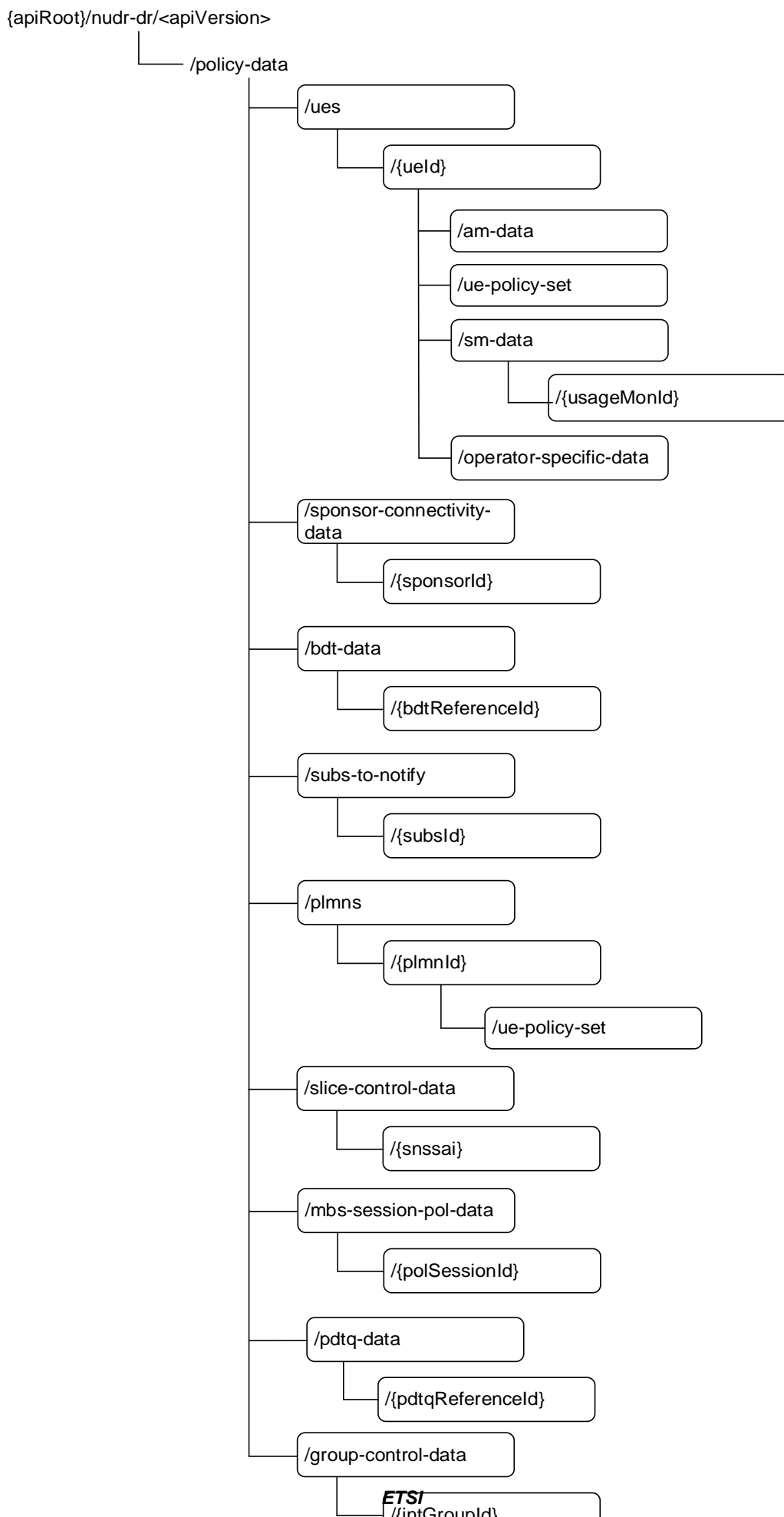


Figure 5.2.2-1: Resource URI structure of the Nudr_DataRepository API for policy data

Table 5.2.2-1 provides an overview of the resources and applicable HTTP methods.

Table 5.2.2-1: Resources and methods overview

Resource name	Resource URI	HTTP method or custom operation	Description
PolicyDataForIndividualUe	/policy-data/ues/{ueId}	GET	Retrieve multiple policy data sets (access and mobility policy data, UE policy set data, session management policy data, usage monitoring data, operator specific policy data) for a subscriber.
AccessAndMobilityPolicyData	/policy-data/ues/{ueId}/am-data	GET	Retrieve the access and mobility policy data for a subscriber.
UEPolicySet	/policy-data/ues/{ueId}/ue-policy-set	GET	Retrieve the UE policy set data for a subscriber.
		PUT	Create or modify the UE policy set data for a subscriber.
		PATCH	Modify the UE policy set data for a subscriber.
SessionManagementPolicyData	/policy-data/ues/{ueId}/sm-data	GET	Retrieve the session management policy data for a subscriber.
		PATCH	When the feature "SessionManagementPolicyDataPatch" is supported, modify the session management policy data for a subscriber.
UsageMonitoringInformation	/policy-data/ues/{ueId}/sm-data/{usageMonId}	GET	Retrieve a usage monitoring resource.
		PUT	Create a usage monitoring resource.
		DELETE	Delete a usage monitoring resource.
OperatorSpecificData	/policy-data/ues/{ueId}/operator-specific-data	GET	Retrieve the operator specific policy data of a UE
		PATCH	Modify the operator specific policy data of a UE.
		PUT	Create or modify the operator specific policy data of a UE.
		DELETE	Delete the operator specific policy data for a UE.
SponsorConnectivityData	/policy-data/sponsor-connectivity-data/{sponsorId}	GET	Retrieve the sponsored connectivity information for a given sponsorId.
BdtData	/policy-data/bdt-data	GET	Retrieve the BDT data collection.
IndividualBdtData	/policy-data/bdt-data/{bdtReferenceId}	GET	Retrieve the BDT data information associated with a BDT reference Id.
		PUT	Create a BDT data resource associated with a BDT reference Id.
		PATCH	Modifies an BDT data resource associated with an BDT reference Id.
		DELETE	Delete a BDT data resource associated with a BDT reference Id.
PolicyDataSubscriptions	/policy-data/subs-to-notify	GET	Retrieve Individual Policy Data Subscriptions from the Policy Data Subscriptions collection.
		POST	Create a subscription to receive notifications of policy data changes.
IndividualPolicyDataSubscription	/policy-data/subs-to-notify/{subsId}	GET	Retrieve a subscription identified by {subsId}.

		PUT	Modify a subscription to receive notifications of policy data changes.
		DELETE	Delete a subscription identified by {subId}.
PlmnUePolicySet	/policy-data/plmns/{plmnId}/ue-policy-set	GET	Retrieve the UE policy set data for an H-PLMN.
SlicePolicyControlData	/policy-data/slice-control-data/{snssai}	GET	Retrieve network slice specific policy control data for a given S-NSSAI.
		PATCH	Modify network slice specific policy control data for a given S-NSSAI.
MBSSessionPolicyControlData	/policy-data/mbs-session-pol-data/{polSessionId}	GET	Retrieve MBS Session Policy Control Data for an MBS Session based on the MBS Session Identifier or an AF Application Identifier.
PdtqData	/policy-data/pdtq-data	GET	Retrieve the PDTQ data collection.
IndividualPdtqData	/policy-data/pdtq-data/{pdtqReferenceId}	GET	Retrieve the PDTQ data information associated with a PDTQ reference Id.
		PUT	Create a PDTQ data resource associated with a PDTQ reference Id.
		PATCH	Modifies a PDTQ data resource associated with an PDTQ reference Id.
		DELETE	Delete a PDTQ data resource associated with a PDTQ reference Id.
GroupPolicyControlData	/policy-data/group-control-data/{intGroupId}	GET	Retrieve group specific policy control data for a 5G VN group.
		PATCH	Modify group specific policy control data for a 5G VN group.

5.2.3 Resource: AccessAndMobilityPolicyData

5.2.3.1 Description

The resource represents all UE related mobility and access policies attributes in the UDR for a given "ueId".

5.2.3.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/am-data

This resource shall support the resource URI variables defined in table 5.2.3.2-1.

Table 5.2.3.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

5.2.3.3 Resource Standard Methods

5.2.3.3.1 GET

This method shall support the URI query parameters specified in table 5.2.3.3.1-1.

Table 5.2.3.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.3.3.1-2 and the response data structures and response codes specified in table 5.2.3.3.1-3.

Table 5.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AmPolicyData	M	1	200 OK	Upon success, a response body containing access and mobility policies shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.4 Resource: UEPolicySet

5.2.4.1 Description

The resource represents UE policy set for a given "ueId" stored in the UDR of the H-PLMN.

5.2.4.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/ue-policy-set

This resource shall support the resource URI variables defined in table 5.2.4.2-1.

Table 5.2.4.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

5.2.4.3 Resource Standard Methods

5.2.4.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.4.3.1-1.

Table 5.2.4.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.4.3.1-2 and the response data structures and response codes specified in table 5.2.4.3.1-3.

Table 5.2.4.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
UePolicySet	M	1	Create or modify the UE policy set resource for a given subscriber.

Table 5.2.4.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UePolicySet	M	1	201 Created	Successful case. The resource has been successfully created and a response body containing a representation of the created UePolicySet resource shall be returned.
UePolicySet	M	1	200 OK	Successful case. The resource has been successfully updated and a response body containing UE policies shall be returned.
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 5.2.4.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/ue-policy-set

5.2.4.3.2 PATCH

This method shall support the URI query parameters specified in table 5.2.4.3.2-1.

Table 5.2.4.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.4.3.2-2 and the response data structures and response codes specified in table 5.2.4.3.2-3.

Table 5.2.4.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
UePolicySetPatch	M	1	Modify the UE policy set resource for a given subscriber.

Table 5.2.4.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.4.3.3 GET

This method shall support the URI query parameters specified in table 5.2.4.3.3-1.

Table 5.2.4.3.3-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.4.3.3-2 and the response data structures and response codes specified in table 5.2.4.3.3-3.

Table 5.2.4.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.4.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UePolicySet	M	1	200 OK	Upon success, a response body containing the UE policies shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.5 Resource: SessionManagementPolicyData

5.2.5.1 Description

The resource represents all PDU session related subscription attributes in the UDR for a given ueId.

5.2.5.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/sm-data**

This resource shall support the resource URI variables defined in table 5.2.5.2-1.

Table 5.2.5.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

5.2.5.3 Resource Standard Methods

5.2.5.3.1 GET

This method shall support the URI query parameters specified in table 5.2.5.3.1-1.

Table 5.2.5.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
snsai	Snsai	O	0..1	Identifies a Single Network Slice Selection Assistance Information.
dnn	Dnn	O	0..1	Identifies a Data Network Name.
fields	array(string)	C	1..N	When the NF consumer only retrieves a subset of the resource, the "fields" query parameter shall be included. The "fields" query parameter contains the pointers of the attribute(s) to be retrieved.
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.

When an optional query parameter is not included, the UDR shall return session management policy data per DNN matching the value of the included query parameter(s) for all the possible values of the omitted query parameter. E.g. if "snsai" is not included, and "dnn" is included, UDR shall return the session management policy data per DNN for the DNN identified by "dnn" for all network slices where such DNN is available.

This method shall support the request data structures specified in table 5.2.5.3.1-2 and the response data structures and response codes specified in table 5.2.5.3.1-3.

Table 5.2.5.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.5.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SmPolicyData	M	1	200 OK	Upon success, a response body containing SmPolicyData shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

NOTE: This release supports that only one PCF can access to the UDR to retrieve the SM Policy Data under one S-NSSAI and DNN association.

5.2.5.3.2 PATCH

This method shall support the URI query parameters specified in table 5.2.5.3.2-1.

Table 5.2.5.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description

This method shall support the request data structures specified in table 5.2.5.3.2-2 and the response data structures and response codes specified in table 5.2.5.3.2-3.

Table 5.2.5.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
SmPolicyDataPatch	M	1	When the "SessionManagementPolicyDataPatch" feature is supported, it requests the modification of the session management policy data for a subscriber.

Table 5.2.5.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message. (NOTE 2)(NOTE 3)
SmPolicyData	M	1	200 OK	Upon success, the execution report is returned. (NOTE 2)(NOTE 3)
NOTE 1: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: If all the modification instructions in the PATCH request have been implemented, the UDR shall respond with 204 No Content response; if some of the modification instructions in the PATCH request have been discarded, and the NF service consumer supported the "PatchReport" feature, the UDR shall respond with SmPolicyData.				
NOTE 3: When the resource is successfully updated, if the SmPolicyDataPatch in the request requires the creation, removal, or update of an entry of the "umData" attribute, the UDR shall create, remove or update the corresponding UsageMonitoringInformation resource for the indicated limit identifier.				

5.2.6 Resource: UsageMonitoringInformation

5.2.6.1 Description

The resource represents an individual usage monitoring resource created in the UDR and associated with a ueId and a usageMonId.

5.2.6.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/sm-data/{usageMonId}

This resource shall support the resource URI variables defined in table 5.2.6.2-1.

Table 5.2.6.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].
usageMonId	string	Unique identifier of the individual SM Policy usage monitoring resource. It contains the identity of the corresponding limit as defined in the "limitId" attribute of the UsageMonDataLimit data type (see clause 5.4.2.6).

5.2.6.3 Resource Standard Methods

5.2.6.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.6.3.1-1.

Table 5.2.6.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.6.3.1-2 and the response data structures and response codes specified in table 5.2.6.3.1-3.

Table 5.2.6.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
UsageMonData	M	1	Create the usage monitoring resource.

Table 5.2.6.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UsageMonData	M	1	201 Created	Successful case. The resource has been successfully created and a response body is returned containing a representation of the resource. (NOTE 2)
NOTE 1: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: When the resource is successfully created, the UDR shall create a new entry within the "umData" attribute of the SessionManagementPolicyData resource for the corresponding "limitId" accordingly.				

Table 5.2.6.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/sm-data/{usageMonId}

5.2.6.3.2 DELETE

This method shall support the URI query parameters specified in table 5.2.6.3.2-1.

Table 5.2.6.3.2-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.6.3.2-2 and the response data structures and response codes specified in table 5.2.6.3.2-3.

Table 5.2.6.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.6.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case. The resource has been successfully deleted. (NOTE 2)
NOTE 1: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: When the resource is successfully deleted, the UDR shall delete within the "umData" attribute of the SessionManagementPolicyData resource the corresponding "limitId" entry accordingly.				

5.2.6.3.3 GET

This method shall support the URI query parameters specified in table 5.2.6.3.3-1.

Table 5.2.6.3.3-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.6.3.3-2 and the response data structures and response codes specified in table 5.2.6.3.3-3.

Table 5.2.6.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.6.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UsageMonData	M	1	200 OK	Successful case. The usage monitoring data is returned.
n/a			204 No Content	The resource was found but no usage monitoring data is available.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.7 Resource: SponsorConnectivityData

5.2.7.1 Description

The resource represents sponsored data connectivity related information stored in the UDR for a given sponsorId.

5.2.7.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/sponsor-connectivity-data/{sponsorId}

This resource shall support the resource URI variables defined in table 5.2.7.2-1.

Table 5.2.7.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
sponsorId	string	Represents the sponsor identity.

5.2.7.3 Resource Standard Methods

5.2.7.3.1 GET

This method shall support the URI query parameters specified in table 5.2.7.3.1-1.

Table 5.2.7.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.7.3.1-2 and the response data structures and response codes specified in table 5.2.7.3.1-3.

Table 5.2.7.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.7.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SponsorConnectivityData	M	1	200 OK	Upon success, a response body containing Sponsor Connectivity Data shall be returned.
n/a			204 No Content	The resource was found but no Sponsor Connectivity Data is available.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.8 Resource: BdtData

5.2.8.1 Description

The resource represents background data transfer data stored in the UDR.

5.2.8.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/bdt-data**

This resource shall support the resource URI variables defined in table 5.2.8.2-1.

Table 5.2.8.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

5.2.8.3 Resource Standard Methods

5.2.8.3.1 GET

This method shall support the URI query parameters specified in table 5.2.8.3.1-1.

Table 5.2.8.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
bdt-ref-ids	array(BdtReferenceId)	O	1..N	If included, this IE shall contain a list of the BDT reference identifiers. Each member of the array is an individual BDT reference identifier.
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.8.3.1-2 and the response data structures and response codes specified in table 5.2.8.3.1-3.

Table 5.2.8.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.8.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(BdtData)	M	0..N	200 OK	Upon success, a response body containing the BDT data shall be returned. Each member of the array is an individual BDT data.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.9 Resource: IndividualBdtData

5.2.9.1 Description

The resource represents individual background data transfer data stored in the UDR for a given "bdtReferenceId".

5.2.9.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/bdt-data/{bdtReferenceId}

This resource shall support the resource URI variables defined in table 5.2.9.2-1.

Table 5.2.9.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
bdtReferenceId	BdtReferenceId	Represents the transfer policy of background data transfer for provided ASP. Data type BdtReferenceId is defined in 3GPP TS 29.122 [9].

5.2.9.3 Resource Standard Methods

5.2.9.3.1 GET

This method shall support the URI query parameters specified in table 5.2.9.3.1-1.

Table 5.2.9.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.9.3.1-2 and the response data structures and response codes specified in table 5.2.9.3.1-3.

Table 5.2.9.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.9.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
BdtData	M	1	200 OK	Upon success, a response body containing the BDT data shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.9.3.2 PUT

This method shall support the URI query parameters specified in table 5.2.9.3.2-1.

Table 5.2.9.3.2-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.9.3.2-2 and the response data structures and response codes specified in table 5.2.9.3.2-3.

Table 5.2.9.3.2-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
BdtData	M	1	Create the BDT data for a given bdtReferenceld.

Table 5.2.9.3.2-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
BdtData	M	1	201 Created	Successful case. The resource has been successfully created.
ProblemDetails	O	0..1	403 Forbidden	The resource is not allowed to be updated. (NOTE 2)
NOTE 1: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: The "cause" attribute within the "ProblemDetails" data structure may be set to "MODIFICATION_NOT_ALLOWED" as defined in table 5.2.7.2-1 of 3GPP TS 29.500 [4].				

Table 5.2.9.3.2-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/bdt-data/{bdtReferenceld}

5.2.9.3.3 DELETE

This method shall support the URI query parameters specified in table 5.2.9.3.3-1.

Table 5.2.9.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.9.3.3-2 and the response data structures and response codes specified in table 5.2.9.3.3-3.

Table 5.2.9.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.9.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case. The resource has been successfully deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.9.3.4 PATCH

This method shall support the URI query parameters specified in table 5.2.9.3.4-1.

Table 5.2.9.3.4-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.9.3.4-2 and the response data structures and response codes specified in table 5.2.9.3.4-3.

Table 5.2.9.3.4-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
BdtDataPatch	M	1	Modify the BDT data for a given bdtReferenceId.

Table 5.2.9.3.4-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
BdtData	M	1	200 OK	The resource has been successfully updated and a response body containing BDT data shall be returned.
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.10 Resource: PolicyDataSubscriptions

5.2.10.1 Description

This resource is used to represent subscriptions to notification of policy data modification.

5.2.10.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/subs-to-notify

This resource shall support the resource URI variables defined in table 5.2.10.2-1.

Table 5.2.10.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

5.2.10.3 Resource Standard Methods

5.2.10.3.1 POST

This method shall support the URI query parameters specified in table 5.2.10.3.1-1.

Table 5.2.10.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.10.3.1-2 and the response data structures and response codes specified in table 5.2.10.3.1-3.

Table 5.2.10.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
PolicyDataSubscription	M	1	Identifies the subscription to notification of policy data modification.

Table 5.2.10.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PolicyDataSubscription	M	1	201 Created	Upon success, a response body containing a representation of each Individual subscription resource shall be returned. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the created resource.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 5.2.10.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/subs-to-notify/{subsid}

5.2.10.3.2 GET

This method shall support the URI query parameters specified in table 5.2.10.3.2-1.

Table 5.2.10.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
mon-resources	array(string)	C	1..N	Indicate the resources for which it is requested to return the existing subscriptions to notifications on data changes. It contains the <apiSpecificResourceUriPart> of a monitored resource. When present, the UDR shall return the IndividualPolicyDataSubscription resource(s) for which one or more of the indicated resources in the "mon-resources" query parameter matches with the <apiSpecificResourceUriPart> of one or more entries of the "monitoredResourceUris" property of the resource (i.e. within the resource representation in the PolicyDataSubscription data structure).
ue-id	VarUeId	C	0..1	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7]. When present, the UDR shall return the IndividualPolicyDataSubscription resource(s) for the indicated UE.
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer, as per clause 6.6 of 3GPP TS 29.500 [4].
NOTE: Either the "mon-resources" or "ue-id" query parameters shall be present in the request.				

This method shall support the request data structures specified in table 5.2.10.3.2-2 and the response data structures and response codes specified in table 5.2.10.3.2-3.

Table 5.2.10.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.10.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(PolicyDataSubscription)	M	0..N	200 OK	Upon success, a response body containing the the requested Individual Policy Data Subscription(s) shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.11 Resource: IndividualPolicyDataSubscription

5.2.11.1 Description

This resource is used to represent an individual subscription to notification of policy data modification.

5.2.11.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/subs-to-notify/{subsId}

This resource shall support the resource URI variables defined in table 5.2.11.2-1.

Table 5.2.11.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
subslid	string	The subslid identifies an individual policy data subscription to notifications. The value is allocated by the UDR during creation of the PolicyDataSubscriptions resource.

5.2.11.3 Resource Standard Methods

5.2.11.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.11.3.1-1.

Table 5.2.11.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.11.3.1-2 and the response data structures and response codes specified in table 5.2.11.3.1-3.

Table 5.2.11.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
PolicyDataSubscription	M	1	Updates the subscription to notification of policy data modification.

Table 5.2.11.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PolicyDataSubscription	M	1	200 OK	The individual subscription resource was updated successfully.
n/a			204 No Content	The individual subscription resource was updated successfully and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.11.3.2 DELETE

This method shall support the URI query parameters specified in table 5.2.11.3.2-1.

Table 5.2.11.3.2-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.11.3.2-2 and the response data structures and response codes specified in table 5.2.11.3.2-3.

Table 5.2.11.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			The request body shall be empty.

Table 5.2.11.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.11.3.3 GET

This method shall support the URI query parameters specified in table 5.2.11.3.3-1.

Table 5.2.11.3.3-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.11.3.3-2 and the response data structures and response codes specified in table 5.2.11.3.3-3.

Table 5.2.11.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.11.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PolicyDataSubscription	M	1	200 OK	Upon success, a response body containing the resource representation of the requested Individual Policy Data Subscription.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.12 Resource: OperatorSpecificData

5.2.12.1 Description

This resource represents the UE's operator specific data.

NOTE: This resource can be used for operator specific data that is related to any policy data (e.g., AM policy data).

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [5]).

5.2.12.2 Resource Definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/operator-specific-data**

This resource shall support the resource URI variables defined in table 5.2.12.2-1.

Table 5.2.12.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

5.2.12.3 Resource Standard Methods

5.2.12.3.1 GET

This method is used to retrieve operator specific data from the UDR.

This method shall support the URI query parameters specified in table 5.2.12.3.1-1.

Table 5.2.12.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
fields	array(string)	C	1..N	When the NF consumer only retrieves a subset of the resource, the "fields" query parameter shall be included. The "fields" query parameter contains the pointers of the attribute(s) to be retrieved.
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.12.3.1-2 and the response data structures and response codes specified in table 5.2.12.3.1-3.

Table 5.2.12.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.12.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
map(OperatorSpecificDataContainer)	M	0..N	200 OK	Upon success, a response body containing a map shall be returned. The key of the map is an operator specific data element name and the value is the operator specific data of such data element, for the current UE (identified by the {ueld} variable in the resource path). If the resource does not contain any keys, the response consists of an empty JSON object (empty map).
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.12.3.2 PATCH

This method is used to modify operator specific data in the UDR.

This method shall support the URI query parameters specified in table 5.2.12.3.2-1.

Table 5.2.12.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.12.3.2-2 and the response data structures and response codes specified in table 5.2.12.3.2-3.

Table 5.2.12.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
array(PatchItem)	M	1..N	Contains the delta data to the operator specific data

Table 5.2.12.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon successful modification there is no body in the response message.(NOTE 2)
PatchResult	M	1	200 OK	Upon success, the execution report is returned. (NOTE 2)
ProblemDetails	O	0..1	403 Forbidden	The resource is not allowed to be updated. (NOTE 3)
NOTE 1: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: If all the modification instructions in the PATCH request have been implemented, the UDR shall respond with 204 No Content response; if some of the modification instructions in the PATCH request have been discarded, and the NF service consumer supported the "PatchReport" feature, the UDR shall respond with PatchResult.				
NOTE 3: The "cause" attribute within the "ProblemDetails" data structure may be set to "MODIFICATION_NOT_ALLOWED" as defined in table 5.2.7.2-1 of 3GPP TS 29.500 [4].				

5.2.12.3.3 PUT

This method is used to create or modify operator specific data in the UDR.

This method shall support the URI query parameters specified in table 5.2.12.3.3-1.

Table 5.2.12.3.3-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.12.3.3-2 and the response data structures and response codes specified in table 5.2.12.3.3-3.

Table 5.2.12.3.3-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
map(OperatorSpecificData Container)	M	1..N	A map containing the new representation of the operator specific data. The key of the map is operator specific data element name and the value is the operator specific data of the UE.

Table 5.2.12.3.3-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
map(OperatorSpecificDataContainer)	M	1	200 OK	Upon successful modification a response body containing a map shall be returned. The key of the map is operator specific data element name and the value is the operator specific data of the UE.
map(OperatorSpecificDataContainer)	M	1	201 Created	If the "OSDResource_Create_Delete" feature is supported and the resource has been successfully created, a response body is returned. The key of the map is operator specific data element name and the value is the operator specific data of the UE.
n/a			204 No Content	The resource has been successfully updated.
ProblemDetails	O	0..1	403 Forbidden	The resource is not allowed to be updated. (NOTE 2)
NOTE 1: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: The "cause" attribute within the "ProblemDetails" data structure may be set to "MODIFICATION_NOT_ALLOWED" as defined in table 5.2.7.2-1 of 3GPP TS 29.500 [4].				

Table 5.2.12.3.3-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}/operator-specific-data.

5.2.12.3.4 DELETE

This method shall support the URI query parameters specified in table 5.2.12.3.4-1.

Table 5.2.12.3.4-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.12.3.4-2 and the response data structures and response codes specified in table 5.2.12.3.4-3.

Table 5.2.12.3.4-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.12.3.4-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case, applicable when the "OSDResource_Create_Delete" feature is supported. The resource has been successfully deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.13 Resource: PlmnUePolicySet

5.2.13.1 Description

The resource represents the UE policy set for a given "plmnId" representing an H-PLMN stored in the UDR of a V-PLMN.

5.2.13.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/plmns/{plmnId}/ue-policy-set

This resource shall support the resource URI variables defined in table 5.2.13.2-1.

Table 5.2.13.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
plmnId	string	Concatenating a Mcc and Mnc as defined in 3GPP TS 29.505 [15].

5.2.13.3 Resource Standard Methods

5.2.13.3.1 GET

This method shall support the URI query parameters specified in table 5.2.13.3.1-1.

Table 5.2.13.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.13.3.1-2 and the response data structures and response codes specified in table 5.2.13.3.1-3.

Table 5.2.13.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.13.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UePolicySet	M	1	200 OK	Upon success, a response body containing the UE policies shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.14 Resource: PolicyDataForIndividualUe

5.2.14.1 Description

The resource represents all UE related policy data sets in the UDR for a given "ueId".

5.2.14.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/ues/{ueId}

This resource shall support the resource URI variables defined in table 5.2.14.2-1.

Table 5.2.14.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1
ueId	VarUeId	Represents the Subscription Identifier SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

5.2.14.3 Resource Standard Methods

5.2.14.3.1 GET

This method shall support the URI query parameters specified in table 5.2.14.3.1-1.

Table 5.2.14.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer, as per clause 6.6 of 3GPP TS 29.500 [4].
data-subset-names	array(PolicyDataSubset)	O	2..N	The policy data subsets (e.g. AM policies, SM policies, etc.) requested by the NF service consumer. If this query parameter is not provided by the NF service consumer, this means that all the available policy data subsets shall be returned.
NOTE: When two or more policy data subsets sets shall be retrieved, it is recommended to use a single GET request with query parameters.				

This method shall support the request data structures specified in table 5.2.14.3.1-2 and the response data structures and response codes specified in table 5.2.14.3.1-3.

Table 5.2.14.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.14.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PolicyDataForIndividualUE	M	1	200 OK	Upon success, a response body containing the policy data subsets requested by the NF service consumer or all the policy data subsets shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.15 Resource: SlicePolicyControlData

5.2.15.1 Description

The resource represents the network slice specific policy control subscription data stored in the UDR for a given S-NSSAI.

5.2.15.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/slice-control-data/{snssai}

This resource shall support the resource URI variables defined in table 5.2.15.2-1.

Table 5.2.15.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
snssai	Snssai	The S-NSSAI value used in the last segment of the resource URI is encoded as a string as defined in 3GPP TS 29.571 [7], clause 5.4.4.2.

5.2.15.3 Resource Standard Methods

5.2.15.3.1 GET

This method shall support the URI query parameters specified in table 5.2.15.3.1-1.

Table 5.2.15.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.15.3.1-2 and the response data structures and response codes specified in table 5.2.15.3.1-3.

Table 5.2.15.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.15.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SlicePolicyData	M	1	200 OK	Upon success, a response body containing network slice specific policy control data shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.15.3.2 PATCH

This method shall support the URI query parameters specified in table 5.2.15.3.2-1.

Table 5.2.15.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description

This method shall support the request data structures specified in table 5.2.15.3.2-2 and the response data structures and response codes specified in table 5.2.15.3.2-3.

Table 5.2.15.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
SlicePolicyDataPatch	M	1	Modify a network slice specific policy control data resource for a given S-NSSAI.

Table 5.2.15.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SlicePolicyData	M	1	200 OK	The resource has been successfully updated and a response body containing network slice specific policy control data shall be returned.
n/a			204 No Content	The resource has been successfully updated and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.16 Resource: MBSSessionPolicyControlData

5.2.16.1 Description

The resource represents the MBS Session Policy Control Data for an MBS Session.

5.2.16.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/mbs-session-pol-data/{polSessionId}**

This resource shall support the resource URI variables defined in table 5.2.16.2-1.

Table 5.2.16.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
polSessionId	MbsSessPolDataId	Represents the identifier of the MBS Session Policy Control Data.

5.2.16.3 Resource Standard Methods

5.2.16.3.1 GET

This method shall support the URI query parameters specified in table 5.2.16.3.1-1.

Table 5.2.16.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

Table 5.2.16.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.16.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
MbsSessPolCtrlData	M	1	200 OK	Successful case. The requested MBS Session Policy Control Data is successfully returned.
NOTE:	The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.			

5.2.17 Resource: PdtqData

5.2.17.1 Description

The resource represents planned data transfer with QoS requirements data stored in the UDR.

5.2.17.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/pdtq-data**

This resource shall support the resource URI variables defined in table 5.2.17.2-1.

Table 5.2.17.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

5.2.17.3 Resource Standard Methods

5.2.17.3.1 GET

This method shall support the URI query parameters specified in table 5.2.8.3.1-1.

Table 5.2.17.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
pdtq-ref-ids	array(PdtqReferenceId)	O	1..N	If included, this IE shall contain a list of the PDTQ reference identifiers. Each member of the array is an individual PDTQ reference identifier.
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.17.3.1-2 and the response data structures and response codes specified in table 5.2.17.3.1-3.

Table 5.2.17.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.17.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(PdtqData)	M	0..N	200 OK	Upon success, a response body containing the PDTQ data shall be returned. Each member of the array is an individual PDTQ data.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.18 Resource: IndividualPdtqData

5.2.18.1 Description

The resource represents individual planned data transfer with QoS requirements data stored in the UDR for a given "pdtqReferenceId".

5.2.18.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/policy-data/pdtq-data/{pdtqReferenceId}

This resource shall support the resource URI variables defined in table 5.2.18.2-1.

Table 5.2.18.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
pdqtqReferenceld	PdtqReferenceld	Represents the PDTQ policy of planned data transfer with QoS requirements for provided ASP. Data type PdtqReferenceld is defined in 3GPP TS 29.543 [25].

5.2.18.3 Resource Standard Methods

5.2.18.3.1 GET

This method shall support the URI query parameters specified in table 5.2.18.3.1-1.

Table 5.2.18.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.18.3.1-2 and the response data structures and response codes specified in table 5.2.9.3.1-3.

Table 5.2.18.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.18.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PdtqData	M	1	200 OK	Upon success, a response body containing the PDTQ data shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.18.3.2 PUT

This method shall support the URI query parameters specified in table 5.2.18.3.2-1.

Table 5.2.18.3.2-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.18.3.2-2 and the response data structures and response codes specified in table 5.2.18.3.2-3.

Table 5.2.18.3.2-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
PdtqData	M	1	Create the PDTQ data for a given pdqtqReferenceld.

Table 5.2.18.3.2-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PdtqData	M	1	201 Created	Successful case. The resource has been successfully created.
ProblemDetails	O	0..1	403 Forbidden	The resource is not allowed to be updated. (NOTE 2)
NOTE 1: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				
NOTE 2: The "cause" attribute within the "ProblemDetails" data structure may be set to "MODIFICATION_NOT_ALLOWED" as defined in table 5.2.7.2-1 of 3GPP TS 29.500 [4].				

Table 5.2.18.3.2-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/policy-data/pdtq-data/{pdtqReferenceId}

5.2.18.3.3 DELETE

This method shall support the URI query parameters specified in table 5.2.18.3.3-1.

Table 5.2.18.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.18.3.3-2 and the response data structures and response codes specified in table 5.2.18.3.3-3.

Table 5.2.18.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.18.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Successful case. The resource has been successfully deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.18.3.4 PATCH

This method shall support the URI query parameters specified in table 5.2.18.3.4-1.

Table 5.2.18.3.4-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.18.3.4-2 and the response data structures and response codes specified in table 5.2.18.3.4-3.

Table 5.2.18.3.4-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
PdtqDataPatch	M	1	Modify the PDTQ data for a given pdtqReferenceld.

Table 5.2.18.3.4-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PdtqData	M	1	200 OK	The resource has been successfully updated and a response body containing PDTQ data shall be returned.
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.19 Resource: GroupPolicyControlData

5.2.19.1 Description

The resource represents the group specific policy control subscription data stored in the UDR for a 5G VN group.

5.2.19.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/policy-data/group-control-data/{intGroupId}**

This resource shall support the resource URI variables defined in table 5.2.19.2-1.

Table 5.2.19.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
intGroupId	GroupId	Identifies a 5G VN group as defined in clause 5.3.2 of 3GPP TS 29.571 [7].

5.2.19.3 Resource Standard Methods

5.2.19.3.1 GET

This method shall support the URI query parameters specified in table 5.2.19.3.1-1.

Table 5.2.19.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 5.2.19.3.1-2 and the response data structures and response codes specified in table 5.2.19.3.1-3.

Table 5.2.19.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.19.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
GroupPolicyData	M	1	200 OK	Upon success, a response body containing group specific policy control data for a 5G VN group shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.2.19.3.2 PATCH

This method shall support the URI query parameters specified in table 5.2.19.3.2-1.

Table 5.2.19.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description

This method shall support the request data structures specified in table 5.2.19.3.2-2 and the response data structures and response codes specified in table 5.2.19.3.2-3.

Table 5.2.19.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
GroupPolicyDataPatch	M	1	Modify a group specific policy control data resource for a 5G VN group.

Table 5.2.19.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
GroupPolicyData	M	1	200 OK	The resource has been successfully modified and a response body containing the updated group specific policy control data for the targeted 5G VN group shall be returned.
n/a			204 No Content	The resource has been successfully modified and no additional content is to be sent in the response body.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.3 Notifications

5.3.1 General

Notifications shall comply with clause 6.2 of 3GPP TS 29.500 [4] and clause 4.6.2.3 of 3GPP TS 29.501 [5].

This clause describes the resources to provide notification to NF service consumers which have subscribed to be notified when policy data is changed.

Table 5.3.1-1: Notifications overview

Notification	Callback URI	HTTP method or custom operation	Description (service operation)
Policy Data Change Notification	{notificationUri}	POST	Used for policy data change notification

5.3.2 Policy Data Change Notification

The POST method shall be used for policy data change notification and the URI shall be provided during the subscription procedure.

Callback URI: {notificationUri}

This method shall support the URI query parameters specified in table 5.3.2-1.

Table 5.3.2-1: URI query parameters supported by the POST method

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.3.2-2 and the response data structures and response codes specified in table 5.3.2-3.

Table 5.3.2-2: Data structures supported by the POST Request Body

Data type	P	Cardinality	Description
array(PolicyDataChangeNotification)	M	1..N	Notification of policy data changes.

Table 5.3.2-3: Data structures supported by the POST Response Body

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The reception of the notification is acknowledged.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

5.4 Data Model

5.4.1 General

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

Table 5.4.1-1 specifies the data types defined for the Nudr_DataRepository for Policy Data service based interface protocol.

Table 5.4.1-1: Nudr_DataRepository specific Data Types for Policy Data

Data type	Section defined	Description	Applicability
AmPolicyData	5.4.2.2	Contains the AM policy data for a given subscriber.	
BdtData	5.4.2.9	Contains the background data transfer data.	
BdtDataPatch	5.4.2.27	Contains the modifiable background data transfer data	
BdtPolicyStatus	5.4.3.5	Contains the validation status for a negotiated BDT policy.	
DnnRouteSelectionDescriptor	5.4.2.20	Contains the route selector parameters per DNN.	
ItemPath	5.4.3.2	Represents a fragment of a resource, i.e. a subset of resource data.	ConditionalSubscriptionwithPartialNotification
LimitIdToMonitoringKey	5.4.2.16	Contains the limit identifier and the corresponding monitoring key for a given S-NSSAI and DNN.	
MbsSessPolCtrlData	5.4.2.31	Contains MBS Session Policy Control Data.	
MbsSessPolDataId	5.4.2.32	Represents the identifier used to access the MBS Session Policy Control Data.	
NotificationItem	5.4.2.25	Contains the list of resource fragments included in the notification triggered by the modification of a given resource fragment.	ConditionalSubscriptionwithPartialNotification
OsId	5.4.3.2	Operating System supported by the UE.	
PdtqData	5.4.2.33	Contains the planned data transfer with QoS requirements data.	
PdtqDataPatch	5.4.2.34	Contains the modifiable planned data transfer with QoS requirements data	
Periodicity	5.4.3.4	Indicates a type of time period.	
PlmnRouteSelectionDescriptor	5.4.2.18	Contains the route selectors for a serving PLMN.	
PolicyDataChangeNotification	5.4.2.11	Contains changed policy data for which notification was requested.	
PolicyDataForIndividualUe	5.4.2.28	Contains policy data sets for a given subscriber.	
PolicyDataSubscription	5.4.2.10	Identifies a subscription to policy data change notification.	
PolicyDataSubset	5.4.3.6	Indicates a policy data subset (e.g. AM policy data, SM policy data).	
ResourceItem	5.4.2.24	Represents list of fragments of a resource, i.e. a list of subsets of resource data monitored for notification of data changes.	ConditionalSubscriptionwithPartialNotification
SlicePolicyData	5.4.2.29	Contains network slice specific policy control information for an S-NSSAI.	
SlicePolicyDataPatch	5.4.2.30	Contains modifiable network slice specific policy control information for an S-NSSAI.	
SmPolicyData	5.4.2.5	Contains SM policy data for a subscriber.	
SmPolicyDataPatch	5.4.2.21	Contains modifiable SM policy data for a subscriber.	SessionManagementPolicyDataPatch
SmPolicyDnnData	5.4.2.15	Contains SM policy data for a DNN and S-NSSAI.	
SmPolicyDnnDataPatch	5.4.2.23	Contains modifiable SM policy data for a DNN and S-NSSAI.	SessionManagementPolicyDataPatch
SmPolicySnssaiData	5.4.2.14	Contains SM policy data for an S-NSSAI.	
SmPolicySnssaiDataPatch	5.4.2.22	Contains modifiable SM policy data for an S-NSSAI.	SessionManagementPolicyDataPatch
SnssaiRouteSelectionDescriptor	5.4.2.19	Contains the route selector parameters per SNSSAI.	
SponsorConnectivityData	5.4.2.8	Contains the sponsored data connectivity related information for a sponsor identifier.	
TimePeriod	5.4.2.12	Contains the periodicity for the defined usage monitoring data limits.	
UePolicySetPatch	5.4.2.17	Contains the UE policy data that can be modified by the PCF.	

UePolicySection	5.4.2.3	Contains the UE policy section.	
UePolicySet	5.4.2.4	Contains the UE policy set for a given subscriber.	
UpdatedItem	5.4.2.26	An updated resource fragment, represented by its location in a resource and its data type.	ConditionalSubscriptionwithPartialNotification
UsageMonLevel	5.4.3.3	Indicates the level of the usage monitoring instance (PDU Session level or per Service)	
UsageMonData	5.4.2.7	Contains remain allowed usage data for a subscriber.	
UsageMonDataLimit	5.4.2.6	Contains usage monitoring control data for a subscriber.	
UsageMonDataScope	5.4.2.13	Contains SNSSAI and DNN combinations to which the UsageMonData instance belongs to.	

Table 5.4.1-2 specifies data types re-used by the Nudr_DataRepository for Policy Data 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 Nudr_DataRepository for Policy Data service based interface.

Table 5.4.1-2: Nudr_DataRepository re-used Data Types for Policy Data

Data type	Reference	Comments	Applicability
5Qi	3GPP TS 29.571 [7]	Indicates the 5G QoS Identifier.	
ApplicationId	3GPP TS 29.571 [7]	Contains the application identifier.	
ArpPriorityLevel	3GPP TS 29.571 [7]	Indicates the allocation and retention priority level.	
BdtReferenceId	3GPP TS 29.122 [9]	Indicates the background data transfer reference ID for the transfer policy.	
BitRate	3GPP TS 29.571 [7]	String representing a bit rate that shall be formatted as follows: pattern: " $^{\wedge}d+(\backslash.d+)?$ (bps Kbps Mbps Gbps Tbps)\$" Examples: "125 Mbps", "0.125 Gbps", "125000 Kbps".	
Bytes	3GPP TS 29.571 [7]	String with format "byte" as defined in OpenAPI Specification [3], i.e., base64-encoded characters.	
ChargingInformation	3GPP TS 29.512 [12]	The address(es), and if available, the instance ID and the set ID of the Charging Function.	
DateTime	3GPP TS 29.571 [7]	String with format "date-time" as defined in OpenAPI Specification [3].	
Dnn	3GPP TS 29.571 [7]	Data Network Name. (NOTE)	
MbsSessionId	3GPP TS 29.571 [7]	Contains the MBS Session Identifier.	
Metadata	3GPP TS 29.571 [7]	Contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF.	SFC
NetworkAreaInfo	3GPP TS 29.554 [13]	Represents a network area information.	
OperatorSpecificDataContainer	3GPP TS 29.505 [15]	Container for operator specific data	
PatchResult	3GPP TS 29.571 [7]		
PatchItem	3GPP TS 29.571 [7]	Data structure used for JSON patch.	
PdtqPolicy	3GPP TS 29.543 [25]	Represents a PDTQ policy.	
PdtqReferenceId	3GPP TS 29.543 [25]	Indicates the planned data transfer with QoS requirements reference ID for the PDTQ policy.	
PduSessionType	3GPP TS 29.571 [7]	PDU Session Type.	
Pei	3GPP TS 29.571 [7]	Personal Equipment Identifier.	
PlmnId	3GPP TS 29.571 [7]	PLMN Identity.	
PresenceInfo	3GPP TS 29.571 [7]	Presence Reporting Area Information.	
PolicyCounterInfo	3GPP TS 29.594 [28]	Identifies the policy counter status.	SLAMUP
ProblemDetails	3GPP TS 29.571 [7]	Used in error responses to provide more detailed information about an error.	
SliceMbr	3GPP TS 29.571 [7]	Contains the slice Maximum Bit Rate including UL and DL.	NSAC
Snsai	3GPP TS 29.571 [7]	Identifies the S-NSSAI.	
SscMode	3GPP TS 29.571 [7]	SSC mode.	
SupportedFeatures	3GPP TS 29.571 [7]	Used to negotiate the applicability of the optional features	
TnapId	3GPP TS 29.571 [7]	Trusted Network Access Point identifier.	AfGuideTNAPs
TrafficDescriptor	3GPP TS 29.122 [9]	Identifies the traffic descriptor of the background data.	
TransferPolicy	3GPP TS 29.554 [13]	Represents a transfer policy.	
UInteger	3GPP TS 29.571 [7]	Unsigned Integer, i.e. only value 0 and integers greater than 0 are allowed.	
Uri	3GPP TS 29.571 [7]	String providing an URI.	
UsageThreshold	3GPP TS 29.122 [9]	Usage Thresholds (a data volume expected to be transferred per UE and/or time duration in seconds).	
VarUeId	3GPP TS 29.571 [7]	String represents the SUPI or GPSI.	
NOTE:	The UDR uses the DNN as received from the NF service consumer without applying any transformation. To successfully perform DNN matching, in a specific deployment a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only.		

5.4.2 Structured data types

5.4.2.1 Introduction

This clause defines the structures to be used in resource representations.

5.4.2.2 Type AmPolicyData

Table 5.4.2.2-1: Definition of type AmPolicyData

Attribute name	Data type	P	Cardinality	Description	Applicability
pralnfos	map(PresenceInfo)	O	1..N	Presence reporting area information. Each PresenceInfo element shall include the Presence Reporting Area Identifier within the "prald" attribute and, for a UE-dedicated presence reporting area, shall also include the list of elements composing the presence reporting area. A "prald" may indicate a Presence Reporting Area Set. The "prald" attribute within the PresenceInfo data type shall also be the key of the map. The attribute "presenceState" shall not be present.	
subscCats	array(string)	O	1..N	List of categories associated with the subscriber	
chfInfo	ChargingInformation	O	0..1	The address(es) and, if available, the CHF instance ID and the CHF set ID of the Charging Function. (NOTE)	CHFInformation
subscSpendingLimits	boolean	O	0..1	Indicates whether the PCF must enforce Access and Mobility management related policies based on subscriber spending limits. True: Spending limit control is enabled; False: Spending limit control is not enabled. The absence of this attribute means that spending limit control is not provisioned for the UE.	SLAMUP
spendLimInfo	map(PolicyCounterInfo)	O	1..N	Contains the status of the requested policy counters for UE. The key of the map is the attribute "policyCounterId".	SLAMUP
suppFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This parameter shall be provided if the NF service consumer has provided a list of supported features in its request.	
NOTE: When the feature "CHFInformation" is supported, the "secondaryChfAddress" may be omitted.					

