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TECHNICAL SPECIFICATION

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**Usage of the Unified Data Repository services for subscription
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Stage 3
(3GPP TS 29.505 version 15.6.0 Release 15)**

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650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Contents

Foreword

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1 Scope

The present document specifies the usage of the Unified Data Repository services for subscription data. It provides the resource definition and data model for subscription data used over the Nudr Service Based Interface. The protocol definition for Nudr Service Based Interface which is specific to subscription data is also specified in the present document.

The stage 3 protocol definition for Nudr Service Based Interface which is common for subscription data, policy data, structure data and application data for exposure is specified in 3GPP TS 29.504 [2].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- 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]   3GPP TS 29.504: "5G System; Unified Data Repository Services; Stage 3".

[3]   3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces Stage 3".

[4]   3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[5]   3GPP TS 23.003: "Numbering, addressing and identification".

[6]   3GPP TS 29.503: "Unified Data Management Services".

[7]   3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[8]   3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[9]   3GPP TS 33.501: "Security architecture and procedures for 5G system".

[10]   3GPP TS 33.102: "3G Security; Security architecture".

[11]   3GPP TS 35.206: "An example algorithm set for the 3GPP authentication and key generation functions f1, f1*, f2, f3, f4, f5 and f5*; Document 2: Algorithm specification".

[12]   3GPP TS 35.231: "A second example algorithm set for the 3GPP authentication and key generation functions f1, f1*, f2, f3, f4, f5 and f5*; Document 1: Algorithm specification ".

[13]   3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".

[14]   3GPP TR 21.900: "Technical Specification Group working methods".

[15]   3GPP TS 29.509: "Authentication Server Services; Stage 3".

[16]   IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

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].

pointer of attribute: The pointer of the attribute identifies the location of the attribute in the JSON object. The pointer of the attribute is a string with one or more segments, each segment is the name of an attribute within that JSON object, different segments are separated with a "/".

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].

5GC	5G Core
AMF	Access and Mobility Management Function
DNN	Data Network Name
GPSI	Generic Public Subscription Identifier
JSON	Javascript Object Notation
SMF	Session Management Function
SMS	Short Message Service
SMSF	SMS Function
SUPI	Subscription Permanent Identifier
UDM	Unified Data Management
UDR	Unified Data Repository

4 Overview

The resources, data model and usage defined in the present document are used by the 5GC NFs (e.g. UDM) to access the subscription data via the Unified Data Repository services specified in 3GPP TS 29.504 [2].

5 Usage of Nudr_DataRepository Service

5.1 Introduction

The following clauses specify the usage of Nudr_DataRepository service for subscription data. The principles specified in 3GPP TS 29.504 [2] are followed unless explicitly specified otherwise in the following clauses.