5.4.2.3 Type UePolicySection

Table 5.4.2.3-1: Definition of type UePolicySection

Attribute name	Data type	P	Cardinality	Description
uePolicySectionInfo	Bytes	M	1	Contains the UE Policy Section Information for the given UPSI as specified in clause D.6.2 of 3GPP TS 24.501 [11].
upsi	string	M	1	Identifier for UE Policy Section. The format is represented in 3GPP TS 24.501 [11] clause D.6.2.

5.4.2.4 Type UePolicySet

Table 5.4.2.4-1: Definition of type UePolicySet

Attribute name	Data type	P	Cardinality	Description	Applicability
pralnfos	map(Presenc elInfo)	O	1..N	Presence reporting area information. Each PresenceInfo element shall include the Presence Reporting Area Identifier within the "prald" attribute and, for a UE-dedicated presence reporting area, shall also include the list of elements composing the presence reporting area. A "prald" may indicate a Presence Reporting Area Set. The "prald" attribute within the PresenceInfo data type shall also be the key of the map. The attribute "presenceState" shall not be present.	
subscCats	array(string)	O	1..N	List of categories associated with the subscriber	
uePolicySections	map(UePolicy Section)	O	1..N	Contains the UE Policy Sections. The UPSI (UE Policy Section Identifier) is used as the key in the map.	
upsis	array(string)	O	1..N	List of identifiers for the "uePolicySections". The format of the UPSI is represented in 3GPP TS 24.501 [11] clause D.6.2	
allowedRouteSel Descs	map(PlmnRo uteSelectionD escriptor)	O	1..N	Contains allowed route selection descriptors per serving PLMN for a UE. The serving PLMN identifier is the key of the map.	
andsplnd	boolean	O	0..1	Indication of UE supporting ANDSP. True: The UE supports ANDSP; False: The UE does not support ANDSP.	
epsUrsplnd	boolean	O	0..1	Indication of UE supporting URSP provisioning in EPS. True: The UE supports URSP provisioning in EPS; False: The UE does not support URSP provisioning in EPS.	EpsUrsp
vpsUrsplnd	boolean	O	0..1	Indication of UE supporting VPLMN-specific URSP. True: The UE supports VPLMN-specific URSP; False: The UE does not support VPLMN-specific URSP.	VPLMNSpecif icURSP
urspEnfnd	boolean	O	0..1	Indication of UE supporting URSP enforcement report. True: The UE supports URSP enforcement report; False: The UE does not support URSP enforcement report.	URSPEnforce ment
pei	Pei	O	0..1	Personal Equipment Identifier.	
oslds	array(Osld)	O	1..N	Identification of the UE Operating System(s).	
chfInfo	ChargingInfor mation	O	0..1	The address(es) and, if available, the CHF instance ID and the CHF set ID of the Charging Function. (NOTE 2)	CHFInformati on
subscSpendingLi mits	boolean	O	0..1	Indicates whether the PCF must enforce UE policies based on subscriber spending limits. True: Spending limit control is enabled; False: Spending limit control is not enabled. The absence of this attribute means that spending limit control is not provisioned for the UE.	SLAMUP
spendLimInfo	map(PolicyCo unterInfo)	O	1..N	Contains the status of the requested policy counters for UE. The key of the map is the attribute "policyCounterId".	SLAMUP
tracingReq	array(string)	O	1..N	Tracing requirements as defined in TS 32.421 [26]	EnhancedUe Policy

suppFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 5.6. This attribute shall be provided in the PUT request and in the response of successful resource creation, and in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request. (NOTE 1).	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
NOTE 1: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.					
NOTE 2: When the feature "CHFInformation" is supported, the "secondaryChfAddress" may be omitted.					

5.4.2.5 Type SmPolicyData

Table 5.4.2.5-1: Definition of type SmPolicyData

Attribute name	Data type	P	Cardinality	Description	Applicability
smPolicySnssaiData	map(SmPolicySnssaiData)	M	1..N	Session Management Policy data per S-NSSAI for all the SNSSAIs of the subscriber. The key of the map is the S-NSSAI. (NOTE 2)	
umDataLimits	map(UsageMonDataLimit)	O	1..N	Contains a list of usage monitoring profiles associated with the subscriber. The limit identifier is used as the key of the map.	
umData	map(UsageMonData)	O	1..N	Contains the remaining allowed usage data associated with the subscriber. The limit identifier is used as the key in the map.	
suppFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This parameter shall be supplied by the UDR in the response to the GET request when the GET request includes the "supp-feat" query parameter and the UDR supports feature negotiation for Session Management Policy Data.	
NOTE 1: In this Release of the specification the "limitId" corresponds to the Monitoring Key.					
NOTE 2: The S-NSSAI value used as key of the map is encoded as a string as defined in 3GPP TS 29.571[7], clause 5.4.4.2.					

5.4.2.6 Type UsageMonDataLimit

Table 5.4.2.6-1: Definition of type UsageMonDataLimit

Attribute name	Data type	P	Cardinality	Description
limitId	string	M	1	Identifies the limit, i.e. the usage monitoring control instance
scopes	map(UsageMonDataScope)	O	1..N	Identifies the SNSSAI and DNN combinations to which the usage monitoring data limit applies. The S-NSSAI is the key of the map. (NOTE 2) If the "scopes" attribute is omitted, the limit applies to every S-NSSAI and DNN.
umLevel	UsageMonLevel	O	0..1	Indicates the level of the usage monitoring instance (PDU Session level or per Service).
startDate	DateTime	C	0..1	Start date and time when the usage monitoring instance applies. It shall be provided when the resetPeriod attribute is provided.
endDate	DateTime	O	0..1	End date and time when the usage monitoring instance applies.
usageLimit	UsageThreshold	O	0..1	Maximum allowed traffic volume/time usage for a usage monitoring instance. If a resetPeriod is specified, this limit applies to every period separately and not for the entire time between the start and end dates. So for example, if the resetPeriod is daily, the usageLimit is applicable for each day until the end date is specified.
resetPeriod	TimePeriod	O	0..1	Time period to reset the remaining allowed usage for a periodic usage monitoring instance (postpaid subscriptions). This attribute along with the startDate determine the actual absolute time at which usage needs to be reset.
NOTE 1: In this Release of the specification the "limitId" attribute is the Monitoring Key, and the "scopes" attribute shall always be present including one distinct SNSSAI and DNN pair.				
NOTE 2: The S-NSSAI value used as key of the map is encoded as a string as defined in 3GPP TS 29.571[7], clause 5.4.4.2.				

5.4.2.7 Type UsageMonData

Table 5.4.2.7-1: Definition of type UsageMonData

Attribute name	Data type	P	Cardinality	Description	Applicability
limitId	string	M	1	Identifies the limit as defined in the "limitId" attribute of the UsageMonDataLimit data type (see clause 5.4.2.6).	
scopes	map(UsageMonDataScope)	O	1..N	Identifies the SNSSAI and DNN combinations to which the remaining usage monitoring data applies. The S-NSSAI is the key of the map. (NOTE 3)	
umLevel	UsageMonLevel	O	0..1	Indicates the level of the usage monitoring instance (PDU Session level or per Service).	
allowedUsage	UsageThreshold	O	0..1	Remaining allowed traffic volume usage and/or resource time usage.	
resetTime	DateTime	O	0..1	Time to reset the allowed usage back to the usageLimit of the corresponding UsageMonDataLimit. This is computed based on the corresponding startDate, resetPeriod and endDate of the corresponding UsageMonDataLimit. The allowedUsage is only applicable if the resetTime is in the future relative to the current time.	
suppFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 5.6. This attribute shall be provided in the PUT request and in the response of successful resource creation, and in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request. (NOTE 2).	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
NOTE 1: In this Release of the specification the "limitId" attribute is the Monitoring Key, and the "scopes" attribute shall always be present including one distinct SNSSAI and DNN pair.					
NOTE 2: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.					
NOTE 3: The S-NSSAI value used as key of the map is encoded as a string as defined in 3GPP TS 29.571 [7], clause 5.4.4.2.					

5.4.2.8 Type SponsorConnectivityData

Table 5.4.2.8-1: Definition of type SponsorConnectivityData

Attribute name	Data type	P	Cardinality	Description
aspIds	array(string)	M	1..N	Identifies a list of Application Service Provider Identifiers associated with the sponsor identity.
suppFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This parameter shall be provided if the NF service consumer has provided a list of supported features in its request.

5.4.2.9 Type BdtData

Table 5.4.2.9-1: Definition of type BdtData

Attribute name	Data type	P	Cardinality	Description
aspId	string	M	1	This IE contains an identity of an application service provider.
transPolicy	TransferPolicy	M	1	This IE contains the transfer policy.
bdtRefId	BdtReferenceId	O	0..1	This IE indicates the background data transfer reference ID for the transfer policy.
nwAreaInfo	NetworkAreaInfo	O	0..1	This IE represents a network area information.
numOfUes	UInteger	O	0..1	This IE contains the number of UEs using the indicated transfer policy. It shall be present when available.
volPerUe	UsageThreshold	O	0..1	This IE contains a data volume expected to be transferred per UE for the indicated transfer policy. It shall be present when available.
dnn	Dnn	O	0..1	This IE identifies a DNN.
snssai	Snssai	O	0..1	This IE identifies a slice.
trafficDes	TrafficDescriptor	O	0..1	Contains the traffic descriptor of the background data.
bdtPStatus	BdtPolicyStatus	O	0..1	Contains the validation status for a negotiated BDT policy. It shall be included when available. Default value is "VALID" if omitted.
warnNotifEnabled	boolean	O	0..1	This IE indicates whether the BDT warning notification is enabled or disabled. true: enabled; false: disabled (default value).
notifUri	Uri	O	0..1	This IE contains an URI of the recipient of the BDT warning notification.
supFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 5.6. This attribute shall be provided in the PUT request and in the response of successful resource creation, and in the HTTP GET response if the "sup-feat" attribute query parameter is included in the HTTP GET request. (NOTE).
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.
NOTE: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.				

5.4.2.10 Type PolicyDataSubscription

Table 5.4.2.10-1: Definition of type PolicyDataSubscription

Attribute name	Data type	P	Cardinality	Description	Applicability
notificationUri	Uri	M	1	URI provided by the NF service consumer indicating where to receive the subscribed notifications from the UDR.	
notifId	string	C	0..1	Notification Correlation ID assigned by the NF service consumer. It shall be included when the "ConditionalSubscriptionwithPartialNotification" or the "ConditionalSubscriptionWithExcludeNotification" feature is supported.	ConditionalSubscriptionwithPartialNotification ConditionalSubscriptionWithExcludeNotification
monitoredResourceUris	array(Uri)	M	1..N	A set of URIs provided by the NF service consumer that identify the resources as defined in table 5.2.2-1 for which a modification triggers a notification. (NOTE 1)	
monResItems	array(ResourceItem)	O	1..N	A set of monitored resource fragments provided by the NF service consumer. When present, this IE indicates the trigger of the notification is conditioned to the data change occurs in one or more of the attributes contained in a resource fragment as defined by the ResourceItem data type, and that the triggered notification shall only include the resource fragment as defined by the ResourceItem data type. (NOTE 2)	ConditionalSubscriptionwithPartialNotification
excludedResItems	array(ResourceItem)	O	1..N	A set of resource fragments provided by the NF service consumer that are excluded from data change monitoring. When present, this IE indicates the trigger of the notification is conditioned to the data change occurs in any attribute contained in the resource(s) identified by "monitoredResourceUris", except when the changed data is in one or more of the attributes contained in a resource fragment as defined by the ResourceItem data type. (NOTE 2) (NOTE 3) (NOTE 4)	ConditionalSubscriptionWithExcludeNotification
immRep	boolean	O	0..1	If provided by the NF service consumer and set to "true", it indicates to the UDR that existing entries that match this subscription shall be immediately reported within the "immReports" attribute in the response. The default value is false.	ImmediateReportPcc

immReports	array(PolicyDataChangeNotification)	C	1..N	<p>Contains entries stored in the UDR that match this subscription.</p> <p>It shall be included in the POST response body of a subscription creation if the request included the "immRep" attribute set to true and the UDR needs to include an immediate report in the response.</p> <p>It shall be included in the PUT response body of a subscription modification if the UDR needs to include an immediate report in the response and:</p> <ul style="list-style-type: none"> - if the modification request included the "immRep" attribute set to true and it was previously set to false or not provided; - if the modification request added the monitoring of new resources within the "monitoredResourceUris" attribute and/or new monitored resource fragments within the "monResItems" attribute, and the "immRep" attribute was previously set to true; and/or - if the modification request updated the set of excluded resources within the "excludedResItems" attribute and the "immRep" attribute was previously set to true. 	ImmediateReportPcc
expiry	DateTime	C	0..1	<p>This IE shall be included in a subscription response if, based on operator policy and taking into account the expiry time included in the request, the UDR needs to include an expiry time.</p> <p>This IE may be included in a subscription request. When present, this IE shall represent the time after which the subscription becomes invalid.</p> <p>The absence of this attribute in the subscription response means the subscription to be valid without an expiry time.</p>	
subsid	string	C	0..1	<p>It represents the variable part of the IndividualPolicyDataSubscription resource URI, as specified in clause 5.2.11.2-1.</p> <p>This attribute shall be present if the PolicyDataSubscription is sent in a GET response message to the PolicyDataSubscriptions collection resource.</p> <p>This is a Read Only attribute and shall not be provided by the NF service consumer in any request.</p>	PoISubscriptionRetrieval
supportedFeatures	SupportedFeatures	C	0..1	<p>Used to negotiate the applicability of the optional features.</p> <p>This attribute shall be provided in the POST request and in the response of successful resource creation.</p>	
resetIds	array(string)	O	1..N	<p>This IE uniquely identifies a part of temporary data in UDR that contains the created resource.</p> <p>This attribute may be provided by the UDR in the response of successful resource creation.</p>	

<p>NOTE 1: Neither the resource URI of the IndividualPolicyDataSubscription resource nor the resource URI of the PolicyDataSubscriptions resource shall be included in the "monitoredResourceUris" attribute.</p> <p>NOTE 2: If both ConditionalSubscriptionwithPartialNotification and ConditionalSubscriptionWithExcludeNotification are supported, the fragments defined in "monResltems" attribute and in "excludedResltems" attribute shall refer to different resources defined in "monitoredResourceUris".</p> <p>NOTE 3: When "excludedResltems" attribute is included, and a change is detected in the monitored part of a resource (i.e., in those properties not included in the "excludedResltems" attribute), the triggered notification shall include the complete resource representation.</p> <p>NOTE 4: The "excludedResltems" attribute may only be used with the OperatorSpecificData resource. E.g. if the OperatorSpecificData resource contains a map with two elements, one with key "operatorSpecificData1" and the other one with key "operatorSpecificData2", to excude the notification of changes in the "operatorSpecificData1" element the "excludedResltems" attribute will contain the value "/operatorSpecificData1" within the "items" array.</p>	
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5.4.2.11 Type PolicyDataChangeNotification

Table 5.4.2.11-1: Definition of type PolicyDataChangeNotification

Attribute name	Data type	P	Cardinality	Description	Applicability
amPolicyData	AmPolicyData	O	0..1	Access and Mobility Policy Data, if changed and notification was requested, or if it existed and immediate reporting was requested.	
uePolicySet	UePolicySet	O	0..1	UE Policy Set, if changed and notification was requested, or if it existed and immediate reporting was requested.	
plmnUePolicySet	UePolicySet	O	0..1	PLMN UE Policy Set, if changed and notification was requested, or if it existed and immediate reporting was requested.	
smPolicyData	SmPolicyData	O	0..1	Session Management Policy Data, if changed and notification was requested, or if it existed and immediate reporting was requested.	
usageMonData	UsageMonData	O	0..1	Usage Monitoring Data, if changed and notification was requested, or if it existed and immediate reporting was requested.	
SponsorConnectivityData (NOTE 4)	SponsorConnectivityData	O	0..1	Sponsor data connectivity profile information, if changed and notification was requested, or if it existed and immediate reporting was requested.	
bdtData	BdtData	O	0..1	Background Data Transfer Data, if changed and notification was requested, or if it existed and immediate reporting was requested.	
opSpecData	OperatorSpecificDataContainer	O	0..1	Operator Specific Data, if changed and notification was requested, or if it existed and immediate reporting was requested. It may only be used when the receiver of the notification is able to univocally identify the changed operator specific data. (NOTE 3)	
opSpecDataMap	map(OperatorSpecificDataContainer)	O	1..N	Operator Specific Data resource data, if changed and notification was requested, or if it existed and immediate reporting was requested. The key of the map is operator specific data element name and the value is the operator specific data of the UE.	OpSpecDataMap Notification
ueld	VarUeld	C	0..1	Represents the UE subscription identifier SUPI or GPSI. It shall only be present when the "amPolicyData", "uePolicySet", "smPolicyData", "opSpecData" and/or "usageMonData" attribute is present.	
sponsorId	string	C	0..1	Represents the sponsor identity. It shall only be present when the "sponsorConnectivityData" attribute is present.	
bdtRefId	BdtReferenceId	C	0..1	Represents the BDT reference identifier. It shall only be present when the "bdtData" attribute is present.	
usageMonId	string	C	0..1	Represents the unique identifier of the individual SM Policy usage monitoring resource. It shall only be present when the "usageMonData" attribute is present.	

plmnId	PlmnId	C	0..1	Represents the PLMN identifier. It shall only be present when the "plmnUePolicySet" attribute is present.	
delResources	array(Uri)	O	1..N	The resources, as defined in table 5.2.2-1, if removed from UDR and notification on resource data change was requested. Not applicable for immediate reports. (NOTE 2)	ResourceRemovalNotificationPolicyData
notifId	string	C	0..1	Notification Correlation ID assigned by the NF service consumer. (NOTE 5)	ConditionalSubscriptionwithPartialNotification
reportedFragments	array(NotificationItem)	C	1..N	This attribute contains the resource fragments indicated in the "monResItems" attribute of the PolicyDataSubscription data type. (NOTE 5)	ConditionalSubscriptionwithPartialNotification
slicePolicyData	SlicePolicyData	O	0..1	Network slice specific policy control data for an S-NSSAI, if changed and notification was requested, or if it existed and immediate reporting was requested.	
snssai	Snssai	C	0..1	Represents the S-NSSAI identifier, the unique identifier of the SlicePolicyControlData resource. It shall only be present when the "slicePolicyData" attribute is present.	
pdqtData	PdqtData	O	0..1	Planned Data Transfer with QoS requirements Data, if changed and notification was requested, or if it existed and immediate reporting was requested.	PDTQ
pdqtRefId	pdqtReferenceId	C	0..1	Represents the PDTQ reference identifier. It shall only be present when the "pdqtData" attribute is present.	PDTQ
groupPolicyData	GroupPolicyData	O	0..1	Contains group specific policy control data for a 5G VN group, if changed and notification was requested, or if it existed and immediate reporting was requested.	GMEC
intGroupId	GroupId	C	0..1	Represents the group identifier of a 5G VN group, the unique identifier of the GroupPolicyControlData resource. It shall only be present when the "groupPolicyData" attribute is present.	GMEC

NOTE 1:	When the "ResourceRemovalNotificationPolicyData" feature and/or "ConditionalSubscriptionwithPartialNotification" feature is not supported or supported but the applicable attribute(s) are not provided, at least one of the "amPolicyData", "uePolicySet", "smPolicyData", "usageMonData", "SponsorConnectivityData", "bdtData", "opSpecData", "plmnUePolicySet" or "slicePolicyData" or "groupPolicyData" shall be present.
NOTE 2:	When the "ResourceRemovalNotificationPolicyData" feature is supported, and the "delResources" attribute is present, the attributes that correspond with the values included in the "delResources" attribute shall be omitted. E.g., when the "delResources" attribute includes the value "../policy-data/ues/{ueld}/am-data" the attribute "amPolicyData" shall be omitted.
NOTE 3:	This attribute should not be used if the receiver of the notification is not able to univocally identify the changed operator specific data, and "opSpecDataMap" should be used instead.
NOTE 4:	The attribute does not follow the related naming convention (i.e. "lowerCamel") defined in clause 5.1.4 of 3GPP TS 29.501 [7]. This attribute is however kept as currently defined in this specification for backward compatibility considerations.
NOTE 5:	When the "ConditionalSubscriptionwithPartialNotification" feature is supported, the "notifId" and "reportedFragments" attributes shall be included in notification requests when a data change occurred in the resource fragments indicated in the "monResItems" attribute of the PolicyDataSubscription data type. When the feature "ImmediateReportPcc" is also supported, the "notifId" and "reportedFragments" attributes shall be included in subscription responses when the resource fragments existed when the immediate reporting was requested.

5.4.2.12 Type TimePeriod

Table 5.4.2.12-1: Definition of type TimePeriod

Attribute name	Data type	P	Cardinality	Description	Applicability
period	Periodicity	M	1	Indicates whether the periodicity is "YEARLY", "MONTHLY", "WEEKLY", "DAILY" or "HOURLY".	
maxNumPeriod	UInteger	O	0..1	Indicates the maximum number of periods after which the usage monitoring instance does not apply. If omitted, there is no limit in the number of periods.	

5.4.2.13 Type UsageMonDataScope

Table 5.4.2.13-1: Definition of type UsageMonDataScope

Attribute name	Data type	P	Cardinality	Description	Applicability
snssai	Snssai	M	1	Represents the SNSSAI.	
dnn	array(Dnn)	O	1..N	Represents the Dnn. If omitted, the usage monitoring scope applies to all the DNNs.	

NOTE: In this Release of the specification the "dnn" attribute shall always be present with one and only one entry.

5.4.2.14 Type SmPolicySnssaiData

Table 5.4.2.14-1: Definition of type SmPolicySnssaiData

Attribute name	Data type	P	Cardinality	Description	Applicability
snssai	Snssai	M	1	S-NSSAI associated with the data.	
smPolicyDnnData	map(SmPolicyDnnData)	O	1..N	Session Management Policy data per DNN for all the DNNs of the indicated S-NSSAI. The key of the map is the DNN.	
ueSliceMbr	SliceMbr	O	0..1	Subscribed UE-Slice-MBR for the indicated S-NSSAI.	NSAC

5.4.2.15 Type SmPolicyDnnData

Table 5.4.2.15-1: Definition of type SmPolicyDnnData

Attribute name	Data type	P	Cardinality	Description	Applicability
dnn	Dnn	M	1	DNN associated with the data	
allowedServices	array(string)	O	1..N	List of subscriber's allowed service identifiers	
subscCats	array(string)	O	1..N	List of categories associated with the subscriber	
gbrUI	BitRate	O	0..1	Maximum aggregate UL bitrate that can be provided across all GBR QoS Flows in the DNN	
gbrDL	BitRate	O	0..1	Maximum aggregate DL bitrate that can be provided across all GBR QoS Flows in the DNN	
adcSupport	boolean	O	0..1	Indicates whether application detection and control is enabled for the PDU session. True: Application detection and control is enabled for the PDU session; False: Application detection and control is not enabled for the PDU session. The absence of this attribute means that ADC support is not provisioned for the UE and PDU session.	
subscSpendingLimits	boolean	O	0..1	Indicates whether the PCF must enforce session management related policies based on subscriber spending limits. True: Spending limit control is enabled; False: Spending limit control is not enabled. The absence of this attribute means that spending limit control is not provisioned for the UE and PDU session.	
spendLimInfo	map(PolicyCounterInfo)	O	1..N	Contains the status of the requested policy counters for the PDU session. The key of the map is the attribute "policyCounterId".	SLAMUP
ipv4Index	IpIndex	O	0..1	Information that identifies which IP pool or external server is used to allocate the IPv4 address.	
ipv6Index	IpIndex	O	0..1	Information that identifies which IP pool or external server is used to allocate the IPv6 address.	
offline	boolean	O	0..1	Indicates whether the offline charging is applicable to the PDU session. True: Offline charging is applicable to the PDU session; False: Offline charging is not applicable to the PDU session. The absence of this attribute means that the charging method is not provisioned for the UE and PDU session.	
online	boolean	O	0..1	Indicates whether the online charging is applicable to the PDU session. True: Online charging is applicable to the PDU session; False: Online charging is not applicable to the PDU session. The absence of this attribute means that the charging method is not provisioned for the UE and PDU session.	
chfInfo	ChargingInformation	O	0..1	The address(es) and, if available, the CHF instance ID and the CHF set ID of the Charging Function. (NOTE)	
refUmDataLimitIds	map(LimitIdToMonitoringKey)	O	1..N	A reference to the "UsageMonDataLimit" or "UsageMonData" instances for this DNN and SNSSAI that may also include the related monitoring key(s). The key of the map is the limit identifier.	

mpsPriority	boolean	O	0..1	True: Indicates subscription to the MPS priority service; priority applies to all traffic on the PDU Session. False: MPS priority service is not subscribed. The absence of this attribute means that MPS priority is not provisioned for the UE and PDU session.	
mcsPriority	boolean	O	0..1	True: Indicates subscription to the MCS priority service; priority applies to all traffic on the PDU Session. False: IMS signalling priority service is not subscribed. The absence of this attribute means that IMS signalling priority is not provisioned for the UE and PDU session.	
imsSignallingPrio	boolean	O	0..1	True: Indicates subscription to the IMS signalling priority service; priority only applies to IMS signalling traffic. False: IMS signalling priority service is not subscribed. The absence of this attribute means that IMS signalling priority is not provisioned for the UE and PDU session.	
mpsPriorityLevel	integer	O	0..1	Relative priority level for the multimedia priority services	
mcsPriorityLevel	integer	O	0..1	Relative priority level for the mission critical services	
pralnfos	map(PresenceInfo)	O	1..N	Presence reporting area information. Each PresenceInfo element shall include the Presence Reporting Area Identifier within the "prald" attribute and, for a UE-dedicated presence reporting area, shall also include the list of elements composing the presence reporting area. A "prald" may indicate a Presence Reporting Area Set. The "prald" attribute within the PresenceInfo data type shall also be the key of the map. The attribute "presenceState" shall not be present.	
bdtRefIds	map(BdtReferenceIdRm)	O	1..N	Identifies transfer policies of background data transfer. Any string value can be used as a key of the map.	EnhancedBackgroundData Transfer
locRoutNotAllowed	boolean	O	0..1	Identifies whether AF influence on traffic routing is allowed or not. True: if no local routing is allowed; False: local routing is allowed. The absence of this attribute means that AF influence on traffic routing is not provisioned for the UE and PDU session.	
sfcNotAllowed	boolean	O	0..1	Identifies whether AF influence on Service Function Chaining is allowed or not. True: if no AF influence on Service Function Chaining is allowed; False: AF influence on Service Function Chaining allowed. The absence of this attribute means that AF influence on Service Function Chaining is not provisioned for the UE and PDU session.	SFC
tnaps	array(TnapId)	O	1..N	Contains the TNAP ID(s) collocated with the 5G-RG(s) of a specific user.	AfGuideTNAPs
NOTE: When the feature "CHFsetSupport" is supported, the "secondaryChfAddress" may be omitted (see 3GPP TS 29.512 [12], clause 4.2.2.3.1).					

5.4.2.16 Type LimitIdToMonitoringKey

Table 5.4.2.16-1: Definition of type LimitIdToMonitoringKey

Attribute name	Data type	P	Cardinality	Description	Applicability
limitId	string	M	1	Limit Identifier.	
monkey	array(string)	O	1..N	Monitoring Keys.	
NOTE: In this Release of the specification there is only one Monitoring Key per Limit Identifier					

5.4.2.17 Type UePolicySetPatch

Table 5.4.2.17-1: Definition of type UePolicySetPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
uePolicySections	map(UePolicySection)	O	1..N	Contains the UE Policy Sections. The UPSI (UE Policy Section Identifier) is used as the key in the map.	
upsis	array(string)	O	1..N	List of identifiers for the "uePolicySections". The format of the UPSI is represented in 3GPP TS 24.501 [11] clause D.6.2.	
andsplnd	boolean	O	0..1	Indication of UE supporting ANDSP.	
epsUrsplnd	boolean	O	0..1	Indication of UE supporting URSP provisioning in EPS. True: The UE supports URSP provisioning in EPS; False: The UE does not support URSP provisioning in EPS.	EpsUrsplnd
vpsUrsplnd	boolean	O	0..1	Indication of UE supporting VPLMN-specific URSP. True: The UE supports VPLMN-specific URSP; False: The UE does not support VPLMN-specific URSP.	VPLMNSpecificURSP
urspEnflnd	boolean	O	0..1	Indication of UE supporting URSP enforcement report. True: The UE supports URSP enforcement report; False: The UE does not support URSP enforcement report.	URSPEnforcement
pei	Pei	O	0..1	Personal Equipment Identifier.	
oslds	array(Osld)	O	1..N	Identification of the UE Operating System(s).	

5.4.2.18 Type PlmnRouteSelectionDescriptor

Table 5.4.2.18-1: Definition of type PlmnRouteSelectionDescriptor

Attribute name	Data type	P	Cardinality	Description
servingPlmn	PlmnId	M	1	Identity of the serving PLMN.
snssaiRouteSelectionDescriptors	array(SnssaiRouteSelectionDescriptor)	O	1..N	Contains the route selection descriptor parameters per SNSSAI.

5.4.2.19 Type SnssaiRouteSelectionDescriptor

Table 5.4.2.19-1: Definition of type SnssaiRouteSelectionDescriptor

Attribute name	Data type	P	Cardinality	Description
snssai	Snssai	M	1	SNSSAI.
dnnRouteSelectionDescriptors	array(DnnRouteSelectionDescriptor)	O	1..N	Contains the route selection descriptor parameters per DNN.

5.4.2.20 Type DnnRouteSelectionDescriptor

Table 5.4.2.20-1: Definition of type DnnRouteSelectionDescriptor

Attribute name	Data type	P	Cardinality	Description	Applicability
dnn	Dnn	M	1	DNN.	
sscModes	array(SscMode)	O	1..N	Contains the allowed SSC modes for the traffic to this DNN.	
pduSessTypes	array(PduSessionType)	O	1..N	Contains the allowed PDU Session types for the traffic to this DNN.	
atsssInfo	boolean	O	0..1	Indicates whether MA PDU session establishment is allowed for this DNN. True: MA PDU session establishment is allowed for this DNN. False: MA PDU session establishment is not allowed for this DNN. The absence of this attribute means that the ATSSS information is not provisioned for the UE and PDU session.	
lboRoamAllowed	boolean	O	0..1	Indicates whether local breakout for the DNN and S-NSSAI is allowed when roaming. true: allowed false: not allowed. If the attribute is absent it means not allowed.	VPLMNSpecificURSP

5.4.2.21 Type SmPolicyDataPatch

Table 5.4.2.21-1: Definition of type SmPolicyDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
umData	map(UsageMonData)	O	1..N	Contains the remaining allowed usage data associated with the subscriber. The value of the limit identifier is used as the key in the map.	
smPolicySnssaiData	map(SmPolicySnssaiDataPatch)	O	1..N	Modifiable Session Management Policy data per S-NSSAI for all the SNSSAIs of the subscriber. The key of the map is the S-NSSAI. (NOTE 2)	

NOTE 1: In this Release of the specification the "limitId" corresponds to the Monitoring Key.
NOTE 2: The S-NSSAI value used as key of the map is encoded as a string as defined in 3GPP TS 29.571[7], clause 5.4.4.2.

5.4.2.22 Type SmPolicySnssaiDataPatch

Table 5.4.2.22-1: Definition of type SmPolicySnssaiDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
snssai	Snssai	M	1	S-NSSAI associated with the data.	
smPolicyDnnData	map(SmPolicyDnnDataPatch)	O	1..N	Modifiable Session Management Policy data per DNN for all the DNNs of the indicated S-NSSAI. The key of the map is the DNN.	

5.4.2.23 Type SmPolicyDnnDataPatch

Table 5.4.2.23-1: Definition of type SmPolicyDnnDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
dnn	Dnn	M	1	DNN associated with the data	
bdtRefIds	map(BdtRefere nceldRm)	O	1..N	Updated transfer policies of background data transfer. Any string value can be used as a key of the map.	EnhancedBac kgroundData Transfer

5.4.2.24 Type ResourceItem

Table 5.4.2.24-1: Definition of type ResourceItem

Attribute name	Data type	P	Cardinality	Description	Applicability
monResourceUri	Uri	M	1	Represents the URI that identifies the monitored resource as defined in table 5.2.2-1. (NOTE)	
items	array(ItemPath)	M	1..N	Represents fragments of the resource identified by the "monResourceUri" attribute, i.e. a subset of resource data, for which a modification triggers a notification.	
NOTE: The resource URI included in the "monResourceUri" attribute shall be one of the resource URIs included in the "monitoredResourceUris" attribute of the PolicyDataSubscription data type.					

5.4.2.25 Type NotificationItem

Table 5.4.2.25-1: Definition of type NotificationItem

Attribute name	Data type	P	Cardinality	Description	Applicability
resourceId	Uri	M	1	This IE contains the URI of the resource which has been changed.	
notifItems	array(UpdatedIte m)	M	1..N	This IE contains the fragments of the resource identified by the "resourceId" attribute which have been updated or requested to be notified.	

5.4.2.26 Type UpdatedItem

Table 5.4.2.26-1: Definition of type UpdatedItem

Attribute name	Data type	P	Cardinality	Description	Applicability
item	ItemPath	M	1	This IE contains a JSON pointer value (as defined in IETF RFC 6901 [20]) that references a target location within the resource that identifies the resource fragment.	
value	Any type	M	1	This IE indicates the value of the resource fragment located at the target location within the resource specified in the "item" attribute. The data type of this attribute shall be the same as the type of the attribute or element located in the path. The null value shall be allowed.	

5.4.2.27 Type BdtDataPatch

Table 5.4.2.27-1: Definition of type BdtDataPatch

Attribute name	Data type	P	Cardinality	Description
bdtStatus	BdtPolicyStatus	O	0..1	Contains the validation status for a negotiated BDT policy. It shall be included when the BDT policy is re-negotiated.
transPolicy	TransferPolicy	O	0..1	This IE contains the transfer policy.
warnNotifEnabled	boolean	O	0..1	This IE indicates whether the BDT warning notification is enabled or disabled. true: enabled; false: disabled.

5.4.2.28 Type PolicyDataForIndividualUe

Table 5.4.2.28-1: Definition of type PolicyDataForIndividualUe

Attribute name	Data type	P	Cardinality	Description	Applicability
uePolicyDataSet	UePolicySet	O	0..1	The IE contains UE policies.	
smPolicyDataSet	SmPolicyData	O	0..1	The IE contains SM policies.	
amPolicyDataSet	AmPolicyData	O	0..1	The IE contains AM policies.	
umData	map(UsageMonData)	C	1..N	The IE contains UM policies. The value of the limit identifier is used as the key of the map. (NOTE)	
operatorSpecificDataSet	map(OperatorSpecificDataContainer)	O	1..N	The IE contains operator specific data. The key of the map is operator specific data element name and the value is the operator specific data of the UE.	
supFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This parameter shall be provided if the NF service consumer has provided a list of supported features in its request.	
NOTE: The "umData" attribute shall be absent when the smPolicyDataSet attribute is present and includes the "umData" attribute.					

5.4.2.29 Type SlicePolicyData

Table 5.4.2.29-1: Definition of type SlicePolicyData

Attribute name	Data type	P	Cardinality	Description	Applicability
mbrUI	BitRate	O	0..1	Maximum aggregate UL data rate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI. (NOTE 1)	
mbrDI	BitRate	O	0..1	Maximum aggregate DL data rate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI. (NOTE 1)	
remainMbrUI	BitRate	O	0..1	The remaining maximum aggregate UL data rate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI. (NOTE 2) It is set to the maximum allowed aggregate UL data rate across all GBR and Non-GBR QoS Flows in the S-NSSAI when the system is initially configured based on operator policies.	
remainMbrDI	BitRate	O	0..1	The remaining maximum aggregate DL data rate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI. (NOTE 2) It is set to the maximum allowed aggregate DL data rate across all GBR and Non-GBR QoS Flows in the S-NSSAI when the system is initially configured based on operator policies.	
suppFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. It shall be provided in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request.	
NOTE 1: The "mbrUI" and "mbrDI" attributes are only used for limiting data rate per network slice with assistance of the NWDAF.					
NOTE 2: The "remainMbrUI" and "remainMbrDI" attributes are only used for limiting data rate per network slice with PCF based monitoring.					

5.4.2.30 Type SlicePolicyDataPatch

Table 5.4.2.30-1: Definition of type SlicePolicyDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
remainMbrUI	BitRate	O	0..1	The remaining maximum aggregate UL bitrate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI.	
remainMbrDI	BitRate	O	0..1	The remaining maximum aggregate DL bitrate that can be provided across all GBR and Non-GBR QoS Flows in the S-NSSAI.	
NOTE: At least one of the attributes shall be included.					

5.4.2.31 Type MbsSessPolCtrlData

Table 5.4.2.31-1: Definition of type MbsSessPolCtrlData

Attribute name	Data type	P	Cardinality	Description	Applicability
5qis	array(5Qi)	O	1..N	Contains the list of allowed 5QI(s) for an MBS PCC rule of the MBS Session.	
maxMbsArpLevel	ArpPriorityLevel	O	0..1	Contains the highest ARP level value allowed for any MBS PCC rule of the MBS Session.	
maxMbsSessionAmbr	BitRate	O	0..1	Contains the maximum MBS Session-AMBR for all non-GBR QoS flows of an MBS session in the downlink.	
maxGbr	BitRate	O	0..1	Contains the maximum aggregated bitrate that can be provided across all the GBR QoS Flows for an MBS session in the downlink.	
suppFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This parameter shall be provided if feature negotiation needs to take place.	

5.4.2.32 Type MbsSessPolDataId

Table 5.4.2.32-1: Definition of type MbsSessPolDataId

Attribute name	Data type	P	Cardinality	Description	Applicability
mbsSessionId	MbsSessionId	C	0..1	Contains the source specific multicast address used as MBS session identifier. (NOTE)	
afAppld	string	C	0..1	Contains the AF application identifier. (NOTE)	
NOTE: Either the "mbsSessionId" attribute or the "afAppld" attribute shall be provided.					

5.4.2.33 Type PdtqData

Table 5.4.2.33-1: Definition of type PdtqData

Attribute name	Data type	P	Cardinality	Description
aspld	string	M	1	This IE contains an identity of an application service provider.
pdqtPolicy	PdtqPolicy	M	1	This IE contains the PDTQ policy.
appld	ApplicationId	O	0..1	This IE contains an application identifier.
pdqtRefId	PdtqReferenceld	O	0..1	This IE indicates the PDTQ reference ID for the PDTQ policy.
nwAreaInfo	NetworkAreaInfo	O	0..1	This IE represents a network area information.
numOfUes	UInteger	O	0..1	This IE contains the number of UEs using the indicated PDTQ policy. It shall be present when available.
desTimeInts	array(TimeWindow)	O	1..N	This IE contains a list of desired time windows for PDTQ.
dnn	Dnn	O	0..1	This IE identifies a DNN.
snssai	Snssai	O	0..1	This IE identifies a slice.
qosParamSet	QosParameterSet	O	0..1	Contains the requested QoS requirements expressed as one or more individual QoS parameters. (NOTE 3)
qosReference	string	O	0..1	Contains the requested QoS requirements expressed as the QoS Reference which represents a pre-defined QoS information. (NOTE 2)
altQosParamSets	array(AltQosParameterSet)	O	1..N	Contains the alternative QoS requirements expressed as the list of individual QoS parameter sets in a prioritized order. The lower the index of the array for a given entry, the higher the priority. (NOTE 3)
altQosRefs	array(string)	O	1..N	Contains the alternative QoS requirements expressed as the list of QoS References in a prioritized order. The lower the index of the array for a given entry, the higher the priority. (NOTE 2)
notifUri	Uri	O	0..1	This IE contains an URI of the recipient of the PDTQ warning notification.
warnNotifEnabled	boolean	O	0..1	This IE indicates whether the PDTQ warning notification is enabled or disabled. true: enabled; false: disabled (default).
supFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 5.6. This attribute shall be provided in the PUT request and in the response of successful resource creation, and in the HTTP GET response if the "sup-feat" attribute query parameter is included in the HTTP GET request. (NOTE).
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.
NOTE 1: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.				
NOTE 2: The "altQosRefs" attribute may be included only if the "qosReference" attribute is included.				
NOTE 3: The "altQosParamSets" attribute may be included only if the "qosParamSet" attribute is included.				

5.4.2.34 Type PdtqDataPatch

Table 5.4.2.34-1: Definition of type PdtqDataPatch

Attribute name	Data type	P	Cardinality	Description
pdqtPolicy	PdtqPolicy	O	0..1	This IE contains the PDTQ policy.
warnNotifEnabled	boolean	O	0..1	This IE indicates whether the PDTQ warning notification is enabled or disabled. true: enabled; false: disabled
notifUri	Uri	O	0..1	This IE contains an URI of the recipient of the PDTQ warning notification.

5.4.2.35 Type GroupPolicyData

Table 5.4.2.35-1: Definition of type GroupPolicyData

Attribute name	Data type	P	Cardinality	Description	Applicability
maxGroupMbrUL	BitRate	O	0..1	The maximum aggregate UL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
maxGroupMbrDL	BitRate	O	0..1	The maximum aggregate DL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
remainGroupMbrUL	BitRate	O	0..1	The remaining maximum aggregate UL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
remainGroupMbrDL	BitRate	O	0..1	The remaining maximum aggregate DL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
supFeat	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. It shall be provided only when feature negotiation needs to take place.	
NOTE: The initial value of these attributes shall be set based on the Maximum Group Data Rate information and/or operator policies.					

5.4.2.36 Type GroupPolicyDataPatch

Table 5.4.2.36-1: Definition of type GroupPolicyDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
maxGroupMbrUl	BitRate	O	0..1	The maximum aggregate UL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
maxGroupMbrDl	BitRate	O	0..1	The maximum aggregate DL data rate that can be provided across all GBR and Non-GBR QoS Flows in the 5G VN group. (NOTE)	
remainGroupMbrUl	BitRate	O	0..1	The remaining maximum aggregate UL bitrate that can be provided across all GBR and Non-GBR QoS Flows of the 5G VN group. (NOTE)	
remainGroupMbrDl	BitRate	O	0..1	The remaining maximum aggregate DL bitrate that can be provided across all GBR and Non-GBR QoS Flows of the 5G VN group. (NOTE)	
NOTE: At least one of these attributes shall be included.					

5.4.3 Simple data types and enumerations

5.4.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

5.4.3.2 Simple data types

The simple data types defined in table 5.4.3.2-1 shall be supported.

Table 5.4.3.2-1: Simple data types

Type Name	Type Definition	Description	Applicability
BdtReferenceldRm	string	This data type is defined in the same way as the "BdtReferenceld" data type defined in 3GPP TS 29.122 [9], but with the "nullable: true" property.	EnhancedBackgroundDataTransfer
IpIndex	integer	Information that identifies which IP pool or external server is used to allocate the IP address.	
ItemPath	string	It contains one JSON pointer value (as defined in IETF RFC 6901 [20]) that references a target location within the resource. E.g. "/smPolicySnssaiData/<snssai>" represents the subscription to data changes in the SmPolicyData data document, in particular to the element of the "smPolicySnssaiData" map whose key is identified by the <snssai> value. E.g. 2 "/smPolicySnssaiData/<snssai>/smPolicyDnnData/<dnn>" represents the subscription to data changes in the SmPolicyData data document, in particular to the element of the "smPolicySnssaiData" map whose key is identified by the <snssai> value and, within this one, to the element of the "smPolicyDnnData" map whose key is identified by the <dnn> value. (NOTE)	ConditionalSubscriptionwithPartialNotification
OsId	string	Operating System of the served UE. It contains a Universally Unique Identifier (UUID) as specified in IETF RFC 4122 [17]. The format of the OS Id is represented in 3GPP TS 24.501 [11].	
NOTE: The S-NSSAI value used as key of the map is encoded as a string as defined in 3GPP TS 29.571[7], clause 5.4.4.2.			

5.4.3.3 Enumeration: UsageMonLevel

The enumeration represents the usage monitoring level. It shall comply with the provisions defined in table 5.4.3.3-1.

Table 5.4.3.3-1: Enumeration UsageMonLevel

Enumeration value	Description
SESSION_LEVEL	The usage monitoring is applicable for PDU session level.
SERVICE_LEVEL	The usage monitoring is applicable for service level.

5.4.3.4 Enumeration: Periodicity

The enumeration represents the time period. It shall comply with the provisions defined in table 5.4.3.4-1.

Table 5.4.3.4-1: Enumeration Periodicity

Enumeration value	Description
YEARLY	Time period is yearly
MONTHLY	Time period is monthly
WEEKLY	Time period is weekly
DAILY	Time period is daily
HOURLY	Time period is hourly

5.4.3.5 Enumeration: BdtPolicyStatus

The enumeration represents the validation status of the BDT policy. It shall comply with the provisions defined in table 5.4.3.5-1.

Table 5.4.3.5-1: Enumeration BdtPolicyStatus

Enumeration value	Description
INVALID	This value is used to indicate that the BDT policy is invalid while the BDT policy re-negotiation is ongoing because the network performance has degraded.
VALID	This value is used to indicate that the BDT policy is valid.

5.4.3.6 Enumeration: PolicyDataSubset

This enumeration indicates the policy data subsets (e.g. AM policy data, SM policy data, etc.). It shall comply with the provisions of table 5.4.3.6-1.

Table 5.4.3.6-1: Enumeration PolicyDataSubset

Enumeration value	Description
AM_POLICY_DATA	AM policy data.
SM_POLICY_DATA	SM policy data.
UE_POLICY_DATA	UE policy data.
UM_DATA	Usage Monitoring data.
OPERATOR_SPECIFIC_DATA	Operator specific data.

5.4.3.7 void

5.5 Error handling

5.5.1 General

For the Nudr_DataRepository service API for Policy Data, HTTP error responses shall be supported as specified in clause 4.8 of 3GPP TS 29.501 [5]. Protocol errors and application errors specified in table 5.2.7.2-1 of 3GPP TS 29.500 [4] shall be supported for an HTTP method if the corresponding HTTP status codes are specified as mandatory for that HTTP method in table 5.2.7.1-1 of 3GPP TS 29.500 [4].

In addition, the requirements in the following clauses are applicable for the Nudr_DataRepository service API for Policy Data.

5.5.2 Protocol Errors

No specific procedures for the Nudr_DataRepository service API for Policy Data are specified.

5.5.3 Application Errors

The application errors defined for the Nudr_DataRepository service API for Policy Data are listed in table 5.5.3-1.

Table 5.5.3-1: Application errors

Application Error	HTTP status code	Description
NOTE: Including a "ProblemDetails" data structure with the "cause" attribute in the HTTP response is optional unless explicitly mandated by other clauses in this document.		

The application error handling shall follow 3GPP TS 29.504 [6] clause 6.1.6 unless explicitly specified in this document.

5.6 Feature negotiation

The optional features in table 6.1.8-1 of 3GPP TS 29.504 [6] are defined for the Nudr_DataRepository API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

6 Usage of Nudr_DataRepository Service API for Application Data

6.1 Introduction

The following clauses specify the usage of Nudr_DataRepository service for application data. The principles specified in 3GPP TS 29.504 [6] are followed unless explicitly specified otherwise in the following clauses.

6.2 Resources

6.2.1 Overview

This clause specifies the resources for the usage of the Unified Data Repository service for Application Data.

6.2.2 Resource Structure

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 6.2.2-1 depicts the resource URIs structure for the Nudr_DataRepository API for application data

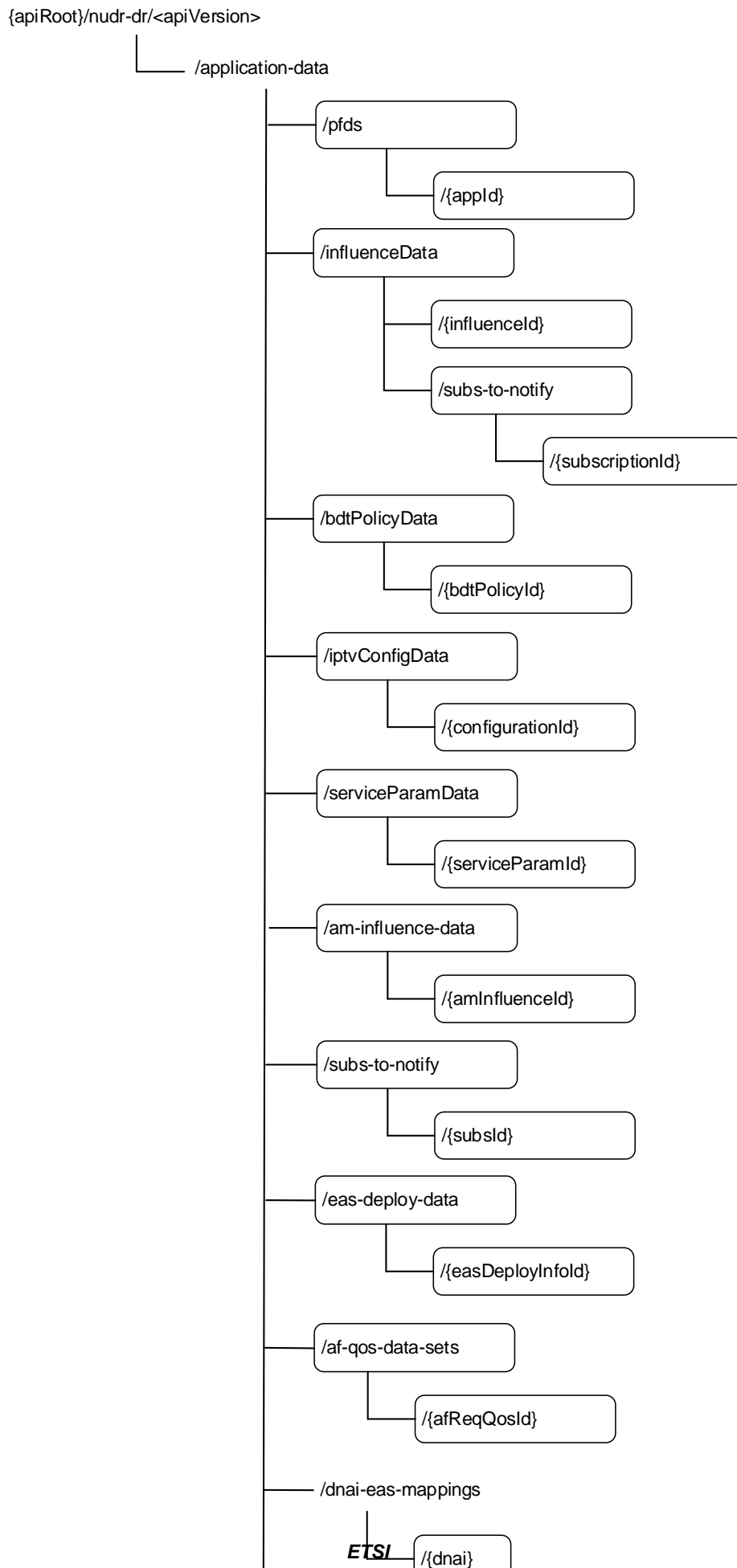


Figure 6.2.2-1: Resource URI structure of the Nudr_DataRepository API for application data

Table 6.2.2-1 provides an overview of the resources and applicable HTTP methods.

Table 6.2.2-1: Resources and methods overview

Resource name	Resource URI	HTTP method or custom operation	Description
PFD Data	/application-data/pfds	GET	Retrieve PFDs for application identifier(s) identified by query parameter(s). Retrieve PFDs for all application identifier(s) if no query parameter is included in the Request URI.
Individual PFD Data	/application-data/pfds/{appld}	GET	Retrieve the corresponding PFDs of the specified application identifier.
		DELETE	Delete the corresponding PFDs of the specified application identifier.
		PUT	Create or update the corresponding PFDs for the specified application identifier.
Influence Data	/application-data/influenceData (NOTE)	GET	Retrieve the Session Influence Data of given services, S-NSSAIs and DNNs or Internal Group Identifier(s) or Subscriber Category(ies) or SUPIs.
Individual Influence Data	/application-data/influenceData/{influenceld} (NOTE)	PUT	Create an individual Influence Data resource identified by {influenceld}, or modify all of the properties of an individual Influence Data resource identified by {influenceld}.
		PATCH	Modify part of the properties of an individual Influence Data resource identified by {influenceld}.
		DELETE	Delete an individual Influence Data resource identified by {influenceld}.
Influence Data Subscription	/application-data/influenceData/subs-to-notify (NOTE)	POST	Create a new Individual Influence Data Subscription resource.
		GET	Read subscriptions for a given S-NSSAI and DNN or Internal Group Identifier(s) or Subscriber Category(ies) or SUPI.
Individual Influence Data Subscription	/application-data/influenceData/subs-to-notify/{subscriptionId} (NOTE)	GET	Get an existing individual Influence Data Subscription resource identified by {subscriptionId}.
		PUT	Modify an existing individual Influence Data Subscription resource identified by {subscriptionId}.
		DELETE	Delete an individual Influence Data Subscription resource identified by {subscriptionId}.
Applied BDT Policy Data	/application-data/bdtPolicyData (NOTE)	GET	Retrieve the applied BDT policy data.
Individual Applied BDT Policy Data	/application-data/bdtPolicyData/{bdtPolicyId} (NOTE)	PUT	Create an individual applied BDT Policy Data resource identified by {bdtPolicyId}.
		PATCH	Modify BDT Reference Id of an individual applied BDT Policy Data resource identified by {bdtPolicyId}.
		DELETE	Delete an individual applied BDT Policy Data resource identified by {bdtPolicyId}.
IPTV Configurations	/application-data/iptvConfigData (NOTE)	GET	Retrieve IPTV configurations for configuration identifier(s), given S-NSSAI(s) and DNN(s), or SUPIs or Internal Group Identifiers
Individual IPTV Configuration	/application-data/iptvConfigData/{configurationId} (NOTE)	PUT	Create an Individual IPTV Configuration resource identified by {configurationId}, or modify all the properties of an Individual IPTV Configuration resource identified by {configurationId}.

		PATCH	Modify some properties of an Individual IPTV Configuration resource identified by {configurationId}.
		DELETE	Delete an Individual IPTV Configuration resource identified by {configurationId}
Service Parameter Data	/application-data/serviceParamData (NOTE)	GET	Retrieve the Service Parameter Data of given services, S-NSSAIs and DNNs or Internal Group Identifiers or SUPIs.
Individual Service Parameter Data	/application-data/serviceParamData/{serviceParamId} (NOTE)	PUT	Create an individual Service Parameter Data resource identified by {serviceParamId}, or modify all of the properties of an individual Service Parameter Data resource identified by {serviceParamId}.
		PATCH	Modify part of the properties of an individual Service Parameter Data resource identified by {serviceParamId}.
		DELETE	Delete an individual Service Parameter Data resource identified by {serviceParamId}.
AM Influence Data	/application-data/am-influence-data	GET	Retrieve the AM Influence Data of given S-NSSAIs and DNNs and/or Internal Group Identifiers or SUPIs or for LBO roaming scenarios, any inbound roaming UEs identified by their home PLMN ID(s).
Individual AM Influence Data	/application-data/am-influence-data/{amInfluencId}	PUT	Create an individual AM Influence Data resource identified by {amInfluencId}, or modify all of the properties of an individual AM Influence Data resource identified by {amInfluencId}.
		PATCH	Modify part of the properties of an individual AM Influence Data resource identified by {amInfluencId}.
		DELETE	Delete an individual AM Influence Data resource identified by {amInfluencId}.
ApplicationDataSubscriptions	/application-data/subs-to-notify	POST	Create a subscription to receive notification of application data changes.
		GET	Read all the subscriptions, or subscriptions for given S-NSSAI and DNN or Internal Group Identifier or SUPI.
IndividualApplicationDataSubscription	/application-data/subs-to-notify/{subsid}	PUT	Modify a subscription to receive notification of application data changes identified by {subsid}.
		DELETE	Delete a subscription identified by {subsid}.
		GET	Read an existing individual Subscription resource identified by {subsid}.
EAS Deployment Information Data	/application-data/eas-deploy-data	GET	Retrieve the EAS Deployment Information Data, given DNN(s), S-NSSAI(s), Application ID or Internal Group Identifiers.
Individual EAS Deployment Information Data	/application-data/eas-deploy-data/{easDeployInfold}	GET	Read an existing individual EAS Deployment Data identified by {easDeployInfold}.

		PUT	Create an individual EAS deployment information Data resource identified by {easDeployInfold} or Update an individual EAS Deployment Data resource identified by {easDeployInfold}.
		DELETE	Delete an individual EAS Deployment Data resource identified by {easDeployInfold}.
AF Requested QoS Data Sets	/application-data/af-qos-data-sets	GET	Retrieve one or several existing AF Requested QoS Data Set(s).
Individual AF Requested QoS Data Set	/application-data/af-qos-datasets/{afReqQosId}	PUT	Create an Individual AF Requested QoS Data Set or update an existing Individual AF Requested QoS Data Set.
		PATCH	Modify an existing Individual AF Requested QoS Data Set.
		DELETE	Delete an existing Individual AF Requested QoS Data Set.
Individual DNAI EAS Mapping	/application-data/dnai-eas-mappings/{dnai}	GET	Retrieve the EAS address information for a DNAI.
ECS Address Roaming Data	/application-data/ecs-address-roaming	GET	Retrieve all existing ECS Address Configuration Information for roaming UEs.
Individual ECS Address Roaming Data	/application-data/ecs-address-roaming/{ecsAddrInfold}	GET	Retrieve an existing ECS Address Configuration Information entry for roaming UEs.
		PUT	Create or Update an ECS Address Configuration Information entry for roaming UEs.
		DELETE	Delete an existing ECS Address Configuration Information entry for roaming UEs.
NOTE: The path segment does not follow the related naming convention defined in 3GPP TS 29.501 [5]. The path segment is kept though as defined in the current specification for backward compatibility considerations.			

6.2.3 Resource: PFD Data

6.2.3.1 Description

The PFD Data resource represents all the PFD Datas to the Nudr_DataRepository Service at a given UDR.

6.2.3.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/pfds

Table 6.2.3.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.3.3 Resource Standard Methods

6.2.3.3.1 GET

This method shall support the URI query parameters specified in table 6.2.3.3.1-1.

Table 6.2.3.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
appld (NOTE)	array(ApplicationId)	O	1..N	Contains the information of the application identifier(s) for the querying PFD Data resource. If the appld query parameter is not included in the URI, the query applies to all application identifier(s) for the querying PFD Data resource. If the appld array contains one or more ApplicationId entries, the UDR returns an Individual PFD Data resource representation for each matched ApplicationId.
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.
NOTE:	The query parameter does not follow the related naming convention (i.e. "lower-with-hyphen") defined in clause 5.1.3.3 of 3GPP TS 29.501 [7]. This query parameter is however kept as currently defined in this specification for backward compatibility considerations.			

This method shall support the request data structures specified in table 6.2.3.3.1-2 and the response data structures and response codes specified in table 6.2.3.3.1-3.

Table 6.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(PfdDataForAppE xt)	M	0..N	200 OK	A representation of PFDs for request applications is returned.
NOTE:	The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.			

6.2.4 Resource: Individual PFD Data

6.2.4.1 Description

The Individual PFD Data resource represents Individual PFD Datas to the Nudr_DataRepository Service at a given UDR.

6.2.4.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/pfds/{appId}

This resource shall support the resource URI variables defined in table 6.2.4.2-1.

Table 6.2.4.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
appId	ApplicationId	Indicates the application identifier for the request pfd(s). Data type ApplicationId is defined in 3GPP TS 29.571 [7].

6.2.4.3 Resource Standard Methods

6.2.4.3.1 GET

This method shall support the URI query parameters specified in table 6.2.4.3.1-1.

Table 6.2.4.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 6.2.4.3.1-2 and the response data structures and response codes specified in table 6.2.4.3.1-3.

Table 6.2.4.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.4.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PfdDataForAppExt	M	1	200 OK	A representation of PFDs for the request application identified by the application identifier is returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.4.3.2 DELETE

This method shall support the URI query parameters specified in table 6.2.4.3.2-1.

Table 6.2.4.3.2-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.4.3.2-2 and the response data structures and response codes specified in table 6.2.4.3.2-3.

Table 6.2.4.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.4.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No content	Successful case. The Individual PFD Data resource related to the application identifier was deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.4.3.3 PUT

This method shall support the URI query parameters specified in table 6.2.4.3.3-1.

Table 6.2.4.3.3-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.4.3.3-2 and the response data structures and response codes specified in table 6.2.4.3.3-3.

Table 6.2.4.3.3-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
PfdDataForAppExt	M	1	Contains the information for the creation or modification of an individual PFD Data resource.

Table 6.2.4.3.3-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
PfdDataForAppExt	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
PfdDataForAppExt	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.4.3.3-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/pfds/{applId}

6.2.5 Resource: Influence Data

6.2.5.1 Description

The Influence Data resource represents a Traffic Influence Data to the Nudr_DataRepository Service at a given UDR.

6.2.5.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData

This resource shall support the resource URI variables defined in table 6.2.5.2-1.

Table 6.2.5.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.5.3 Resource Standard Methods

6.2.5.3.1 GET

This method shall support the URI query parameters specified in table 6.2.5.3.1-1.

Table 6.2.5.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
influence-Ids (NOTE 2)	array(string)	O	1..N	Each element identifies a influenceId, i.e. an Individual Influence Data resource. (NOTE 1)
dnns	array(Dnn)	O	1..N	Each element identifies a DNN. The UDR shall return only Individual Influence Data resource(s) that match one of the provided DNNs. (NOTE 1)
snssais	array(Snssai)	O	1..N	Each element identifies a slice. The UDR shall return only Individual Influence Data resource(s) that match one of the provided S-NSSAIs. (NOTE 1)
internal-Group-Ids (NOTE 2)	array(GroupId)	O	1..N	Each element identifies a group of users. The UDR shall return only Individual Influence Data resource(s) that match one of the provided internal group IDs within the "interGroupId" attribute. (NOTE 1)
internal-group-ids-add	array(GroupId)	O	1..N	Each element identifies an internal group id. The UDR shall return only Individual Influence Data resource(s) that match all the provided internal group IDs within the "interGroupIdList" attribute.
subscriber-categories	array(string)	O	1..N	Each element identifies a subscriber category. The UDR shall return only Individual Influence Data resource(s) that match all the provided subscriber category(ies).
supis	array(Supi)	O	1..N	Each element identifies a user. The UDR shall return only Individual Influence Data resource(s) that match one of the provided SUPIs. (NOTE 1)
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.
NOTE 1: At least one of the "influence-Ids", "dnns", "snssais", "internal-Group-Ids", "internal-group-ids-add" (may be included when <i>FinerGranUEs</i> feature is supported) or "supis" query parameters shall be provided.				
NOTE 2: The query parameter does not follow the related naming convention (i.e. "lower-with-hyphen") defined in clause 5.1.3.3 of 3GPP TS 29.501 [7]. This query parameter is however kept as currently defined in this specification for backward compatibility considerations.				

NOTE: The combination of a."internal-Goup-Ids" and the "supis", b."internal-group-ids-add" and the "supis", c."subscriber-categories" and the "supis" and d. "internal-Group-Ids" and the "internal-group-ids-add" query parameter represent mutually exclusive resource properties, i.e., if both query parameters are simultaneously present in the same request, the search will not match any resource.

When the request query contains more than one optional query parameters defined as an array, the UDR shall return the Individual Influence Data resources for each matching combination of the values of the elements of the array of the provided query parameters.

EXAMPLE: If "snssais" query parameter is included with two S-NSSAI entries (S-NSSAI_1 and S-NSSAI_2) and "dnns" is included with two DNN entries (e.g. DNN_A and DNN_B), and the other optional query parameters are not included, the UDR shall return the Individual Influence Data resources for each matching S-NSSAI and DNN combination (for all the possible values for supi and groupId), i.e., the resource(s) matching SNSSAI_1 and DNN_A, the resource(s) matching SNSSAI_1 and DNN_B, the resource(s) matching SNSSAI_2 and DNN_A, and the resource(s) matching SNSSAI_2 and DNN_B.

To query for the Individual Influence Data resource(s) that apply to any UE, an entry of the "internal-Group-Ids" shall be set to "AnyUE".

This method shall support the request data structures specified in table 6.2.5.3.1-2 and the response data structures and response codes specified in table 6.2.5.3.1-3.

Table 6.2.5.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.5.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(TrafficInfluData)	M	0..N	200 OK	The Traffic Influence Data stored in the UDR are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.6 Resource: Individual Influence Data

6.2.6.1 Description

The Individual Influence Data resource represents an Individual Traffic Influence Data to the Nudr_DataRepository Service at a given UDR.

6.2.6.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/{influenceId}`

This resource shall support the resource URI variables defined in table 6.2.6.2-1.

Table 6.2.6.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
influenceId	string	The Identifier of an Individual Influence Data to be created or updated. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.6.3 Resource Standard Methods

6.2.6.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.6.3.1-1.

Table 6.2.6.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.6.3.1-2 and the response data structures and response codes specified in table 6.2.6.3.1-3.

Table 6.2.6.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
TrafficInfluData	M	1	The Traffic Influence Data to be stored in the UDR.

Table 6.2.6.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
TrafficInfluData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
TrafficInfluData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.6.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/{influenceId}

6.2.6.3.2 PATCH

This method shall support the URI query parameters specified in table 6.2.6.3.2-1.

Table 6.2.6.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.6.3.2-2 and the response data structures and response codes specified in table 6.2.6.3.2-3.

Table 6.2.6.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
TrafficInfluDataPatch	M	1	The Traffic Influence Data to be updated in the UDR.

Table 6.2.6.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
TrafficInfluData	M	1	200 OK	The update of an Individual Traffic Influence Data resource is confirmed and a response body containing Traffic Influence Data shall be returned.
n/a			204 No Content	The Individual Traffic Influence Data resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.6.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.6.3.3-1.

Table 6.2.6.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.6.3.3-2 and the response data structures and response codes specified in table 6.2.6.3.3-3.

Table 6.2.6.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.6.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The Individual Influence Data was deleted successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.7 Resource: Influence Data Subscription

6.2.7.1 Description

The Influence Data Subscription resource represents all Influence Data subscriptions to the Nudr_DataRepository Service at a given UDR.

6.2.7.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/subs-to-notify

This resource shall support the resource URI variables defined in table 6.2.7.2-1.

Table 6.2.7.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.7.3 Resource Standard Methods

6.2.7.3.1 POST

This method shall support the URI query parameters specified in table 6.2.7.3.1-1.

Table 6.2.7.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.7.3.1-2 and the response data structures and response codes specified in table 6.2.7.3.1-3.

Table 6.2.7.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
TrafficInfluSub	M	1	Parameters to register a subscription to Traffic Influence Data.

Table 6.2.7.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
TrafficInfluSub	M	1	201 Created	The subscription was created successfully.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.7.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/subs-to-notify/{subscriptionId}

6.2.7.3.2 GET

This method shall support the URI query parameters specified in table 6.2.7.3.2-1.

Table 6.2.7.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
dnn	Dnn	O	0..1	Identifies a DNN. (NOTE 1)
snsai	Snsai	O	0..1	Identifies a slice. (NOTE 1)
internal-Group-Id (NOTE 3)	GroupId	O	0..1	Identifies a group of users. (NOTE 1) (NOTE 2) (NOTE 4)
internal-group-ids	array(GroupId)	O	1..N	Identifies a group of users that belong to all the listed internal groups. (NOTE 1) (NOTE 4)
subscriber-categories	array(string)	O	1..N	Identifies a list of subscriber category.
supi	Supi	O	0..1	Identifies a user.
NOTE 1: At least one of "dnn", "snsai" or "internal-Group-Id" or "internal-group-ids"(may be included when FinerGranUEs feature is supported) shall be provided.				
NOTE 2: For the Traffic Influence Data applies to any UE, the "internal-Group-Id" sets to "AnyUE".				
NOTE 3: The query parameter does not follow the related naming convention (i.e. "lower-with-hyphen") defined in clause 5.1.3.3 of 3GPP TS 29.501 [7]. This query parameter is however kept as currently defined in this specification for backward compatibility considerations.				
NOTE 3: Attributes "internal-Group-Id" and "internal-group-ids" are mutually exclusive attributes.				

This method shall support the request data structures specified in table 6.2.7.3.2-2 and the response data structures and response codes specified in table 6.2.7.3.2-3.

Table 6.2.7.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.7.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(TrafficInfluSub)	M	0..N	200 OK	The subscription information as request in the request URI query parameter(s) are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.8 Resource: Individual Influence Data Subscription

6.2.8.1 Description

The Individual Influence Data Subscription resource represents a single Influence Data subscription to the Nudr_DataRepository Service at a given UDR.

6.2.8.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/subs-to-notify/{subscriptionId}`

This resource shall support the resource URI variables defined in table 6.2.8.2-1.

Table 6.2.8.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
subscriptionId	string	Identifies an Individual Influence Data Subscription resource. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.8.3 Resource Standard Methods

6.2.8.3.1 GET

This method shall support the URI query parameters specified in table 6.2.8.3.1-1.

Table 6.2.8.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.8.3.1-2 and the response data structures and response codes specified in table 6.2.8.3.1-3.

Table 6.2.8.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.8.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
TrafficInfluSub	M	1	200 OK	The subscription information is returned.

6.2.8.3.2 PUT

This method shall support the URI query parameters specified in table 6.2.8.3.2-1.

Table 6.2.8.3.2-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.8.3.2-2 and the response data structures and response codes specified in table 6.2.8.3.2-3.

Table 6.2.8.3.2-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
TrafficInfluSub	M	1	Modify an existing subscription to Traffic Influence Data.

Table 6.2.8.3.2-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
TrafficInfluSub	M	1	200 OK	The subscription was updated successfully.
n/a			204 No Content	The subscription has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.8.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.8.3.3-1.

Table 6.2.8.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.8.3.3-2 and the response data structures and response codes specified in table 6.2.8.3.3-3.

Table 6.2.8.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.8.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The subscription was terminated successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.9 Resource: Applied BDT Policy Data

6.2.9.1 Description

The Applied BDT Policy Data resource represents an applied BDT Policy Data to the Nudr_DataRepository Service at a given UDR.

6.2.9.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/bdtPolicyData

This resource shall support the resource URI variables defined in table 6.2.9.2-1.

Table 6.2.9.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.9.3 Resource Standard Methods

6.2.9.3.1 GET

This method shall support the URI query parameters specified in table 6.2.9.3.1-1.

Table 6.2.9.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
bdt-policy-ids	array(string)	O	1..N	Each element identifies a bdtPolicyId, i.e., an identifier of an Individual BDT Policy Data resource. The UDR shall return an Individual Applied BDT Policy Data resource for each matched bdtPolicyId.
internal-group-ids	array(GroupId)	O	1..N	Each element identifies a group of users. The UDR shall return only Individual Applied BDT Policy Data resource(s) that match one of the provided internal group ID(s).
supis	array(Supi)	O	1..N	Each element identifies a user. The UDR shall return only Individual Applied BDT Policy Data resource(s) that match one of the provided SUPI(s).

NOTE: The "internal-group-ids" and the "supis" query parameters represent mutually exclusive resource properties, i.e., if both query parameters are simultaneously present in the same request, the search will not match any resource.

When the request contains the "bdt-policy-ids" and the "internal-group-ids" or "supis" query parameters, the UDR shall return the resource(s) that match any combination of the values of the "bdt-policy-ids" and the "internal-group-ids" or "supis" arrays.

EXAMPLE: If "bdt-policy-ids" query parameter is included with two bdtPolicyId entries (bdtPolicyId_1 and bdtPolicyId_2) and "supis" is included with two SUPI entries (e.g. SUPI_A and SUPI_B), the UDR shall return the Individual BDT Policy Data resource(s) for each matching bdtPolicyId and SUPI combination i.e., the resource(s) matching bdtPolicyId_1 and SUPI_A or SUPI_B, and the resource(s) matching bdtPolicyId_2 and SUPI A or SUPI_B (note that other combinations are not possible).

This method shall support the request data structures specified in table 6.2.9.3.1-2 and the response data structures and response codes specified in table 6.2.9.3.1-3.

Table 6.2.9.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.9.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(BdtPolicyData)	M	0..N	200 OK	The applied BDT Policy Data stored in the UDR are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.10 Resource: Individual Applied BDT Policy Data

6.2.10.1 Description

The Individual Applied BDT Policy Data resource represents an Individual Applied BDT Policy Data to the Nudr_DataRepository Service at a given UDR.

6.2.10.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/application-data/bdtPolicyData/{bdtPolicyId}`

This resource shall support the resource URI variables defined in table 6.2.10.2-1.

Table 6.2.10.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
bdtPolicyId	string	The Identifier of an Individual BDT Policy Data to be created or updated. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.10.3 Resource Standard Methods

6.2.10.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.10.3.1-1.

Table 6.2.10.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.10.3.1-2 and the response data structures and response codes specified in table 6.2.10.3.1-3.

Table 6.2.10.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
BdtPolicyData	M	1	The applied BDT Policy Data to be stored in the UDR.

Table 6.2.10.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
BdtPolicyData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.10.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: <code>{apiRoot}/nudr-dr/<apiVersion>/application-data/bdtPolicyData/{bdtPolicyId}</code>

6.2.10.3.2 PATCH

This method shall support the URI query parameters specified in table 6.2.10.3.2-1.

Table 6.2.10.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.10.3.2-2 and the response data structures and response codes specified in table 6.2.10.3.2-3.

Table 6.2.10.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
BdtPolicyDataPatch	M	1	The applied BDT Policy Data to be updated in the UDR.

Table 6.2.10.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
BdtPolicyData	M	1	200 OK	The update of an applied BDT Policy Data resource is confirmed and a response body containing applied BDT Policy Data shall be returned.
n/a			204 No Content	The update of an applied BDT Policy Data resource is confirmed.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.10.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.10.3.3-1.

Table 6.2.10.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.10.3.3-2 and the response data structures and response codes specified in table 6.2.10.3.3-3.

Table 6.2.10.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.10.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The Individual Applied BDT Policy Data was deleted successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.11 Resource: IPTV Configurations

6.2.11.1 Description

This resource allows the NF service consumer to read all active IPTV Configurations applicable for given configuration identifier(s), DNN(s) and/or S-NSSAI(s), SUPI(s) or Internal Group Identifier(s) stored at the UDR.

6.2.11.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/iptvConfigData

This resource shall support the resource URI variables defined in table 6.2.11.2-1.

Table 6.2.11.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.11.3 Resource Standard Methods

6.2.11.3.1 GET

This method shall support the URI query parameters specified in table 6.2.11.3.1-1.

Table 6.2.11.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
config-ids	array(string)	O	1..N	Each element identifies a configurationId, i.e. an Individual IPTV Configuration resource. The UDR shall return an Individual IPTV Configuration resource for each matched configurationId.
dnns	array(Dnn)	O	1..N	Each element identifies a DNN. The UDR shall return only Individual IPTV Configuration resource(s) that match one of the provided DNN(s).
snssais	array(Snssai)	O	1..N	Each element identifies a slice. The UDR shall return only Individual IPTV Configuration resource(s) that match one of the provided S-NSSAI(s).
supis	array(Supi)	O	1..N	Each element identifies a SUPI. The UDR shall return only Individual IPTV Configuration resource(s) that match one of the provided SUPI(s).
inter-group-ids	array(GroupId)	O	1..N	Each element identifies a group of users. The UDR shall return only Individual IPTV Configuration resource(s) that match one of the provided internal group ID(s).
NOTE: At least one of the above attributes shall be provided.				

NOTE: The "inter-group-ids" and the "supis" query parameters represent mutually exclusive resource properties, i.e., if both query parameters are simultaneously present in the same request, the search will not match any resource.

When the request query contains more than one optional query parameters defined as an array, the UDR shall return the Individual IPTV Configuration resources for each matching combination of the values of the provided query parameters.

EXAMPLE: If "snssais" query parameter is included with two S-NSSAI entries (S-NSSAI_1 and S-NSSAI_2) and "dnns" is included with two DNN entries (e.g. DNN_A and DNN_B), and the other optional query parameters are not included, the UDR shall return IPTV Configuration resources for each matching (for all the possible values for supi, and groupId), i.e. the resource(s) matching SNSSAI_1 and DNN_A, the resource(s) matching SNSSAI_1 and DNN_B, the resource(s) matching SNSSAI_2 and DNN_A, and the resources matching SNSSAI_2 and DNN_B.

This method shall support the request data structures specified in table 6.2.11.3.1-2 and the response data structures and response codes specified in table 6.2.11.3.1-3.

Table 6.2.11.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.11.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(IptvConfigData)	M	0..N	200 OK	The IPTV configuration data stored in the UDR are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.12 Resource: Individual IPTV Configuration

6.2.12.1 Description

The resource allows the NF service consumer to create an Individual IPTV configuration Data, modify or delete an existing Individual IPTV configuration Data.

6.2.12.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/iptvConfigData/{configurationId}

This resource shall support the resource URI variables defined in table 6.2.12.2-1.

Table 6.2.12.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
configurationId	string	The Identifier of an Individual IPTV Configuration to be created or updated. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.12.3 Resource Standard Methods

6.2.12.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.12.3.1-1.

Table 6.2.12.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.12.3.1-2 and the response data structures and response codes specified in table 6.2.12.3.1-3.

Table 6.2.12.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
IptvConfigData	M	1	The IPTV configuration data to be stored in the UDR.

Table 6.2.12.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
IptvConfigData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
IptvConfigData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.12.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/iptvConfigData/{configurationId}

6.2.12.3.2 DELETE

This method shall support the URI query parameters specified in table 6.2.12.3.2-1.

Table 6.2.12.3.2-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.12.3.2-2 and the response data structures and response codes specified in table 6.2.12.3.2-3.

Table 6.2.12.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.12.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The resource was deleted successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.12.3.3 PATCH

This method shall support the URI query parameters specified in table 6.2.12.3.3-1.

Table 6.2.12.3.3-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.12.3.3-2 and the response data structures and response codes specified in table 6.2.12.3.3-3.

Table 6.2.12.3.3-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
IptvConfigDataPatch	M	1	The IPTV configuration related data to be updated in the UDR.

Table 6.2.12.3.3-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
IptvConfigData	M	1	200 OK	The resource has been successfully updated.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.13 Resource: ApplicationDataSubscriptions

6.2.13.1 Description

This resource is used to represent subscriptions to notification of application data modification, e.g. PFD data change, IPTV configuration data change, BDT policy data change, but not for Traffic Influence Data.

6.2.13.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/subs-to-notify

This resource shall support the resource URI variables defined in table 6.2.13.2-1.

Table 6.2.13.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.13.3 Resource Standard Methods

6.2.13.3.1 POST

This method shall support the URI query parameters specified in table 6.2.13.3.1-1.

Table 6.2.13.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.13.3.1-2 and the response data structures and response codes specified in table 6.2.13.3.1-3.

Table 6.2.13.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
ApplicationDataSubs	M	1	Identifies the subscription to notification of application data modification.

Table 6.2.13.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ApplicationDataSubs	M	1	201 Created	Upon success, a response body containing a representation of each Individual subscription resource shall be returned. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the created resource.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.13.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/subs-to-notify/{subsid}

6.2.13.3.2 GET

This method shall support the URI query parameters specified in table 6.2.13.3.2-1.

Table 6.2.13.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
data-filter	DataFilter	O	0..1	Indicate the data filter (e.g. dnn) for the query. When present, the UDR shall return the IndividualApplicationDataSubscription resource(s) for which the indicated information in the "data-filter" query parameter matches an entry of the "dataFilters" property of the resource (i.e. within the resource representation in the ApplicationDataSubs data structure). If the values of the "dataFilters" entry match the values provided in the "data-filter" query parameter, then the entry is considered to be a match even if it contains further attributes, for which no value was provided in the "data-filter" query parameter.

This method shall support the request data structures specified in table 6.2.13.3.2-2 and the response data structures and response codes specified in table 6.2.13.3.2-3.

Table 6.2.13.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.13.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(ApplicationDataSubs)	M	0..N	200 OK	The subscription information as request in the request URI query parameter(s) are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.14 Resource: IndividualApplicationDataSubscription

6.2.14.1 Description

This resource is used to represent an individual subscription to notification of application data modification.

6.2.14.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/subs-to-notify/{subsId}

This resource shall support the resource URI variables defined in table 6.2.14.2-1.

Table 6.2.14.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
subsId	string	The subsId identifies an individual application data subscription to notifications. The value is allocated by the UDR during creation of the ApplicationDataSubscriptions resource.

6.2.14.3 Resource Standard Methods

6.2.14.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.14.3.1-1.

Table 6.2.14.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.14.3.1-2 and the response data structures and response codes specified in table 6.2.14.3.1-3.

Table 6.2.14.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
ApplicationDataSubs	M	1	Updates the subscription to notification of application data modification.

Table 6.2.14.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ApplicationDataSubs	M	1	200 OK	The individual subscription resource was updated successfully.
n/a			204 No Content	The individual subscription resource was updated successfully and no additional content is to be sent in the response message.

NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.

6.2.14.3.2 DELETE

This method shall support the URI query parameters specified in table 6.2.14.3.2-1.

Table 6.2.14.3.2-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.14.3.2-2 and the response data structures and response codes specified in table 6.2.14.3.2-3.

Table 6.2.14.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			The request body shall be empty.

Table 6.2.14.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.14.3.3 GET

This method shall support the URI query parameters specified in table 6.2.14.3.3-1.

Table 6.2.14.3.3-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.14.3.3-2 and the response data structures and response codes specified in table 6.2.14.3.3-3.

Table 6.2.14.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.14.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ApplicationDataSubs	M	1	200 OK	The subscription information is returned.

6.2.15 Resource: Service Parameter Data

6.2.15.1 Description

The Service Parameter Data resource represents a Service Parameter Data to the Nudr_DataRepository Service at a given UDR.

6.2.15.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/serviceParamData

This resource shall support the resource URI variables defined in table 6.2.15.2-1.

Table 6.2.15.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.15.3 Resource Standard Methods

6.2.15.3.1 GET

This method shall support the URI query parameters specified in table 6.2.15.3.1-1.

Table 6.2.15.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description	Applicability
service-param-ids	array(string)	O	1..N	Each element identifies a serviceParamId, i.e., an Individual Service Parameter Data. The UDR shall return an Individual Service Parameter Data resource for each matched serviceParamId.	
dnns	array(Dnn)	O	1..N	Each element identifies a DNN. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided DNNs.	
snssais	array(Snssai)	O	1..N	Each element identifies a slice. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided S-NSSAIs.	
internal-group-ids	array(GroupId)	O	1..N	Each element identifies a group of users. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided internal group IDs.	
supis	array(Supi)	O	1..N	Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided SUPIs.	
ue-ipv4s	array(Ipv4Addr)	O	1..N	Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided IPv4 addresses.	
ue-ipv6s	array(Ipv6Addr)	O	1..N	Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided IPv6 addresses.	
ue-macs	array(MacAddr48)	O	1..N	Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided UE MAC addresses.	
any-ue	boolean	O	0..1	Indicates whether the request is for any UE: - "true": the request is for any UE; - "false"(default): the request is not for any UE. The UDR shall return only Individual Service Parameter Data resource(s) that match the any UE indication.	FilterAnyUE
roam-ue-net-descs	array(NetworkDescription)	O	1..N	Each element identifies one or more PLMNs for the roaming UE. The UDR shall return only Service Parameter Data resource(s) that match at least one of the provided PLMN as described in the NetworkDescription data type.	VPLMNSpecificURSP
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.	
NOTE 1: At least one of the "service-param-ids", "dnns", "snssais", "internal-group-ids", "supis", "ue-ipv4s", "ue-ipv6s" or "ue-macs", and if the feature FilterAnyUE is supported, or "any-ue", and if the feature VPLMNSpecificURSP is supported, or "roam-ue-net-descs" query parameters shall be provided.					

NOTE: The "any-ue" query parameter is commonly related to the search of the service parameter data resource(s) that relate to any UE using the service identified by a combination of DNN and S-NSSAI, and thus, it is commonly present together with the "dnns" and "snssais" query parameters. Note that, if the "any-ue" query parameter is present together with the "internal-group-ids", "supis", "ue-ipv4s", "ue-ipv6s" and/or "ue-macs" query parameters the search will not match any resource, since according to clause 6.4.2.15 only one of the the "supi", "anyUeInd", "interGroupId", "ueIpv4", "ueIpv6" or "ueMac" properties are simultaneously present in the resource.

When the request query contains more than one optional query parameters defined as an array, the UDR shall return the Service Parameter Data resources for each matching combination of the values of the elements of the array of the provided query parameters.

EXAMPLE: If "snssais" query parameter is included with two S-NSSAI entries (S-NSSAI_1 and S-NSSAI_2) and "dnns" is included with two DNN entries (e.g. DNN_A and DNN_B), and the other optional query parameters are not included, the UDR shall return the Individual Service Parameter Data resources for each matching S-NSSAI and DNN, i.e., the resource(s) matching SNSSAI_1 and DNN_A, the resource(s) matching SNSSAI_1 and DNN_B, the resource(s) matching SNSSAI_2 and DNN_A, and the resources matching SNSSAI_2 and DNN_B.

This method shall support the request data structures specified in table 6.2.15.3.1-2 and the response data structures and response codes specified in table 6.2.15.3.1-3.

Table 6.2.15.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.15.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(ServiceParameterData)	M	0..N	200 OK	The Service Parameter Data stored in the UDR are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.16 Resource: Individual Service Parameter Data

6.2.16.1 Description

The Individual Service Parameter Data resource represents an Individual Service Parameter Data to the Nudr_DataRepository Service at a given UDR.

6.2.16.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/serviceParamData/{serviceParamId}

This resource shall support the resource URI variables defined in table 6.2.16.2-1.

Table 6.2.16.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
serviceParamId	string	The Identifier of an Individual Service Parameter Data to be created or updated. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.16.3 Resource Standard Methods

6.2.16.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.16.3.1-1.

Table 6.2.16.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.16.3.1-2 and the response data structures and response codes specified in table 6.2.16.3.1-3.

Table 6.2.16.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
ServiceParameterData	M	1	The Service Parameter Data to be stored in the UDR.

Table 6.2.16.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ServiceParameterData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
ServiceParameterData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.16.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/serviceParamData/{serviceParamId}

6.2.16.3.2 PATCH

This method shall support the URI query parameters specified in table 6.2.16.3.2-1.

Table 6.2.16.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.6.3.2-2 and the response data structures and response codes specified in table 6.2.6.3.2-3.

Table 6.2.16.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
ServiceParameterDataPatch	M	1	The Service Parameter Data to be updated in the UDR.

Table 6.2.16.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ServiceParameter Data	M	1	200 OK	The update of an Individual Service Parameter Data resource is confirmed and a response body containing Service Parameter Data shall be returned.
n/a			204 No Content	The Individual Service Parameter Data resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.16.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.16.3.3-1.

Table 6.2.16.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.16.3.3-2 and the response data structures and response codes specified in table 6.2.16.3.3-3.

Table 6.2.16.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.16.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The Individual Service Parameter Data was deleted successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.17 Resource: AM Influence Data

6.2.17.1 Description

The AM Influence Data resource represents an AM Influence Data to the Nudr_DataRepository Service at a given UDR.

6.2.17.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/application-data/am-influence-data`

This resource shall support the resource URI variables defined in table 6.2.17.2-1.

Table 6.2.17.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.17.3 Resource Standard Methods

6.2.17.3.1 GET

This method shall support the URI query parameters specified in table 6.2.17.3.1-1.

Table 6.2.17.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description	Applicability
am-influence-ids	array(string)	O	1..N	Each element identifies a amInfluenceId, i.e., an identifier of an Individual AM Influence Data resource. The UDR shall return an Individual AM Influence Data resource that matches one of provided amInfluenceId(s).	
dnns	array(Dnn)	O	1..N	Each element identifies a DNN. The UDR shall return only AM Influence Data resource(s) that match at least one of the DNN(s) of the array. (NOTE 2)	
snssais	array(Snssai)	O	1..N	Each element identifies a slice. The UDR shall return only AM Influence Data resource(s) that match at least one of the S-NSSAI(s) of the array. (NOTE 2)	
dnn-snssai-infos	array(DnnSnssai information)	O	1..N	Each element identifies a combination of (DNN, S-NSSAI). The UDR shall return only AM Influence Data resource(s) that match at least one of the SNSSAI and DNN combination(s) of the array. (NOTE 2)	
internal-group-ids	array(GroupId)	O	1..N	Each element identifies a group of users. The UDR shall return only AM Influence Data resource(s) that match one of the provided GroupId(s).	
supis	array(Supi)	O	1..N	Each element identifies a user. The UDR shall return only AM Influence Data resource(s) that match one of the provided SUPI(s).	
any-ue	boolean	O	0..1	Indicates whether the request is for any non-roaming UE: - "true": the request is for any non-roaming UE; - "false"(default): the request is not for any non-roaming UE. The UDR shall return only AM Influence Data resource(s) that contain the Any UE indication.	
roam-ue-plmn-ids	array(PlmnId)	O	1..N	Each element identifies a PLMN ID for the roaming UE in LBO roaming scenario. The UDR shall return only AM Influence Data resource(s) that match at least one of the provided PLMN ID.	DCAMP_Roaming_LBO
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.	
NOTE 1: At least one of the query parameters other than the "supp-feat" query parameter shall be provided.					
NOTE 2: Only one of the "dnns", "snssais" or "dnn-snssai-infos" attributes may be simultaneously provided.					

NOTE: The "any-ue" query parameter is commonly related to the search of the AM influence data resource(s) that relate to any non-roaming UE using the service(s) identified by a combination of DNN and S-NSSAI, and thus, it is commonly present together with the "dnn-snssai-infos" query parameters. Note also that, if the "any-ue" query parameter is present together with the "internal-group-ids", and/or "supis" query parameters the search will not match any resource, since according to clause 6.4.2.16 only one of the the "supi", "anyUeInd" and "interGroupId" properties are simultaneously present in the resource.

When the request query contains more than one optional query parameters defined as an array, the UDR shall return the Individual AM Influence Data resources for each matching combination of the values of the elements of the array of the provided query parameters.

EXAMPLE 1: If the "dnn-snssai-infos" query parameter is included with two DNN and S-NSSAI combinations (comb_1 and comb_2) and the "supis" query parameter is included with two SUPI entries (e.g. SUPI_A and SUPI_B), and all of them are matching entries, the UDR shall return the Individual AM Influence Data resources for each matching S-NSSAI and DNN and SUPI combination, i.e. the resource(s) matching comb_1 and SUPI_A, comb_2 and SUPI_A, comb_1 and SUPI_B, and comb2 and SUPI_B.

EXAMPLE 2: If the "dnn-snssai-infos" query parameter is included with two DNN and S-NSSAI combination (comb_1 and comb_2) and the "supis" query parameter is included with two SUPI entries (e.g. SUPI_A and SUPI_B), and there are no matching entries for comb_1, the UDR shall return the Individual AM Influence Data resources for the matching S-NSSAI and DNN and SUPI combination, i.e., the resource(s) matching comb_2 and SUPI_A, and comb2 and SUPI_B.

This method shall support the request data structures specified in table 6.2.17.3.1-2 and the response data structures and response codes specified in table 6.2.17.3.1-3.

Table 6.2.17.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.17.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(AmInfluData)	M	0..N	200 OK	The AM Influence Data stored in the UDR are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.18 Resource: Individual AM Influence Data

6.2.18.1 Description

The Individual AM Influence Data resource represents an Individual AM Influence Data to the Nudr_DataRepository Service at a given UDR.

6.2.18.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/am-influence-data/{amInfluenceId}

This resource shall support the resource URI variables defined in table 6.2.18.2-1.

Table 6.2.18.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
amInfluenceld	string	The identifier of an Individual AM Influence Data to be created or updated. To enable the value to be used as part of a URI, the string shall only contain allowed characters according to the "lower-with-hyphen" naming convention defined in clause 5.1.3 of 3GPP TS 29.501 [5].

6.2.18.3 Resource Standard Methods

6.2.18.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.18.3.1-1.

Table 6.2.18.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.18.3.1-2 and the response data structures and response codes specified in table 6.2.18.3.1-3.

Table 6.2.18.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
AmInfluData	M	1	The AM Influence Data to be stored in the UDR.