5.2 Resources

5.2.1 Overview
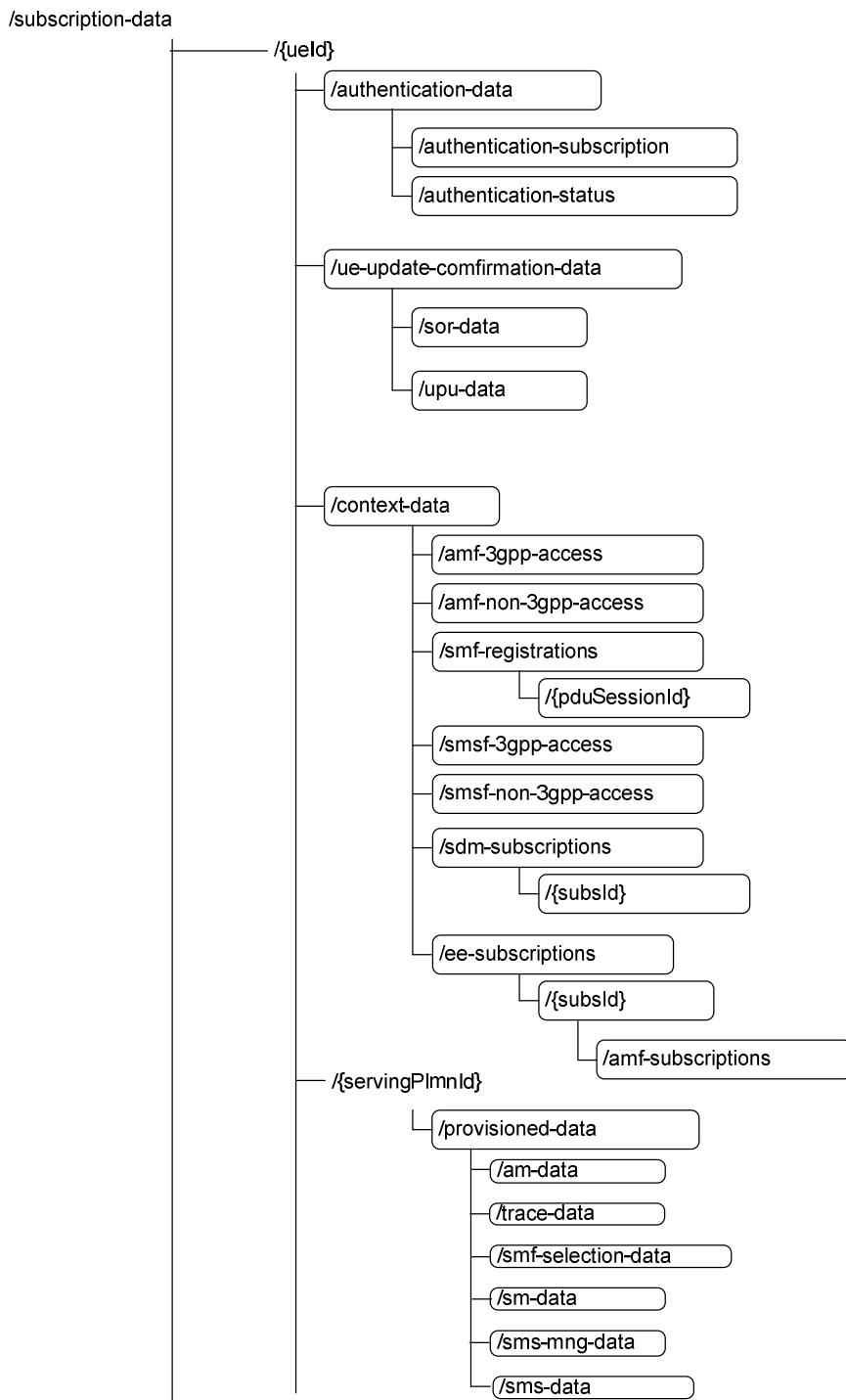
Figure 5.2.1-1: Resource URI sub-level structure for subscription data

```
/subscription-data
    ├────── /{ueId}
    │               ┌─────────────────────────────┐
    │           ├───┤ /ee-profile-data            │
    │               └─────────────────────────────┘
    │               ┌─────────────────────────────┐
    │           ├───┤ /identity-data              │
    │               └─────────────────────────────┘
    │               ┌─────────────────────────────┐
    │           ├───┤ /operator-specific-data     │
    │               └─────────────────────────────┘
    │               ┌─────────────────────────────┐
    │           ├───┤ /pp-data                    │
    │               └─────────────────────────────┘
    │               ┌─────────────────────────────┐
    │           └───┤ /operator-determined-barring│
    │               └─────────────────────────────┘
    │
    │
    ├────── /group-data
    │           ├── /{ueGroupId}
    │           │           ┌─────────────────────────────┐
    │           │       ├───┤ /ee-subscriptions           │
    │           │           └─────────────────────────────┘
    │           │                   ┌─────────────────────┐
    │           │               └───┤ /{subsId}           │
    │           │                   └─────────────────────┘
    │               ┌─────────────────────────────┐
    │           └───┤ /group-identifiers          │
    │               └─────────────────────────────┘
    │       ┌─────────────────────┐
    ├───────┤ /shared-data        │
    │       └─────────────────────┘
    │               ┌─────────────────────────────┐
    │           └───┤ /{sharedDataId}             │
    │               └─────────────────────────────┘
    │       ┌─────────────────────┐
    └───────┤ /subs-to-notify     │
            └─────────────────────┘
                    ┌─────────────────────┐
                └───┤ /{subsId}           │
                    └─────────────────────┘
```
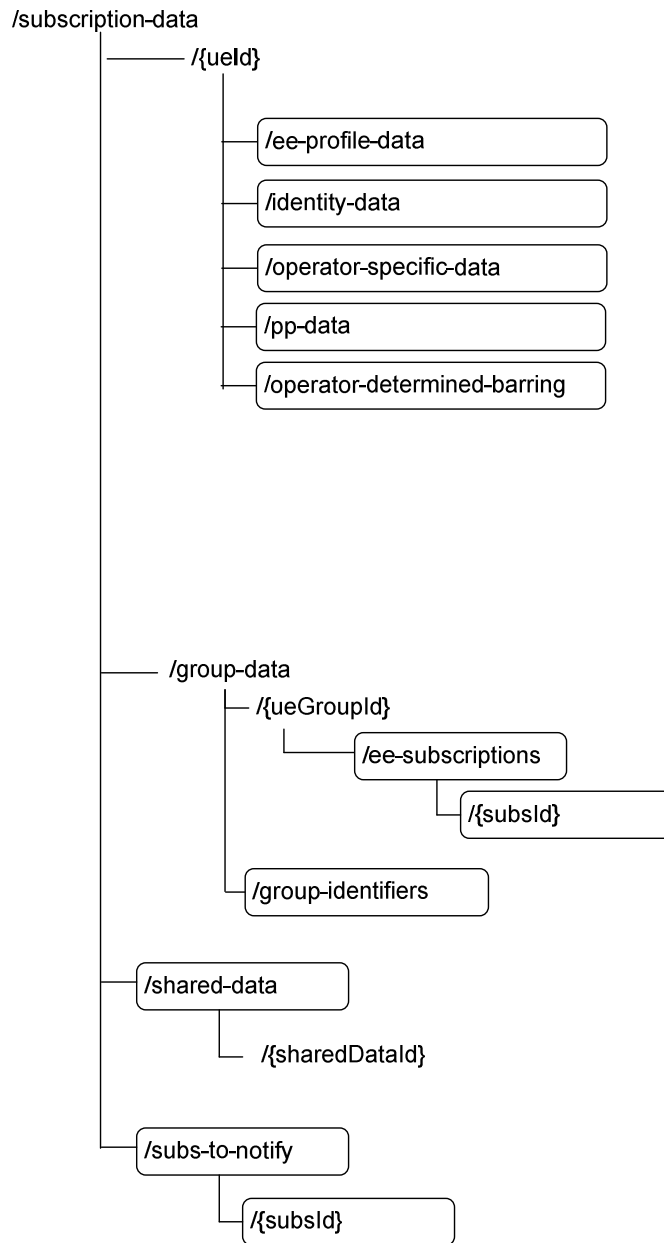
Figure 5.2.1-2: Resource URI sub-level structure for subscription data (cont.)