Table 6.2.18.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AmInfluData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
AmInfluData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.18.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/am-influence-data/{amInfluenceld}

6.2.18.3.2 PATCH

This method shall support the URI query parameters specified in table 6.2.18.3.2-1.

Table 6.2.18.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.18.3.2-2 and the response data structures and response codes specified in table 6.2.18.3.2-3.

Table 6.2.18.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
AmInfluDataPatch	M	1	The AM Influence Data to be updated in the UDR.

Table 6.2.18.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AmInfluData	M	1	200 OK	The update of an Individual AM Influence Data resource is confirmed and a response body containing the AM Influence Data shall be returned.
n/a			204 No Content	The Individual AM Influence Data resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.18.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.18.3.3-1.

Table 6.2.18.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.18.3.3-2 and the response data structures and response codes specified in table 6.2.18.3.3-3.

Table 6.2.18.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.18.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The Individual AM Influence Data was deleted successfully.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.19 Resource: EAS Deployment Information Data

6.2.19.1 Description

The EAS Deployment Information Data resource represents all EAS Deployment Information Data to the Nudr_DataRepository Service at a given UDR.

6.2.19.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/application-data/eas-deploy-data**

This resource shall support the resource URI variables defined in table 6.2.19.2-1.

Table 6.2.19.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.19.3 Resource Standard Methods

6.2.19.3.1 GET

This method shall support the URI query parameters specified in table 6.2.19.3.1-1.

Table 6.2.19.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
dnn	Dnn	O	0..1	Identifies a DNN.
snsai	Snssai	O	0..1	Identifies a slice.
internal-group-id	GroupId	O	0..1	Identifies a group of users.
appld (NOTE 2)	string	O	0..1	Identifies an application.
NOTE 1: At least one of the above attributes shall be provided.				
NOTE 2: The query parameter does not follow the related naming convention (i.e. "lower-with-hyphen") defined in clause 5.1.3.3 of 3GPP TS 29.501 [7]. This query parameter is however kept as currently defined in this specification for backward compatibility considerations.				

This method shall support the request data structures specified in table 6.2.19.3.1-2 and the response data structures and response codes specified in table 6.2.19.3.1-3.

Table 6.2.19.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.19.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(EasDeployInfoData)	M	1..N	200 OK	The subscribed EAS Deployment information as request in the request URI query parameter(s) are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.20 Resource: Individual EAS Deployment Information Data

6.2.20.1 Description

The Individual EAS Deployment Information Data resource represents a single EAS Deployment Information data resource in the Nudr_DataRepository Service at a given UDR.

6.2.20.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/eas-deploy-data/{easDeployInfoId}

This resource shall support the resource URI variables defined in table 6.2.20.2-1.

Table 6.2.20.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
easDeployInfold	string	Identifies an Individual EAS Deployment Information Data resource.

6.2.20.3 Resource Standard Methods

6.2.20.3.1 GET

This method shall support the URI query parameters specified in table 6.2.20.3.1-1.

Table 6.2.20.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.20.3.1-2 and the response data structures and response codes specified in table 6.2.20.3.1-3.

Table 6.2.20.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.20.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EasDeployInfoData	M	1	200 OK	The EAS Deployment Data is returned.

6.2.20.3.2 PUT

This method shall support the URI query parameters specified in table 6.2.20.3.1-1.

Table 6.2.20.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.20.3.1-2 and the response data structures and response codes specified in table 6.2.20.3.1-3.

Table 6.2.20.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
EasDeployInfoData	M	1	The EAS Deployment Information Data to be stored in the UDR.

Table 6.2.20.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EasDeployInfoData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
EasDeployInfoData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.20.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/eas-deploy-data/{easDeployInfoData}

6.2.20.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.20.3.3-1.

Table 6.2.20.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.20.3.3-2 and the response data structures and response codes specified in table 6.2.20.3.3-3.

Table 6.2.20.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.20.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The EAS Deployment Data was successfully deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.21 Resource: AF Requested QoS Data Sets

6.2.21.1 Description

The "AF Requested QoS Data Sets" collection resource represents all AF Requested QoS Data Set(s) managed by the UDR.

6.2.21.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/af-qos-data-sets

This resource shall support the resource URI variables defined in table 6.2.21.2-1.

Table 6.2.21.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See clause 6.1.1 of 3GPP TS 29.504 [6].

6.2.21.3 Resource Standard Methods

6.2.21.3.1 GET

This method shall support the URI query parameters specified in table 6.2.21.3.1-1.

Table 6.2.21.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
dnns	array(Dnn)	O	1..N	Identifies the targeted DNN(s). When this query parameter is provided, the UDR shall return only the resource(s) that match at least one of the provided DNN(s). (NOTE 3)
snsais	array(Snssai)	O	1..N	Identifies the targeted network slice(s). When this query parameter is provided, the UDR shall return only the resource(s) that match at least one of the provided network slice(s). (NOTE 3)
int-group-ids	array(GroupId)	O	1..N	Contains the targeted group(s) of UE(s). When this query parameter is provided, the UDR shall return only the resource(s) that match at least one of the provided internal group ID(s). (NOTE 2)
supis	array(Supi)	O	1..N	Contains the identifier(s) of the targeted UE(s). When this query parameter is provided, the UDR shall return only the resource(s) that match at least one of the provided SUPI(s). (NOTE 2)
data-set-ids	array(string)	O	1..N	Contains the identifier(s) of the requested Individual AF Requested QoS Data Set resource(s). (NOTE 4)
supp-feat	SupportedFeatures	O	0..1	Identifies the features supported by the NF service consumer.
NOTE 1: At least one of the above query parameters, other than the "supp-feat" query parameter, shall be provided. NOTE 2: These query parameters are mutually exclusive. Either one of them may be present. NOTE 3: These query parameters are mutually exclusive. Either one of them may be present. NOTE 4: When this query parameter is present, all the other query parameters shall not be present, except the "supp-feat" query parameter when needed.				

This method shall support the request data structures specified in table 6.2.21.3.1-2 and the response data structures and response codes specified in table 6.2.21.3.1-3.

Table 6.2.21.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.21.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(AfRequestedQoS Data)	M	0..N	200 OK	Successful case. The requested Individual AF Requested QoS Data Set resource(s) are returned.
NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply.				

6.2.22 Resource: Individual AF Requested QoS Data Set

6.2.22.1 Description

The "Individual AF Requested QoS Data Set" resource represents a single AF Requested QoS data Set managed by the UDR.

6.2.22.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/af-qos-data-sets/{afReqQoSId}

This resource shall support the resource URI variables defined in table 6.2.22.2-1.

Table 6.2.22.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
afReqQoSId	string	Identifies an "Individual AF Requested QoS Data Set" resource.

6.2.22.3 Resource Standard Methods

6.2.22.3.1 PUT

This method shall support the URI query parameters specified in table 6.2.22.3.1-1.

Table 6.2.22.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.22.3.1-2 and the response data structures and response codes specified in table 6.2.22.3.1-3.

Table 6.2.22.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
AfRequestedQoSData	M	1	Represents the parameters to request the creation/update of an AF Requested QoS Data.

Table 6.2.22.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AfRequestedQoS Data	M	1	201 Created	Successful case. The resource is successfully created and a representation of the created "Individual AF Requested QoS Data Set" resource shall be returned in the response body. An HTTP "Location" header that contains the URI of the created resource shall also be included.
AfRequestedQoS Data	M	1	200 OK	Successful case. The resource is successfully updated and a representation of the updated "Individual AF Requested QoS Data Set" resource shall be returned in the response body.
n/a			204 No Content	Successful case. The resource is successfully updated and no content is returned in the response body.
NOTE: The mandatory HTTP error status codes for the HTTP PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply.				

Table 6.2.22.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/af-qos-data-sets/{afReqQoSId}

6.2.22.3.2 PATCH

This method shall support the URI query parameters specified in table 6.2.22.3.2-1.

Table 6.2.22.3.2-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.22.3.2-2 and the response data structures and response codes specified in table 6.2.22.3.2-3.

Table 6.2.22.3.2-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
AfRequestedQoS DataPatch	M	1	Represents the requested modifications to the "Individual AF Requested QoS Data Set" resource.

Table 6.2.22.3.2-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AfRequestedQoS Data	M	1	200 OK	Successful case. The "Individual AF Requested QoS Data Set" resource is successfully modified and a representation of the updated resource shall be returned in the response body.
n/a			204 No Content	Successful case. The "Individual AF Requested QoS Data" resource is successfully modified and no content is returned in the response body.
NOTE: The mandatory HTTP error status codes for the HTTP PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply.				

6.2.22.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.22.3.3-1.

Table 6.2.22.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.22.3.3-2 and the response data structures and response codes specified in table 6.2.22.3.3-3.

Table 6.2.22.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.22.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response Codes	Description
n/a			204 No Content	Successful case. The targeted "Individual AF Requested QoS Data Set" resource is successfully deleted.
NOTE: The mandatory HTTP error status codes for the HTTP DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply.				

6.2.23 Resource: Individual DNAI EAS Mapping

6.2.23.1 Description

The resource represents the EAS address information for a DNAI.

NOTE: This information is configured by the OAM.

6.2.23.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/dnai-eas-mappings/{dnai}

This resource shall support the resource URI variables defined in table 6.2.23.2-1.

Table 6.2.23.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1
dnai	Dnai	The DNAI.

6.2.23.3 Resource Standard Methods

6.2.23.3.1 GET

This method shall support the URI query parameters specified in table 6.2.23.3.1-1.

Table 6.2.23.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer.

This method shall support the request data structures specified in table 6.2.23.3.1-2 and the response data structures and response codes specified in table 6.2.23.3.1-3.

Table 6.2.23.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.23.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
DnaiEasMapping	M	1	200 OK	Upon success, a response body containing the EAS information for the DNAI shall be returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.24 Resource: ECS Address Roaming Data

6.2.24.1 Description

The ECS Address Roaming Data resource represents all ECS Address Roaming Data in the Nudr_DataRepository Service at a given UDR.

6.2.24.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/application-data/ecs-address-roaming`

This resource shall support the resource URI variables defined in table 6.2.24.2-1.

Table 6.2.24.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

6.2.24.3 Resource Standard Methods

6.2.24.3.1 GET

This method shall support the URI query parameters specified in table 6.2.24.3.1-1.

Table 6.2.24.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
internal-group-id	GroupId	O	0..1	Identifies a group of users.
any-ue	boolean	O	0..1	Indicates that all UEs are targeted when included and set to "true", otherwise set to "false". Default value is "false" if omitted.
NOTE: At least one of the above attributes shall be provided.				

This method shall support the request data structures specified in table 6.2.24.3.1-2 and the response data structures and response codes specified in table 6.2.24.3.1-3.

Table 6.2.24.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.24.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(EcsAddrData)	M	1..N	200 OK	The ECS Address Data requested in the request URI query parameter(s) are returned.
NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.2.25 Resource: Individual ECS Address Roaming Data

6.2.25.1 Description

The Individual ECS Address Roaming Data resource represents a single ECS Address Roaming Data entry at the Nudr_DataRepository Service at a given UDR.

6.2.25.2 Resource definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/application-data/ecs-address-roaming/{ecsAddrInfoId}

This resource shall support the resource URI variables defined in table 6.2.25.2-1.

Table 6.2.25.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ecsAddrInfoId	string	Identifies an Individual ECS Address Roaming Data resource.

6.2.25.3 Resource Standard Methods

6.2.25.3.1 GET

This method shall support the URI query parameters specified in table 6.2.25.3.1-1.

Table 6.2.25.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.25.3.1-2 and the response data structures and response codes specified in table 6.2.25.3.1-3.

Table 6.2.25.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.25.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EcsAddrData	M	1	200 OK	The requested information is returned.

6.2.25.3.2 PUT

This method shall support the URI query parameters specified in table 6.2.25.3.1-1.

Table 6.2.25.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				n/a

This method shall support the request data structures specified in table 6.2.25.3.1-2 and the response data structures and response codes specified in table 6.2.25.3.1-3.

Table 6.2.25.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
EcsAddrData	M	1	The ECS Address Roaming Data to be stored in the UDR.

Table 6.2.25.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EcsAddrData	M	1	201 Created	The resource has been successfully created and a response body is returned containing a representation of the resource.
EcsAddrData	M	1	200 OK	The resource has been successfully updated and a response body is returned containing a representation of the resource.
n/a			204 No Content	The resource has been successfully updated.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 6.2.25.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/application-data/ecs-address-roaming/{ecsAddrInfold}

6.2.25.3.3 DELETE

This method shall support the URI query parameters specified in table 6.2.25.3.3-1.

Table 6.2.25.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.2.25.3.3-2 and the response data structures and response codes specified in table 6.2.25.3.3-3.

Table 6.2.25.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 6.2.25.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The data was successfully deleted.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.3 Notifications

6.3.1 General

Notifications shall comply with clause 6.2 of 3GPP TS 29.500 [4] and clause 4.6.2.3 of 3GPP TS 29.501 [5].

Table 6.3.1-1: Notifications overview

Notification	Callback URI	HTTP method or custom operation	Description (service operation)
Influence Data Update Notification	{notificationUri}	POST	One of notification reference provided by the service consumer during the subscription of the AF Influence Data.
Application Data Change Notification	{notificationUri}	POST	Application Data Change Notification

6.3.2 Void

6.3.3 Influence Data Update Notification

6.3.3.1 Description

The Influence Update Notification is used by the UDR to report one or several observed Influence Data(s) to a NF service consumer that has subscribed to such Notifications.

6.3.3.2 Operation Definition

The POST method shall be used for traffic influence data change notification and the URI shall be provided during the subscription procedure.

Callback URI: {notificationUri}

This method shall support the URI query parameters specified in table 6.3.3.2-1.

Table 6.3.3.2-1: URI query parameters supported by the POST method

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.3.3.2-2 and the response data structures and response codes specified in table 6.3.3.2-3.

Table 6.3.3.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
array(TrafficInfluData or TrafficInfluDataNotif)	M	1..N	Provides Information about observed Influence Data. If the EnhancedInfluDataNotification feature is supported, the TrafficInfluDataNotif data type shall be sent.

Table 6.3.3.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The receipt of the Notification is acknowledged.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.3.4 Application Data Change Notification

The POST method shall be used for application data change notification and the URI shall be provided during the subscription procedure.

Callback URI: {notificationUri}

This method shall support the URI query parameters specified in table 6.3.4-1.

Table 6.3.4-1: URI query parameters supported by the POST method

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 6.3.4-2 and the response data structures and response codes specified in table 6.3.4-3.

Table 6.3.4-2: Data structures supported by the POST Request Body

Data type	P	Cardinality	Description
array(ApplicationDataChangeNotification)	M	1..N	Notification of application data changes.

Table 6.3.4-3: Data structures supported by the POST Response Body

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	The reception of the notification is acknowledged.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

6.4 Data Model

6.4.1 General

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

Table 6.4.1-1 specifies the data types defined for the Nudr_DataRepository Service API for Application Data service based interface protocol.

Table 6.4.1-1: Nudr_DataRepository specific Data Types for Application Data

Data type	Section defined	Description	Applicability
AfRequestedQoSData	6.4.2.18	Represents an AF Requested QoS Data Set.	GMEC
AfRequestedQoSDataPatch	6.4.2.19	Represents the requested modifications to an AF Requested QoS Data Set.	GMEC
AmInfluData	6.4.2.16	Contains AM influence data.	DCAMP
AmInfluDataPatch	6.4.2.17	Contains AM influence data that can be updated.	DCAMP
ApplicationDataSubs	6.4.2.10	Contains application data subscription data.	
ApplicationDataChangeNotif	6.4.2.11	Contains the new or updated application data or removed indication.	
BdtPolicyData	6.4.2.7	Contains applied BDT policy data.	EnhancedBackgroundDataTransfer
BdtPolicyDataPatch	6.4.2.8	Contains modification instructions to be performed on the applied BDT policy data.	EnhancedBackgroundDataTransfer
CorrelationType	6.4.3.4	Indicates that the EAS(es) corresponding to a common DNAI or common EAS should be selected	CommonEASDNAI
DataInd	6.4.3.3	Indicates the type of data.	
DataFilter	6.4.2.12	Indicates an application data filter.	
DnaiEasInfo	6.4.2.22	Contains EAS information for a DNAI.	DnaiEasMappings
DnaiEasMapping	6.4.2.21	Contains DNAI(s) to EAS mapping.	DnaiEasMappings
EcsAddrData	6.4.2.23	Represents ECS Address Configuration Data.	HR-SBO
IptvConfigData	6.4.2.9	Represents IPTV configuration data information.	
PfdDataForAppExt	6.4.2.6	The PFDs and related data for the application	
QoSRequirements	6.4.6.24	Represents QoS requirements.	GMEC
QoSRequirementsRm	6.4.6.25	Represents the same as the QoSRequirements data type but with the OpenAPI "nullable: true" property.	GMEC
ServiceParameterData	6.4.2.15	Contains the service parameter data.	
TrafficCorrelationInfo	6.4.2.18	Contains the information for traffic correlation.	CommonEASDNAI
ServiceParameterDataPatch	6.4.2.15A	Contains the service parameter data that can be updated.	
TrafficInfluData	6.4.2.2	Contains traffic influence data.	
TrafficInfluDataPatch	6.4.2.3	Contains modification instructions to be performed on the traffic influence data.	
TrafficInfluDataNotif	6.4.2.14	Contains traffic influence data for notification.	EnhancedInfluData Notification
TrafficInfluSub	6.4.2.4	Contains traffic influence subscription data.	

Table 6.4.1-2 specifies data types re-used by the Nudr_DataRepository Service API for Application Data 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 Nudr_DataRepository Service API for Application Data service based interface.

Table 6.4.1-2: Nudr_DataRepository re-used Data Types for Application Data

Data type	Reference	Comments	Applicability
A2xParamsPc5	3GPP TS 29.522 [19]	Contains the A2X service parameters data provisioned over PC5.	A2X
A2xParamsPc5Rm	3GPP TS 29.522 [19]	This data type is defined in the same way as the A2xParamsPc5 data type, but with the OpenAPI nullable property set to true.	A2X
AmInfluEvent	3GPP TS 29.522 [19]	Identifies the type of AM related events of which the AF requests to be notified.	
AlternativeServiceRequirementsData	3GPP TS 29.514 [52]	Contains alternative QoS related parameters and a reference to them.	GMEC
ApplicationId	3GPP TS 29.571 [7]	Indicates an application identifier.	
BdtReferenceld	3GPP TS 29.122 [9]	Identifies a selected policy of background data transfer.	EnhancedBackgroundDataTransfer
BitRate	3GPP TS 29.571 [7]	Represent a bitrate.	GMEC
DateTime	3GPP TS 29.571 [7]	Indicates a date and time.	
DateTimeRm	3GPP TS 29.571 [7]	Indicates a date and time that can be updated.	
Dnai	3GPP TS 29.571 [7]	Represents a DNAI.	DnaiEasMappings
DnaiChangeType	3GPP TS 29.571 [7]	Describes the types of DNAI change.	
Dnn	3GPP TS 29.571 [7]	Identifies a Data Network Name. (NOTE 2)	
DnnSnssaiInformation	3GPP TS 29.522 [19]	Represents a DNN, S-NSSAI combination.	DCAMP
DurationSec	3GPP TS 29.571 [7]	Represents a duration in seconds.	DCAMP CachingTimer
DurationSecRm	3GPP TS 29.571 [7]	Represents a removable duration in seconds.	DCAMP
EasDeployInfoData	3GPP TS 29.591 [23]	Represents the EAS Deployment Information.	EasDeployment
EcsServerAddr	3GPP TS 29.571 [7]	Represents the Edge Configuration Server (ECS) address configuration information.	HR-SBO
EthFlowDescription	3GPP TS 29.514 [16]	Contains the Ethernet data flow information.(NOTE)	
EthFlowInfo	3GPP TS 29.122 [9]	Represents Ethernet flow information	GMEC
Event	3GPP TS 29.522 [19]	Contains the outcome of the UE Policy Delivery related to the invocation of AF provisioned service parameters.	DeliveryOutcome
EventsSubscReqData	3GPP TS 29.514 [16]	Identifies the events the application subscribes to.	GMEC
EventsSubscReqDataRm	3GPP TS 29.514 [16]	This data type is defined in the same way as the EventsSubscReqData data type, but with the OpenAPI nullable property set to true.	GMEC
FlowInfo	3GPP TS 29.122 [9]	Contains the flow information.	
FqdnPatternMatchingRule	3GPP TS 29.571 [7]	Identifies an FQDN pattern matching rule.	DnaiEasMappings
GroupId	3GPP TS 29.571 [7]	Identifies a group of users.	EasDeployment
IpAddr	3GPP TS 29.571 [7]	IP address and/or prefix.	DnaiEasMappings
IptvConfigDataPatch	3GPP TS 29.522 [19]	Contains the IPTV configuration data used for PATCH.	
Ipv4Addr	3GPP TS 29.571 [7]	Identifies an IPv4 address.	
Ipv6Addr	3GPP TS 29.571 [7]	Identifies an IPv6 address.	
Link	3GPP TS 29.122 [9]	Identifies a referenced resource.	HR-SBO
MacAddr48	3GPP TS 29.571 [7]	MAC Address.	
MulticastAccessControl	3GPP TS 29.522 [19]	Represents the multicast access control information.	
NetworkAreaInfo	3GPP TS 29.554 [13]	Describes a network area information.	
NetworkDescription	3GPP TS 29.522 [19]	Represents the description of a PLMN in terms of the PLMN ID, the MCC (and optionally, applicable MNCs) or the indication of any PLMN	VPLMNSpecificURSP
ParameterOverPc5	3GPP TS 29.522 [19]	Contains the V2X service parameters data provisioned over PC5.	
ParameterOverPc5Rm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParameterOverPc5 data type, but with the OpenAPI nullable property set to true.	
ParameterOverUu	3GPP TS 29.522 [19]	Contains the V2X service parameters data provisioned over Uu.	
ParameterOverUuRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParameterOverUu data type, but with the OpenAPI nullable property set to true.	

ParamForProSeDc	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe direct communications.	ProSe
ParamForProSeDcRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeDc data type, but with the OpenAPI nullable property set to true.	
ParamForProSeDd	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe direct discovery.	ProSe
ParamForProSeDdRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeDd data type, but with the OpenAPI nullable property set to true.	
ParamForProSeEndUe	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe End UE.	ProSe_Ph2
ParamForProSeEndUeRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeEndUe data type, but with the OpenAPI nullable property set to true.	ProSe_Ph2
ParamForProSeRemUe	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe remote UE.	ProSe
ParamForProSeRemUeRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeRemUe data type, but with the OpenAPI nullable property set to true.	
ParamForProSeU2NRelUe	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe UE-to-network relay UE.	ProSe
ParamForProSeU2NRelUeRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeU2NRelUe data type, but with the OpenAPI nullable property set to true.	
ParamForProSeU2URelUe	3GPP TS 29.522 [19]	Contains the service parameters for 5G ProSe UE-to-UE Relay UE.	ProSe_Ph2
ParamForProSeU2URelUeRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the ParamForProSeU2URelUe data type, but with the OpenAPI nullable property set to true.	ProSe_Ph2
ParamForRangingSIPos	3GPP TS 29.522 [19]	Contains the service parameters for ranging and sidelink positioning.	Ranging_SL
ParamForRangingSIPosRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the "ParamForRangingSIPos" data type, but with the OpenAPI "nullable: true" property.	Ranging_SL
PfdChangeNotification	3GPP TS 29.551 [8]	Describes the PFD change.	
PfdContent	3GPP TS 29.551 [8]	Represents the content of a PFD for an application identifier.	
PlmnId	3GPP TS 29.571 [7]	Identifies a PLMN.	DCAMP_Roaming_LBO
RouteToLocation	3GPP TS 29.571 [7]	Identifies the N6 traffic routing requirement.	
ServiceAreaCoverageInfo	3GPP TS 29.534 [22]	Contains service area coverage information.	DCAMP
Snsai	3GPP TS 29.571 [7]	Identifies a Single Network Slice Selection Assistance Information.	
SpatialValidityCond	3GPP TS 29.571 [7]	Indicates the spatial validity condition.	HR-SBO
SubscribedEvent	3GPP TS 29.522 [19]	Identified the type of UP path management events of which the AF requests to be notified.	
Supi	3GPP TS 29.571 [7]	Identifies a SUPI that shall contain either an IMSI or an NAI.	
SupportedFeatures	3GPP TS 29.571 [7]	Used to negotiate the applicability of the optional features.	
TemporalInvalidity	3GPP TS 29.565 [27]	Indicates the time interval during which the NF service consumer request shall not to be applied	GMEC
TemporalValidity	3GPP TS 29.514 [16]	Indicates the time interval during which the AF request is to be applied.	MultiTemporalCondition
TnapId	3GPP TS 29.571 [7]	Trusted Network Access Point identifier.	AfGuideTNAPs
TscainputContainer	3GPP TS 29.514 [16]	Represents the TSCAI Input information container.	GMEC
TsnQosContainer	3GPP TS 29.514 [16]	Represents the TSC traffic QoS parameters.	GMEC

MappingInfo	3GPP TS 29.522 [19]	Contains the mapping information between the Application Layer ID and the GPSI.	Ranging_SL
MappingInfoRm	3GPP TS 29.522 [19]	This data type is defined in the same way as the MappingInfo data type, but with the OpenAPI "nullable: true" property.	Ranging_SL
UInteger	3GPP TS 29.571 [7]	Unsigned Integer, i.e. only value 0 and integers greater than 0 are allowed.	
UIntegerRm	3GPP TS 29.571 [7]	This data type is defined in the same way as the "UInteger" data type, but with the OpenAPI "nullable: true" property.	
Uri	3GPP TS 29.571 [7]	Identifies a URI.	
UriRm	3GPP TS 29.571 [7]	Identifies a removable URI.	DCAMP
UrspRuleRequest	3GPP TS 29.522 [19]	Contains service parameter data used to guide the URSP.	AfGuideURSP
<p>NOTE 1: In order to support a set of MAC addresses with a specific range in the traffic filter, feature MacAddressRange as specified in clause 6.1.8 of TS 29.504 [6] shall be supported.</p> <p>NOTE 2: The UDR uses the DNN as received from the NF service consumer without applying any transformation. To successfully perform DNN matching, in a specific deployment a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only.</p>			

6.4.2 Structured data types

6.4.2.1 Introduction

This clause defines the structures to be used in resource representations.

6.4.2.2 Type TrafficInfluData

Table 6.4.2.2-1: Definition of type TrafficInfluData

Attribute name	Data type	P	Cardinality	Description	Applicability
upPathChgNotifCorrelId	string	C	0..1	Contains the Notification Correlation Id allocated by the NEF for the UP path change notification. It shall be included when the NEF requests the UP path change notification.	
appReloInd	boolean	O	0..1	Identifies whether an application can be relocated once a location of the application has been selected. True: the application cannot be relocated; False (default): the application can be relocated.	
afAppId	string	C	0..1	Identifies an application. (NOTE 1) (NOTE 3)	
dnn	Dnn	O	0..1	Identifies a DNN	
ethTrafficFilters	array(EthFlowDescription)	C	1..N	Identifies Ethernet packet filters. (NOTE 1) (NOTE 3)	
snssai	Snssai	O	0..1	The identification of slice.	
interGroupId	GroupId	C	0..1	Identifies a group of users. (NOTE 2) (NOTE 3)(NOTE 5)	
interGroupIdList	array(GroupId)	C	2..N	Identifies the list of Internal Groups. (NOTE 2) (NOTE 9) (NOTE 10) (NOTE 11)	FinerGranUEs
subscriberCatList	array(string)	O	1..N	Identifies the list of subscriber category(ies). (NOTE 10)	FinerGranUEs
supi	Supi	C	0..1	Identifies a user. (NOTE 2) (NOTE 3)	
trafficFilters	array(FlowInfo)	C	1..N	Identifies IP packet filters. (NOTE 1) (NOTE 3)	
trafficRoutes	array(RouteToLocation)	O	1..N	Identifies the N6 traffic routing requirement.	
sfcdDI (NOTE 11)	string	O	0..1	Reference to a pre-configured service function chain for downlink traffic.	SFC
sfcdUI (NOTE 11)	string	O	0..1	Reference to a pre-configured service function chain for uplink traffic.	SFC
metadata	Metadata	O	0..1	Contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF. It may only be provided when sfcdDI and/or sfcdUI are provided.	SFC
traffCorrelInd	boolean	O	0..1	Indication of traffic correlation. May only be included when "interGroupId" attribute is included and not set to "AnyUE". It is used to indicate that for the group of UEs, the targeted PDU sessions should be correlated by a common DNAI. Set to "true" if it should be correlated; otherwise set to "false". Default value is "false" if omitted. (NOTE 7)	
tfCorrelInfo	TrafficCorrelationInfo	O	0..1	Contains the information for traffic correlation.	CommonEAS DNAI
validStartTime	DateTime	O	0..1	Identifies when the traffic routings start to be applicable. (NOTE 4)	
validEndTime	DateTime	O	0..1	Identifies when the traffic routings are not applicable. (NOTE 4)	
tempValidities	array(TemporalValidity)	O	1..N	Indicates the time interval(s) during which the AF request is to be applied. (NOTE 4)	MultiTemporalCondition
nwAreaInfo	NetworkAreaInfo	O	0..1	Identifies a network area information that the request applies only to the traffic of UE(s) located in this specific zone.	
upPathChgNotifUri	Uri	C	0..1	Contains the URI where the NEF receives the UP path change notification. It shall be included when the NEF requests the UP path change notification.	

headers	array(string)	O	1..N	<p>Headers provisioned by the NEF to be used by other NFs to interact with the NEF. E.g. 3gpp-Sbi-Binding header with the binding indication for the URI where the NEF receives UP path change notification and whose information is used by the SMF.</p> <p>The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21]. (NOTE 6)</p>	
subscribedEvents	array(SubscribedEvent)	O	1..N	Identifies the requirement to be notified of the event(s).	
dnaiChgType	DnaiChangeType	O	0..1	Identifies a type of notification regarding UP path management event.	
afAckInd	boolean	O	0..1	<p>Identifies whether the AF acknowledgement of UP path event notification is expected.</p> <p>Set to "true" if the AF acknowledgement is expected; otherwise set to "false". Default value is "false" if omitted.</p>	URLLC
addrPreserInd	boolean	O	0..1	<p>Indicates whether UE IP address should be preserved.</p> <p>This attribute shall set to "true" if preserved, otherwise, set to "false". Default value is false if omitted.</p>	URLLC
maxAllowedUpLat	UInteger	O	0..1	Indicates the target user plane latency in units of milliseconds. The SMF may use this value to decide whether edge relocation is needed to ensure that the user plane latency does not exceed the value.	AF_latency
simConnInd	boolean	O	0..1	<p>Indication of simultaneous connectivity temporarily maintained for the source and target PSA.</p> <p>It is used to indicate whether the simultaneous connectivity should be temporarily maintained for the source and target PSA.</p> <p>It is set to "true" if the temporary simultaneous connectivity should be temporarily maintained; otherwise, it is set to "false". Default value is "false" if omitted.</p>	SimultConnectivity
simConnTerm	DurationSec	C	0..1	<p>Indication of the minimum time interval to be considered for inactivity of the traffic routed via the source PSA during the edge re-location procedure before removing the source PSA.</p> <p>It may be included when the "simConnInd" attribute is set to true.</p>	SimultConnectivity
supportedFeatures	SupportedFeatures	C	0..1	<p>Indicates the list of negotiated supported features.</p> <p>This attribute shall be supplied by the UDR in the response to the PUT request when it was present in the PUT request and the UDR supports feature negotiation for Influence Data.</p> <p>This attribute shall be supplied by the UDR in the response to the GET request when the GET request includes the "supp-feat" query parameter and the UDR supports feature negotiation for Influence Data.</p>	

resUri	Uri	C	0..1	Represents the URI of Individual Influence Data. It shall only be included in the HTTP GET response.	EnhancedInfluDataNotification
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
nscSuppFeats	map(SupportedFeatures)	O	1..N	A map of Network Function Service Consumer features supported per service. The key used in this map for each entry is the ServiceName value as defined in 3GPP TS 29.510[24] (e.g. for Nsmf_EventExposure API, the key shall be set to nsmf-event-exposure).	NscSupportedFeatures
<p>NOTE 1: Either "afAppld", "trafficFilters" or "ethTrafficFilters" shall be included.</p> <p>NOTE 2: Either "supi" or "interGroupld" or "interGroupldList" shall be included.</p> <p>NOTE 3: If the EnhancedInfluDataNotification feature is not supported, to indicate the deletion of a Traffic Individual Influence Data resource, only the appropriate combination of "supi" or "interGroupld", and "afAppld", "trafficFilters" or "ethTrafficFilters" that identify the resource shall be included. The rest of attributes shall be omitted.</p> <p>NOTE 4: Properties "validStartTime" and "validEndTime" shall only be included for single temporal validity condition. Property "tempValidities" shall only be included for multiple temporal validity conditions when the feature MultiTemporalCondition is supported.</p> <p>NOTE 5: If the Traffic Influence Data applies to any UE, then the "interGroupld" sets to "AnyUE".</p> <p>NOTE 6: In this release of the specification, the property "headers" only includes the 3gpp-Sbi-Binding header with the binding indication for the URI included in the property "upPathChgNotifUri".</p> <p>NOTE 7: The indication of traffic correlation shall be provided only when the AF indicated that all the PDU sessions related to the 5G VN group member UEs should be correlated by a common DNAI in the user plane for the traffic as described in 3GPP TS 29.522 [19].</p> <p>NOTE 8: When FinerGranUEs feature is supported, the Traffic Influence Data applies to the UE(s) that belong to all the Internal Group Identifiers included within the attribute "interGroupldList", if present.</p> <p>NOTE 9: When FinerGranUEs feature is supported, the Traffic Influence Data applies to the UE(s) that belong to all the subscriber categories included within the attribute "subscriberCatList", which is included only if either "interGroupldList" is included or "interGroupld" is included.</p> <p>NOTE 10: Attributes "interGroupld" and "interGroupldList" are mutually exclusive attributes.</p> <p>NOTE 11: When the SFC feature is supported, for the purpose of influencing Service Function Chaining, at least one of the "sfclldI" and "sfclldU" attribute shall be present.</p>					

6.4.2.3 Type TrafficInfluDataPatch

Table 6.4.2.3-1: Definition of type TrafficInfluDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
upPathChgNotifCorrelId	string	O	0..1	Contains the Notification Correlation Id allocated by the NEF for the UP path change notification.	
appReloInd	boolean	O	0..1	Identifies whether an application can be relocated once a location of the application has been selected.	
ethTrafficFilters	array(EthFlowDescription)	O	1..N	Identifies Ethernet packet filters.	
trafficFilters	array(FlowInfo)	O	1..N	Identifies IP packet filters	
trafficRoutes	array(RouteToLocation)	O	1..N	Identifies the N6 traffic routing requirement.	
sfcdDl	string	O	0..1	Reference to a pre-configured service function chain for downlink traffic.	SFC
sfcdUl	string	O	0..1	Reference to a pre-configured service function chain for uplink traffic.	SFC
metadata	Metadata	O	0..1	Contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF.	SFC
traffCorreInd	boolean	O	0..1	Indication of traffic correlation. May only be included when "interGroupId" attribute was previously included in the "TrafficInfluData" data type and not set to "AnyUE". It is used to indicate that for the group of UEs, the targeted PDU sessions should be correlated by a common DNAI.	
tfCorreInfo	TrafficCorrelationInfo	O	0..1	Contains the information for traffic correlation.	CommonEASDNAI
validStartTime	DateTime	O	0..1	Identifies when the traffic routings start to be applicable.	
validEndTime	DateTime	O	0..1	Identifies when the traffic routings are not applicable.	
tempValidities	array(TemporalValidity)	O	1..N	Indicates the time interval(s) during which the AF request is to be applied.	MultiTemporalCondition
nwAreaInfo	NetworkAreaInfo	O	0..1	Identifies a network area information that the request applies only to the traffic of UE(s) located in this specific zone.	
upPathChgNotifUri	Uri	O	0..1	Contains the URI where the NEF receives the UP path change notification.	
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header with the binding indication for the URI where the NEF receives UP path change notification. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	
afAckInd	boolean	O	0..1	Identifies whether the AF acknowledgement of UP path event notification is expected.	URLLC
addrPreserInd	boolean	O	0..1	Indicates UE IP address should be preserved.	URLLC
maxAllowedUpLat	UInteger	O	0..1	Indicates the target user plane latency in units of milliseconds. The SMF may use this value to decide whether edge relocation is needed to ensure that the user plane latency does not exceed the value.	AF_latency

simConnInd	boolean	O	0..1	Indication of simultaneous connectivity temporarily maintained for the source and target PSA. It is set to "true" if the temporary connectivity should be temporarily maintained; otherwise, it is set to "false".	SimultConnecti vity
simConnTerm	DurationSecRm	C	0..1	Indication of the minimum time interval to be considered for inactivity of the traffic routed via the source PSA during the edge re-location procedure before removing the source PSA.	SimultConnecti vity

6.4.2.4 Type TrafficInfluSub

Table 6.4.2.4-1: Definition of type TrafficInfluSub

Attribute name	Data type	P	Cardinality	Description	Applicability
dnns	array(Dnn)	C	1..N	Each element identifies a DNN. (NOTE 1)	
snssais	array(Snssai)	C	1..N	Each element identifies an internal slice. (NOTE 1)	
internalGroupIds	array(GroupId)	C	1..N	Each element identifies a group of users. (NOTE 1) (NOTE 2) (NOTE 3) (NOTE 5)	
internalGroupIdsAdd	array(GroupId)	C	1..N	Each element identifies an internal group of users. (NOTE 1) (NOTE 2) (NOTE 4) (NOTE 5)	FinerGranUEs
subscriberCatList	array(string)	O	1..N	Each element identifies a subscriber category. (NOTE 6)	FinerGranUEs
supis	array(Supi)	C	1..N	Each element identifies the user. (NOTE 1) (NOTE 5)	
notificationUri	Uri	M	1	URI provided by the NF service consumer indicating where to receive the subscribed notifications from the UDR.	
expiry	DateTime	C	0..1	This IE shall be included in a subscription response if, based on operator policy and taking into account the expiry time included in the request, the UDR needs to include an expiry time. This IE may be included in a subscription request. When present, this IE shall represent the time after which the subscription becomes invalid. The absence of this attribute in the subscription response means the subscription to be valid without an expiry time.	
supportedFeatures	SupportedFeatures	C	0..1	Used to negotiate the applicability of the optional features. This attribute shall be provided in the POST request and in the response of successful resource creation.	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
immRep	boolean	O	0..1	If provided and set to "true", it indicates that existing entries that match this subscription shall be immediately reported within the "immReports" attribute in the response. The default value is false.	ImmediateReportPcc
immReports	array(TrafficInfluDataNotif)	O	1..N	Contains entries stored in the UDR that match this subscription. It may be included only in the POST (or PUT) response body of a subscription creation (or modification), and only if the request included the "immRep" attribute set to true.	ImmediateReportPcc

NOTE 1: Either "dnns", "snsais", "internalGroupIds", "internalGroupIdsAdd" or "supis" shall be provided.
 NOTE 2: For the Traffic Influence Data applies to any UE, the "internalGroupIds" needs to have an entry set to "AnyUE".
 NOTE 3: The "internalGroupIds" attribute shall be compared only with the "interGroupId" of the TrafficInfluData data type and there is a match only if they both exist and "interGroupId" is contained in "internalGroupIds".
 NOTE 4: When the FinerGranUEs feature is supported, the "internalGroupIdsAdd" attribute shall be compared only with the "interGroupIdList" of the TrafficInfluData data type and there is a match only if they both exist and are identical.
 NOTE 5: The attributes "internalGroupIds" and "internalGroupIdsAdd" are mutually exclusive attributes.
 NOTE 6: When the FinerGranUEs feature is supported, the "subscriberCatList" attribute of the TrafficInfluSub data type shall be compared with the "subscriberCatList" of the TrafficInfluData data type and there is a match only if they both exist and are identical.

6.4.2.5 Void

6.4.2.6 Type: PfdDataForAppExt

Table 6.4.2.6-1: Definition of type PfdDataForAppExt

Attribute name	Data type	P	Cardinality	Description	Applicability
suppFeat	SupportedFeatures	O	0..1	Used to negotiate the applicability of the optional features. This attribute shall be provided in the PUT request and in the response of successful resource creation. This attribute shall be provided in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request.	
applicationId	ApplicationId	M	1	Identifier of an application.	
pfds	array(PfdContent)	M	1..N	PFDs for the application identifier.	
cachingTime	DateTime	O	0..1	Caching time for an application identifier. (NOTE)	
cachingTimer	DurationSec	O	0..1	Caching timer for an application identifier expressed as duration with unit of second. (NOTE)	CachingTimer
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
allowedDelay	DurationSec	O	0..1	Indicates that the list of PFDs in this request should be deployed within the time interval indicated by the Allowed Delay.	
NOTE:	When the feature "CachingTimer" is supported, the "cachingTime" attribute and the "cachingTimer" attribute are mutually exclusive.				

6.4.2.7 Type BdtPolicyData

Table 6.4.2.7-1: Definition of type BdtPolicyData

Attribute name	Data type	P	Cardinality	Description	Applicability
interGroupld	Groupld	O	0..1	Identifies a group of users. (NOTE)	
supi	Supi	O	0..1	Identifies a user. (NOTE)	
bdtRefld	BdtReferenceld	M	1	Identifies a selected policy of background data transfer.	
dnn	Dnn	O	0..1	Identifies a DNN	
snssai	Snssai	O	0..1	The identification of slice.	
resUri	Uri	C	0..1	Represents the URI of Individual Applied BDT Policy Data. It shall only be included in the HTTP GET response.	
resetlds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	

NOTE: Either "supi" or "interGroupld" shall be included.

6.4.2.8 Type BdtPolicyDataPatch

Table 6.4.2.8-1: Definition of type BdtPolicyDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
bdtRefld	BdtReferenceld	M	1	Identifies a selected policy of background data transfer.	

6.4.2.9 Type IptvConfigData

Table 6.4.2.9-1: Definition of type IptvConfigData

Attribute name	Data type	P	Cardinality	Description	Applicability
supi	Supi	C	0..1	Identifies a user. (NOTE)	
interGroupld	Groupld	C	0..1	Identifies a group of users. (NOTE)	
dnn	Dnn	O	0..1	Identifies a DNN	
snssai	Snssai	O	0..1	The identification of slice.	
afAppld	string	M	1	Identifies an application.	
multiAccCtrls	map(MulticastAccessControl)	M	1..N	Identifies a list of multicast address access control information. Any string value can be used as a key of the map.	
supFeat	SupportedFeatures	C	0..1	Indicates the negotiated supported features. This attribute shall be provided in the PUT request and in the response of successful resource creation.	
resUri	Uri	C	0..1	Represents the URI of Individual IPTV Configuration. It shall only be included in the HTTP GET response.	
resetlds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	

NOTE: Either "supi" or "interGroupld" shall be included.

6.4.2.10 Type ApplicationDataSubs

Table 6.4.2.10-1: Definition of type ApplicationDataSubs

Attribute name	Data type	P	Cardinality	Description	
notificationUri	Uri	M	1	URI provided by the NF service consumer indicating where to receive the subscribed notifications from the UDR.	Applicability
dataFilters	array(DataFilter)	O	1..N	Each element identifies a data filter for subscription to data change.notification. If absent, the subscription applies to all data change notification except traffic influence data.	
expiry	DateTime	C	0..1	This IE shall be included in a subscription response if, based on operator policy and taking into account the expiry time included in the request, the UDR needs to include an expiry time. This IE may be included in a subscription request. When present, this IE shall represent the time after which the subscription becomes invalid. The absence of this attribute in the subscription response means the subscription to be valid without an expiry time.	
immRep	boolean	O	0..1	If the feature "ImmediateReportPcc" is not supported, this attribute is applicable only if the "dataFilters" attribute of the request includes an element with the "dataInd" attribute set to "AM". If provided and set to "true", it indicates that existing matching entries shall be immediately reported within the "amInfluEntries" attribute, or, if the feature "ImmediateReportPcc" is supported, within the "immReports" attribute in the response. The default value is "false"	DCAMP ImmediateReportPcc
amInfluEntries	array(AmInfluData)	O	1..N	The AM Influence Data stored in the UDR that match this subscription. It may be included only in the POST response body of a subscription creation or modification, and only if the request included the "immRep" attribute set to true and a "dataFilters" attribute that contained an element with the "dataInd" attribute set to "AM".	DCAMP
supportedFeatures	SupportedFeatures	C	0..1	Used to negotiate the applicability of the optional features. This attribute shall be provided in the POST request and in the response of successful resource creation.	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
immReports	array(ApplicationDataChangeNotif)	O	1..N	Contains entries stored in the UDR that match this subscription. It may be included only in the POST (or PUT) response body of a subscription creation (or modification), and only if the request included the "immRep" attribute set to true.	ImmediateReportPcc

When multiple attributes defined as an array are included within an entry of the "dataFilters" attribute, the UDR shall determine that the subscription is for all application data of type "dataInd" that contain a matching combination of the values of the elements of the array of the provided attributes.

EXAMPLE: For a subscription to notification on changes of Service Parameter Data resources ("dataInd" is set to "SVC_PARAM"), if "snssais" attribute is included with two S-NSSAI entries (S-NSSAI_1 and S-NSSAI_2) and "dnns" is included with two DNN entries (e.g. DNN_A and DNN_B), and the other optional attributes are not included, the UDR shall notify about changes of Service Parameter Data resources that contain a matching S-NSSAI and DNN combination, i.e. the resource(s) matching SNSSAI_1 and DNN_A, the resource(s) matching SNSSAI_1 and DNN_B, the resource(s) matching SNSSAI_2 and DNN_A, and the resources matching SNSSAI_2 and DNN_B.

6.4.2.11 Type ApplicationDataChangeNotif

Table 6.4.2.11-1: Definition of type ApplicationDataChangeNotif

Attribute name	Data type	P	Cardinality	Description	Applicability
iptvConfigData	IptvConfigData	O	0..1	IPTV Configuration Data. (NOTE)	
pfData	PfdChangeNotification	O	0..1	PFD Data. (NOTE)	
bdtPolicyData	BdtPolicyData	O	0..1	BDT Policy Data. (NOTE)	
serParamData	ServiceParameterData	O	0..1	Service Parameter Data, if changed and notification was requested. (NOTE)	
amInfluData	AmInfluData	O	0..1	AM Influence Data (NOTE)	DCAMP
dnaiEasData	DnaiEasMapping	O	0..1	DNAI EAS Mapping (NOTE)	DnaiEasMappings
afReqQosData	AfRequestedQosData	O	0..1	AF requested QoS data for a UE or Group of UE(s) not identified by UE address(es). (NOTE)	GMEC
ecsAddrData	EcsAddrData	O	0..1	ECS Address Roaming Data. (NOTE)	HR-SBO
resUri	Uri	M	1	Identifies the resource in the corresponding data change. For notifying deletion, only resUri shall be provided in the ApplicationDataChangeNotif data type.	
NOTE: Only one among those attributes shall be provided in notifying data creation or update and in immediate reports.					

6.4.2.12 Type DataFilter

Table 6.4.2.12-1: Definition of type DataFilter

Attribute name	Data type	P	Cardinality	Description	Applicability
dataInd	DataInd	M	1	Indicate the type of application data. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd", and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
dnn	array(Dnn)	O	1..N	Each element identifies a DNN. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the DNNs included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any). (NOTE 3)	
snssais	array(Snssai)	O	1..N	Each element identifies a slice. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the S-NSSAIs included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any). (NOTE 3)	
internalGroupIds	array(GroupId)	O	1..N	Each element identifies a group of users. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the Group IDs included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
supis	array(Supi)	O	1..N	Each element identifies the user. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the SUPIs included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
applds	array(ApplicationId)	O	1..N	Each element identifies an application. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the ApplicationIds included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	

uelpv4s	array(Ipv4Addr)	O	1..N	Each element identifies the user. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the IPv4 address(es) included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
uelpv6s	array(Ipv6Addr)	O	1..N	Each element identifies the user. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the IPv6 addresses included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
ueMacs	array(MacAddr48)	O	1..N	Each element identifies the user. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain at least one of the UE MAC address(es) included in the array, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	
anyUeInd	boolean	O	0..1	Indicates whether the request is for any UE: - "true": the request is for any UE; - "false"(default): the request is not for any UE. When used in subscription procedures, the UDR shall notify only about changes of application data of type "dataInd" that contain an any UE indication, and match also the filters indicated in the rest of the attributes of DataFilter (if any).	FilterAnyUE
dnnSnssaiInfos	array(DnnSnssaiInformation)	O	1..N	Each element identifies a combination of (DNN, S-NSSAI). When used in subscription procedures, the UDR shall only notify about changes in resource(s) with "dataInd" value AM that contain at least one DNN and S-NSSAI combination indicated in the array, and match also the rest of the filters (if any). (NOTE 3)	DCAMP
dnais	array(Dnai)	O	1..N	Each element identifies a DNAI. When used in subscription procedures, the UDR shall only notify about changes of application data of type "dataInd" that contain at least one of the DNAs included in the array, and match also the rest of the filters (if any).	DnaiEasMappings

NOTE 1: The "dnns" and "snssais" attributes are applicable to the BDT Policy Data, IPTV Configuration Data, Service Parameter Data, AM Influence Data, and DNAI EAS Mappings, the "internalGroupIds" and "supis" attributes are applicable to the BDT Policy Data, IPTV Configuration Data, Service Parameter Data, and AM Influence Data, the "ueIpv4s" "ueIpv6s" and "ueMacs" attributes are applicable to the Service Parameter Data, the "appls" attribute is applicable to the PFD Data, Service Parameter Data and IPTV Configuration Data, the "anyUeInd" attribute is applicable to Service Parameter Data and AM Influence Data, the "dnnSnssaiInfos" is applicable to AM Influence Data, and the "dnais" attribute is applicable to DNAI EAS Mappings. The "internalGroupIds" and "anyUeInd" attributes are also applicable to ECS Address Roaming Data.

NOTE 2: At application datat changes, subscriptions to changes based on attributes of this table are considered to be matched, and the corresponding notifications are sent, no matter if the matching application data matches the provided values before the change, after the change, or both before and after the change.

NOTE 3: For AM Influence Data, only one of the "dnns", "snssais", or "dnn-snssai-infos" attributes may be simultaneously provided.

NOTE: When the "anyUeInd" attribute is related to the subscription to notification of changes of the service parameter data resource(s), and it refers to any UE using the service identified by a combination of DNN and S-NSSAI, the "anyUeInd" attribute is present together with the "dnns" and "snssais" properties. Note also that, if the "anyUeInd" attribute is present together with the "internalGroupIds", "supis", "ueIpv4s", "ueIpv6s" and/or "ueMacs" attributes the subscription will not match any resource, since according to clause 6.4.2.15 only one of the the "supi", "anyUeInd", "interGroupId", "ueIpv4", "ueIpv6" or "ueMac" properties are simultaneously present in the resource.

When the "anyUeInd" attribute is related to the subscription to notification of changes of the AM Influence data resource(s), and it refers to any UE using the service(s) identified by the corresponding DNN and S-NSSAI, the "anyUeInd" attribute is present together with the "dnnSnssaiInfos" property. Note also that, if the "anyUeInd" attribute is present together with the "internalGroupIds" and/or "supis" attributes the subscription will not match any resource, since according to clause 6.4.2.16 only one of the the "supi", "anyUeInd", or "interGroupId" properties are simultaneously present in the resource.

6.4.2.13 Void

6.4.2.14 Type TrafficInfluDataNotif

Table 6.4.2.14-1: Definition of type TrafficInfluDataNotif

Attribute name	Data type	P	Cardinality	Description	Applicability
resUri	Uri	M	1	Represents the URI of Individual Influence Data. For notifying deletion, only resUri shall be provided in the TrafficInfluDataNotif data type.	
trafficInfluData	TrafficInfluData	C	0..1	Traffic Influence Data. It shall be present for notifying Individual Influence Data creation or update and, if the feature "ImmediateReportPcc" is supported, also for providing immediate reports.	

6.4.2.15 Type ServiceParameterData

Table 6.4.2.15-1: Definition of type ServiceParameterData

Attribute name	Data type	P	Cardinality	Description	Applicability
dnn	Dnn	O	0..1	Identifies a DNN. (NOTE 2)	
snssai	Snssai	O	0..1	Identifies an S-NSSAI. (NOTE 2)	
appld	string	O	0..1	Identifies an application identifier. (NOTE 2)	
supi	Supi	O	0..1	Identifies a user. (NOTE1)	
uelpv4	Ipv4Addr	O	0..1	The IPv4 address of the served UE. (NOTE1)	
uelpv6	Ipv6Addr	O	0..1	The IPv6 address of the served UE. (NOTE1)	
ueMac	MacAddr48	O	0..1	The MAC address of the served UE. (NOTE1)	
interGroupIid	GroupIid	O	0..1	Identifies a group of users. (NOTE1)	
anyUeInd	boolean	O	0..1	Identifies whether the service parameters applies to any non-roaming UE. This attribute shall set to "true" if applicable for any UE, otherwise, set to "false". (NOTE1)	
roamUeNetDescs	array(NetworkDescription)	O	1..N	Each element identifies one (e.g., combination of MCC and MNC) or more (e.g. a MCC only) PLMN ID(s). It indicates the PLMN(s) of inbound roamers to which the provided AF guidance on VPLMN-specific URSP rules apply. (NOTE 1)	VPLMNSpecificURSP
paramOverPc5	ParameterOverPc5	O	0..1	Contains the V2X service parameters used over PC5.	
paramOverUu	ParameterOverUu	O	0..1	Contains the V2X service parameters used over Uu.	
a2xParamsPc5	A2xParamsPc5	O	0..1	Contains the A2X service parameters used over PC5.	A2X
urspGuidance	array(UrspRuleRequest)	O	1..N	Contains the service parameter used to guide the URSP and/or, when the VPLMNSpecificURSP feature is supported, to guide the VPLMN-specific URSP. (NOTE 3)	AfGuideURSP
paramForProSeDd	ParamForProSeDd	O	0..1	Contains the service parameters for 5G ProSe direct discovery.	ProSe
paramForProSeDc	ParamForProSeDc	O	0..1	Contains the service parameters for 5G ProSe direct communications.	ProSe
paramForProSeU2NRelUe	ParamForProSeU2NRelUe	O	0..1	Contains the service parameters for 5G ProSe UE-to-network relay UE.	ProSe
paramForProSeRemUe	ParamForProSeRemUe	O	0..1	Contains the service parameters for 5G ProSe remote UE.	ProSe
paramForProSeU2URelUe	ParamForProSeU2URelUe	O	0..1	Contains the service parameters for 5G ProSe UE-to-UE Relay UE.	ProSe_Ph2
paramForProSeEndUe	ParamForProSeEndUe	O	0..1	Contains the service parameters for 5G ProSe End UE.	ProSe_Ph2
tnaps	array(TnapIid)	O	1..N	Contains the TNAP ID(s) collocated with the 5G-RG(s) of a specific user.	AfGuideTNAPs

deliveryEvents	array(Event)	O	1..N	Contains the events related to the outcome of UE policy delivery.	DeliveryOutcome
policDelivNotifCorrelId	string	C	0..1	Contains the Notification Correlation Id allocated by the NEF for the notification of UE Policy delivery outcome. It shall be included when the NEF requests the notification of UE Policy delivery outcome.	DeliveryOutcome
policDelivNotifUri	Uri	C	0..1	Contains the URI where the NEF receives the notification of UE Policy delivery outcome. It shall be included when the NEF requests the notification of UE policy delivery outcome.	DeliveryOutcome
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the policDelivNotifUri attribute. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	DeliveryOutcome
suppFeat	SupportedFeatures	C	0..1	Indicates the list of Supported features used as described in clause 5.8. This parameter shall be supplied in the PUT request that requested the creation of an individual Service parameter resource, and in the PUT response.	
resUri	Uri	C	0..1	Represents the URI of Individual Service Parameter Data. It shall only be included in the HTTP GET response.	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
paramForRangingSIPoS	ParamForRangingSIPoS	O	0..1	Contains the service parameters for ranging and sidelink positioning.	Ranging_SL
mappingInfo	MappingInfo	O	0..1	Contains the mapping information between the Application Layer ID and the GPSI.	Ranging_SL
<p>NOTE 1: Only one of the "supi", "anyUeInd", "interGroupId", "uelpv4", "uelpv6" or "ueMac" attribute, and when the feature "VPLMNSpecificURSP" is supported, or "roamUeNetDescs" attribute, shall be provided. When the "AfGuideTNAPs" feature is supported, and the attribute "tnaps" is included, only the "supi" attribute shall be provided. When the "VPLMNSpecificURSP" feature is supported, the "roamUeNetDescs" attribute only applies to URSP service parameter provisioning and shall be included when the "urspGuidance" attribute contains VPLMN(s) description.</p> <p>NOTE 2: Only the combination of "dnn" and "snssai" or "appld" attribute shall be provided. When the "AfGuideTNAPs" feature is supported and the attribute "tnaps" is included, only the combination of "dnn" and "snssai" attributes shall be provided.</p> <p>NOTE 3: when the "AfGuideURSP" feature is supported and the attribute "urspGuidance" is included, the provided URSP guidance may apply to DNN and S-NSSAI combination(s) and/or application(s) different to the ones provided within the "dnn" and "snssai" or "appld" attributes.</p>					

6.4.2.15A Type ServiceParameterDataPatch

Table 6.4.2.15A-1: Definition of type ServiceParameterDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
paramOverPc5	ParameterOverPc5Rm	O	0..1	Contains the V2X service parameters used over PC5. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	
paramOverUu	ParameterOverUuRm	O	0..1	Contains the V2X service parameters used over Uu. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	
a2xParamsPc5	A2xParamsPc5Rm	O	0..1	Contains the A2X service parameters used over PC5.	A2X
urspInfluence	array(UrspRuleRequest)	O	1..N	Contains the service parameter used to influence the URSP. This attribute is deprecated by the "urspGuidance" attribute that should be used instead.	AfGuideURSP
urspGuidance	array(UrspRuleRequest)	O	1..N	Contains the service parameter used to guide the URSP and/or, when the VPLMNSpecificURSP feature is supported, to guide the VPLMN-specific URSP.	AfGuideURSP PatchCorrection
paramForProSeDd	ParamForProSeDdRm	O	0..1	Contains the service parameters for 5G ProSe direct discovery. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	ProSe
paramForProSeDc	ParamForProSeDcRm	O	0..1	Contains the service parameters for 5G ProSe direct communications. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	ProSe
paramForProSeU2NRelUe	ParamForProSeU2NRelUeRm	O	0..1	Contains the service parameters for 5G ProSe UE-to-network relay UE. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	ProSe
paramForProSeRemUe	ParamForProSeRemUeRm	O	0..1	Contains the service parameters for 5G ProSe remote UE. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	ProSe

paramForProSeU2URelUE	ParamForProSeU2URelUeRm	O	0..1	Contains the service parameters for 5G ProSe UE-to-UE Relay UE.	ProSe_Ph2
paramForProSeEndUe	ParamForProSeEndUeRm	O	0..1	Contains the service parameters for 5G ProSe End UE.	ProSe_Ph2
tnaps	array(TnapId)	O	1..N	Contains the TNAP ID(s) collocated with the 5G-RG(s) of a specific user.	AfGuideTNAPs
deliveryEvents	array(Event)	O	1..N	Contains the events related to the outcome of UE policy delivery. When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.	DeliveryOutcome
policDelivNotifUri	Uri	C	0..1	Contains the URI where the NEF receives the notification of UE Policy delivery outcome. It shall be included when the NEF requests the notification of UE policy delivery outcome.	DeliveryOutcome
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the policDelivNotifUri IE. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	DeliveryOutcome
paramForRangingSIPoS	ParamForRangingSIPoSRm	O	0..1	Contains the service parameters for ranging and sidelink positioning.	Ranging_SL
mappingInfo	MappingInfoRm	O	0..1	Contains the mapping information between the Application Layer ID and the GPSI.	Ranging_SL

6.4.2.16 Type AmlInfluData

Table 6.4.2.16-1: Definition of type AmlInfluData

Attribute name	Data type	P	Cardinality	Description	Applicability
applds	array(string)	O	1..N	Identifies one or more applications.	
dnnSnssaiInfos	array(DnnSnssaiInformation)	O	1..N	Each element identifies a combination of (DNN, S-NSSAI).	
interGroupld	Groupld	O	0..1	Identifies a group of users. (NOTE 1)	
supi	Supi	O	0..1	Identifies a user. (NOTE 1)	
anyUelnd	boolean	O	0..1	Indicates whether the data applies to any non-roaming UE. If present and set to "true" the data is applicable for any non-roaming UE. Otherwise set to "false". Default value is "false" if omitted. (NOTE 1)	
roamUePlmnlds	array(Plmnld)	O	1..N	Each element identifies a home PLMN Id for the inbound roaming UEs in LBO roaming scenario. (NOTE 1) (NOTE 3)	DCAMP_Roaming_LBO
policyDuration	DurationSec	O	0..1	Indicates the time duration that the policy shall last.	
evSubs	array(AmInfluEvent)	O	1..N	List of AM related events for which a subscription is required.	
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the notifUri IE. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	
notifUri	Uri	C	0..1	Contains the Callback URI to receive notifications. It shall be present if the "evSubs" attribute is present.	
notifCorrld	string	O	0..1	Notification correlation identifier.	
thruReq	boolean	O	0..1	If present and set to "true", it indicates that high throughput is desired for the indicated UE traffic. Otherwise set to "false". Default value is "false" if omitted. (NOTE 2)	
covReq	array(ServiceAreaCoverageInfo)	O	1..N	Identifies service area coverage requirements. (NOTE 2)	
supportedFeatures	SupportedFeatures	C	0..1	Indicates the list of negotiated supported features. This attribute shall be supplied by the UDR in the response to the PUT request when it was present in the PUT request and the UDR supports feature negotiation for AM Influence Data. This attribute shall be supplied by the UDR in the response to the GET request when the GET request includes the "supp-feat" query parameter and the UDR supports feature negotiation for AM Influence Data.	
resUri	Uri	C	0..1	Represents the URI of Individual AM Influence Data. It shall only be included in the HTTP GET response.	
resetlds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	

NOTE 1: One of "supi", "interGroupId", "anyUeInd" and "roamUePlmnIds" shall be included.
 NOTE 2: At least one of these attributes shall be included.
 NOTE 3: "roamUePlmnIds" attribute applies only to LBO roaming scenarios and is associated with the inbound roaming UEs and applicable when "applds" attribute or "dnnSnssailInfos" attribute is provided.

6.4.2.17 Type AmInfluDataPatch

Table 6.4.2.17-1: Definition of type AmInfluDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
applds	array(string)	O	1..N	Identifies one or more applications.	
dnnSnssailInfos	array(DnnSnssailInformation)	O	1..N	Each element identifies a combination of (DNN, S-NSSAI).	
policyDuration	DurationSecRm	O	0..1	Indicates the time duration that the policy shall last.	
evSubs	array(AmInfluEvent)	O	1..N	List of AM related events for which a subscription is required.	
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the notifUri IE. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	
notifUri	UriRm	C	0..1	Contains the Callback URL to receive notifications.	
notifCorrId	string	O	0..1	Notification correlation identifier.	
thruReq	boolean	O	0..1	Indicates whether high throughput is desired for the indicated UE traffic: - "true": high throughput is desired for the indicated UE traffic; - "false": high throughput is not desired for the indicated UE traffic.	
covReq	string	O	0..1	Identifies service area coverage requirements.	

6.4.2.18 Type AfRequestedQosData

Table 6.4.2.18-1: Definition of type AfRequestedQosData

Attribute name	Data type	P	Cardinality	Description	Applicability
supi	Supi	C	0..1	Identifies a UE. (NOTE 1)	
interGroupId	GroupId	C	0..1	Identifies a group of UE(s). (NOTE 1)	
afApplId	string	O	0..1	Contains the identifier of the AF Application.	
dnn	Dnn	O	0..1	Represents a DNN. (NOTE 2)	
sliceInfo	Snsai	O	0..1	Represents the identifier of a network slice.	
flowInfo	array(FlowInfo)	C	1..N	Contains the IP data flow(s) which require QoS. (NOTE 3)	
ethFlowInfo	array(EthFlowDescription)	C	1..N	Contains Ethernet packet flow(s). (NOTE 3)	
enEthFlowInfo	array(EthFlowInfo)	C	1..N	Contains the Ethernet flows which require QoS. Each Ethernet flow consists of a flow identifier and the corresponding UL and/or DL flows. (NOTE 3)	
evSubsc	EventsSubscReqData	O	0..1	Contains the requested event(s) subscription related information.	
qosReference	string	C	0..1	Contains a pre-defined QoS reference. (NOTE 4)	
qosReqs	QosRequirements	C	0..1	Contains the requested QoS parameters related information. (NOTE 4)	
altSerReqs	array(string)	O	1..N	Contains an ordered list of alternative service requirements that include a set of QoS references. The lower the index of the array for a given entry, the higher the priority. (NOTE 4)	
altSerReqsData	array(AlternativeServiceRequirementsData)	O	1..N	Contains an ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 4)	
disUeNotif	boolean	O	0..1	Indicates to disable QoS flow parameters signalling to the UE when it is included and set to "true". The default value "false" shall apply, if the attribute is not present and has not been supplied previously.	
templnValidity	TemporalInValidity	O	0..1	Indicates the time interval during which the AF request is not to be applied.	
headers	array(string)	O	1..N	Contains the headers provisioned by the NEF, e.g. 3gpp-Sbi-Binding header (specified in 3GPP TS 29.500 [4]) containing the binding indication for the URI included in the "notifUri" attribute. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	

supFeat	SupportedFeatures	C	1	<p>Contains the list of Supported features among the ones defined in clause 6.1.8 of 3GPP TS 29.504.</p> <p>This attribute shall be present only when feature negotiation needs to take place.</p>
<p>NOTE 1: Either "supi" or "interGroupId" shall be included.</p> <p>NOTE 2: Data Network Name, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. The PCF uses the DNN as obtained from UDR without applying any transformation (e.g. during SM Policy Association matching). To successfully perform DNN matching, in a specific deployment a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only.</p> <p>NOTE 3: These attributes are mutually exclusive. Either one of them shall be present.</p> <p>NOTE 4: The "qosReqs" attribute and the "qosReference" are mutually exclusive and either one of them shall be present. The "altQoSReferences" attribute and the "altQosReqs" attribute are mutually exclusive. If the "qosReference" attribute is present, then the "altQosReqs" attribute shall not be present.</p>				

6.4.2.19 Type AfRequestedQosDataPatch

Table 6.4.2.19-1: Definition of type AfRequestedQosDataPatch

Attribute name	Data type	P	Cardinality	Description	Applicability
afAppId	string	O	0..1	Contains the identifier of the AF application.	
evSubsc	EventsSubscReqDataRm	O	0..1	Contains the requested event(s) subscription related information.	
flowInfo	array(FlowInfo)	O	1..N	Contains the data flow(s) which requires QoS.	
ethFlowInfo	array(EthFlowDescription)	O	1..N	Contains Ethernet packet flow(s). (NOTE 1)	
enEthFlowInfo	array(EthFlowInfo)	O	1..N	Contains the Ethernet flows which require QoS. Each Ethernet flow consists of a flow identifier and the corresponding UL and/or DL flows. (NOTE 1)	
qosReference	string	O	0..1	Contains a pre-defined QoS reference. (NOTE 2)	
qosReqs	QosRequirementsRm	O	0..1	Contains the updated requested QoS parameters related information. (NOTE 2)	
altSerReqs	array(string)	O	0..N	Contains an ordered list of alternative service requirements that include a set of QoS references. The lower the index of the array for a given entry, the higher the priority. (NOTE 2)	
altSerReqsData	array(AlternativeServiceRequirementsData)	O	1..N	Contains an ordered list of alternative service requirements that include individual QoS parameter sets. The lower the index of the array for a given entry, the higher the priority. (NOTE 2)	
disUeNotif	boolean	O	0..1	Indicates to disable QoS flow parameters signalling to the UE when it is included and set to "true". The default value "false" shall apply, if the attribute is not present and has not been supplied previously.	
tempInValidity	TemporalInValidity	O	0..1	Indicates the time interval during which the AF request is not to be applied.	
headers	array(string)	O	1..N	Headers provisioned by the NEF. E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the notifUri IE. The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21].	
NOTE 1: These attributes are mutually exclusive.					
NOTE 2: The "qosReqs" attribute (unless it is set to "NULL") and the "qosReference" are mutually exclusive. The "altQoSReferences" attribute and the "altQoSReqs" attribute are mutually exclusive. If the "qosReference" attribute is present, then the "altQoSReqs" attribute shall not be present.					

6.4.2.20 Type TrafficCorrelationInfo

Table 6.4.2.20-1: Definition of type TrafficCorrelationInfo

Attribute name	Data type	P	Cardinality	Description	Applicability
corrType	CorrelationType	C	0..1	Indicates selecting a common DNAI or EAS for the application identified by the Application Identifier or traffic filtering information. It shall be provided when the traffic correlation information is provisioned for the first time.	
tfCorrId	string	C	0..1	Identification of a set of UEs accessing the application identified by the Application Identifier or traffic filtering information. It shall be provided when the traffic correlation information is provisioned for the first time.	
comEasIpv4Addr	Ipv4AddrRm	C	0..1	IPv4 address of common EAS for the application identified by the Application Identifier or traffic filtering information for the UEs the AF request aims at. It may be provided when the "corrType" attribute includes "COMMON_EAS".	
comEasIpv6Addr	Ipv6AddrRm	C	0..1	IPv6 address of common EAS for the application identified by the Application Identifier or traffic filtering information for the UEs the AF request aims at. It may be provided when the "corrType" attribute includes "COMMON_EAS".	
fQdnRange	array(FqdnPatternMatchingRule)	C	1..N	FQDN(s) used for influencing EASDF-based DNS query procedure. It may be provided when the "corrType" attribute includes "COMMON_EAS".	
notifUri	UriRm	O	0..1	Contains the Callback URL to receive notifications.	
notifCorrId	string	O	0..1	Notification correlation identifier.	

6.4.2.21 Type DnaiEasMapping

Table 6.4.2.21-1: Definition of type DnaiEasMapping

Attribute name	Data type	P	Cardinality	Description	Applicability
dnaiEasInfos	array(DnaiEasInfo)	M	1..N	Each element contains EAS information for the DNAI(s) of a DNN/S-NSSAI.	

6.4.2.22 Type DnaiEasInfo

Table 6.4.2.22-1: Definition of type DnaiEasInfo

Attribute name	Data type	P	Cardinality	Description	Applicability
dnn	Dnn	C	0..1	DNN. (NOTE 1)	
snssai	Snssai	C	0..1	S-NSSAI. (NOTE 1)	
dnais	array(Dnai)	M	1..N	DNAI(s) for the EAS deployment information.	
easIpAddrs	array(IpAddr)	C	1..N	IP address(es) or IP address ranges (IPv4 subnetwork(s) and/or Ipv6 prefix(es)) of the EAS(s) of the DNAI(s). (NOTE 2)	
fqdns	array(FqdnPatternMatchingRule)	C	1..N	FQDN(s) where the EAS(s) is/are deployed for the DNAI(s). (NOTE 2)	
NOTE 1: At least one of "dnn" and "snssai" shall be provided.					
NOTE 2: Exactly one of "easIpAddrs" and "fqdns" shall be provided.					

6.4.2.23 Type EcsAddrData

Table 6.4.2.23-1: Definition of type EcsAddrData

Attribute name	Data type	P	Cardinality	Description	Applicability
self	Link	C	0..1	Identifies the individual resource. It shall be present in the HTTP GET response when reading multiples entries.	
ecsServerAddr	EcsServerAddr	M	1	Represents the ECS address(es).	
spatialValidityCond	SpatialValidityCondition	O	0..1	Indicates the spatial validity condition.	
anyUeInd	boolean	C	0..1	If provided and set to "true" it indicates that any UE is targetted, while "false" indicates that not all UEs are targetted. The default value is "false" if omitted. (NOTE)	
internalGroupId	GroupId	C	0..1	Indicates the internal group identifier. (NOTE)	
suppFeat	SupportedFeatures	C	0..1	Indicates the negotiated supported features. It shall be provided in an HTTP POST response if it was provided in the HTTP POST request.	
NOTE: One of the "internalGroupId" attribute or the "anyUeInd" attribute set to "true" shall be provided.					

6.4.2.24 Type QosRequirements

Table 6.4.2.24-1: Definition of type QosRequirements

Attribute name	Data type	P	Cardinality	Description	Applicability
marBwUI	BitRate	O	0..1	Contains the maximum requested bandwidth for the Uplink.	
marBwDI	BitRate	O	0..1	Contains the maximum requested bandwidth for the Downlink.	
mirBwUI	BitRate	O	0..1	Contains the minimum requested bandwidth for the Uplink.	
mirBwDI	BitRate	O	0..1	Contains the minimum requested bandwidth for the Downlink.	
tsnQos	TsnQoSContainer	O	0..1	Contains the QoS parameters for TSC traffic.	
tscaiTimeDom	UInteger	O	0..1	Indicates the (g)PTP domain that the (TSN)AF is located in.	
tscaiInputUI	TscailInputContainer	O	0..1	Contains the the input parameters for TSC traffic to construct the TSC Assistance Container in uplink direction. (NOTE)	
tscaiInputDI	TscailInputContainer	O	0..1	Contains the the input parameters for TSC traffic to construct the TSC Assistance Container in downlink direction. (NOTE)	
capBatAdaptation	boolean	O	0..1	Indicates the capability for AF to adjust the burst sending time. <ul style="list-style-type: none"> - "true" means that the AF is capable to adjust the burst sending time. - "false" means that the AF is not capable to adjust the burst sending time. - The default value is "false" if omitted. (NOTE)	
NOTE: The "burstArrivalTimeWnd" attribute within the "tscaiInputUI" and/or "tscaiInputDI" attributes and the "capBatAdaptation" attribute are mutually exclusive.					

6.4.2.25 Type QosRequirementsRm

This data type is defined in the same way as the QosRequirements data type but with the OpenAPI "nullable: true" property.

6.4.3 Simple data types and enumerations

6.4.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

6.4.3.2 Simple data types

The simple data types defined in table 6.4.3.2-1 shall be supported.

Table 6.4.3.2-1: Simple data types

Type Name	Type Definition	Description	Applicability

6.4.3.3 Enumeration: DataInd

Table 6.4.3.3-1: Enumeration DataInd

Enumeration value	Description	Applicability
PFD	PFD data	
IPTV	IPTV configuration data	
BDT	BDT data	
SVC_PARAM	Service parameter data	
AM	AM influence data	DCAMP
DNAI_EAS	DNAI EAS mapping data	DnaiEasMappings
REQ_QOS	AF Requested QoS data for a UE or group of UE(s) not identified by UE address(es).	GMEC
ECS	ECS Address Roaming Data.	HR-SBO

6.4.3.4 Enumeration: CorrelationType

Table 6.4.3.4-1: Enumeration CorrelationType

Enumeration value	Description	Applicability
COMMON_DNAI	Indicates that the EAS(es) corresponding to a common DNAI should be selected.	
COMMON_EAS	Indicates that the common EAS should be selected	

6.5 Error handling

6.5.1 General

HTTP error handling shall be supported as specified in clause 5.2.4 of 3GPP TS 29.500 [4].

For the Nudr_DataRepository Service API for Application Data, HTTP error responses shall be supported as specified in clause 4.8 of 3GPP TS 29.501 [5]. Protocol errors and application errors specified in table 5.2.7.2-1 of 3GPP TS 29.500 [4] shall be supported for an HTTP method if the corresponding HTTP status codes are specified as mandatory for that HTTP method in table 5.2.7.1-1 of 3GPP TS 29.500 [4]. In addition, the requirements in the following clauses shall apply.

6.5.2 Protocol Errors

In this Release of the specification, there are no additional protocol errors applicable for the Nudr_DataRepository Service API for Application Data.

6.5.3 Application Errors

The application errors defined for the Nudr_DataRepository Service API for Application Data are listed in table 6.5.3-1.

Table 6.5.3-1: Application errors

Application Error	HTTP status code	Description
NOTE: Including a "ProblemDetails" data structure with the "cause" attribute in the HTTP response is optional unless explicitly mandated by other clauses in this document.		

The application error handling shall follow 3GPP TS 29.504 [6] clause 6.1.6 unless explicitly specified in this document.

6.6 Feature negotiation

The optional features in table 6.1.8-1 of 3GPP TS 29.504 [6] are defined for the Nudr_DataRepository API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

7 Usage of Nudr_DataRepository Service API for Structured Data for Exposure

7.1 Introduction

The following clauses specify the usage of Nudr_DataRepository service for exposure data. The principles specified in 3GPP TS 29.504 [6] are followed unless explicitly specified otherwise in the following clauses.

7.2 Resources

7.2.1 Overview

This clause specifies the resources for the usage of the Unified Data Repository service for Structured Data for Exposure.

7.2.2 Resource Structure

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 7.2.2-1 depicts the resource URIs structure for the Nudr_DataRepository API for exposure data data.

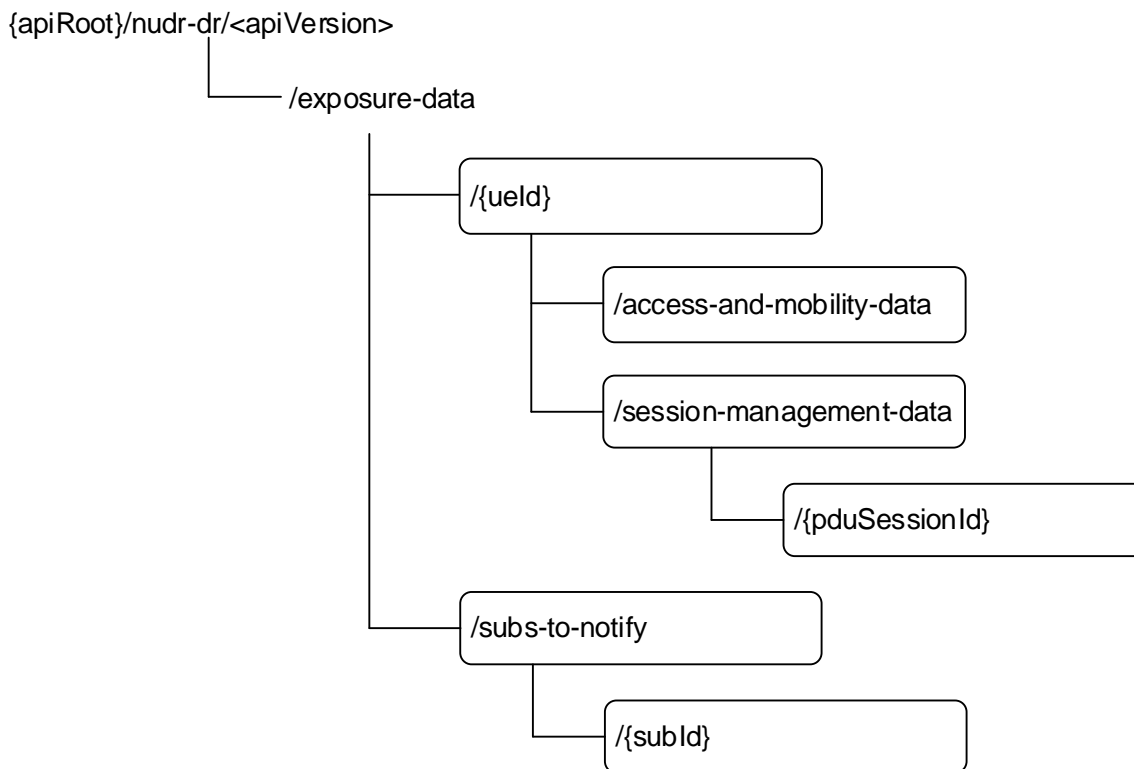


Figure 7.2.2-1: Resource URI structure of the Nudr_DataRepository API for exposure data

Table 7.2.2-1 provides an overview of the resources and applicable HTTP methods.

Table 7.2.2-1: Resources and methods overview

Resource name	Resource URI	HTTP method	Description
AccessAndMobility Data	/exposure-data/{ueld}/access-and-mobility-data	PUT	Create and update the access and mobility exposure data for a UE
		PATCH	Update the access and mobility exposure data for a UE.
		GET	Retrieve the access and mobility exposure data for a UE
		DELETE	Delete the access and mobility exposure data for a UE
PduSessionManagementData	/exposure-data/{ueld}/session-management-data/{pduSessionId}	PUT	Create and update the session management data for a UE and for an individual PDU session
		GET	Retrieve the session management data for a UE and for an individual PDU session
		DELETE	Delete the session management data for a UE and for an individual PDU session
ExposureDataSubscriptions	/exposure-data/subs-to-notify	POST	Create a subscription to receive notifications on exposure data changes.
IndividualExposureDataSubscription	/exposure-data/subs-to-notify/{subId}	PUT	Modify a subscription to receive notifications on exposure data changes.
		DELETE	Delete a subscription identified by {subId}.

7.2.3 Resource: AccessAndMobilityData

7.2.3.1 Description

This resource represents the exposure data related to access and mobility.

7.2.3.2 Resource definition

Resource URI: `{apiRoot}/nudr-dr/<apiVersion>/exposure-data/{ueId}/access-and-mobility-data`

This resource shall support the resource URI variables defined in table 7.2.3.2-1.

Table 7.2.3.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ueId	VarUeId	Represents the SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].

7.2.3.3 Resource Standard Methods

7.2.3.3.1 PUT

This method shall support the URI query parameters specified in table 7.2.3.3.1-1.

Table 7.2.3.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.3.3.1-2 and the response data structures and response codes specified in table 7.2.3.3.1-3.

Table 7.2.3.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
AccessAndMobilityData	M	1	Access and mobility data for the UE is created or updated.

Table 7.2.3.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AccessAndMobilityData	M	1	201 Created	Successful case. The resource has been successfully created and a response body containing a representation of the access and mobility data shall be returned.
AccessAndMobilityData	M	1	200 OK	Successful case. The resource has been successfully updated and a response body containing a representation of the access and mobility data shall be returned.
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.

NOTE: The HTTP status code for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.

Table 7.2.3.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/exposure-data/{ueId}/access-and-mobility-data

7.2.3.3.2 GET

This method shall support the URI query parameters specified in table 7.2.3.3.2-1.

Table 7.2.3.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer. See 3GPP TS 29.500 [4] clause 6.6.2 and 3GPP TS 29.571 [7].

This method shall support the request data structures specified in table 7.2.3.3.2-2 and the response data structures and response codes specified in table 7.2.3.3.2-3.

Table 7.2.3.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.2.3.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AccessAndMobilityData	M	1	200 OK	The response body contains the access and mobility data.
NOTE: The HTTP status code for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.3.3.3 DELETE

This method shall support the URI query parameters specified in table 7.2.3.3.3-1.

Table 7.2.3.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.3.3.3-2 and the response data structures and response codes specified in table 7.2.3.3.3-3.

Table 7.2.3.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.2.3.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The HTTP status code for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.3.3.4 PATCH

This method shall support the URI query parameters specified in table 7.2.3.3.4-1.

Table 7.2.3.3.4-1: URI query parameters supported by the PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.3.3.4-2 and the response data structures and response codes specified in table 7.2.3.3.4-3.

Table 7.2.3.3.4-2: Data structures supported by the PATCH Request Body on this resource

Data type	P	Cardinality	Description
AccessAndMobilityData	M	1	Access and mobility data for the UE.

Table 7.2.3.3.4-3: Data structures supported by the PATCH Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon successful modification there is no body in the response message.
NOTE: The HTTP status code for the PATCH method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.4 Resource: PduSessionManagementData

7.2.4.1 Description

This resource represents the exposure data related to session and management data for a given subscriber and a given PDU session.

7.2.4.2 Resource definition

Resource URI: **{apiRoot}/nudr-dr/<apiVersion>/exposure-data/{ueId}/session-management-data/{pduSessionId}**

This resource shall support the resource URI variables defined in table 7.2.4.2-1.

Table 7.2.4.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
ueId	VarUeId	Represents the SUPI or GPSI. Data type VarUeId is defined in 3GPP TS 29.571 [7].
pduSessionId	PduSessionId	Identifies an individual PDU session. Data type PduSessionId is defined in 3GPP TS 29.571 [7].

7.2.4.3 Resource Standard Methods

7.2.4.3.1 PUT

This method shall support the URI query parameters specified in table 7.2.4.3.1-1.

Table 7.2.4.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.4.3.1-2 and the response data structures and response codes specified in table 7.2.4.3.1-3.

Table 7.2.4.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
PduSessionManagementData	M	1	Session management data for a UE and a PDU session is created or updated.

Table 7.2.4.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response Codes	Description
PduSessionManagementData	M	1	201 Created	Successful case. The resource has been successfully created and a response body containing a representation of the session management data shall be returned.
PduSessionManagementData	M	1	200 OK	Successful case. The resource has been successfully updated and a response body containing a representation of the session management data shall be returned.
n/a			204 No Content	Successful case. The resource has been successfully updated and no additional content is to be sent in the response message.

NOTE: The HTTP status code for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.

Table 7.2.4.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/exposure-data/{ueId}/session-management-data/{pduSessionId}

7.2.4.3.2 GET

This method shall support the URI query parameters specified in table 7.2.4.3.2-1.

Table 7.2.4.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
ipv4-addr	Ipv4Addr	O	0..1	UE IPv4 address.
ipv6-prefix	Ipv6Prefix	O	0..1	UE IPv6 prefix.
dnn	Dnn	O	0..1	Identifies a DNN.
fields	array(string)	C	1..N	When the NF consumer only retrieves a subset of the resource, the "fields" query parameter shall be included. The "fields" query parameter contains the pointers of the attribute(s) to be retrieved.
supp-feat	SupportedFeatures	O	0..1	The features supported by the NF service consumer. See 3GPP TS 29.500 [4] clause 6.6.2 and 3GPP TS 29.571 [7].

This method shall support the request data structures specified in table 7.2.4.3.2-2 and the response data structures and response codes specified in table 7.2.4.3.2-3.

Table 7.2.4.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.2.4.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response Codes	Description
PduSessionManagement Data	M	1	200 OK	The response body contains the session management data.
NOTE: The HTTP status code for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.4.3.3 DELETE

This method shall support the URI query parameters specified in table 7.2.4.3.3-1.

Table 7.2.4.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.4.3.3-2 and the response data structures and response codes specified in table 7.2.4.3.3-3.

Table 7.2.4.3.3-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 7.2.4.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The HTTP status code for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.5 Resource: ExposureDataSubscriptions

7.2.5.1 Description

This resource is used to represent subscriptions to notifications of exposure data modifications.

7.2.5.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/exposure-data/subs-to-notify

This resource shall support the resource URI variables defined in table 7.2.5.2-1.

Table 7.2.5.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.

7.2.5.3 Resource Standard Methods

7.2.5.3.1 POST

This method shall support the URI query parameters specified in table 7.2.5.3.1-1.

Table 7.2.5.3.1-1: URI query parameters supported by the POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.5.3.1-2 and the response data structures and response codes specified in table 7.2.5.3.1-3.

Table 7.2.5.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
ExposureDataSubscription	M	1	Identifies an individual subscription to notifications of exposure data modifications.

Table 7.2.5.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ExposureDataSubscription	M	1	201 Created	Upon success, a response body containing a representation of the Individual subscription resource shall be returned. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the created resource.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Table 7.2.5.3.1-4: Headers supported by the 201 Response Code on this resource

Name	Data type	P	Cardinality	Description
Location	string	M	1	Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudr-dr/<apiVersion>/exposure-data/subs-to-notify/{subId}

7.2.6 Resource: IndividualExposureDataSubscription

7.2.6.1 Description

This resource represents an individual subscription to notifications of exposure data modifications.

7.2.6.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/exposure-data/subs-to-notify/{subId}

This resource shall support the resource URI variables defined in table 7.2.6.2-1.

Table 7.2.6.2-1: Resource URI variables for this resource

Name	Data type	Definition
apiRoot	string	See 3GPP TS 29.504 [6] clause 6.1.1.
subId	string	Identifies an individual subscription to notifications. The value is allocated by the UDR during creation of the IndividualExposureDataSubscription resource.

7.2.6.3 Resource Standard Methods

7.2.6.3.1 PUT

This method shall support the URI query parameters specified in table 7.2.6.3.1-1.

Table 7.2.6.3.1-1: URI query parameters supported by the PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.6.3.1-2 and the response data structures and response codes specified in table 7.2.6.3.1-3.

Table 7.2.6.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
ExposureDataSubscription	M	1	Identifies an individual subscription to notifications of exposure data modifications.

Table 7.2.6.3.1-3: Data structures supported by the PUT Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ExposureDataSubscription	M	1	200 OK	The individual subscription resource was updated successfully and a body with the modified subscription to notifications about exposure data is returned.
n/a			204 No Content	The individual subscription resource was successfully modified.
NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.2.6.3.2 DELETE

This method shall support the URI query parameters specified in table 7.2.6.3.2-1.

Table 7.2.6.3.1-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 7.2.6.3.2-2 and the response data structures and response codes specified in table 7.2.6.3.2-3.

Table 7.2.6.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			The request body shall be empty.

Table 7.2.6.3.2-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

7.3 Data Model

7.3.1 General

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

Table 7.3.1-1 specifies the data types defined for the Nudr_DataRepository for Exposure Data service based interface protocol.

Table 7.3.1-1: Nudr_DataRepository specific Data Types for Exposure Data

Data type	Section defined	Description	Applicability
AccessAndMobilityData	7.3.2.2		
ExposureDataChangeNotification	7.3.2.5	Contains changed exposure data for one UE for which Notification was requested.	
ExposureDataSubscription	7.3.2.4	Subscription to Notifications about Exposure Data.	
PduSessionManagementData	7.3.2.3		
PduSessionStatus	7.3.3.3	Represents the state of the PDU session, i.e. active or released.	

Table 7.3.1-2 specifies data types re-used by the Nudr_DataRepository for Exposure Data 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 Nudr_DataRepository for Exposure Data service based interface.

Table 7.3.1-2: Nudr_DataRepository re-used Data Types for Exposure Data

Data type	Reference	Comments	Applicability
AccessType	3GPP TS 29.571 [7]	Identifies the access type, i.e. 3GPP access or Non-3GPP access.	
CmlInfo	3GPP TS 29.518 [10]	Describes the connectivity management state of a UE.	
DateTime	3GPP TS 29.571 [7]		
Dnai	3GPP TS 29.571 [7]	Identifies a Data network access identifier.	
Dnn	3GPP TS 29.571 [7]	Identifies a Data Network Name. (NOTE)	
Ipv4Addr	3GPP TS 29.571 [7]	The IPv4 Address.	
Ipv6Addr	3GPP TS 29.571 [7]	The Ipv6 Address.	
Ipv6Prefix	3GPP TS 29.571 [7]	The Ipv6 Address Prefix.	
PduSessionId	3GPP TS 29.571 [7]	PDU Session Identifier	
PduSessionType	3GPP TS 29.571 [7]	PDU Session type.	
PlmnId	3GPP TS 29.571 [7]	Identifies a PLMN.	
RatType	3GPP TS 29.571 [7]	Identifies a RAT type.	
RmlInfo	3GPP TS 29.518 [10]	Describes the registration management state of a UE.	
RouteToLocation	3GPP TS 29.571 [7]	A traffic route to/from a DNAI.	
TimeZone	3GPP TS 29.571 [7]	Identifies a time zone.	
SmsSupport	3GPP TS 29.518 [10]	Indicates the supported SMS delivery of a UE.	
SupportedFeatures	3GPP TS 29.571 [7]	Used to negotiate the applicability of the optional features.	
UeReachability	3GPP TS 29.518 [10]	Describes the reachability of the UE.	
Uri	3GPP TS 29.571 [7]		
UserLocation	3GPP TS 29.571 [7]	Identifies the user location.	
VarUeId	3GPP TS 29.571 [7]	String represents the SUPI or GPSI.	
NOTE:	The UDR uses the DNN as received from the NF service consumer without applying any transformation. To successfully perform DNN matching, a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only.		

7.3.2 Structured data types

7.3.2.1 Introduction

This clause defines the structures to be used in resource representations.