Table 5.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 5.2.1-1: Resources and methods overview

Resource name	Resource URI	HTTP method	Description
AuthenticationSubscription	/subscription-data/{ueId}/authentication-data/authentication-subscription	GET	Retrieve a UE's authentication subscription data
		PATCH	Update a UE's authentication subscription data Updates shall be limited to the sequenceNumber attribute. Attempts to patch any other attribute shall be rejected by the UDR.
AuthenticationSoR	/subscription-data/{ueId}/ue-update-confirmation-data/sor-data	PUT	Store UE's SOR acknowledgement information (SoR-XMAC-IUE)
		GET	Retrieve UE's SoR acknowledgement information
AuthenticationUPU	/subscription-data/{ueId}/ue-update-confirmation-data/upu-data	PUT	Store UE Parameter Update acknowledgement information (UPU-XMAC-IUE)
		GET	Retrieve UE Parameter Update acknowledgement information
AuthenticationStatus	/subscription-data/{ueId}/authentication-data/authentication-status	PUT	Store a UE's authentication status
		GET	Retrieve a UE's authentication status
ProvisionedData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data	GET	Retrieve the UE's subscribed Provisioned Data
AccessAndMobilitySubscriptionData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data /am-data	GET	Retrieve the UE's subscribed Access and Mobility Data
SmfSelectionSubscriptionData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/smf-selection-subscription-data	GET	Retrieve the UE's subscribed SMF Selection Data
SessionManagementSubscriptionData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sm-data	GET	Retrieve the UE's subscribed SM Subscription Data
ContextData	/subscription-data/{ueId}/context-data	GET	Retrieve the UE's context Data
Amf3GppAccessRegistration	/subscription-data/{ueId}/context-data/amf-3gpp-access	PUT	Create and Update the AMF registration for 3GPP access
		PATCH	Modify the AMF registration for 3GPP access
		GET	Retrieve the AMF registration information for 3GPP access
AmfNon3GppAccessRegistration	/subscription-data/{ueId}/ context-data/amf-non-3gpp-access	PUT	Update the AMF registration for non 3GPP access
		PATCH	Modify the AMF registration for non 3GPP access