7.3.2.2 Type AccessAndMobilityData

Table 7.3.2.2-1: Definition of type AccessAndMobilityData

Attribute name	Data type	P	Cardinality	Description	Applicability
location	UserLocation	O	0..1	Current location for the UE, which can be a combination of E-UTRA, NR and non-3GPP access location.	
locationTs	DateTime	O	0..1	Indicates when the location was last updated.	
timeZone	TimeZone	O	0..1	Current time zone for the UE.	
timeZoneTs	DateTime	O	0..1	Indicates when the timeZone was last updated.	
accessType	AccessType	O	0..1	Current access type for the UE (3GPP access or non-3GPP access).	
accessTypeTs	DateTime	O	0..1	Indicates when the accessType was last updated.	
regStates	array(RmInfo)	O	1..N	Describes the registration management state of the UE.	
regStatesTs	DateTime	O	0..1	Indicates when the regStates were last updated.	
connStates	array(CmInfo)	O	1..N	Describes the connectivity management state of the UE.	
connStatesTs	DateTime	O	0..1	Indicates when the connStates were last updated.	
reachabilityStatus	UeReachability	O	0..1	Describes the reachability of the UE.	
reachabilityStatusTs	DateTime	O	0..1	Indicates when the reachabilityStatus was last updated.	
smsOverNasStatus	SmsSupport	O	0..1	Indicates the supported SMS delivery of the UE.	
smsOverNasStatusTs	DateTime	O	0..1	Indicates when the smsOverNasStatus was last updated.	
roamingStatus	boolean	O	0..1	True: The serving PLMN of the UE is different from the HPLMN of the UE; False: The serving PLMN of the UE is the HPLMN of the UE.	
roamingStatusTs	DateTime	O	0..1	Indicates when the roamingStatus was last updated.	
currentPlmn	PlmnId	O	0..1	The identity of the PLMN serving the UE.	
currentPlmnTs	DateTime	O	0..1	Indicates when the currentPlmn was last updated.	
ratTypes	array(RatType)	O	1..N	RAT type(s)	
ratTypesTs	DateTime	O	0..1	Indicates when the ratTypes was last updated.	
suppFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 7.5. Shall be present in the HTTP PUT request/response; or in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request. (NOTE)	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
NOTE: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.					

7.3.2.3 Type PduSessionManagementData

Table 7.3.2.3-1: Definition of type PduSessionManagementData

Attribute name	Data type	P	Cardinality	Description	Applicability
pduSessionStatus	PduSessionStatus	O	0..1	Status of the PDU session.	
pduSessionStatusTs	DateTime	O	0..1	Indicates when the pduSessionStatus was last updated.	
dnai	Dnai	O	0..1	DNAI	
dnaiTs	DateTime	O	0..1	Indicates when the dnai was last updated.	
n6TrafficRoutingInfo	array(RouteToLocation)	O	1..N	N6 traffic routing information.	
n6TrafficRoutingInfoTs	DateTime	O	0..1	Indicates when the n6TrafficRoutingInfo was last updated.	
ipv4Addr	Ipv4Addr	O	0..1	UE IPv4 address.	
ipv6Prefix	array(Ipv6Prefix)	O	1..N	UE IPv6 prefix.	
ipv6Addrs	array(Ipv6Addr)	O	1..N	IPv6 addresses.	
pduSessType	PduSessionType	O	0..1	PDU session type.	
ipAddrTs	DateTime	O	0..1	Indicates when the ipv4Addr and Ipv6Prefix were last updated.	
dnn	Dnn	O	0..1	DNN	
pduSessionId	PduSessionId	O	0..1	The identifier of a PduSessionManagement resource. (NOTE 1).	ResourceNotificationExposureDataFix
suppFeat	SupportedFeatures	C	0..1	This IE represents a list of Supported features used as described in clause 7.5. Shall be present in the HTTP PUT request/response; or in the HTTP GET response if the "supp-feat" attribute query parameter is included in the HTTP GET request. (NOTE 2)	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	

NOTE 1: The "pduSessionId" attribute shall be present when the ResourceNotificationExposureDataFix is supported.
NOTE 2: In the HTTP request, it represents the set of features supported by the NF service consumer. In the HTTP response, it represents the set of features supported by both the NF service consumer and the UDR.

7.3.2.4 Type ExposureDataSubscription

Table 7.3.2.4-1: Definition of type ExposureDataSubscription

Attribute name	Data type	P	Cardinality	Description	Applicability
notificationUri	Uri	M	1	URI provided by the NF service consumer indicating where to receive to subscribed notifications from the UDR.	
monitoredResourceUris	array(Uri)	M	1..N	A set of URIs that identify the resources for which a modification triggers a notification.	
expiry	DateTime	C	0..1	This IE shall be included in a subscription response if, based on operator policy and taking into account the expiry time included in the request, the UDR needs to include an expiry time. This IE may be included in a subscription request. When present, this IE shall represent the time after which the subscription becomes invalid. The absence of this attribute in the subscription response means the subscription to be valid without an expiry time.	
supportedFeatures	SupportedFeatures	C	0..1	Used to negotiate the applicability of the optional features. This attribute shall be provided in the POST request and in the response of successful resource creation.	
resetIds	array(string)	O	1..N	This IE uniquely identifies a part of temporary data in UDR that contains the created resource. This attribute may be provided in the response of successful resource creation.	
immRep	boolean	O	0..1	If provided and set to "true", it indicates that existing entries that match this subscription shall be immediately reported within the "immReports" attribute in the response. The default value is false.	ImmediateReportPcc
immReports	array(ExposureDataChangeNotification)	O	1..N	Contains entries stored in the UDR that match this subscription. It may be included only in the POST (or PUT) response body of a subscription creation (or modification), and only if the request included the "immRep" attribute set to true.	ImmediateReportPcc

7.3.2.5 Type ExposureDataChangeNotification

Table 7.3.2.5-1: Definition of type ExposureDataChangeNotification

Attribute name	Data type	P	Cardinality	Description	Applicability
ueld	VarUeld	O	0..1	User identity of modified data.	
accessAndMobilityData	AccessAndMobilityData	O	0..1	Access and Mobility Data for the UE.	
pduSessionManagementData	array(PduSessionManagementData)	O	1..N	PDU Session Management Data for one or several PDU sessions of the UE.	
delResources	array(Uri)	O	1..N	The resources, as defined in table 7.2.2-1, if removed from UDR and notification on resource data change was requested. It may be present when the ResourceNotificationExposureData Fix is supported (NOTE).	
<p>NOTE: When the "delResources" attribute is present, the attributes that correspond with the values included in the "delResources" attribute shall be omitted. I.e., when the "delResources" attribute includes the value "{ueld}/access-and-mobility-data" the attribute "accessAndMobilityData" shall be omitted, and when the "delResources" attribute includes all the existing "{ueld}/session-management-data/{pduSessionId}" resource URIs, the attribute "pduSessionManagementData" shall be omitted.</p>					

7.3.3 Simple data types and enumerations

7.3.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

7.3.3.2 Simple data types

The simple data types defined in table 7.3.3.2-1 shall be supported.

Table 7.3.3.2-1: Simple data types

Type Name	Type Definition	Description	Applicability

7.3.3.3 Enumeration: PduSessionStatus

Table 7.3.3.3-1: Enumeration PduSessionStatus

Enumeration value	Description	Applicability
"ACTIVE"	The PDU session is active.	
"RELEASED"	The PDU session is released.	

7.4 Error handling

7.4.1 General

For the Nudr_DataRepository service API for Exposure Data, HTTP error responses shall be supported as specified in clause 4.8 of 3GPP TS 29.501 [5]. Protocol errors and application errors specified in table 5.2.7.2-1 of 3GPP TS 29.500 [4] shall be supported for an HTTP method if the corresponding HTTP status codes are specified as mandatory for that HTTP method in table 5.2.7.1-1 of 3GPP TS 29.500 [4].

In addition, the requirements in the following clauses are applicable for the Nudr_DataRepository service API for Exposure Data.

7.4.2 Protocol Errors

No specific procedures for the Nudr_DataRepository service API for Exposure Data are specified.

7.4.3 Application Errors

The application errors defined for the Nudr_DataRepository service API for Exposure Data are listed in table 7.4.3-1.

Table 7.4.3-1: Application errors

Application Error	HTTP status code	Description

The application error handling shall follow 3GPP TS 29.504 [6] clause 6.1.6 unless explicitly specified in this document.

7.5 Feature negotiation

The optional features in table 6.1.8-1 of 3GPP TS 29.504 [6] are defined for the Nudr_DataRepository API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

7.6 Notifications

7.6.1 General

Notifications shall comply with clause 6.2 of 3GPP TS 29.500 [4] and clause 4.6.2.3 of 3GPP TS 29.501 [5].

This clause describes the resources to provide Notification to NF service consumers which have subscribed to be notified when exposure data is changed.

Table 7.6.1-1: Notifications overview

Notification	Callback URI	HTTP method or custom operation	Description (service operation)
Exposure Data Change Notification	{notificationUri}	POST	Exposure Data Change Notification

7.6.2 Exposure Data Change Notification

The POST method shall be used for Data Change Notifications and the URI shall be as provided during the subscription procedure.

Callback URI: {**notificationUri**}

Support of URI query parameters is specified in table 7.6.2-1.

Table 7.6.2-1: URI query parameters supported by the POST method

Name	Data type	P	Cardinality	Description
n/a				

Support of request data structures is specified in table 7.6.2-2 and of response data structures and response codes is specified in table 7.6.2-3.

Table 7.6.2-2: Data structures supported by the POST Request Body

Data type	P	Cardinality	Description
array(ExposureDataChange Notification)	M	1..N	Each element in the array provides the changed exposure data for one user.

Table 7.6.2-3: Data structures supported by the POST Response Body

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.				

Annex A (normative): OpenAPI specification

A.1 General

The present Annex contains an OpenAPI [3] specification of HTTP messages and content bodies used by the Nudr_DataRepository service for Policy Data, Application Data and Exposure Data.

This Annex shall take precedence when being discrepant to other parts of the specification with respect to the encoding of information elements and methods.

NOTE: The semantics and procedures, as well as conditions, e.g. for the applicability and allowed combinations of attributes or values, not expressed in the OpenAPI definitions but defined in other parts of the specification also apply.

Informative copies of the OpenAPI specification files contained in this 3GPP Technical Specification are available on a Git-based repository that uses the GitLab software version control system (see clause 5B of the 3GPP TR 21.900 [18] and clause 5.3.1 of the 3GPP TS 29.501 [5] for further information).

A.2 Nudr_DataRepository API for Policy Data

For the purpose of referencing entities in the Open API file defined in this Annex, it shall be assumed that this Open API file is contained in a physical file named "TS29519_Policy_Data.yaml".

openapi: 3.0.0

info:

```
version: '-'
title: Unified Data Repository Service API file for policy data
description: |
  The API version is defined in 3GPP TS 29.504
  © 2024, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
  All rights reserved.
```

externalDocs:

```
description: >
  3GPP TS 29.519 V18.5.0; 5G System; Usage of the Unified Data Repository Service for Policy Data,
  Application Data and Structured Data for Exposure.
url: 'https://www.3gpp.org/ftp/Specs/archive/29_series/29.519/'
```

paths:

```
/policy-data/ues/{ueId}:
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  get:
    summary: Retrieve the policy data for a subscriber
    operationId: ReadPolicyData
    tags:
      - PolicyDataForIndividualUe (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:read
    parameters:
      - name: supp-feat
```

```

    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  - name: data-subset-names
    in: query
    style: form
    explode: false
    description: List of policy data subset names
    required: false
    schema:
      type: array
      items:
        $ref: '#/components/schemas/PolicyDataSubset'
      minItems: 2
  responses:
    '200':
      description: Upon success, a response body containing policy data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/PolicyDataForIndividualUe'
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/ues/{ueId}/am-data:
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  get:
    summary: Retrieves the access and mobility policy data for a subscriber
    operationId: ReadAccessAndMobilityPolicyData
    tags:
      - AccessAndMobilityPolicyData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:am-data:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: >
          Upon success, a response body containing access and mobility policies shall be returned.
        content:
          application/json:

```

```

    schema:
      $ref: '#/components/schemas/AmPolicyData'
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/ues/{ueId}/ue-policy-set:
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  get:
    summary: Retrieves the UE policy set data for a subscriber
    operationId: ReadUEPolicySet
    tags:
      - UEPolicySet (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:ue-policy-set:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Upon success, a response body containing UE policies shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/UePolicySet'
      '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'
      '429':
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'

```

```

    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  put:
    summary: Create or modify the UE policy set data for a subscriber
    operationId: CreateOrReplaceUEPolicySet
    tags:
      - UEPolicySet (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:ue-policy-set:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/UePolicySet'
    responses:
      '201':
        description: >
          Successful case. The resource has been successfully created and a response body
          containing a representation of the created UEPolicySet resource shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/UePolicySet'
        headers:
          Location:
            description: 'Contains the URI of the newly created resource'
            required: true
            schema:
              type: string
      '200':
        description: >
          Successful case. The resource has been successfully created and a response body
          containing UE policies shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/UePolicySet'
      '204':
        description: >
          Successful case. The resource has been successfully updated and no additional content
          is to be sent in the response message.
      '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'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  patch:
    summary: Modify the UE policy set data for a subscriber
    operationId: UpdateUEPolicySet

```

```

tags:
  - UEPolicySet (Document)
security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
    - nudr-dr:policy-data:ues:ue-policy-set:modify
requestBody:
  required: true
  content:
    application/merge-patch+json:
      schema:
        $ref: '#/components/schemas/UePolicySetPatch'
responses:
  '204':
    description: >
      Successful case. The resource has been successfully updated and no additional content is
      to be sent in the response message.
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/ues/{ueId}/sm-data:
  get:
    summary: Retrieves the session management policy data for a subscriber
    operationId: ReadSessionManagementPolicyData
    tags:
      - SessionManagementPolicyData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:ues:sm-data:read
    parameters:
      - name: ueId
        in: path
        required: true
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      - name: snssai
        in: query
        required: false
        content:
          application/json:
            schema:

```

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    $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  - name: dnn
    in: query
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  - name: fields
    in: query
    description: attributes to be retrieved
    required: false
    schema:
      type: array
      items:
        type: string
        minItems: 1
  - name: supp-feat
    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: Upon success, a response body containing SmPolicyData shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/SmPolicyData'
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  summary: Modify the session management policy data for a subscriber
  operationId: UpdateSessionManagementPolicyData
  tags:
    - SessionManagementPolicyData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:ues:sm-data:modify
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: '#/components/schemas/SmPolicyDataPatch'

```

```

responses:
  '204':
    description: >
      Successful case. The resource has been successfully updated and no
      additional content is to be sent in the response message.
  '200':
    description: Expected response to a valid request
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/SmPolicyData'
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/ues/{ueId}/sm-data/{usageMonId}:
  get:
    summary: Retrieve a usage monitoring resource
    operationId: ReadUsageMonitoringInformation
    tags:
      - UsageMonitoringInformation (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:sm-data:read
    parameters:
      - name: ueId
        in: path
        required: true
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      - name: usageMonId
        in: path
        required: true
        schema:
          type: string
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Successful case. The usage monitoring data is returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/UsageMonData'
      '204':

```



```

    description: The resource was found but no usage monitoring data is available.
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Create a usage monitoring resource
  operationId: CreateUsageMonitoringResource
  tags:
    - UsageMonitoringInformation (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:ues:sm-data:create
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    - name: usageMonId
      in: path
      required: true
      schema:
        type: string
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/UsageMonData'
  responses:
    '201':
      description: >
        Successful case. The resource has been successfully created and a response body is
        returned containing a representation of the resource.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/UsageMonData'
      headers:
        Location:
          description: 'Contains the URI of the newly created resource'
          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'
  '411':
    $ref: 'TS29571_CommonData.yaml#/components/responses/411'
  '413':
    $ref: 'TS29571_CommonData.yaml#/components/responses/413'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '415':
    $ref: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete a usage monitoring resource
  operationId: DeleteUsageMonitoringInformation
  tags:
    - UsageMonitoringInformation (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:ues:sm-data:modify
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    - name: usageMonId
      in: path
      required: true
      schema:
        type: string
  responses:
    '204':
      description: Successful case. The resource has been successfully deleted.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/sponsor-connectivity-data/{sponsorId}:
  parameters:
    - name: sponsorId
      in: path
      required: true
      schema:
        type: string
  get:
    summary: Retrieves the sponsored connectivity information for a given sponsorId
    operationId: ReadSponsorConnectivityData

```

```

tags:
  - SponsorConnectivityData (Document)
security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
    - nudr-dr:policy-data:sponsor-connectivity-data:read
parameters:
  - name: supp-feat
    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: >
      Upon success, a response body containing Sponsor Connectivity Data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/SponsorConnectivityData'
  '204':
    description: The resource was found but no Sponsor Connectivity Data is available.
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/bdt-data:
  get:
    summary: Retrieves the BDT data collection
    operationId: ReadBdtData
    tags:
      - BdtData (Store)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:bdt-data:read
    parameters:
      - name: bdt-ref-ids
        in: query
        description: List of the BDT reference identifiers.
        required: false
        schema:
          type: array
          items:
            $ref: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
          minItems: 1

```

```

    style: form
    explode: false
  - name: supp-feat
    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: Upon success, a response body containing the BDT data shall be returned.
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/BdtData'
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/bdt-data/{bdtReferenceId}:
  parameters:
  - name: bdtReferenceId
    in: path
    required: true
    schema:
      type: string
  get:
    summary: Retrieves the BDT data information associated with a BDT reference Id
    operationId: ReadIndividualBdtData
    tags:
    - IndividualBdtData (Document)
    security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:bdt-data:read
    parameters:
    - name: supp-feat
      in: query
      description: Supported Features
      required: false
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Upon success, a response body containing the BDT data shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/BdtData'
      '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Creates an BDT data resource associated with an BDT reference Id
  operationId: CreateIndividualBdtData
  tags:
    - IndividualBdtData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:bdt-data:create
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/BdtData'
  responses:
    '201':
      description: Successful case. The resource has been successfully created.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/BdtData'
      headers:
        Location:
          description: 'Contains the URI of the newly created resource'
          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'
    '411':
      $ref: 'TS29571_CommonData.yaml#/components/responses/411'
    '413':
      $ref: 'TS29571_CommonData.yaml#/components/responses/413'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

```

patch:
  summary: Modifies an BDT data resource associated with an BDT reference Id
  operationId: UpdateIndividualBdtData
  tags:
    - IndividualBdtData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:bdt-data:modify
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: '#/components/schemas/BdtDataPatch'
  responses:
    '200':
      description: Expected response to a valid request
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/BdtData'
    '204':
      description: >
        Successful case. The resource has been successfully updated and no additional content
        is to be sent in the response message.
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Deletes an BDT data resource associated with an BDT reference Id
  operationId: DeleteIndividualBdtData
  tags:
    - IndividualBdtData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:bdt-data:modify
  responses:
    '204':
      description: Successful case. The resource has been successfully deleted.
    '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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

/policy-data/subs-to-notify:

get:

```

summary: Retrieves the list of Individual Policy Data Subscription resources
operationId: ReadPolicyDataSubscriptions
tags:
- PolicyDataSubscriptions (Collection)
security:
- {}
- oAuth2ClientCredentials:
  - nudr-dr
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:policy-data
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:policy-data
  - nudr-dr:policy-data:subs-to-notify:read
parameters:
- name: mon-resources
  in: query
  style: form
  explode: false
  description: List of monitored resources whose subscriptions are requested.
  required: false
  schema:
    type: array
    items:
      type: string
      description: Contains the apiSpecificResourceUriPart of the resource URI.
    minItems: 1
- name: ue-id
  in: query
  description: Represents the Subscription Identifier SUPI or GPSI.
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- name: supp-feat
  in: query
  description: Supported Features
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
'200':
  description: >
    Upon success, a response body containing a list of Individual Policy Data
    Subscription resources shall be returned.
  content:
    application/json:
      schema:
        type: array
        items:
          $ref: '#/components/schemas/PolicyDataSubscription'
'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'

```

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    '406':
      $ref: 'TS29571_CommonData.yaml#/components/responses/406'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
post:
  summary: Create a subscription to receive notification of policy data changes
  operationId: CreateIndividualPolicyDataSubscription
  tags:
    - PolicyDataSubscriptions (Collection)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data:subs-to-notify
      - nudr-dr:policy-data:subs-to-notify:create
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PolicyDataSubscription'
  responses:
    '201':
      description: >
        Upon success, a response body containing a representation of each Individual
        subscription resource shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/PolicyDataSubscription'
      headers:
        Location:
          description: 'Contains the URI of the newly created resource'
          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'
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
callbacks:
  policyDataChangeNotification:
    '{$request.body#/notificationUri}':
      post:
        requestBody:
          required: true
          content:

```



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        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/PolicyDataChangeNotification'
            minItems: 1
      responses:
        '204':
          description: No Content, Notification was successful
        '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'
        '502':
          $ref: 'TS29571_CommonData.yaml#/components/responses/502'
        '503':
          $ref: 'TS29571_CommonData.yaml#/components/responses/503'
        default:
          $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/subs-to-notify/{subsId}:
  parameters:
    - name: subsId
      in: path
      required: true
      schema:
        type: string
  get:
    summary: Retrieves Individual Policy Subscription data
    operationId: ReadIndividualPolicySubscriptionData
    tags:
      - IndividualPolicySubscriptionData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:subs-to-notify:read
    responses:
      '200':
        description: >
          Upon success, a response body containing Policy Data Subscription shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/PolicyDataSubscription'
      '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'
      '414':
        $ref: 'TS29571_CommonData.yaml#/components/responses/414'
      '429':

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    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Modify a subscription to receive notification of policy data changes
  operationId: ReplaceIndividualPolicyDataSubscription
  tags:
  - IndividualPolicyDataSubscription (Document)
  security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
    - nudr-dr:policy-data:subs-to-notify:modify
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PolicyDataSubscription'
  responses:
    '200':
      description: The individual subscription resource was updated successfully.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/PolicyDataSubscription'
    '204':
      description: >
        The individual subscription resource was updated successfully and no
        additional content is to be sent in the response message.
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete the individual Policy Data subscription
  operationId: DeleteIndividualPolicyDataSubscription
  tags:
  - IndividualPolicyDataSubscription (Document)
  responses:
    '204':
      description: Upon success, an empty response body shall be returned.
    '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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/ues/{ueId}/operator-specific-data:
  get:
    summary: Retrieve the operator specific policy data of an UE
    operationId: ReadOperatorSpecificData
    tags:
      - OperatorSpecificData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:ues:operator-specific-data:read
    parameters:
      - name: ueId
        in: path
        description: UE Id
        required: true
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      - name: fields
        in: query
        description: attributes to be retrieved
        required: false
        schema:
          type: array
          items:
            type: string
            minItems: 1
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Expected response to a valid request
        content:
          application/json:
            schema:
              type: object
              additionalProperties:
                $ref:
' TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
'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'
'414':
  $ref: 'TS29571_CommonData.yaml#/components/responses/414'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'

```

```

'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

patch:
  summary: Modify the operator specific policy data of a UE
  operationId: UpdateOperatorSpecificData
  tags:
    - OperatorSpecificData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:ues:operator-specific-data:modify
  parameters:
    - name: ueId
      in: path
      description: UE Id
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  requestBody:
    content:
      application/json-patch+json:
        schema:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
        required: true
  responses:
    '204':
      description: No content. Response to successful modification.
    '200':
      description: Expected response to a valid request
      content:
        application/json:
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchResult'
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

put:
  summary: Create or modify the operator specific policy data of a UE
  operationId: ReplaceOperatorSpecificData
  tags:
    - OperatorSpecificData (Document)

```

```

security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
    - nudr-dr:policy-data:ues:operator-specific-data:create
parameters:
  - name: ueId
    in: path
    description: UE Id
    required: true
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
requestBody:
  required: true
  content:
    application/json:
      schema:
        type: object
        additionalProperties:
          $ref:
'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
responses:
  '200':
    description: OK
    content:
      application/json:
        schema:
          type: object
          additionalProperties:
            $ref:
'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
  '201':
    description: >
      Successful case. When the feature OSDResource_Create_Delete is supported
      and the resource has been successfully created, a response body containing a
      representation of the created OperatorSpecificData resource shall be returned.
    content:
      application/json:
        schema:
          type: object
          additionalProperties:
            $ref:
'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
  headers:
    Location:
      description: 'Contains the URI of the newly created resource'
      required: true
      schema:
        type: string
  '204':
    description: The resource has been successfully updated.
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':

```

```

    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: When the feature OSDResource_Create_Delete is supported, delete OperatorSpecificData
resource
  operationId: DeleteOperatorSpecificData
  tags:
    - OperatorSpecificData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:ues:operator-specific-data:modify
  parameters:
    - name: ueId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  responses:
    '204':
      description: Successful case. The resource has been successfully deleted.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/plmns/{plmnId}/ue-policy-set:
  parameters:
    - name: plmnId
      in: path
      required: true
      schema:
        $ref: 'TS29505_Subscription_Data.yaml#/components/schemas/VarPlmnId'
  get:
    summary: Retrieve the UE policy set data for an H-PLMN
    operationId: ReadPlmnUePolicySet
    tags:
      - PlmnUePolicySet (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:plmns:ue-policy-set:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

```

```

responses:
  '200':
    description: Upon success, a response body containing UE policies shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/UePolicySet'
  '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'
  '412':
    $ref: 'TS29571_CommonData.yaml#/components/responses/412'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/slice-control-data/{snssai}:
  parameters:
    - name: snssai
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  get:
    summary: Retrieves a network Slice specific policy control data resource
    operationId: ReadSlicePolicyControlData
    tags:
      - SlicePolicyControlData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:slice-control-data:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: >
          Successful case. The network slice specific policy control data shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SlicePolicyData'
      '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'

```

```

    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  patch:
    summary: Modify a network Slice specific policy control data resource
    operationId: UpdateSlicePolicyControlData
    tags:
      - SlicePolicyControlData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:slice-control-data:modify
    requestBody:
      required: true
      content:
        application/merge-patch+json:
          schema:
            $ref: '#/components/schemas/SlicePolicyDataPatch'
    responses:
      '200':
        description: >
          The resource has been successfully updated and a response body containing network
          slice specific policy control data shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SlicePolicyData'
      '204':
        description: >
          The resource has been successfully updated and no additional content is
          to be sent in the response message.
      '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'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
      default:
        $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/mbs-session-pol-data/{polSessionId}:
  parameters:
    - name: polSessionId
      description: >
        Represents the identifier of the MBS Session Policy Control Data.
      in: path
      required: true
      schema:

```



```

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

get:
  summary: Retrieve MBS Session Policy Control Data for an MBS Session.
  operationId: GetMBSsessPolCtrlData
  tags:
    - MBSsessionPolicyControlData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
        - nudr-dr
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:mbs-session-pol-data:read
  responses:
    '200':
      description: >
        OK. The requested MBS Session Policy Control Data is successfully returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/MbsSessPolCtrlData'
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/pdtq-data:
get:
  summary: Retrieves the PDTQ data collection
  operationId: ReadPdtqData
  tags:
    - PdtqData (Store)
  security:
    - {}
    - oAuth2ClientCredentials:
        - nudr-dr
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:pdtq-data:read
  parameters:
    - name: pdtq-ref-ids
      in: query
      description: List of the PDTQ reference identifiers.
      required: false
      schema:
        type: array
        items:
          $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/PdtqReferenceId'
        minItems: 1
      style: form
      explode: false

```

```

- name: supp-feat
  in: query
  description: Supported Features
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: Upon success, a response body containing the PDTQ data shall be returned.
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/PdtqData'
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/pdtq-data/{pdtqReferenceId}:
  parameters:
    - name: pdtqReferenceId
      in: path
      required: true
      schema:
        type: string
  get:
    summary: Retrieves the PDTQ data information associated with a PDTQ reference Id
    operationId: ReadIndividualPdtqData
    tags:
      - IndividualPdtqData (Document)
    security:
      - {}
      - OAuth2ClientCredentials:
          - nudr-dr
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:pdtq-data:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Upon success, a response body containing the PDTQ data shall be returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/PdtqData'
      '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Creates a PDTQ data resource associated with a PDTQ reference Id
  operationId: CreateIndividualPdtqData
  tags:
    - IndividualPdtqData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
        - nudr-dr
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
    - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:policy-data
        - nudr-dr:policy-data:pdtq-data:create
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PdtqData'
  responses:
    '201':
      description: Successful case. The resource has been successfully created.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/PdtqData'
      headers:
        Location:
          description: 'Contains the URI of the newly created resource'
          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'
    '411':
      $ref: 'TS29571_CommonData.yaml#/components/responses/411'
    '413':
      $ref: 'TS29571_CommonData.yaml#/components/responses/413'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  summary: Modifies a PDTQ data resource associated with a PDTQ reference Id

```

```

operationId: UpdateIndividualPdtqData
tags:
  - IndividualPdtqData (Document)
security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:policy-data
    - nudr-dr:policy-data:pdtq-data:modify
requestBody:
  required: true
  content:
    application/merge-patch+json:
      schema:
        $ref: '#/components/schemas/PdtqDataPatch'
responses:
  '200':
    description: Expected response to a valid request
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PdtqData'
  '204':
    description: >
      Successful case. The resource has been successfully updated and no additional content
      is to be sent in the response message.
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Deletes a PDTQ data resource associated with a PDTQ reference Id
  operationId: DeleteIndividualPdtqData
  tags:
    - IndividualPdtqData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:pdtq-data:modify
  responses:
    '204':
      description: Successful case. The resource has been successfully deleted.
    '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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/policy-data/group-control-data/{intGroupId}:
  parameters:
    - name: intGroupId
      in: path
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'

  get:
    summary: Retrieves a group specific policy control subscription data resource
    operationId: ReadGroupPolCtrlData
    tags:
      - GroupPolicyControlData (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:policy-data
          - nudr-dr:policy-data:group-control-data:read
    parameters:
      - name: supp-feat
        in: query
        description: Represents the supported features.
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: >
          Successful case. The requested group specific policy control subscription data shall be
          returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/GroupPolicyData'
      '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'
      '429':
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
      default:
        $ref: 'TS29571_CommonData.yaml#/components/responses/default'

  patch:
    summary: Modify an existing group specific policy control subscription data resource.
    operationId: ModifyGroupPolCtrlData
    tags:

```

```

    - GroupPolicyControlData (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:policy-data
      - nudr-dr:policy-data:group-control-data:modify
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: '#/components/schemas/GroupPolicyDataPatch'
  responses:
    '200':
      description: >
        The resource has been successfully modified and a response body containing the updated
        group specific policy control subscription data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/GroupPolicyData'
    '204':
      description: >
        The resource has been successfully modified and no additional content is to be sent in
        the response body.
    '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'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

components:

  schemas:

    PolicyDataForIndividualUe:
      description: Contains policy data for a given subscriber.
      type: object
      properties:
        uePolicyDataSet:
          $ref: '#/components/schemas/UePolicySet'
        smPolicyDataSet:
          $ref: '#/components/schemas/SmPolicyData'
        amPolicyDataSet:
          $ref: '#/components/schemas/AmPolicyData'
        umData:
          type: object
          additionalProperties:
            $ref: '#/components/schemas/UsageMonData'
          minProperties: 1
          description: >
            Contains UM policies. The value of the limit identifier is used as the key of the map.
        operatorSpecificDataSet:
          type: object
          additionalProperties:

```

```

    $ref: 'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
  minProperties: 1
  description: >
    Contains Operator Specific Data resource data. The key of the map is operator
    specific data element name and the value is the operator specific data of the UE.
  suppFeat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

AmPolicyData:
  description: Contains the AM policy data for a given subscriber.
  type: object
  properties:
    praInfos:
      type: object
      additionalProperties:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
      minProperties: 1
      description: >
        Contains Presence reporting area information. The praId attribute within the
        PresenceInfo data type is the key of the map.
    subscCats:
      type: array
      items:
        type: string
      minItems: 1
    chfInfo:
      $ref: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/ChargingInformation'
    subscSpendingLimits:
      type: boolean
      description: >
        Indicates whether the PCF must enforce Access and Mobility management related
        policies based on subscriber spending limits.
    spendLimInfo:
      type: object
      additionalProperties:
        $ref: 'TS29594_Nchf_SpendingLimitControl.yaml#/components/schemas/PolicyCounterInfo'
      minProperties: 1
      description: >
        Contains the status of the requested policy counters for UE.
        The key of the map is the attribute policyCounterId.
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

UePolicySet:
  description: Contains the UE policy data for a given subscriber.
  type: object
  properties:
    praInfos:
      type: object
      additionalProperties:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
      minProperties: 1
      description: >
        Contains Presence reporting area information. The praId attribute within the
        PresenceInfo data type is the key of the map.
    subscCats:
      type: array
      items:
        type: string
      minItems: 1
    uePolicySections:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UePolicySection'
      minProperties: 1
      description: >
        Contains the UE Policy Sections. The UE Policy Section Identifier is used as
        the key of the map.
    upsis:
      type: array
      items:
        type: string
      minItems: 1
    allowedRouteSelDescs:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/PlmnRouteSelectionDescriptor'
      minProperties: 1

```

```

description: >
  Contains allowed route selection descriptors per serving PLMN for a UE.
  The serving PLMN identifier is the key of the map.
andspInd:
  type: boolean
epsUrspInd:
  type: boolean
  description: Indication of UE supporting URSP provisioning in EPS.
vpsUrspInd:
  type: boolean
  description: Indication of UE supporting VPLMN-specific URSP.
urspEnfInd:
  type: boolean
  description: Indication of UE supporting URSP enforcement report.
pei:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/Pei'
osIds:
  type: array
  items:
    $ref: '#/components/schemas/OsId'
  minItems: 1
chfInfo:
  $ref: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/ChargingInformation'
subscSpendingLimits:
  type: boolean
  description: >
    Indicates whether the PCF must enforce UE policies based on subscriber spending limits.
spendLimInfo:
  type: object
  additionalProperties:
    $ref: 'TS29594_Nchf_SpendingLimitControl.yaml#/components/schemas/PolicyCounterInfo'
  minProperties: 1
  description: >
    Contains the status of the requested policy counters for UE.
    The key of the map is the attribute policyCounterId.
tracingReq:
  type: array
  items:
    type: string
  minItems: 1
  description: >
    Tracing requirements as defined in TS 32.421 [26]
suppFeat:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
resetIds:
  type: array
  items:
    type: string
  minItems: 1

UePolicySetPatch:
description: Contains the UE policy set for a given subscriber.
type: object
properties:
  uePolicySections:
    type: object
    additionalProperties:
      $ref: '#/components/schemas/UePolicySection'
    minProperties: 1
    description: >
      Contains the UE Policy Sections. The UE Policy Section Identifier is used
      as the key of the map.
  upsis:
    type: array
    items:
      type: string
    minItems: 1
andspInd:
  type: boolean
epsUrspInd:
  type: boolean
  description: Indication of UE supporting URSP provisioning in EPS.
vpsUrspInd:
  type: boolean
  description: Indication of UE supporting VPLMN-specific URSP.
urspEnfInd:
  type: boolean
  description: Indication of UE supporting URSP enforcement report.

```



```

    pei:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Pei'
    osIds:
      type: array
      items:
        $ref: '#/components/schemas/OsId'
      minItems: 1

UePolicySection:
  description: Contains the UE policy section.
  type: object
  properties:
    uePolicySectionInfo:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Bytes'
    upsi:
      type: string
  required:
    - uePolicySectionInfo
    - upsi

SmPolicyData:
  description: Contains the SM policy data for a given subscriber.
  type: object
  properties:
    smPolicySnssaiData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/SmPolicySnssaiData'
      minProperties: 1
      description: >
        Contains Session Management Policy data per S-NSSAI for all the SNSSAIs
        of the subscriber. The key of the map is the S-NSSAI.
    umDataLimits:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UsageMonDataLimit'
      minProperties: 1
      description: >
        Contains a list of usage monitoring profiles associated with the subscriber.
        The limit identifier is used as the key of the map.
    umData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UsageMonData'
      minProperties: 1
      description: >
        Contains the remaining allowed usage data associated with the subscriber.
        The limit identifier is used as the key of the map.
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  required:
    - smPolicySnssaiData

SmPolicySnssaiData:
  description: Contains the SM policy data for a given subscriber and S-NSSAI.
  type: object
  properties:
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    smPolicyDnnData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/SmPolicyDnnData'
      minProperties: 1
      description: >
        Session Management Policy data per DNN for all the DNNs of the indicated S-NSSAI.
        The key of the map is the DNN.
    ueSliceMbr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SliceMbr'
  required:
    - snssai

SmPolicyDnnData:
  description: Contains the SM policy data for a given DNN (and S-NSSAI).
  type: object
  properties:
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'

```

```

allowedServices:
  type: array
  items:
    type: string
  minItems: 1
subscCats:
  type: array
  items:
    type: string
  minItems: 1
gbrUl:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
gbrDl:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
adcSupport:
  type: boolean
subscSpendingLimits:
  type: boolean
  description: >
    Indicates whether the PCF must enforce session management related policies based
    on subscriber spending limits.
spendLimInfo:
  type: object
  additionalProperties:
    $ref: 'TS29594_Nchf_SpendingLimitControl.yaml#/components/schemas/PolicyCounterInfo'
  minProperties: 1
  description: >
    Contains the status of the requested policy counters for the PDU session.
    The key of the map is the attribute policyCounterId.
ipv4Index:
  $ref: '#/components/schemas/IpIndex'
ipv6Index:
  $ref: '#/components/schemas/IpIndex'
offline:
  type: boolean
online:
  type: boolean
chfInfo:
  $ref: 'TS29512_Npcf_SMPolicyControl.yaml#/components/schemas/ChargingInformation'
refUmDataLimitIds:
  type: object
  additionalProperties:
    $ref: '#/components/schemas/LimitIdToMonitoringKey'
  minProperties: 1
  description: >
    A reference to the UsageMonDataLimit or UsageMonData instances for this DNN and SNSSAI
    that may also include the related monitoring key(s).
    The key of the map is the limit identifier.
mpsPriority:
  type: boolean
mcsPriority:
  type: boolean
imsSignallingPrio:
  type: boolean
mpsPriorityLevel:
  type: integer
mcsPriorityLevel:
  type: integer
praInfos:
  type: object
  additionalProperties:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
  minProperties: 1
  description: >
    Contains Presence reporting area information. The praId attribute within the
    PresenceInfo data type is the key of the map.
bdtRefIds:
  type: object
  additionalProperties:
    $ref: '#/components/schemas/BdtReferenceIdRm'
  minProperties: 1
  description: >
    Identifies transfer policies of background data transfer. Any string value can
    be used as a key of the map.
  nullable: true
locRoutNotAllowed:
  type: boolean
sfcNotAllowed:

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```

    type: boolean
  tnap:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/TnapId'
    minItems: 1
    description: Contains the TNAP IDs collocated with the 5G-RG(s) of a specific user.
  required:
    - dnn

UsageMonDataLimit:
  description: Contains usage monitoring control data for a subscriber.
  type: object
  properties:
    limitId:
      type: string
    scopes:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UsageMonDataScope'
      minProperties: 1
      description: >
        Identifies the SNSSAI and DNN combinations to which the usage monitoring data
        limit applies. The S-NSSAI is the key of the map.
    umLevel:
      $ref: '#/components/schemas/UsageMonLevel'
    startDate:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    endDate:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    usageLimit:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
    resetPeriod:
      $ref: '#/components/schemas/TimePeriod'
  required:
    - limitId

UsageMonData:
  description: Contains remain allowed usage data for a subscriber.
  type: object
  properties:
    limitId:
      type: string
    scopes:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UsageMonDataScope'
      minProperties: 1
      description: >
        Identifies the SNSSAI and DNN combinations for remain allowed usage data
        for a subscriber. The S-NSSAI is the key of the map.
    umLevel:
      $ref: '#/components/schemas/UsageMonLevel'
    allowedUsage:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
    resetTime:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
  required:
    - limitId

LimitIdToMonitoringKey:
  description: >
    Contains the limit identifier and the corresponding monitoring key for a given
    S-NSSAI and DNN.
  type: object
  properties:
    limitId:
      type: string
    monkey:
      type: array
      items:

```

```

    type: string
    minItems: 1
  required:
  - limitId
  nullable: true

UsageMonDataScope:
  description: >
    Contains a SNSSAI and DNN combinations to which the UsageMonData instance belongs to.
  type: object
  properties:
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnn:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
  required:
  - snssai

TimePeriod:
  description: Contains the periodicity for the defined usage monitoring data limits.
  type: object
  properties:
    period:
      $ref: '#/components/schemas/Periodicity'
    maxNumPeriod:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  required:
  - period

SponsorConnectivityData:
  description: >
    Contains the sponsored data connectivity related information for a sponsor identifier.
  type: object
  properties:
    aspIds:
      type: array
      items:
        type: string
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  required:
  - aspIds

BdtData:
  description: Contains the background data transfer data.
  type: object
  properties:
    aspId:
      type: string
    transPolicy:
      $ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/TransferPolicy'
    bdtRefId:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
    nwAreaInfo:
      $ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'
    numOfUes:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
    volPerUe:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/UsageThreshold'
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    trafficDes:
      $ref: 'TS29122_ResourceManagementOfBdt.yaml#/components/schemas/TrafficDescriptor'
    bdtStatus:
      $ref: '#/components/schemas/BdtPolicyStatus'
    warnNotifEnabled:
      type: boolean
      description: >
        Indicates whether the BDT warning notification is enabled (true) or not (false).
        Default value is false.
    notifUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    suppFeat:

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    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  resetIds:
    type: array
    items:
      type: string
    minItems: 1
  required:
  - aspId
  - transPolicy

PolicyDataSubscription:
  description: Identifies a subscription to policy data change notification.
  type: object
  properties:
    notificationUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    notifId:
      type: string
    monitoredResourceUris:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    monResItems:
      type: array
      items:
        $ref: '#/components/schemas/ResourceItem'
    minItems: 1
    excludedResItems:
      type: array
      items:
        $ref: '#/components/schemas/ResourceItem'
    minItems: 1
    immRep:
      type: boolean
      description: >
        If provided and set to true, it indicates that existing entries that
        match this subscription shall be immediately reported in the response.
    immReports:
      type: array
      items:
        $ref: '#/components/schemas/PolicyDataChangeNotification'
      minItems: 1
      description: Immediate report with existing UDR entries.
    expiry:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    supportedFeatures:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
    subsId:
      type: string
  required:
  - notificationUri
  - monitoredResourceUris

PolicyDataChangeNotification:
  description: Contains changed policy data for which notification was requested.
  type: object
  properties:
    amPolicyData:
      $ref: '#/components/schemas/AmPolicyData'
    uePolicySet:
      $ref: '#/components/schemas/UePolicySet'
    plmnUePolicySet:
      $ref: '#/components/schemas/UePolicySet'
    smPolicyData:
      $ref: '#/components/schemas/SmPolicyData'
    usageMonData:
      $ref: '#/components/schemas/UsageMonData'
    SponsorConnectivityData:
      $ref: '#/components/schemas/SponsorConnectivityData'
    bdtData:
      $ref: '#/components/schemas/BdtData'
    opSpecData:
      $ref: 'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'

```

```

opSpecDataMap:
  type: object
  additionalProperties:
    $ref: 'TS29505_Subscription_Data.yaml#/components/schemas/OperatorSpecificDataContainer'
  minProperties: 1
  description: >
    Operator Specific Data resource data, if changed and notification was requested.
    The key of the map is operator specific data element name and the value is the
    operator specific data of the UE.
ueId:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
sponsorId:
  type: string
bdtRefId:
  $ref: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
usageMonId:
  type: string
plmnId:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
delResources:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  minItems: 1
notifId:
  type: string
reportedFragments:
  type: array
  items:
    $ref: '#/components/schemas/NotificationItem'
  minItems: 1
slicePolicyData:
  $ref: '#/components/schemas/SlicePolicyData'
snssai:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
pdtqData:
  $ref: '#/components/schemas/PdtqData'
pdtqRefId:
  $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/PdtqReferenceId'
groupPolicyData:
  $ref: '#/components/schemas/GroupPolicyData'
intGroupId:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'

PlmnRouteSelectionDescriptor:
  description: >
    Contains the route selection descriptors (combinations of SNSSAI, DNNs, PDU session types,
    SSC modes and ATSSS information) allowed by subscription to the UE for a serving PLMN
  type: object
  properties:
    servingPlmn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
    snssaiRouteSelDescs:
      type: array
      items:
        $ref: '#/components/schemas/SnssaiRouteSelectionDescriptor'
      minItems: 1
  required:
    - servingPlmn

SnssaiRouteSelectionDescriptor:
  description: >
    Contains the route selector parameters (DNNs, PDU session types, SSC modes and ATSSS
    information) per SNSSAI
  type: object
  properties:
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnnRouteSelDescs:
      type: array
      items:
        $ref: '#/components/schemas/DnnRouteSelectionDescriptor'
      minItems: 1
  required:
    - snssai

DnnRouteSelectionDescriptor:
  description: >

```

```

    Contains the route selector parameters (PDU session types, SSC modes and ATSSS
    information) per DNN
  type: object
  properties:
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    sscModes:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/SscMode'
      minItems: 1
    pduSessTypes:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
      minItems: 1
    atsssInfo:
      description: >
        Indicates whether MA PDU session establishment is allowed for this DNN.
        When set to value true MA PDU session establishment is allowed for this DNN.
      type: boolean
      default: false
    lboRoamAllowed:
      type: boolean
      description: >
        Indicates whether LBO for the DNN and S-NSSAI is allowed when roaming.
  required:
    - dnn

SmPolicyDataPatch:
  description: Contains the SM policy data for a given subscriber.
  type: object
  properties:
    umData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/UsageMonData'
      minProperties: 1
      description: >
        Contains the remaining allowed usage data associated with the subscriber.
        The value of the limit identifier is used as the key of the map.
      nullable: true
    smPolicySnssaiData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/SmPolicySnssaiDataPatch'
      minProperties: 1
      description: >
        Modifiable Session Management Policy data per S-NSSAI for all the SNSSAIs
        of the subscriber. The key of the map is the S-NSSAI.

SmPolicySnssaiDataPatch:
  description: Contains the SM policy data for a given subscriber and S-NSSAI.
  type: object
  properties:
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    smPolicyDnnData:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/SmPolicyDnnDataPatch'
      minProperties: 1
      description: >
        Modifiable Session Management Policy data per DNN for all the DNNs of the
        indicated S-NSSAI. The key of the map is the DNN.
  required:
    - snssai

SmPolicyDnnDataPatch:
  description: Contains the SM policy data for a given DNN (and S-NSSAI).
  type: object
  properties:
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    bdtRefIds:
      type: object
      additionalProperties:
        $ref: '#/components/schemas/BdtReferenceIdRm'
      minProperties: 1

```

```
    description: >
      Contains updated transfer policies of background data transfer.
      Any string value can be used as a key of the map.
    nullable: true
  required:
  - dnn

ResourceItem:
  description: >
    Identifies a subscription to policy data change notification when the change occurs
    in a fragment (subset of resource data) of a given resource.
  type: object
  properties:
    monResourceUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    items:
      type: array
      items:
        $ref: '#/components/schemas/ItemPath'
      minItems: 1
  required:
  - monResourceUri
  - items

NotificationItem:
  description: >
    Identifies a data change notification when the change occurs in a fragment
    (subset of resource data) of a given resource.
  type: object
  properties:
    resourceId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    notifItems:
      type: array
      items:
        $ref: '#/components/schemas/UpdatedItem'
      minItems: 1
  required:
  - resourceId
  - notifItems

UpdatedItem:
  description: Identifies a fragment of a resource.
  type: object
  properties:
    item:
      $ref: '#/components/schemas/ItemPath'
    value: {}
  required:
  - item
  - value

BdtDataPatch:
  description: Contains the modified background data transfer data.
  type: object
  properties:
    transPolicy:
      $ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/TransferPolicy'
    bdtStatus:
      $ref: '#/components/schemas/BdtPolicyStatus'
    warnNotifEnabled:
      type: boolean
      description: >
        Indicates whether the BDT warning notification is enabled (true) or not (false).

SlicePolicyData:
  description: Contains the network slice specific policy control information.
  type: object
  properties:
    mbrUl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    mbrDl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    remainMbrUl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    remainMbrDl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    suppFeat:
```



```

    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

SlicePolicyDataPatch:
  description: Contains the modified network slice specific policy control information.
  type: object
  properties:
    remainMbrUl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    remainMbrDl:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  oneOf:
    - required: [remainMbrUl]
    - required: [remainMbrDl]

MbsSessPolCtrlData:
  description: Represents MBS Session Policy Control Data.
  type: object
  properties:
    5qis:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/5Qi'
      minItems: 1
    maxMbsArpLevel:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/ArpPriorityLevel'
    maxMbsSessionAmbr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    maxGbr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

MbsSessPolDataId:
  description: Represents the identifier used to access the MBS Session Policy Control Data.
  type: object
  properties:
    mbsSessionId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/MbsSessionId'
    afAppId:
      type: string
  oneOf:
    - required: [mbsSessionId]
    - required: [afAppId]

PdtqData:
  description: Contains the planned data transfer data with QoS requirements.
  type: object
  properties:
    aspId:
      type: string
    pdtqPolicy:
      $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/PdtqPolicy'
    appId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
    pdtqRefId:
      $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/PdtqReferenceId'
    nwAreaInfo:
      $ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'
    numOfUes:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
    desTimeInts:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/TimeWindow'
      minItems: 1
      description: Identifies the time interval(s).
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    altQosParamSets:
      type: array
      items:
        $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/AltQosParamSet'
      minItems: 1
      description: >
        Contains the alternative QoS requirements as a list of individual QoS parameter
        sets in a prioritized order.

```

```
altQosRefs:
  type: array
  items:
    type: string
  minItems: 1
  description: >
    Contains the alternative QoS requirements as the list of QoS references in a
    prioritized order.
qosParamSet:
  $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/QosParameterSet'
qosReference:
  type: string
  description: >
    Requested QoS requirements expressed as the QoS Reference which represents
    a pre-defined QoS information.
notifUri:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
warnNotifEnabled:
  type: boolean
  description: >
    Indicates whether the PDTQ warning notification is enabled (true) or not (false).
    Default value is false.
suppFeat:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
resetIds:
  type: array
  items:
    type: string
  minItems: 1
required:
- aspId
- pdtqPolicy

PdtqDataPatch:
description: Contains the modified planned data transfer data with QoS requirements.
type: object
properties:
  pdtqPolicy:
    $ref: 'TS29543_Npcf_PDTQPolicyControl.yaml#/components/schemas/PdtqPolicy'
  warnNotifEnabled:
    type: boolean
    description: >
      Indicates whether the PDTQ warning notification is enabled (true) or not (false).
  notifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'

GroupPolicyData:
description: Contains the group specific policy control subscription information.
type: object
properties:
  maxGroupMbrUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  maxGroupMbrDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  remainGroupMbrUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  remainGroupMbrDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  suppFeat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

GroupPolicyDataPatch:
description: >
  Contains the requested modification to the group specific policy control subscription
  data.
type: object
properties:
  maxGroupMbrUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  maxGroupMbrDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  remainGroupMbrUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  remainGroupMbrDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
anyOf:
- required: [maxGroupMbrUl]
- required: [maxGroupMbrDl]
```

- required: [remainGroupMbrUl]
- required: [remainGroupMbrDl]

SIMPLE TYPES:

IpIndex:
description: >
Represents information that identifies which IP pool or external server is used to allocate the IP address.
type: integer

OsId:
description: Represents the Operating System of the served UE.
type: string
format: uuid

ItemPath:
description: Identifies a fragment (subset of resource data) of a given resource.
type: string

BdtReferenceIdRm:
type: string
description: >
This data type is defined in the same way as the BdtReferenceId data type defined in 3GPP TS 29.122, but with the nullable property set to true.
nullable: true

ENUMS:

UsageMonLevel:
description: Represents the usage monitoring level.
anyOf:
- type: string
enum:
- SESSION_LEVEL
- SERVICE_LEVEL
- type: string
description: >
This string provides forward-compatibility with future extensions to the enumeration and is not used to encode content defined in the present version of this API.

Periodicity:
description: Represents the time period.
anyOf:
- type: string
enum:
- YEARLY
- MONTHLY
- WEEKLY
- DAILY
- HOURLY
- type: string
description: >
This string provides forward-compatibility with future extensions to the enumeration and is not used to encode content defined in the present version of this API.

BdtPolicyStatus:
description: Indicates the validation status of a negotiated BDT policy.
anyOf:
- type: string
enum:
- INVALID
- VALID
- type: string
description: >
This string provides forward-compatibility with future extensions to the enumeration and is not used to encode content defined in the present version of this API.

PolicyDataSubset:
description: Indicates a policy data subset.
anyOf:
- type: string
enum:
- AM_POLICY_DATA
- SM_POLICY_DATA
- UE_POLICY_DATA
- UM_DATA
- OPERATOR_SPECIFIC_DATA

- type: string
- description: >
 - This string provides forward-compatibility with future extensions to the enumeration and is not used to encode content defined in the present version of this API.

A.3 Nudr_DataRepository API for Application Data

For the purpose of referencing entities in the Open API file defined in this Annex, it shall be assumed that this Open API file is contained in a physical file named "TS29519_Application_Data.yaml".

```

openapi: 3.0.0

info:
  version: '-'
  title: Unified Data Repository Service API file for Application Data
  description: |
    The API version is defined in 3GPP TS 29.504
    © 2024, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
    All rights reserved.

externalDocs:
  description: >
    3GPP TS 29.519 V18.5.0; 5G System; Usage of the Unified Data Repository Service for Policy Data,
    Application Data and Structured Data for Exposure.
  url: 'https://www.3gpp.org/ftp/Specs/archive/29_series/29.519/'

paths:
  /application-data/pfds:
    get:
      summary: Retrieve PFDs for application identifier(s)
      operationId: ReadPFDData
      tags:
        - PFD Data (Store)
      security:
        - {}
        - oAuth2ClientCredentials:
            - nudr-dr
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:application-data
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:application-data
            - nudr-dr:application-data:pfds:read
      parameters:
        - name: appId
          in: query
          description: >
            Contains the information of the application identifier(s) for the querying PFD
            Data resource. If none appId is included in the URI, it applies to all application
            identifier(s) for the querying PFD Data resource.
          required: false
          schema:
            type: array
            items:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
            minItems: 1
        - name: supp-feat
          in: query
          description: Supported Features
          required: false
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: A representation of PFDs for request applications is returned.
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/PfdDataForAppExt'
        '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

```
/application-data/pfds/{appId}:
```

```
  get:
```

```
    summary: Retrieve the corresponding PFDs of the specified application identifier
```

```
    operationId: ReadIndividualPFDData
```

```
    tags:
```

```
      - Individual PFD Data (Document)
```

```
    security:
```

```
      - {}
```

```
      - oAuth2ClientCredentials:
```

```
        - nudr-dr
```

```
      - oAuth2ClientCredentials:
```

```
        - nudr-dr
```

```
        - nudr-dr:application-data
```

```
      - oAuth2ClientCredentials:
```

```
        - nudr-dr
```

```
        - nudr-dr:application-data
```

```
        - nudr-dr:application-data:pfds:read
```

```
    parameters:
```

```
      - name: appId
```

```
        in: path
```

```
        description: >
```

```
          Indicate the application identifier for the request pfd(s). It shall apply the
          format of Data type ApplicationId.
```

```
        required: true
```

```
        schema:
```

```
          type: string
```

```
      - name: supp-feat
```

```
        in: query
```

```
        description: Supported Features
```

```
        required: false
```

```
        schema:
```

```
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
```

```
    responses:
```

```
      '200':
```

```
        description: >
```

```
          A representation of PFDs for the request application identified by the application
          identifier is returned.
```

```
        content:
```

```
          application/json:
```

```
            schema:
```

```
              $ref: '#/components/schemas/PfdDataForAppExt'
```

```
      '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'
```

```
      '429':
```

```
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
```

```
      '500':
```

```
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
```

```
      '502':
```

```

    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete the corresponding PFDs of the specified application identifier
  operationId: DeleteIndividualPFDData
  tags:
    - Individual PFD Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:pfds:modify
  parameters:
    - name: appId
      in: path
      description: >
        Indicate the application identifier for the request pfd(s). It shall apply the
        format of Data type ApplicationId.
      required: true
      schema:
        type: string
  responses:
    '204':
      description: >
        Successful case. The Individual PFD Data resource related to the application
        identifier was deleted.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Create or update the corresponding PFDs for the specified application identifier
  operationId: CreateOrReplaceIndividualPFDData
  tags:
    - Individual PFD Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:pfds:create
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PfdDataForAppExt'
  parameters:
    - name: appId
      in: path

```

```

description: >
  Indicate the application identifier for the request pfd(s). It shall apply the format
  of Data type ApplicationId.
required: true
schema:
  type: string
responses:
  '201':
    description: >
      The creation of an Individual PFD Data resource related to the application-identifier
      is confirmed and a representation of that resource is returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PfdDataForAppExt'
    headers:
      Location:
        description: >
          'Contains the URI of the newly created resource, according to the structure:
          {apiRoot}/nudr-dr/<apiVersion>/application-data/pfds/{appId}'
        required: true
        schema:
          type: string
  '200':
    description: >
      Successful case. The upgrade of an Individual PFD Data resource related to the
      application identifier is confirmed and a representation of that resource is returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PfdDataForAppExt'
  '204':
    description: No content
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '415':
    $ref: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
/application-data/influenceData:
  get:
    summary: Retrieve Traffic Influence Data
    operationId: ReadInfluenceData
    tags:
      - Influence Data (Store)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:influence-data:read
    parameters:

```

```
- name: influence-Ids
  in: query
  description: Each element identifies a service.
  required: false
  schema:
    type: array
    items:
      type: string
      minItems: 1
- name: dnns
  in: query
  description: Each element identifies a DNN.
  required: false
  schema:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    minItems: 1
- name: snssais
  in: query
  description: Each element identifies a slice.
  required: false
  content:
    application/json:
      schema:
        type: array
        items:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
        minItems: 1
- name: internal-Group-Ids
  in: query
  description: Each element identifies a group of users.
  required: false
  schema:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
- name: internal-group-ids-Add
  in: query
  description: Each element identifies an internal Group.
  required: false
  schema:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
- name: subscriber-categories
  in: query
  description: >
    Each element identifies a subscriber category.
  required: false
  schema:
    type: array
    items:
      type: string
      minItems: 1
- name: supis
  in: query
  description: Each element identifies the user.
  required: false
  schema:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    minItems: 1
- name: supp-feat
  in: query
  required: false
  description: Supported Features
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
```

responses:

```
'200':
  description: The Traffic Influence Data stored in the UDR are returned.
  content:
    application/json:
      schema:
```



```

    type: array
    items:
      $ref: '#/components/schemas/TrafficInfluData'
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

/application-data/influenceData/{influenceId}:

```

  put:
    summary: Create or update an individual Influence Data resource
    operationId: CreateOrReplaceIndividualInfluenceData
    tags:
      - Individual Influence Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:influence-data:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/TrafficInfluData'
    parameters:
      - name: influenceId
        in: path
        description: >
          The Identifier of an Individual Influence Data to be created or updated.
          It shall apply the format of Data type string.
        required: true
        schema:
          type: string
    responses:
      '201':
        description: >
          The creation of an Individual Traffic Influence Data resource is confirmed
          and a representation of that resource is returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/TrafficInfluData'
        headers:
          Location:
            description: >
              'Contains the URI of the newly created resource, according to the structure:
              {apiRoot}/nudr-dr/<apiVersion>/application-data/influenceData/{influenceId}'
            required: true
            schema:
              type: string
      '200':
        description: >
          The update of an Individual Traffic Influence Data resource is confirmed and a

```

```

    response body containing Traffic Influence Data shall be returned.
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/TrafficInfluData'
  '204':
    description: No content
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '415':
    $ref: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  summary: Modify part of the properties of an individual Influence Data resource
  operationId: UpdateIndividualInfluenceData
  tags:
    - Individual Influence Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:influence-data:modify
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: '#/components/schemas/TrafficInfluDataPatch'
  parameters:
    - name: influenceId
      in: path
      description: >
        The Identifier of an Individual Influence Data to be updated. It shall apply
        the format of Data type string.
      required: true
      schema:
        type: string
  responses:
    '200':
      description: >
        The update of an Individual Traffic Influence Data resource is confirmed and
        a response body containing Traffic Influence Data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/TrafficInfluData'
    '204':
      description: No content
    '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete an individual Influence Data resource
  operationId: DeleteIndividualInfluenceData
  tags:
    - Individual Influence Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:influence-data:modify
  parameters:
    - name: influenceId
      in: path
      description: >
        The Identifier of an Individual Influence Data to be deleted. It shall apply
        the format of Data type string.
      required: true
      schema:
        type: string
  responses:
    '204':
      description: The Individual Influence Data was deleted successfully.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/influenceData/subs-to-notify:
  post:
    summary: Create a new Individual Influence Data Subscription resource
    operationId: CreateIndividualInfluenceDataSubscription
    tags:
      - Influence Data Subscriptions (Collection)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr

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- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
  - nudr-dr:application-data:influence-data:subscriptions:create
requestBody:
  required: true
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/TrafficInfluSub'
responses:
  '201':
    description: The subscription was created successfully.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/TrafficInfluSub'
    headers:
      Location:
        description: 'Contains the URI of the newly created resource'
        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'
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
callbacks:
  trafficInfluenceDataChangeNotification:
    '{$request.body#/notificationUri}':
      post:
        requestBody:
          required: true
          content:
            application/json:
              schema:
                type: array
                items:
                  oneOf:
                    - $ref: '#/components/schemas/TrafficInfluData'
                    - $ref: '#/components/schemas/TrafficInfluDataNotif'
                minItems: 1
        responses:
          '204':
            description: No Content, Notification was successful
          '400':
            $ref: 'TS29571_CommonData.yaml#/components/responses/400'
          '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'

```

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    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
get:
  summary: Read Influence Data Subscriptions
  operationId: ReadInfluenceDataSubscriptions
  tags:
    - Influence Data Subscriptions (Collection)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:influence-data:subscriptions:read
  parameters:
    - name: dnn
      in: query
      description: Identifies a DNN.
      required: false
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    - name: snssai
      in: query
      description: Identifies a slice.
      required: false
      content:
        application/json:
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    - name: internal-Group-Id
      in: query
      description: Identifies a group of users.
      required: false
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    - name: supi
      in: query
      description: Identifies a user.
      required: false
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    - name: internal-group-ids
      in: query
      description: >
        Each element identifies an internal group.
      required: false
      schema:
        type: array
        items:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        minItems: 1
    - name: subscriber-categories
      in: query
      description: >
        Each element identifies a subscriber category.
      required: false
      schema:
        type: array
        items:
          type: string
        minItems: 1
    - name: roam-ue-plmn-ids
      in: query
      description: >

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    Each element identifies a PLMN.
    required: false
    schema:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
      minItems: 1
  responses:
    '200':
      description: >
        The subscription information as request in the request URI query parameter(s)
        are returned.
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/TrafficInfluSub'
            minItems: 0
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/influenceData/subs-to-notify/{subscriptionId}:
  get:
    summary: Get an existing individual Influence Data Subscription resource
    operationId: ReadIndividualInfluenceDataSubscription
    tags:
      - Individual Influence Data Subscription (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:influence-data:subscriptions:read
    parameters:
      - name: subscriptionId
        in: path
        description: >
          String identifying a subscription to the Individual Influence Data Subscription
        required: true
        schema:
          type: string
    responses:
      '200':
        description: The subscription information is returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/TrafficInfluSub'
      '400':
        $ref: 'TS29571_CommonData.yaml#/components/responses/400'
      '401':
        $ref: 'TS29571_CommonData.yaml#/components/responses/401'

```

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'403':
  $ref: 'TS29571_CommonData.yaml#/components/responses/403'
'404':
  $ref: 'TS29571_CommonData.yaml#/components/responses/404'
'406':
  $ref: 'TS29571_CommonData.yaml#/components/responses/406'
'414':
  $ref: 'TS29571_CommonData.yaml#/components/responses/414'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
  summary: Modify an existing individual Influence Data Subscription resource
  operationId: ReplaceIndividualInfluenceDataSubscription
  tags:
    - Individual Influence Data Subscription (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:influence-data:subscriptions:modify
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/TrafficInfluSub'
  parameters:
    - name: subscriptionId
      in: path
      description: >
        String identifying a subscription to the Individual Influence Data Subscription.
      required: true
      schema:
        type: string
  responses:
    '200':
      description: The subscription was updated successfully.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/TrafficInfluSub'
    '204':
      description: No content
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':

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```

    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete an individual Influence Data Subscription resource
  operationId: DeleteIndividualInfluenceDataSubscription
  tags:
    - Individual Influence Data Subscription (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:influence-data:subscriptions:modify
  parameters:
    - name: subscriptionId
      in: path
      description: >
        String identifying a subscription to the Individual Influence Data Subscription.
      required: true
      schema:
        type: string
  responses:
    '204':
      description: The subscription was terminated successfully.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/bdtPolicyData:
  get:
    summary: Retrieve applied BDT Policy Data
    operationId: ReadBdtPolicyData
    tags:
      - BdtPolicy Data (Store)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:application-data
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:application-data
        - nudr-dr:application-data:bdt-policy-data:read
    parameters:
      - name: bdt-policy-ids
        in: query
        description: Each element identifies a service.
        required: false
        schema:
          type: array
          items:
            type: string
            minItems: 1
      - name: internal-group-ids
        in: query

```



```

    description: Each element identifies a group of users.
    required: false
    schema:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 1
  - name: supis
    in: query
    description: Each element identifies the user.
    required: false
    schema:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
responses:
  '200':
    description: The applied BDT policy Data stored in the UDR are returned.
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/BdtPolicyData'
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/bdtPolicyData/{bdtPolicyId}:
  put:
    summary: Create an individual applied BDT Policy Data resource
    operationId: CreateIndividualAppliedBdtPolicyData
    tags:
      - Individual Applied BDT Policy Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:bdt-policy-data:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/BdtPolicyData'
    parameters:
      - name: bdtPolicyId
        in: path
        description: >
          The Identifier of an Individual Applied BDT Policy Data to be created or updated.
          It shall apply the format of Data type string.
        required: true

```

```

    schema:
      type: string
  responses:
    '201':
      description: >
        The creation of an Individual Applied BDT Policy Data resource is confirmed and a
        representation of that resource is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/BdtPolicyData'
      headers:
        Location:
          description: >
            Contains the URI of the newly created resource, according to the structure:
            {apiRoot}/nudr-dr/<apiVersion>/application-data/bdtPolicyData/{bdtPolicyId}
          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'
    '411':
      $ref: 'TS29571_CommonData.yaml#/components/responses/411'
    '413':
      $ref: 'TS29571_CommonData.yaml#/components/responses/413'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  patch:
    summary: Modify part of the properties of an individual Applied BDT Policy Data resource
    operationId: UpdateIndividualAppliedBdtPolicyData
    tags:
      - Individual Applied BDT Policy Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:bdt-policy-data:modify
    requestBody:
      required: true
      content:
        application/merge-patch+json:
          schema:
            $ref: '#/components/schemas/BdtPolicyDataPatch'
    parameters:
      - name: bdtPolicyId
        in: path
        description: >
          The Identifier of an Individual Applied BDT Policy Data to be updated. It shall
          apply the format of Data type string.
        required: true
        schema:
          type: string
    responses:
      '200':

```

```

description: >
  The update of an Individual Applied BDT Policy Data resource is confirmed and
  a response body containing Applied BDT Policy Data shall be returned.
content:
  application/json:
    schema:
      $ref: '#/components/schemas/BdtPolicyData'
'204':
  description: No content
'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'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
summary: Delete an individual Applied BDT Policy Data resource
operationId: DeleteIndividualAppliedBdtPolicyData
tags:
- Individual Applied BDT Policy Data (Document)
security:
- {}
- oAuth2ClientCredentials:
  - nudr-dr
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
  - nudr-dr:application-data:bdt-policy-data:modify
parameters:
- name: bdtPolicyId
  in: path
  description: >
    The Identifier of an Individual Applied BDT Policy Data to be deleted.
    It shall apply the format of Data type string.
  required: true
  schema:
    type: string
responses:
'204':
  description: The Individual Applied BDT Policy Data was deleted successfully.
'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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:

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```

    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/iptvConfigData:
  get:
    summary: Retrieve IPTV configuration Data
    operationId: ReadIPTVConfigurationData
    tags:
      - IPTV Configuration Data (Store)
    security:
      - {}
      - OAuth2ClientCredentials:
          - nudr-dr
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:iptv-config-data:read
    parameters:
      - name: config-ids
        in: query
        description: Each element identifies a configuration.
        required: false
        schema:
          type: array
          items:
            type: string
            minItems: 1
      - name: dnns
        in: query
        description: Each element identifies a DNN.
        required: false
        schema:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
            minItems: 1
      - name: snssais
        in: query
        description: Each element identifies a slice.
        required: false
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
              minItems: 1
      - name: supis
        in: query
        description: Each element identifies the user.
        required: false
        schema:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
            minItems: 1
      - name: inter-group-ids
        in: query
        description: Each element identifies a group of users.
        required: false
        schema:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
            minItems: 1
    responses:
      '200':
        description: The IPTV configuration data stored in the UDR are returned.
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/IptvConfigData'
      '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'
'414':
  $ref: 'TS29571_CommonData.yaml#/components/responses/414'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

```

/application-data/iptvConfigData/{configurationId}:
  put:
    summary: Create or update an individual IPTV configuration resource
    operationId: CreateOrReplaceIndividualIPTVConfigurationData
    tags:
      - Individual IPTV Configuration Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:iptv-config-data:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/IptvConfigData'
    parameters:
      - name: configurationId
        in: path
        description: >
          The Identifier of an Individual IPTV Configuration Data to be created or updated.
          It shall apply the format of Data type string.
        required: true
        schema:
          type: string
    responses:
      '201':
        description: >
          The creation of an Individual IPTV Configuration Data resource is confirmed and a
          representation of that resource is returned.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/IptvConfigData'
        headers:
          Location:
            description: 'Contains the URI of the newly created resource'
            required: true
            schema:
              type: string
      '200':
        description: The update of an Individual IPTV configuration resource.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/IptvConfigData'
      '204':
        description: No content
      '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'
'414':
  $ref: 'TS29571_CommonData.yaml#/components/responses/414'
'415':
  $ref: 'TS29571_CommonData.yaml#/components/responses/415'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  summary: Partial update an individual IPTV configuration resource
  operationId: PartialReplaceIndividualIPTVConfigurationData
  tags:
    - Individual IPTV Configuration Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:iptv-config-data:modify
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: 'TS29522_IPTVConfiguration.yaml#/components/schemas/IptvConfigDataPatch'
  parameters:
    - name: configurationId
      in: path
      description: >
        The Identifier of an Individual IPTV Configuration Data to be updated.
        It shall apply the format of Data type string.
      required: true
      schema:
        type: string
  responses:
    '200':
      description: The update of an Individual IPTV configuration resource.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/IptvConfigData'
    '204':
      description: No content
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'

```

```

'415':
  $ref: 'TS29571_CommonData.yaml#/components/responses/415'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete an individual IPTV configuration resource
  operationId: DeleteIndividualIPTVConfigurationData
  tags:
    - Individual IPTV Configuration Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:iptv-config-data:modify
  parameters:
    - name: configurationId
      in: path
      description: >
        The Identifier of an Individual IPTV Configuration to be deleted. It shall
        apply the format of Data type string.
      required: true
      schema:
        type: string
  responses:
    '204':
      description: The resource was deleted successfully.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/serviceParamData:
get:
  summary: Retrieve Service Parameter Data
  operationId: ReadServiceParameterData
  tags:
    - Service Parameter Data (Store)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:service-param-data:read
  parameters:
    - name: service-param-ids

```

```
in: query
description: Each element identifies a service.
required: false
schema:
  type: array
  items:
    type: string
    minItems: 1
- name: dnns
in: query
description: Each element identifies a DNN.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  minItems: 1
- name: snssais
in: query
description: Each element identifies a slice.
required: false
content:
  application/json:
    schema:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
- name: internal-group-ids
in: query
description: Each element identifies a group of users.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
  minItems: 1
- name: supis
in: query
description: Each element identifies the user.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  minItems: 1
- name: ue-ipv4s
in: query
description: Each element identifies the user.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
  minItems: 1
- name: ue-ipv6s
in: query
description: Each element identifies the user.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
  minItems: 1
- name: ue-macs
in: query
description: Each element identifies the user.
required: false
schema:
  type: array
  items:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
  minItems: 1
- name: any-ue
in: query
description: Indicates whether the request is for any UE.
required: false
schema:
```



```

    type: boolean
  - name: roam-ue-net-descs
    in: query
    description: >
      Each element identifies oner or more PLMNs for a roaming UE.
    required: false
    schema:
      type: array
      items:
        $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/NetworkDescription'
      minItems: 1
  - name: supp-feat
    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: The Service Parameter Data stored in the UDR are returned.
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/ServiceParameterData'
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/serviceParamData/{serviceParamId}:
  put:
    summary: Create or update an individual Service Parameter Data resource
    operationId: CreateOrReplaceServiceParameterData
    tags:
      - Individual Service Parameter Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:service-param-data:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ServiceParameterData'
    parameters:
      - name: serviceParamId
        in: path
        description: >
          The Identifier of an Individual Service Parameter Data to be created or updated.
          It shall apply the format of Data type string.

```

```

    required: true
    schema:
      type: string
  responses:
    '201':
      description: >
        The creation of an Individual Service Parameter Data resource is confirmed
        and a representation of that resource is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ServiceParameterData'
      headers:
        Location:
          description: >
            'Contains the URI of the newly created resource, according to the structure:
            {apiRoot}/nudr-dr/<apiVersion>/application-data/serviceParamData/{serviceParamId}'
          required: true
          schema:
            type: string
    '200':
      description: >
        The update of an Individual Service Parameter Data resource is confirmed and
        a response body containing Service Parameter Data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ServiceParameterData'
    '204':
      description: No content
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  patch:
    summary: Modify part of the properties of an individual Service Parameter Data resource
    operationId: UpdateIndividualServiceParameterData
    tags:
      - Individual Service Parameter Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:service-parameter-data:modify
    requestBody:
      required: true
      content:
        application/merge-patch+json:
          schema:
            $ref: '#/components/schemas/ServiceParameterDataPatch'

```

```

parameters:
  - name: serviceParamId
    in: path
    description: >
      The Identifier of an Individual Service Parameter Data to be updated.
      It shall apply the format of Data type string.
    required: true
    schema:
      type: string
responses:
  '200':
    description: >
      The update of an Individual Service Parameter Data resource is confirmed
      and a response body containing Service Parameter Data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/ServiceParameterData'
  '204':
    description: No content
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete an individual Service Parameter Data resource
  operationId: DeleteIndividualServiceParameterData
  tags:
    - Individual Service Parameter Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:service-parameter-data:modify
parameters:
  - name: serviceParamId
    in: path
    description: >
      The Identifier of an Individual Service Parameter Data to be deleted.
      It shall apply the format of Data type string.
    required: true
    schema:
      type: string
responses:
  '204':
    description: The Individual Service Parameter Data was deleted successfully.
  '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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
```

/application-data/am-influence-data:

```
get:
  summary: Retrieve AM Influence Data
  operationId: ReadAmInfluenceData
  tags:
    - AM Influence Data (Store)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:am-influence-data:read
  parameters:
    - name: am-influence-ids
      in: query
      description: Each element identifies a service.
      required: false
      schema:
        type: array
        items:
          type: string
        minItems: 1
    - name: dnns
      in: query
      description: Each element identifies a DNN.
      required: false
      schema:
        type: array
        items:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
        minItems: 1
    - name: snssais
      in: query
      description: Each element identifies a slice.
      required: false
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
            minItems: 1
    - name: dnn-snssai-infos
      in: query
      description: Each element identifies a combination of (DNN, S-NSSAI).
      required: false
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: 'TS29522_AMInfluence.yaml#/components/schemas/DnnSnssaiInformation'
            minItems: 1
    - name: internal-group-ids
      in: query
      description: Each element identifies a group of users.
      required: false
      schema:
        type: array
        items:
```

```

    $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
  - name: supis
    in: query
    description: Each element identifies the user.
    required: false
    schema:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
        minItems: 1
  - name: any-ue
    in: query
    description: Indicates whether the request is for any UE.
    required: false
    schema:
      type: boolean
  - name: supp-feat
    in: query
    required: false
    description: Supported Features
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
  '200':
    description: The AM Influence Data stored in the UDR are returned.
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/AmInfluData'
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/am-influence-data/{amInfluenceId}:
  put:
    summary: Create or update an individual AM Influence Data resource
    operationId: CreateOrReplaceIndividualAmInfluenceData
    tags:
      - Individual AM Influence Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:am-influence-data:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/AmInfluData'

```

```

parameters:
  - name: amInfluenceId
    in: path
    description: >
      The Identifier of an Individual AM Influence Data to be created or updated.
      It shall apply the format of Data type string.
    required: true
    schema:
      type: string
responses:
  '201':
    description: >
      The creation of an Individual AM Influence Data resource is confirmed and
      a representation of that resource is returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AmInfluData'
    headers:
      Location:
        description: >
          'Contains the URI of the newly created resource, according to the structure:
          {apiRoot}/nudr-dr/<apiVersion>/application-data/am-influence-data/{amInfluenceId}'
        required: true
        schema:
          type: string
  '200':
    description: >
      The update of an Individual AM Influence Data resource is confirmed and a response
      body containing AM Influence Data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AmInfluData'
  '204':
    description: No content
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '415':
    $ref: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
patch:
  summary: Modify part of the properties of an individual AM Influence Data resource
  operationId: UpdateIndividualAmInfluenceData
  tags:
    - Individual AM Influence Data (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:am-influence-data:modify

```

```

requestBody:
  required: true
  content:
    application/merge-patch+json:
      schema:
        $ref: '#/components/schemas/AmInfluDataPatch'
parameters:
- name: amInfluenceId
  in: path
  description: >
    The Identifier of an Individual AM Influence Data to be updated. It shall
    apply the format of Data type string.
  required: true
  schema:
    type: string
responses:
  '200':
    description: >
      The update of an Individual AM Influence Data resource is confirmed and a
      response body containing AM Influence Data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AmInfluData'
  '204':
    description: No content
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Delete an individual AM Influence Data resource
  operationId: DeleteIndividualAmInfluenceData
  tags:
  - Individual AM Influence Data (Document)
  security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
    - nudr-dr:application-data:am-influence-data:modify
  parameters:
  - name: amInfluenceId
    in: path
    description: >
      The Identifier of an Individual AM Influence Data to be deleted. It shall
      apply the format of Data type string.
    required: true
    schema:
      type: string
  responses:
  '204':
    description: The Individual AM Influence Data was deleted successfully.

```

```

'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'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

/application-data/subs-to-notify:

post:

summary: Create a subscription to receive notification of application data changes
 operationId: CreateIndividualApplicationDataSubscription

tags:

- ApplicationDataSubscriptions (Collection)

security:

- {}

- oAuth2ClientCredentials:

- nudr-dr

- oAuth2ClientCredentials:

- nudr-dr

- nudr-dr:application-data

- oAuth2ClientCredentials:

- nudr-dr

- nudr-dr:application-data

- nudr-dr:application-data:subs-to-notify:create

requestBody:

required: true

content:

application/json:

schema:

\$ref: '#/components/schemas/ApplicationDataSubs'

responses:

'201':

description: >

Upon success, a response body containing a representation of each Individual subscription resource shall be returned.

content:

application/json:

schema:

\$ref: '#/components/schemas/ApplicationDataSubs'

headers:

Location:

description: 'Contains the URI of the newly created resource'

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'

'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'

'502':

\$ref: 'TS29571_CommonData.yaml#/components/responses/502'

'503':


```

    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  callbacks:
    applicationDataChangeNotif:
      '{$request.body#/notificationUri}':
        post:
          requestBody:
            required: true
            content:
              application/json:
                schema:
                  type: array
                  items:
                    $ref: '#/components/schemas/ApplicationDataChangeNotif'
                  minItems: 1
          responses:
            '204':
              description: No Content, Notification was successful
            '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'
            '502':
              $ref: 'TS29571_CommonData.yaml#/components/responses/502'
            '503':
              $ref: 'TS29571_CommonData.yaml#/components/responses/503'
            default:
              $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  get:
    summary: Read Application Data change Subscriptions
    operationId: ReadApplicationDataChangeSubscriptions
    tags:
      - ApplicationDataSubscriptions (Collection)
    security:
      - {}
      - OAuth2ClientCredentials:
          - nudr-dr
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - OAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:subs-to-notify:read
    parameters:
      - name: data-filter
        in: query
        description: The data filter for the query.
        required: false
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/DataFilter'
    responses:
      '200':
        description: >
          The subscription information as request in the request URI query parameter(s)
          are returned.
        content:
          application/json:
            schema:
              type: array
              items:

```

```

    $ref: '#/components/schemas/ApplicationDataSubs'
    minItems: 0
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

/application-data/af-qos-data-sets:

```

get:
  summary: Retrieve one or several existing Individual AF Requested QoS Data Set resource(s).
  operationId: ReadAFReqQoSDataSets
  tags:
    - AF Requested QoS Data Sets (Collection)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:af-qos-data-sets:read
  parameters:
    - name: dnns
      in: query
      description: Each element identifies a DNN.
      required: false
      schema:
        type: array
        items:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
        minItems: 1
    - name: snssais
      in: query
      description: Each element identifies a network slice.
      required: false
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
            minItems: 1
    - name: int-group-ids
      in: query
      description: Each element identifies a group of subscriber(s).
      required: false
      schema:
        type: array
        items:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        minItems: 1
    - name: supis
      in: query
      description: Each element identifies a subscriber.
      required: false
      schema:
        type: array

```

```

      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
    - name: data-set-ids
      in: query
      description: Each element identifies an Individual AF requested QoS Set resource.
      required: false
      schema:
        type: array
        items:
          type: string
        minItems: 1
    - name: supp-feat
      in: query
      required: false
      description: Supported Features
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  responses:
    '200':
      description: >
        The requested "Individual AF requested QoS Data Set resource(s) stored in the UDR are returned.
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/AfRequestedQosData'
            minItems: 0
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/af-qos-data-sets/{afReqQosId}:
  parameters:
    - name: afReqQosId
      in: path
      description: >
        Represents the identifier of an Individual AF Requested QoS Data Set.
      required: true
      schema:
        type: string

  put:
    summary: Create or update an Individual AF Requested QoS Data Set resource.
    operationId: CreateOrUpdateIndAFReqQoSDataSet
    tags:
      - Individual AF Requested QoS Data Set (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data

```

```

- nudr-dr:application-data:af-qos-data-sets:create
requestBody:
  required: true
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/AfRequestedQosData'
responses:
  '201':
    description: >
      Created. The Individual AF Requested QoS Data Set resource is successfully created and a
      representation of the created resource shall be returned in the response body.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AfRequestedQosData'
    headers:
      Location:
        description: >
          Contains the URI of the newly created resource.
        required: true
        schema:
          type: string
  '200':
    description: >
      OK. The Individual AF Requested QoS Data Set resource is successfully updated and a
      representation of the updated resource shall be returned in the response body.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AfRequestedQosData'
  '204':
    description: >
      No Content. The Individual AF Requested QoS Data Set resource is successfully updated
      and no content is returned in the response body.
  '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'
  '414':
    $ref: 'TS29571_CommonData.yaml#/components/responses/414'
  '415':
    $ref: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

patch:
  summary: Modify of an existing Individual AF Requested QoS Data Set" resource
  operationId: ModifyIndAFReqQoSDataSet
  tags:
    - Individual AF requested QoS Data Set (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:af-qos-data-sets:modify

```

```

requestBody:
  required: true
  content:
    application/merge-patch+json:
      schema:
        $ref: '#/components/schemas/AfRequestedQosDataPatch'
responses:
  '200':
    description: >
      OK. The Individual AF Requested QoS Data Set resource is successfully modified and a
      representation of the updated resource shall be returned in the response body.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/AfRequestedQosData'
  '204':
    description: >
      No Content. The Individual AF Requested QoS Data Set resource is successfully modified
      and no content is returned in the response body.
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

delete:
  summary: Delete an existing Individual AF requested QoS Data Set resource
  operationId: DeleteIndAFReqQosDataSet
  tags:
    - Individual AF requested QoS Data Set (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:af-qos-data-sets:modify
  responses:
    '204':
      description: >
        No Content. The Individual AF requested QoS Data Set is successfully deleted.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'

```

```

    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/subs-to-notify/{subsId}:
  parameters:
    - name: subsId
      in: path
      required: true
      schema:
        type: string
  put:
    summary: Modify a subscription to receive notification of application data changes
    operationId: ReplaceIndividualApplicationDataSubscription
    tags:
      - IndividualApplicationDataSubscription (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:subs-to-notify:modify
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ApplicationDataSubs'
    responses:
      '200':
        description: The individual subscription resource was updated successfully.
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/ApplicationDataSubs'
      '204':
        description: >
          The individual subscription resource was updated successfully and no
          additional content is to be sent in the response message.
      '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'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  delete:
    summary: Delete the individual Application Data subscription
    operationId: DeleteIndividualApplicationDataSubscription
    tags:
      - IndividualApplicationDataSubscription (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr

```

```

- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
- oAuth2ClientCredentials:
  - nudr-dr
  - nudr-dr:application-data
  - nudr-dr:application-data:subs-to-notify:modify
responses:
  '204':
    description: Upon success, an empty response body shall be returned.
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
get:
  summary: Get an existing individual Application Data Subscription resource
  operationId: ReadIndividualApplicationDataSubscription
  tags:
    - IndividualApplicationDataSubscription (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:application-data
      - nudr-dr:application-data:subs-to-notify:read
  parameters:
    - name: subsId
      in: path
      description: >
        String identifying a subscription to the Individual Application Data Subscription
      required: true
      schema:
        type: string
  responses:
    '200':
      description: The subscription information is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ApplicationDataSubs'
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':

```

```

    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/eas-deploy-data:
  get:
    summary: Retrieve EAS Deployment Information Data
    operationId: ReadEasDeployData
    tags:
      - EAS Deployment Data (Store)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:eas-deploy-data:read
    parameters:
      - name: dnn
        in: query
        description: Identifies a DNN.
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      - name: snssai
        in: query
        description: Identifies an S-NSSAI.
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      - name: internal-group-id
        in: query
        description: Identifies a group of users.
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      - name: appId
        in: query
        description: Identifies an application.
        required: false
        schema:
          type: string
    responses:
      '200':
        description: The EAS Deployment Data stored in the UDR are returned.
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: 'TS29591_Nnef_EASDeployment.yaml#/components/schemas/EasDeployInfoData'
              minItems: 1
      '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'
      '414':
        $ref: 'TS29571_CommonData.yaml#/components/responses/414'
      '429':
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```



```

/application-data/eas-deploy-data/{easDeployInfoId}:
  get:
    summary: Retrieve an individual EAS Deployment Data resource
    operationId: ReadIndividualEasDeployData
    tags:
      - Individual EAS Deployment Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:eas-deploy-data:read
    parameters:
      - name: easDeployInfoId
        description: >
          String identifying an Individual EAS Deployment Information Data resource.
        in: path
        required: true
        schema:
          type: string
    responses:
      '200':
        description: >
          The EAS Deployment Data stored in the UDR for an Individual EAS Deployment
          Information Data resource is returned.
        content:
          application/json:
            schema:
              $ref: 'TS29591_Nnef_EASDeployment.yaml#/components/schemas/EasDeployInfoData'
      '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'
      '429':
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
      default:
        $ref: 'TS29571_CommonData.yaml#/components/responses/default'
    put:
      summary: Create or update an individual EAS Deployment Data resource
      operationId: CreateOrReplaceIndividualEasDeployData
      tags:
        - Individual EAS Deployment Data (Document)
      security:
        - {}
        - oAuth2ClientCredentials:
            - nudr-dr
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:application-data
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:application-data
            - nudr-dr:application-data:eas-deploy-data:create
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: 'TS29591_Nnef_EASDeployment.yaml#/components/schemas/EasDeployInfoData'
      parameters:
        - name: easDeployInfoId

```

```

    in: path
    description: >
      The Identifier of an Individual EAS Deployment Data to be created or updated.
      It shall apply the format of Data type string.
    required: true
    schema:
      type: string
  responses:
    '201':
      description: >
        The creation of an Individual EAS Deployment Data resource is confirmed and a
        representation of that resource is returned.
      content:
        application/json:
          schema:
            $ref: 'TS29591_Nnef_EASDeployment.yaml#/components/schemas/EasDeployInfoData'
      headers:
        Location:
          description: >
            Contains the URI of the newly created resource, according to the structure:
            {apiRoot}/nudr-dr/<apiVersion>/application-data/eas-deploy-data/{easDeployInfoId}
          required: true
          schema:
            type: string
    '200':
      description: >
        The update of an Individual EAS Deployment Data resource is confirmed and a response
        body containing EAS Deployment Data shall be returned.
      content:
        application/json:
          schema:
            $ref: 'TS29591_Nnef_EASDeployment.yaml#/components/schemas/EasDeployInfoData'
    '204':
      description: No content
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '415':
      $ref: 'TS29571_CommonData.yaml#/components/responses/415'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  delete:
    summary: Delete an individual EAS Deployment Data resource
    operationId: DeleteIndividualEasDeployData
    tags:
      - Individual EasDeployment Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:eas-deploy-data:modify
    parameters:
      - name: easDeployInfoId

```

```

    in: path
    description: >
      The Identifier of an Individual EAS Deployment Data to be deleted.
      It shall apply the format of Data type string.
    required: true
    schema:
      type: string
  responses:
    '204':
      description: The Individual EAS Deployment Data was deleted successfully.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/dnai-eas-mappings/{dnai}:
  parameters:
    - name: dnai
      in: path
      required: true
      schema:
        type: string
  get:
    summary: Retrieves the EAS address information for a DNAI.
    operationId: ReadDnaiEasMapping
    tags:
      - DnaiEasMapping (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:dnai-eas:read
    parameters:
      - name: supp-feat
        in: query
        description: Supported Features
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  responses:
    '200':
      description: >
        Upon success, a response body containing EAS address information for a DNAI
        is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/DnaiEasMapping'
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'

```

```

'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/ecs-address-roaming:
  get:
    summary: Retrieve ECS Address Roaming Data
    operationId: ReadEcsRoamingData
    tags:
      - ECS Address Roaming Data (Store)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:ecs-address-roaming:read
    parameters:
      - name: internal-group-id
        in: query
        description: Identifies a group of users.
        required: false
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      - name: any-ue
        in: query
        description: >
          Indicates that any UE is targetted if included and set to true, otherwise set to false.
          Default value is false if omitted.
        required: false
        schema:
          type: boolean
    responses:
      '200':
        description: The ECS Address Roaming Data stored in the UDR are returned.
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/EcsAddrData'
              minItems: 1
      '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'
      '414':
        $ref: 'TS29571_CommonData.yaml#/components/responses/414'
      '429':
        $ref: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        $ref: 'TS29571_CommonData.yaml#/components/responses/500'
      '502':
        $ref: 'TS29571_CommonData.yaml#/components/responses/502'
      '503':
        $ref: 'TS29571_CommonData.yaml#/components/responses/503'
      default:
        $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/application-data/ecs-address-roaming/{ecsAddrInfoId}:
  get:

```

```

summary: Retrieve an individual ECS Address Roaming Data resource
operationId: ReadIndividualEcsAddr
tags:
  - Individual ECS Address Roaming Data (Document)
security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
    - nudr-dr:application-data:ecs-address-roaming:read
parameters:
  - name: ecsAddrInfoId
    description: >
      String identifying an Individual ECS Address Roaming Data resource.
    in: path
    required: true
    schema:
      type: string
responses:
  '200':
    description: >
      The ECS Address Roaming Data stored in the UDR for an Individual ECS Address Roaming
      Data resource is returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/EcsAddrData'
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
put:
summary: Create or update an individual ECS Address Roaming Data resource
operationId: CreateOrReplaceIndividualEcsAddressData
tags:
  - Individual ECS Address Roaming Data (Document)
security:
  - {}
  - oAuth2ClientCredentials:
    - nudr-dr
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
  - oAuth2ClientCredentials:
    - nudr-dr
    - nudr-dr:application-data
    - nudr-dr:application-data:ecs-address-roaming:create
requestBody:
  required: true
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/EcsAddrData'
parameters:
  - name: ecsAddrInfoId
    in: path
    description: >

```

```

    The Identifier of an Individual ECS Address Roaming Data to be created or updated.
    required: true
    schema:
      type: string
  responses:
    '201':
      description: >
        The creation of an Individual EECS Address Roaming Data resource is confirmed
        and a representation of that resource is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/EcsAddrData'
      headers:
        Location:
          description: >
            Contains the URI of the newly created resource.
          required: true
          schema:
            type: string
    '200':
      description: >
        The update of an Individual ECS Address Roaming Data resource is confirmed
        and a response body containing ECS Address Roaming Data is returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/EcsAddrData'
    '204':
      description: No content
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  delete:
    summary: Delete an individual ECS Address Roaming Data resource
    operationId: DeleteIndividualEcsAddrData
    tags:
      - Individual ECS Address Roaming Data (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:application-data
          - nudr-dr:application-data:ecs-address-roaming:modify
    parameters:
      - name: ecsAddrInfoId
        in: path
        description: >
          The Identifier of an Individual ECS Address Roaming Data to be updated.
        required: true
        schema:
          type: string

```