		GET	Retrieve the AMF registration information for non 3GPP access
SmfRegistrations	/subscription-data/{ueId}/context-data/smf-registrations	GET	Retrieve the list of the SMF registrations
IndividualSmfRegistration	/subscription-data/{ueId}/context-data/smf-registrations/{pduSessionId}	PUT	Store an individual SMF registration identified by PDU Session Id
		DELETE	Delete an individual SMF registration
		GET	Retrieve individual SMF registration
OperatorSpecificData	/subscription-data/{ueId}/operator-specific-data	GET	retrieve the operator specific subscription data of a UE
		PATCH	modify the operator specific subscription data of a UE
OperatorDeterminedBarringData	/subscription-data/{ueId}/operator-determined-barring-data	GET	Retrieve the UE's Operator Determined Barring
SMSManagementSubscriptionData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data	GET	Retrieve the UE's subscribed SMS management subscription data.
Smsf3GppAccessRegistration	/subscription-data/{ueId}/context-data/smsf-3gpp-access	PUT	Create or Update the SMSF registration
		DELETE	Delete the SMSF registration for 3GPP access
		GET	Retrieve the SMSF registration information
SmsfNon3GppAccessRegistration	/subscription-data/{ueId}/context-data/smsf-non-3gpp-access	PUT	Create or Update the SMSF registration for non 3GPP access
		DELETE	Delete the SMSF registration for non 3GPP access
		GET	Retrieve the SMSF registration information for non 3GPP access
SdmSubscriptions	/subscription-data/{ueId}/context-data/sdm-subscriptions	GET	Retrieve SDM subscriptions
		POST	Create an individual SDM subscription
IndividualSdmSubscription	/subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}	PUT	Update an individual SDM subscription
		DELETE	Delete an individual SDM subscription
		PATCH	Update an individual SDM Subscription
EeSubscriptions	/subscription-data/{ueId}/context-data/ee-subscriptions	GET	Retrieve EE subscriptions
		POST	Create an EE subscription
IndividualEeSubscription	/subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}	PUT	Update an individual EE subscription
		DELETE	Delete an individual EE subscription
		PATCH	Update an individual EE subscription

AmfSubscriptionInfo	/subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}/amf-subscriptions	PUT	Store information related the a received Amf-EE-Subscription response
		DELETE	Delete the Amf-EE-subscriptions
		GET	Retrieve AMF-subscriptions
		PATCH	Update AMF-subscriptions
EeProfileData	/subscription-data/{ueId}/ ee-profile-data	GET	Retrieve the UE's subscribed EE profile data.
ProvisionedParamenterData	/subscription-data/{ueId}/pp-data	PATCH	Update of provisioned parameters.
		GET	Retrieves the UE's provisioned parameters.
SMSSubscriptionData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-data	GET	Retrieve the UE's subscribed SMS subscription data.
SubscriptionDataSubscriptions	/subscription-data/subs-to-notify	GET	Retrieve existing subscriptions
		POST	Create a subscription, i.e. subscribe a node to receive notification for change of data
		DELETE	Deletes multiple subscriptions for a given UE.
IndividualSubscriptionDataSubscription	/subscription-data/subs-to-notify/{subsId}	DELETE	Delete the subscription identified by {subsId}, i.e. unsubscribe a node to receive notification for change of data
		PATCH	Update an individual Subscription to notification
EeGroupSubscriptions	/subscription-data/group-data/{ueGroupId}/ee-subscriptions	GET	Retrieve EE subscriptions for groups of UEs
		POST	Create an EE subscription for groups of UEs
IndividualEeGroupSubscription	/subscription-data/group-data/{ueGroupId}/ee-subscriptions/{subsId}	PUT	Update an individual EE subscription for a group of UEs
		DELETE	Delete an individual EE subscription for a group of UEs
		PATCH	Update an individual EE subscription for a group of UEs
TraceData	/subscription-data/{ueId}/{servingPlmnId}/provisioned-data /trace-data	GET	Retrieve the UE's trace configuration data
IdentityData	/subscription-data/{ueId}/identity-data	GET	Retrieve identity data that corresponds to the provided ueId
SharedData (Collection)	/subscription-data/shared-data	GET	Retrieve shared data
GroupIdentifiers	/subscription-data/group-data/group-identifiers	GET	Retrieve group identifiers

5.2.2 Resource: AuthenticationSubscription

5.2.2.1 Description

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

> NOTE 1: This resource contains security-sensitive attributes, such as the long-term key of the UE (see "encPermanentKey" attribute of the AuthenticationSubscription data type in clause 5.4.2.2). No security for this is specified in this release.