```

responses:
  '204':
    description: The Individual ECS Address Roaming Data was deleted successfully.
  '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'
  '429':
    $ref: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    $ref: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```

components:

schemas:

```

TrafficInfluData:
  description: Represents the Traffic Influence Data.
  type: object
  properties:
    upPathChgNotifCorreId:
      type: string
      description: >
        Contains the Notification Correlation Id allocated by the NEF for the UP
        path change notification.
    appReloInd:
      type: boolean
      description: >
        Identifies whether an application can be relocated once a location of the
        application has been selected.
    afAppId:
      type: string
      description: Identifies an application.
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    ethTrafficFilters:
      type: array
      items:
        $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
      minItems: 1
      description: >
        Identifies Ethernet packet filters. Either "trafficFilters" or
        "ethTrafficFilters" shall be included if applicable.
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    interGroupId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    interGroupIdList:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 2
      description: >
        Identifies a list of Internal Groups.
    subscriberCatList:
      type: array
      items:
        type: string
      minItems: 1
      description: >
        Identifies a list of Subscriber Category(s).
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    trafficFilters:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
      minItems: 1
      description: >
        Identifies IP packet filters. Either "trafficFilters" or "ethTrafficFilters"

```

```

    shall be included if applicable.
  trafficRoutes:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
    minItems: 1
    description: Identifies the N6 traffic routing requirement.
  sfcIdDl:
    type: string
    description: Reference to a pre-configured service function chain for DL traffic
  sfcIdUl:
    type: string
    description: Reference to a pre-configured service function chain for UL traffic
  metadata:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Metadata'
  traffCorreInd:
    type: boolean
  tfcCorreInfo:
    $ref: '#/components/schemas/TrafficCorrelationInfo'
  validStartTime:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  validEndTime:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  tempValidities:
    type: array
    items:
      $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TemporalValidity'
    minItems: 1
    description: Identifies the temporal validities for the N6 traffic routing requirement.
  nwAreaInfo:
    $ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'
  upPathChgNotifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  headers:
    description: Contains the headers provisioned by the NEF.
    type: array
    items:
      type: string
    minItems: 1
  subscribedEvents:
    type: array
    items:
      $ref: 'TS29522_TrafficInfluence.yaml#/components/schemas/SubscribedEvent'
    minItems: 1
  dnaiChgType:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DnaiChangeType'
  afAckInd:
    type: boolean
  addrPreserInd:
    type: boolean
  maxAllowedUpLat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  simConnInd:
    type: boolean
    description: >
      Indicates whether simultaneous connectivity should be temporarily
      maintained for the source and target PSA.
  simConnTerm:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  supportedFeatures:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  resUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  resetIds:
    type: array
    items:
      type: string
    minItems: 1
  nscSuppFeats:
    type: object
    additionalProperties:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    minProperties: 1
    description: >
      Identifies a list of Network Function Service Consumer supported per service. The key
      used in this map for each entry is the ServiceName value as defined in
      3GPP TS 29.510[24].
  allof:

```


- oneOf:
 - required: [afAppId]
 - required: [trafficFilters]
 - required: [ethTrafficFilters]
- oneOf:
 - required: [supi]
 - required: [interGroupId]
 - required: [interGroupIdList]

TrafficInfluDataPatch:

description: Represents the Traffic Influence Data to be updated in the UDR.
 type: object
 properties:

upPathChgNotifCorreId:
 type: string
 description: >
 Contains the Notification Correlation Id allocated by the NEF for the UP path change notification.

appReloInd:
 type: boolean
 description: >
 Identifies whether an application can be relocated once a location of the application has been selected.

ethTrafficFilters:
 type: array
 items:
 \$ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
 minItems: 1
 description: >
 Identifies Ethernet packet filters. Either "trafficFilters" or "ethTrafficFilters" shall be included if applicable.

trafficFilters:
 type: array
 items:
 \$ref: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
 minItems: 1
 description: >
 Identifies IP packet filters. Either "trafficFilters" or "ethTrafficFilters" shall be included if applicable.

trafficRoutes:
 type: array
 items:
 \$ref: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
 minItems: 1
 description: Identifies the N6 traffic routing requirement.

sfcIdDl:
 type: string
 description: Reference to a pre-configured service function chain for DL traffic
 nullable: true

sfcIdUl:
 type: string
 description: Reference to a pre-configured service function chain for UL traffic
 nullable: true

metadata:
 \$ref: 'TS29571_CommonData.yaml#/components/schemas/Metadata'

traffCorreInd:
 type: boolean

tfcCorreInfo:
 \$ref: '#/components/schemas/TrafficCorrelationInfo'

validStartTime:
 \$ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

validEndTime:
 \$ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

tempValidities:
 type: array
 items:
 \$ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TemporalValidity'
 minItems: 1
 nullable: true
 description: Identifies the temporal validities for the N6 traffic routing requirement.

nwAreaInfo:
 \$ref: 'TS29554_Npcf_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

upPathChgNotifUri:
 \$ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'

headers:
 description: Contains the headers provisioned by the NEF.
 type: array
 items:

```

    type: string
  minItems: 1
  afAckInd:
    type: boolean
  addrPreserInd:
    type: boolean
  maxAllowedUpLat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/UintegerRm'
  simConnInd:
    type: boolean
  description: >
    Indicates whether simultaneous connectivity should be temporarily maintained
    for the source and target PSA.
  simConnTerm:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DurationSecRm'

```

```

TrafficInfluSub:
  description: Represents traffic influence subscription data.
  type: object
  properties:
    dnns:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
      description: Each element identifies a DNN.
    snssais:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
      description: Each element identifies a slice.
    internalGroupIds:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 1
      description: Each element identifies a group of users.
    internalGroupIdsAdd:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 1
      description: >
        Each element identifies an internal group.
    subscriberCatList:
      type: array
      items:
        type: string
      minItems: 1
      description: >
        Each element identifies a subscriber category.
    supis:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
      description: Each element identifies the user.
    notificationUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    expiry:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    supportedFeatures:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
    immRep:
      type: boolean
      description: >
        If provided and set to true, it indicates that existing entries that
        match this subscription shall be immediately reported in the response.
    immReports:
      type: array
      items:
        $ref: '#/components/schemas/TrafficInfluDataNotif'

```

```

    minItems: 1
    description: Immediate report with existing UDR entries.
  required:
  - notificationUri
  oneOf:
  - required: [dnns]
  - required: [snssais]
  - required: [internalGroupIds]
  - required: [internalGroupIdsAdd]
  - required: [supis]

TrafficInfluDataNotif:
  description: Represents traffic influence data for notification.
  type: object
  properties:
    resUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    trafficInfluData:
      $ref: '#/components/schemas/TrafficInfluData'
  required:
  - resUri

PfdDataForAppExt:
  description: Represents the PFDs and related data for the application.
  type: object
  properties:
    applicationId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
    pfd:
      type: array
      items:
        $ref: 'TS29551_Nnef_PFDmanagement.yaml#/components/schemas/PfdContent'
      minItems: 1
    cachingTime:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    cachingTimer:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
    allowedDelay:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  required:
  - applicationId
  - pfd
  not:
    required: [cachingTime,cachingTimer]

BdtPolicyData:
  description: Represents applied BDT policy data.
  type: object
  properties:
    interGroupId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    bdtRefId:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    resUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
  required:
  - bdtRefId

BdtPolicyDataPatch:
  description: >

```

```
    Represents modification instructions to be performed on the applied BDT policy data.
  type: object
  properties:
    bdtRefId:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/BdtReferenceId'
  required:
  - bdtRefId

IptvConfigData:
  description: Represents IPTV configuration data information.
  type: object
  properties:
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    interGroupId:
      description: Identifies a group of users.
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    afAppId:
      type: string
    multiAccCtrls:
      type: object
      additionalProperties:
        $ref: 'TS29522_IPTVConfiguration.yaml#/components/schemas/MulticastAccessControl'
    minProperties: 1
    description: >
      Identifies a list of multicast address access control information. Any string
      value can be used as a key of the map.
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
  required:
  - afAppId
  - multiAccCtrls
  oneOf:
  - required: [interGroupId]
  - required: [supi]

ServiceParameterData:
  description: Represents the service parameter data.
  type: object
  properties:
    appId:
      type: string
      description: Identifies an application.
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    interGroupId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    ueIpv4:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/Ipv4Addr'
    ueIpv6:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/Ipv6Addr'
    ueMac:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
    anyUeInd:
      type: boolean
      description: >
        Identifies whether the service parameters applies to any non roaming UE.
    roamUeNetDescs:
      type: array
      items:
        $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/NetworkDescription'
      minItems: 1
      description: Each element identifies one or more PLMN IDs of inbound roamers.
    paramOverPc5:
```

```

    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParameterOverPc5'
  paramOverUu:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParameterOverUu'
  a2xParamsPc5:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/A2xParamsPc5'
  paramForProSeDd:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeDd'
  paramForProSeDc:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeDc'
  paramForProSeU2NRelUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeU2NRelUe'
  paramForProSeRemUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeRemUe'
  paramForProSeU2URelUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeU2URelUe'
  paramForProSeEndUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeEndUe'
  urspGuidance:
    type: array
    items:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/UrspRuleRequest'
    minItems: 1
    description: >
      Contains the service parameter used to guide the URSP and/or VPLMN specific URSP.
  tnap:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/TnapId'
    minItems: 1
    description: Contains the TNAP IDs collocated with the 5G-RG(s) of a specific user.
  deliveryEvents:
    type: array
    items:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/Event'
    minItems: 1
    description: Contains the outcome of the UE Policy Delivery.
  policDelivNotifCorreId:
    type: string
    description: >
      Contains the Notification Correlation Id allocated by the NEF for the notification
      of UE Policy delivery outcome.
  policDelivNotifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  suppFeat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  resUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  headers:
    description: Contains the headers provisioned by the NEF.
    type: array
    items:
      type: string
    minItems: 1
  resetIds:
    type: array
    items:
      type: string
    minItems: 1
  paramForRangingSlPos:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForRangingSlPos'
  mappingInfo:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/MappingInfo'
ServiceParameterDataPatch:
  description: Represents the service parameter data that can be updated.
  type: object
  properties:
    paramOverPc5:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParameterOverPc5Rm'
    paramOverUu:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParameterOverUuRm'
    a2xParamsPc5:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/A2xParamsPc5Rm'
    paramForProSeDd:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeDdRm'
    paramForProSeDc:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeDcRm'
    paramForProSeU2NRelUe:

```

```

    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeU2NRelUeRm'
  paramForProSeRemUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeRemUeRm'
  paramForProSeU2URelUE:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeU2URelUeRm'
  paramForProSeEndUe:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForProSeEndUeRm'
  urspInfluence:
    type: array
    items:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/UrspRuleRequest'
    minItems: 1
    deprecated: true
    description: Contains the service parameter used to influence the URSP. This attribute is
      deprecated by the urspGuidance attribute.
  urspGuidance:
    type: array
    items:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/UrspRuleRequest'
    minItems: 1
    nullable: true
    description: >
      Contains the service parameter used to influence the URSP and/or VPLMN specific URSP.
  tnaps:
    type: array
    items:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/TnapId'
    minItems: 1
    description: Contains the TNAP IDs collocated with the 5G-RG(s) of a specific user.
    nullable: true
  deliveryEvents:
    type: array
    items:
      $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/Event'
    minItems: 1
    nullable: true
    description: Contains the outcome of the UE Policy Delivery.
  policDelivNotifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  headers:
    description: Contains the headers provisioned by the NEF.
    type: array
    items:
      type: string
    minItems: 1
  paramForRangingSlPos:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/ParamForRangingSlPosRm'
  mappingInfo:
    $ref: 'TS29522_ServiceParameter.yaml#/components/schemas/MappingInfoRm'

AmInfluData:
  description: Represents the AM Influence Data.
  type: object
  properties:
    appIds:
      type: array
      items:
        type: string
      minItems: 1
      description: Identifies one or more applications.
    dnnSnssaiInfos:
      type: array
      items:
        $ref: 'TS29522_AMInfluence.yaml#/components/schemas/DnnSnssaiInformation'
      minItems: 1
      description: Identifies one or more DNN, S-NSSAI combinations.
    interGroupId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    anyUeInd:
      type: boolean
      description: >
        When set to true, it indicates whether the data is applicable for any UE. Otherwise set
        to "false". Default value is "false" if omitted.
    roamUePlmnIds:
      type: array
      items:

```

```

    $ref: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  minItems: 1
  description: >
    Indicates a list of PLMNs representing the home PLMN for the inbound roaming
    UEs in LBO roaming scenario.
  policyDuration:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  evSubs:
    type: array
    items:
      $ref: 'TS29522_AMInfluence.yaml#/components/schemas/AmInfluEvent'
    minItems: 1
    description: List of AM related events for which a subscription is required.
  notifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  notifCorrId:
    type: string
    description: Notification correlation identifier.
  headers:
    type: array
    description: Contains the headers provisioned by the NEF.
    items:
      type: string
    minItems: 1
  thruReq:
    type: boolean
    description: >
      When set to true, it indicates whether high throughput is desired for the
      indicated UE traffic. Otherwise set to "false". Default value is "false" if omitted.
  covReq:
    type: array
    items:
      $ref:
'TS29534_Npcf_AMPolicyAuthorization.yaml#/components/schemas/ServiceAreaCoverageInfo'
    minItems: 1
    description: Indicates the service area coverage requirement.
  supportedFeatures:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  resUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  resetIds:
    type: array
    items:
      type: string
    minItems: 1
  allOf:
    - anyOf:
      - required: [thruReq]
      - required: [covReq]
    - oneOf:
      - required: [supi]
      - required: [interGroupId]
      - required: [anyUeInd]
      - required: [roamUePlmnIds]

AmInfluDataPatch:
  description: Represents the AM Influence Data that can be updated.
  type: object
  properties:
    appIds:
      type: array
      items:
        type: string
      minItems: 1
      description: Identifies one or more applications.
      nullable: true
    dnnSnssaiInfos:
      type: array
      items:
        $ref: 'TS29522_AMInfluence.yaml#/components/schemas/DnnSnssaiInformation'
      minItems: 1
      description: Identifies one or more DNN, S-NSSAI combinations.
      nullable: true
    evSubs:
      type: array
      items:
        $ref: 'TS29522_AMInfluence.yaml#/components/schemas/AmInfluEvent'
      minItems: 1

```

```

    description: List of AM related events for which a subscription is required.
    nullable: true
  headers:
    type: array
    description: Contains the headers provisioned by the NEF.
    items:
      type: string
    minItems: 1
  thruReq:
    type: boolean
    description: Indicates whether high throughput is desired for the indicated UE traffic.
    nullable: true
  notifUri:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/UriRm'
  notifCorrId:
    type: string
    description: Notification correlation identifier.
    nullable: true
  covReq:
    type: array
    items:
      $ref: 'TS29534_Npcf_AMPolicyAuthorization.yaml#/components/schemas/ServiceAreaCoverageInfo'
    minItems: 1
    description: Indicates the service area coverage requirement.
    nullable: true

```

```

ApplicationDataSubs:
  description: Identifies a subscription to application data change notification.
  type: object
  properties:
    notificationUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    dataFilters:
      type: array
      items:
        $ref: '#/components/schemas/DataFilter'
      minItems: 1
    expiry:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    immRep:
      type: boolean
      description: Immediate reporting indication.
    amInfluEntries:
      type: array
      items:
        $ref: '#/components/schemas/AmInfluData'
      minItems: 1
      description: The AM Influence Data entries stored in the UDR that match a subscription.
    supportedFeatures:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1
    immReports:
      type: array
      items:
        $ref: '#/components/schemas/ApplicationDataChangeNotif'
      minItems: 1
      description: Immediate report with existing UDR entries.
  required:
    - notificationUri

```

```

ApplicationDataChangeNotif:
  description: Contains changed application data for which notification was requested.
  type: object
  properties:
    iptvConfigData:
      $ref: '#/components/schemas/IptvConfigData'
    pfdData:
      $ref: 'TS29551_Nnef_PFDmanagement.yaml#/components/schemas/PfdChangeNotification'
    bdtPolicyData:
      $ref: '#/components/schemas/BdtPolicyData'
    resUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    serParamData:

```



```

    $ref: '#/components/schemas/ServiceParameterData'
  amInfluData:
    $ref: '#/components/schemas/AmInfluData'
  dnaiEasData:
    $ref: '#/components/schemas/DnaiEasMapping'
  afReqQosData:
    $ref: '#/components/schemas/AfRequestedQosData'
  ecsAddrData:
    $ref: '#/components/schemas/EcsAddrData'
  required:
    - resUri

DataFilter:
  description: Identifies a data filter.
  type: object
  properties:
    dataInd:
      $ref: '#/components/schemas/DataInd'
    dnns:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      minItems: 1
    snssais:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
    internalGroupIds:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 1
    supis:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
    appIds:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/ApplicationId'
      minItems: 1
    ueIpv4s:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
      minItems: 1
    ueIpv6s:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
      minItems: 1
    ueMacs:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/MacAddr48'
      minItems: 1
    anyUeInd:
      type: boolean
      description: Indicates the request is for any UE.
    dnnSnssaiInfos:
      description: >
        Indicates the request is for any DNN and S-NSSAI combination present in the array.
      type: array
      items:
        $ref: 'TS29522_AMInfluence.yaml#/components/schemas/DnnSnssaiInformation'
      minItems: 1
    dnais:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnai'
      minItems: 1
  required:
    - dataInd

TrafficCorrelationInfo:
  description: >

```

```

    Contains the information for traffic correlation.
  type: object
  properties:
    corrType:
      $ref: '#/components/schemas/CorrelationType'
    tfcCorrId:
      type: string
      description: >
        Identification of a set of UEs accessing the application identified by the
        Application Identifier or traffic filtering information.
    comEasIpv4Addr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv4AddrRm'
    comEasIpv6Addr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6AddrRm'
    fqdnRange:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/FqdnPatternMatchingRule'
      minItems: 1
      nullable: true
    notifUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/UriRm'
    notifCorrId:
      type: string
      nullable: true
      description: Notification correlation identifier.
    nullable: true

AfRequestedQosData:
  description: Represents AF Requested QoS data.
  type: object
  properties:
    supi:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    interGroupId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    afAppId:
      type: string
      description: Identifies an AF application.
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    sliceInfo:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    evSubsc:
      $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EventsSubscReqData'
    flowInfo:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
      minItems: 1
    ethFlowInfo:
      type: array
      items:
        $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
      minItems: 1
    enEthFlowInfo:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/EthFlowInfo'
      minItems: 1
    qosReference:
      type: string
    qosReqs:
      $ref: '#/components/schemas/QosRequirements'
    altSerReqs:
      type: array
      items:
        type: string
      minItems: 1
    altSerReqsData:
      type: array
      items:
        $ref:
'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData'
      minItems: 1
      description: >
        Contains alternative service requirements that include individual QoS parameter sets.
    disUeNotif:

```

```

    type: boolean
  marBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  marBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  tempInValidity:
    $ref: 'TS29565_Ntsctsf_QoSandTSCAssistance.yaml#/components/schemas/TemporalInValidity'
  headers:
    description: Contains the headers provisioned by the NEF.
    type: array
    items:
      type: string
    minItems: 1
  suppFeat:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
allof:
  - oneOf:
    - required: [supi]
    - required: [interGroupId]
  - oneOf:
    - required: [flowInfo]
    - required: [ethFlowInfo]
    - required: [enEthFlowInfo]
  - oneOf:
    - required: [qosReference]
    - required: [qosReqs]
  - not:
    required: [qosReference, altQosReqs]
  - not:
    required: [altQosReqs, altQoSReferences]

AfRequestedQosDataPatch:
  description: Represents modification of Individual AF Requested QoS data.
  type: object
  properties:
    afAppId:
      type: string
      description: Identifies an AF application.
      nullable: true
    evSubsc:
      $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EventsSubscReqDataRm'
    flowInfo:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/FlowInfo'
      minItems: 1
      nullable: true
    ethFlowInfo:
      type: array
      items:
        $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'
      minItems: 1
    enEthFlowInfo:
      type: array
      items:
        $ref: 'TS29122_CommonData.yaml#/components/schemas/EthFlowInfo'
      minItems: 1
    qosReference:
      type: string
      nullable: true
    qosReqs:
      $ref: '#/components/schemas/QoSRequirementsRm'
    altSerReqs:
      type: array
      items:
        type: string
      minItems: 1
      nullable: true
    altSerReqsData:
      type: array
      items:
        $ref:
' TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/AlternativeServiceRequirementsData '
      minItems: 1

```

```

    description: >
      Contains removable alternative service requirements that include individual QoS
      parameter sets.
    nullable: true
  disUseNotif:
    type: boolean
    nullable: true
  tempInValidity:
    $ref: 'TS29565_Ntsctsf_QoSandTSCAssistance.yaml#/components/schemas/TemporalInValidity'
  headers:
    description: Contains the headers provisioned by the NEF.
    type: array
    items:
      type: string
    minItems: 1

DnaiEasMapping:
  description: Contains DNAI to EAS mapping information.
  type: object
  properties:
    dnaiEasInfos:
      type: array
      items:
        $ref: '#/components/schemas/DnaiEasInfo'
      minItems: 1
      description: Each element contains EAS address information for a DNAI.
  required:
    - dnaiEasInfos

DnaiEasInfo:
  description: Contains EAS information for a DNAI.
  type: object
  properties:
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    snssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnais:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnai'
      minItems: 1
      description: DNAI(s) for the EAS Deployment Information.
    easIpAddrs:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/IpAddr'
      minItems: 1
      description: >
        Each element contains EAS IP address(es), IP address ranges, and/or IPv6 prefixes.
    fqdns:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/FqdnPatternMatchingRule'
      minItems: 1
      description: Each element contains FQDN for the EAS(s) of a DNAI.
  required:
    - dnais
  anyOf:
    - required: [dnn]
    - required: [snssai]
  oneOf:
    - required: [easIpAddrs]
    - required: [fqdns]

EcsAddrData:
  description: Represents ECS Address Data.
  type: object
  properties:
    self:
      $ref: 'TS29122_CommonData.yaml#/components/schemas/Link'
    ecsServerAddr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/EcsServerAddr'
    spatialValidityCond:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SpatialValidityCond'
    anyUeInd:
      type: boolean
      description: >

```

If provided and set to true it indicates that all the UEs are targetted, otherwise set to false. The default value is false if omitted.

```

internalGroupId:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
suppFeat:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
required:
  - ecsServerAddr

QosRequirements:
description: Represents QoS requirements.
type: object
properties:
  marBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  marBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  tsnQos:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TsnQosContainer'
  tscaiTimeDom:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  tscaiInputDl:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'
  tscaiInputUl:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'
  capBatAdaptation:
    type: boolean
    description: >
      Indicates the capability for AF to adjust the burst sending time, when it is supported
      and set to "true". The default value is "false" if omitted.

QosRequirementsRm:
description: Represents QoS requirements.
nullable: true
type: object
properties:
  marBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  marBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwUl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  mirBwDl:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
  tsnQos:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TsnQosContainer'
  tscaiTimeDom:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Uinteger'
  tscaiInputDl:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'
  tscaiInputUl:
    $ref: 'TS29514_Npcf_PolicyAuthorization.yaml#/components/schemas/TscaiInputContainer'
  capBatAdaptation:
    type: boolean
    description: >
      Indicates the capability for AF to adjust the burst sending time, when it is supported
      and set to "true". The default value is "false" if omitted.

DataInd:
anyOf:
  - type: string
  enum:
    - PFD
    - IPTV
    - BDT
    - SVC_PARAM
    - AM
    - DNAI_EAS
    - REQ_QOS
    - ECS
  - type: string
description: >
  This string provides forward-compatibility with future
  extensions to the enumeration but is not used to encode

```

```

    content defined in the present version of this API.
  description: |
    Indicates the type of data.
    Possible values are
    - PFD: PFD data.
    - IPTV: IPTV configuration data.
    - BDT: BDT data.
    - SVC_PARAM: Service parameter data.
    - AM: AM influence data.
    - DNAI_EAS: DNAI EAS mapping data.
    - REQ_QOS: AF Requested QoS data for a UE or group of UE(s) not identified by UE
address(es).
    - ECS: ECS Address data.

CorrelationType:
  description: Indicates that a common DNAI or common EAS should be selected.
  anyOf:
  - type: string
    enum:
      - COMMON_DNAI
      - COMMON_EAS
  - type: string
    description: >
      This string provides forward-compatibility with future extensions to the enumeration
      and is not used to encode content defined in the present version of this API.

```

A.4 Nudr_DataRepository API for Exposure Data

For the purpose of referencing entities defined in the Open API file defined in this Annex, it shall be assumed that this Open API file is contained in a physical file termed "TS29519_Exposure_Data.yaml".

```
openapi: 3.0.0
```

```

info:
  version: '-'
  title: Unified Data Repository Service API file for structured data for exposure
  description: |
    The API version is defined in 3GPP TS 29.504
    © 2023, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
    All rights reserved.

externalDocs:
  description: >
    3GPP TS 29.519 V18.1.0; 5G System; Usage of the Unified Data Repository Service for Policy Data,
    Application Data and Structured Data for Exposure.
  url: 'https://www.3gpp.org/ftp/Specs/archive/29_series/29.519/'

paths:
  /exposure-data/{ueId}/access-and-mobility-data:
    put:
      summary: Creates and updates the access and mobility exposure data for a UE
      operationId: CreateOrReplaceAccessAndMobilityData
      tags:
        - AccessAndMobilityData
      security:
        - {}
        - oAuth2ClientCredentials:
            - nudr-dr
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:exposure-data
        - oAuth2ClientCredentials:
            - nudr-dr
            - nudr-dr:exposure-data
            - nudr-dr:exposure-data:access-and-mobility-data:create
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        required: true
        content:

```

```

    application/json:
      schema:
        $ref: '#/components/schemas/AccessAndMobilityData'
  responses:
    '201':
      description: >
        Successful case. The resource has been successfully created and a response
        body containing a representation of the access and mobility data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/AccessAndMobilityData'
      headers:
        Location:
          description: 'Contains the URI of the newly created resource'
          required: true
          schema:
            type: string
    '200':
      description: >
        Successful case. The resource has been successfully updated and a response
        body containing a representation of the access and mobility data shall be returned.
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/AccessAndMobilityData'
    '204':
      description: >
        Successful case. The resource has been successfully updated and no additional content
        is to be sent in the response message.
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  get:
    summary: Retrieves the access and mobility exposure data for a UE
    operationId: QueryAccessAndMobilityData
    tags:
      - AccessAndMobilityData
    security:
      - {}
      - oAuth2ClientCredentials:
          - nudr-dr
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:exposure-data
      - oAuth2ClientCredentials:
          - nudr-dr
          - nudr-dr:exposure-data
          - nudr-dr:exposure-data:access-and-mobility-data:read
    parameters:
      - name: ueId
        in: path
        description: UE id
        required: true
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      - name: supp-feat

```

```

    in: query
    description: Supported Features
    required: false
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  responses:
    '200':
      description: The response body contains the access and mobility data
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/AccessAndMobilityData'
    '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'
    '414':
      $ref: 'TS29571_CommonData.yaml#/components/responses/414'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Deletes the access and mobility exposure data for a UE
  operationId: DeleteAccessAndMobilityData
  tags:
    - AccessAndMobilityData
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
      - nudr-dr:exposure-data:access-and-mobility-data:modify
  parameters:
    - name: ueId
      in: path
      description: UE id
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  responses:
    '204':
      description: Upon success, an empty response body shall be returned
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

```



```

patch:
  summary: Updates the access and mobility exposure data for a UE
  operationId: UpdateAccessAndMobilityData
  tags:
    - AccessAndMobilityData
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
      - nudr-dr:exposure-data:access-and-mobility-data:modify
  parameters:
    - name: ueId
      in: path
      description: UE id
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  requestBody:
    required: true
    content:
      application/merge-patch+json:
        schema:
          $ref: '#/components/schemas/AccessAndMobilityData'
  responses:
    '204':
      description: >
        Successful case. The resource has been successfully updated and no additional
        content is to be sent in the response message.
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
/exposure-data/{ueId}/session-management-data/{pduSessionId}:
  put:
    summary: Creates and updates the session management data for a UE and for an individual PDU
session
  operationId: CreateOrReplaceSessionManagementData
  tags:
    - PduSessionManagementData
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
      - nudr-dr:exposure-data:session-management-data:create
  parameters:
    - name: ueId

```

```

    in: path
    description: UE id
    required: true
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
  - name: pduSessionId
    in: path
    description: PDU session id
    required: true
    schema:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
requestBody:
  required: true
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/PduSessionManagementData'
responses:
  '201':
    description: >
      Successful case. The resource has been successfully created and a response
      body containing a representation of the session management data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PduSessionManagementData'
    headers:
      Location:
        description: 'Contains the URI of the newly created resource'
        required: true
        schema:
          type: string
  '200':
    description: >
      Successful case. The resource has been successfully updated and a response body
      containing a representation of the session management data shall be returned.
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/PduSessionManagementData'
  '204':
    description: >
      Successful case. The resource has been successfully updated and no additional
      content is to be sent in the response message.
  '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'
  '502':
    $ref: 'TS29571_CommonData.yaml#/components/responses/502'
  '503':
    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
get:
  summary: Retrieves the session management data for a UE and for an individual PDU session
  operationId: QuerySessionManagementData
  tags:
    - PduSessionManagementData
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:

```

```

- nudr-dr
- nudr-dr:exposure-data
- oAuth2ClientCredentials:
- nudr-dr
- nudr-dr:exposure-data
- nudr-dr:exposure-data:session-management-data:read
parameters:
- name: ueId
  in: path
  description: UE id
  required: true
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- name: pduSessionId
  in: path
  description: PDU session id
  required: true
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
- name: ipv4-addr
  in: query
  description: IPv4 Address of the UE
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
- name: ipv6-prefix
  in: query
  description: IPv6 Address Prefix of the UE
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
- name: dnn
  in: query
  description: DNN of the UE
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
- name: fields
  in: query
  description: attributes to be retrieved
  required: false
  schema:
    type: array
    items:
      type: string
      minItems: 1
- name: supp-feat
  in: query
  description: Supported Features
  required: false
  schema:
    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
responses:
'200':
  description: The response body contains the session management data
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/PduSessionManagementData'
'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'
'414':
  $ref: 'TS29571_CommonData.yaml#/components/responses/414'
'429':
  $ref: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  $ref: 'TS29571_CommonData.yaml#/components/responses/500'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':

```

```

    $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'
delete:
  summary: Deletes the session management data for a UE and for an individual PDU session
  operationId: DeleteSessionManagementData
  tags:
    - PduSessionManagementData
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
      - nudr-dr:exposure-data:session-management-data:modify
  parameters:
    - name: ueId
      in: path
      description: UE id
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    - name: pduSessionId
      in: path
      description: PDU session id
      required: true
      schema:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
  responses:
    '204':
      description: Upon success, an empty response body shall be returned
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

/exposure-data/subs-to-notify:
  post:
    summary: Create a subscription to receive notification of exposure data changes
    operationId: CreateIndividualExposureDataSubscription
    tags:
      - ExposureDataSubscriptions (Collection)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:exposure-data
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:exposure-data
        - nudr-dr:exposure-data:subs-to-notify:create
    requestBody:
      required: true
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ExposureDataSubscription'
  responses:

```

```

'201':
  description: Created
  content:
    application/json:
      schema:
        $ref: '#/components/schemas/ExposureDataSubscription'
  headers:
    Location:
      description: 'Contains the URI of the newly created resource'
      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'
'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'
'502':
  $ref: 'TS29571_CommonData.yaml#/components/responses/502'
'503':
  $ref: 'TS29571_CommonData.yaml#/components/responses/503'
default:
  $ref: 'TS29571_CommonData.yaml#/components/responses/default'
callbacks:
  exposureDataChangeNotification:
    '{$request.body#/notificationUri}':
      post:
        requestBody:
          required: true
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/ExposureDataChangeNotification'
                minItems: 1
  responses:
    '204':
      description: No Content, Notification was successful
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
/exposure-data/subs-to-notify/{subId}:

```

```

put:
  summary: updates a subscription to receive notifications of exposure data changes
  operationId: ReplaceIndividualExposureDataSubscription
  tags:
    - IndividualExposureDataSubscription (Document)
  security:
    - {}
    - oAuth2ClientCredentials:
      - nudr-dr
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
    - oAuth2ClientCredentials:
      - nudr-dr
      - nudr-dr:exposure-data
      - nudr-dr:exposure-data:subs-to-notify:modify
  parameters:
    - name: subId
      in: path
      description: Subscription id
      required: true
      schema:
        type: string
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: '#/components/schemas/ExposureDataSubscription'
  responses:
    '200':
      description: >
        Resource was successfully modified and a body with the modified subscription
        to notifications about exposure data is returned..
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/ExposureDataSubscription'
    '204':
      description: The individual subscription resource was successfully modified.
    '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'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
    default:
      $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  delete:
    summary: Deletes the individual Exposure Data subscription
    operationId: DeleteIndividualExposureDataSubscription
    tags:
      - IndividualExposureDataSubscription (Document)
    security:
      - {}
      - oAuth2ClientCredentials:
        - nudr-dr
      - oAuth2ClientCredentials:
        - nudr-dr
        - nudr-dr:exposure-data
      - oAuth2ClientCredentials:
        - nudr-dr

```

```

    - nudr-dr:exposure-data
    - nudr-dr:exposure-data:subs-to-notify:modify
  parameters:
    - name: subId
      in: path
      description: Subscription id
      required: true
      schema:
        type: string
  responses:
    '204':
      description: Resource was successfully deleted.
    '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'
    '429':
      $ref: 'TS29571_CommonData.yaml#/components/responses/429'
    '500':
      $ref: 'TS29571_CommonData.yaml#/components/responses/500'
    '502':
      $ref: 'TS29571_CommonData.yaml#/components/responses/502'
    '503':
      $ref: 'TS29571_CommonData.yaml#/components/responses/503'
  default:
    $ref: 'TS29571_CommonData.yaml#/components/responses/default'

components:
  schemas:
    AccessAndMobilityData:
      description: Represents Access and Mobility data for a UE.
      type: object
      properties:
        location:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
        locationTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        timeZone:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
        timeZoneTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        accessType:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
        regStates:
          type: array
          items:
            $ref: 'TS29518_Namf_EventExposure.yaml#/components/schemas/RmInfo'
        regStatesTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        connStates:
          type: array
          items:
            $ref: 'TS29518_Namf_EventExposure.yaml#/components/schemas/CmInfo'
        connStatesTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        reachabilityStatus:
          $ref: 'TS29518_Namf_EventExposure.yaml#/components/schemas/UeReachability'
        reachabilityStatusTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        smsOverNasStatus:
          $ref: 'TS29518_Namf_Communication.yaml#/components/schemas/SmsSupport'
        smsOverNasStatusTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        roamingStatus:
          type: boolean
          description: >
            True The serving PLMN of the UE is different from the HPLMN of the UE; False
            The serving PLMN of the UE is the HPLMN of the UE.
        roamingStatusTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        currentPlmn:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
        currentPlmnTs:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'

```

```

    ratType:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/RatType'
    ratTypesTs:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1

PduSessionManagementData:
  description: Represents Session management data for a UE and a PDU session.
  type: object
  properties:
    pduSessionStatus:
      $ref: '#/components/schemas/PduSessionStatus'
    pduSessionStatusTs:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    dnai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnai'
    dnaiTs:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    n6TrafficRoutingInfo:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/RouteToLocation'
    n6TrafficRoutingInfoTs:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    ipv4Addr:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    ipv6Prefix:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
      minItems: 1
      description: UE IPv6 prefix.
    ipv6Addrs:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
      minItems: 1
    pduSessType:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
    ipAddrTs:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    pduSessionId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/PduSessionId'
    suppFeat:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array
      items:
        type: string
      minItems: 1

ExposureDataSubscription:
  description: Represents a Subscription to Notifications about Exposure Data.
  type: object
  properties:
    notificationUri:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    monitoredResourceUris:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      minItems: 1
    expiry:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    supportedFeatures:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    resetIds:
      type: array

```



```
    items:
      type: string
    minItems: 1
  immRep:
    type: boolean
    description: >
      If provided and set to true, it indicates that existing entries that
      match this subscription shall be immediately reported in the response.
  immReports:
    type: array
    items:
      $ref: '#/components/schemas/ExposureDataChangeNotification'
    minItems: 1
    description: Immediate report with existing UDR entries.
  required:
    - notificationUri
    - monitoredResourceUris

ExposureDataChangeNotification:
  description: Represents changed exposure data for one UE for which Notification was requested.
  type: object
  properties:
    ueId:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    accessAndMobilityData:
      $ref: '#/components/schemas/AccessAndMobilityData'
    pduSessionManagementData:
      type: array
      items:
        $ref: '#/components/schemas/PduSessionManagementData'
      minItems: 1
    delResources:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      minItems: 1

PduSessionStatus:
  anyOf:
    - type: string
      enum:
        - "ACTIVE"
        - "RELEASED"
    - type: string
      description: >
        This string provides forward-compatibility with future
        extensions to the enumeration but is not used to encode
        content defined in the present version of this API.
  description: |
    Represents the state of the PDU session.
    Possible values are
    - "ACTIVE": the PDU session is active.
    - "RELEASED": the PDU session released.
```

Annex B (informative): Change history

Change history							
Date	Meeting #	TSG Doc.	CR	Rev	Cat	Subject/Comment	New
2018-01	CT3#94					TS skeleton of Usage of the Unified Data Repository service for Policy Data and Structured Data for exposure	0.0.0
2018-01	CT3#94					Inclusion of C3-180352, C3-180326, C3-180327	0.1.0
2018-03	CT3#95					Inclusion of C3-181145, C3-181288, C3-181289, C3-181313	0.2.0
2018-04	CT3#96					Inclusion of C3-182402, C3-182476, C3-182456, C3-182404, C3-182457, C3-182458	0.3.0
2018-05	CT3#97					Inclusion of C3-183872, C3-183705, C3-183704, C3-183873, C3-183732, C3-183706 C3-183874, C3-183709, C3-183876, C3-183263, C3-183877, C3-183712, C3-183715 and editorial changes by Rapporteur	0.4.0
2018-06	CT#80	CP-181033				TS sent to plenary for approval	1.0.0
2018-06	CT#80	CP-181033				TS approved by plenary	15.0.0
2018-09	CT#81	CP-182015	0006		F	Scope and Overview	15.1.0
2018-09	CT#81	CP-182015	0007		F	Introduction subclauses 5.1, 6.1 and 7.1	15.1.0
2018-09	CT#81	CP-182015	0008		F	Resource overview subclauses 5.2.1, 6.2.1 and 7.2.1	15.1.0
2018-09	CT#81	CP-182015	0009	3	F	Nudr reused data types	15.1.0
2018-09	CT#81	CP-182015	0010	6	B	AM policy data resource definition	15.1.0
2018-09	CT#81	CP-182015	0011	8	B	SM policy data resource definition	15.1.0
2018-09	CT#81	CP-182015	0012	3	B	Sponsored data connectivity profiles	15.1.0
2018-09	CT#81	CP-182015	0014	5	B	Background Data Transfer data	15.1.0
2018-09	CT#81	CP-182015	0015	4	B	Policy data change subscription	15.1.0
2018-09	CT#81	CP-182015	0016	5	B	Data change notification	15.1.0
2018-09	CT#81	CP-182015	0017	2	F	Error handling subcaluses	15.1.0
2018-09	CT#81	CP-182015	0018	1	F	Feature negotiation	15.1.0
2018-09	CT#81	CP-182015	0019	1	F	Resource PFD Datas and Data types definition	15.1.0
2018-09	CT#81	CP-182015	0020	1	F	OpenAPI schema for Policy Data	15.1.0
2018-09	CT#81	CP-182015	0021	3	F	Stage 2 Alignments for Structured Data for Exposure	15.1.0
2018-09	CT#81	CP-182015	0022	4	B	Subscription for Structured Data for Exposure	15.1.0
2018-09	CT#81	CP-182015	0023	3	F	Get query parameters for structured data for exposure	15.1.0
2018-09	CT#81	CP-182015	0024	5	F	HTTP error responses for structured data for exposure	15.1.0
2018-09	CT#81	CP-182015	0025	1	F	Description of Structured data types	15.1.0
2018-09	CT#81	CP-182032	0026	3	B	Resource Structure for policy data	15.1.0
2018-09	CT#81	CP-182015	0027		F	n6 Traffic Routing Information encoding	15.1.0
2018-09	CT#81	CP-182015	0028	1	F	Removal of ExternalDocs section in OpenApi file for Exposure Data	15.1.0
2018-09	CT#81	CP-182015	0029	1	F	VarUeld used in TS 29.519	15.1.0
2018-09	CT#81	CP-182015	0034	1	F	OpenAPI schema for PolicyData	15.1.0
2018-09	CT#81	CP-182015	0035	3	F	External information stored in UDR for Application Data	15.1.0
2018-09	CT#81	CP-182015	0036		F	Clean up the Editor Note in applicatoin data	15.1.0
2018-09	CT#81	CP-182015	0037	4	F	Correction the data type of application data	15.1.0
2018-09	CT#81	CP-182015	0038	3	B	Introduce the operator policy data	15.1.0
2018-09	CT#81	CP-182015	0039	2	B	OpenAPI of Application data	15.1.0
2018-09	CT#81	CP-182015	0040	1	F	Update of resource structure of application data 29.519	15.1.0
2018-09	CT#81	CP-182015	0041	1	F	Ethernet packet filter for traffic influence data of applicatoin data 29.519	15.1.0
2018-12	CP#82	CP-183205	0042	1	F	DNAl reused data	15.2.0
2018-12	CP#82	CP-183205	0043	1	F	ExternalDocs field	15.2.0
2018-12	CP#82	CP-183205	0044		F	PduSessionStatus	15.2.0
2018-12	CP#82	CP-183205	0045	1	F	Query parameters correction on application data	15.2.0
2018-12	CP#82	CP-183205	0046	1	F	PUT operation for Individual Influence Data Subscription	15.2.0
2018-12	CP#82	CP-183205	0047	3	F	Background Data Transfer Data	15.2.0
2018-12	CP#82	CP-183205	0048	1	F	Cardinality for array and map	15.2.0
2018-12	CP#82	CP-183205	0049	1	F	Resource URI for ExposureData	15.2.0
2018-12	CP#82	CP-183205	0050		F	Ueld definition	15.2.0
2018-12	CP#82	CP-183205	0052	1	F	Error status codes for HTTP responses	15.2.0
2018-12	CP#82	CP-183205	0053		F	Service name	15.2.0
2018-12	CP#82	CP-183205	0054	1	F	Reference to the yaml file of Npcf_BDTPolicyControl API	15.2.0
2018-12	CP#82	CP-183205	0055		F	Missed GET method on UEPolicySetResource	15.2.0

2018-12	CP#82	CP-183205	0055	2	F	Missed GET method on UEPolicySetResource	15.2.0
2018-12	CP#82	CP-183205	0056	4	F	Corrections on AM Policy and UE Policy data	15.2.0
2018-12	CP#82	CP-183205	0057	6	F	Corrections on SM Policy Data	15.2.0
2018-12	CP#82	CP-183205	0058	1	F	Correct TrafficRoute data type	15.2.0
2018-12	CP#82	CP-183205	0060	4	F	Correct subscription for application data	15.2.0
2018-12	CP#82	CP-183205	0062	3	F	Correction to the AF Influence on traffic steering control	15.2.0
2018-12	CP#82	CP-183205	0063	3	F	PLMN ID as key for UE data sets	15.2.0
2018-12	CP#82	CP-183205	0066	1	F	Supported features	15.2.0
2018-12	CP#82	CP-183205	0067	1	F	Add AF application ID for traffic influence	15.2.0
2018-12	CP#82	CP-183205	0068		F	Correct referenced file in openAPI for application data	15.2.0
2018-12	CP#82	CP-183205	0069		F	Correct referenced file in openAPI for exposure data	15.2.0
2018-12	CP#82	CP-183205	0070	1	F	Use correct naming convention	15.2.0
2018-12	CP#82	CP-183205	0071	1	F	Correct subscription for Application Data	15.2.0
2018-12	CP#82	CP-183205	0072	1	F	Status code update for Application Data	15.2.0
2018-12	CP#82	CP-183205	0073	1	F	Correction on UsageThreshold	15.2.0
2018-12	CP#82	CP-183205	0075	2	F	Status code update for Exposure Data	15.2.0
2018-12	CP#82	CP-183205	0076	2	F	Status code update for Policy Data	15.2.0
2018-12	CP#82	CP-183205	0077	2	F	Incorrect response code of PUT method for individual PFD Data creation	15.2.0
2018-12	CP#82	CP-183205	0078	1	F	corrections on individual Influence Data	15.2.0
2018-12	CP#82	CP-183205	0079	2	F	Adding timestamp for allowed usage storage	15.2.0
2018-12	CP#82	CP-183205	0080		F	Missing 201 response body for /policy-data/subs-to-notify	15.2.0
2018-12	CP#82	CP-183205	0081	1	F	Location header	15.2.0
2018-12	CP#82	CP-183205	0083	4	F	Corrections on Usage Monitoring information	15.2.0
2018-12	CP#82	CP-183205	0087		F	Correction on PduSessionManagementData	15.2.0
2019-03	CP#83	CP-190115	0090	1	F	Correction on ChargingInformation data type reference in the OpenAPI file	15.3.0
2019-03	CP#83	CP-190115	0091	1	F	Formatting of structured data types in query parameters	15.3.0
2019-03	CP#83	CP-190115	0092	1	F	Correcting resource definitions	15.3.0
2019-03	CP#83	CP-190115	0093		F	References to data types	15.3.0
2019-03	CP#83	CP-190115	0095	2	F	Correction on Policy Data change notification	15.3.0
2019-03	CP#83	CP-190115	0096	1	F	Correction on BDT data	15.3.0
2019-03	CP#83	CP-190115	0098	1	F	Support of allowed Route Selection data	15.3.0
2019-03	CP#83	CP-190115	0099	1	F	Support of PEI, OSid and ANDSP support indication in UE Policy Set	15.3.0
2019-03	CP#83	CP-190115	0100		F	Support of PRA information	15.3.0
2019-06	CP#84	CP-191077	0101		F	Correction of OpenAPI file and main body misalignments for Notification messages	15.4.0
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History

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