> NOTE 2: Although these security-sensitive attributes are stored in an encrypted form in the UDR, operators can consider its storage separately from other types of subscription data. How to achieve this in a secure way is implementation-specific; a description of a typical mechanism can be found in the informative Annex X in 3GPP TS 29.500 [8].

5.2.2.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/authentication-data/authentication-subscription

This resource shall support the resource URI variables defined in table 5.2.2.2-1.

Table 5.2.2.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|.+)$"

5.2.2.3 Resource Standard Methods

5.2.2.3.1 GET

This method shall support the URI query parameters specified in table 5.2.2.3.1-1.

Table 5.2.2.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.2.3.1-2 and the response data structures and response codes specified in table 5.2.2.3.1-3.

Table 5.2.2.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.2.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AuthenticationSubscription	M	1	200 OK	Upon success, a response body containing the AuthenticationSubscription shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.2.3.2   PATCH

This method is used to modify the authentication data of UE in the UDR.

This method shall support the URI query parameters specified in table 5.2.2.3.2-1.

Table 5.2.2.3.2-1: 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 5.2.2.3.2-2 and the response data structures and response codes specified in table 5.2.2.3.2-3.

Table 5.2.2.3.2-2: 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 authentication subscription of a UE

Table 5.2.2.3.2-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.3   Resource: AccessAndMobilitySubscriptionData

5.2.3.1   Description

This resource represents the subscribed AccessAndMobilitySubscriptionData for a SUPI for use in a serving PLMN. It is queried by the AMF via the UDM after registering.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.3.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

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
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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
AccessAndMobilitySubscriptionData	M	1	200 OK	Upon success, a response body containing the Access and Mobility Subscription Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.4 Resource: SmfSelectionSubscriptionData

5.2.4.1 Description

This resource represents the subscribed SmfSelectionSubscriptionData for a SUPI. It is queried by the UDM triggered by the AMF after registering.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.4.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/smf-selection-subscription-data

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+-|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

5.2.4.3 Resource Standard Methods

5.2.4.3.1 GET

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 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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 GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

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

Data type	P	Cardinality	Response codes	Description
SmfSelectionSubscriptionData	M	1	200 OK	Upon success, a response body containing the SMF Selection Subscription Data for the user shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.5 Resource: SessionManagementSubscriptionData

5.2.5.1 Description

This resource represents the subscribed SessionManagementSubscriptionData for a SUPI. It is queried by the UDM triggered by the SMF during session setup, using one or both of query parameters representing the selected network slice and the DNN.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.5.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

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
single-nssai	Snssai	O	0..1	
dnn	Dnn	O	0..1	
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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

If "single-nssai" is not included, and "dnn" is not included, UDR shall return all DNN configurations for all network slice(s).

If "single-nssai" is included, and "dnn" is not included, UDR shall return all DNN configurations for the requested network slice identified by "single-nssai".

If "single-nssai" is not included, and "dnn" is included, UDR shall return all DNN configurations identified by "dnn" for all network slices where such DNN is available.

If "single-nssai" is included, and "dnn" is included, UDR shall return the DNN configuration identified by "dnn", if such DNN is available in the network slice identified by "single-nssai".

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
array(SessionManagementSubscriptionData)	M	1..N	200 OK	Upon success, a response body containing the Session Management Subscription data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.6   Resource: Amf3GppAccessRegistration

5.2.6.1   Description

This resource is used to represent AMF registrations to be stored in the UDR by the UDM.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.6.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/amf-3gpp-access

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

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
Amf3GppAccess Registration	M	1	The AMF registration for 3GPP access is replaced with the received information.

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
n/a			204 No Content	Upon success, an empty response body shall be returned
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.6.3.2 PATCH

This method is used to modify AMF registration data for 3GPP access in the UDR.

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 PATCH method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.6.3.2-2 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 PATCH Request Body on this resource

Data type	P	Cardinality	Description
array(PatchItem)	M	1..N	Contains the delta data to the AMF registration data for 3GPP access

Table 5.2.6.3.2-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.6.3.3   GET

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

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

Name	Data type	P	Cardinality	Description
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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
Amf3GppAccessRegistration	M	1	200 OK	Upon success, a response body containing the Amf3GppAccessRegistration shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.7   Resource: AmfNon3GppAccessRegistration

5.2.7.1   Description

This resource is used to represent AMF registrations to be stored in the UDR.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.7.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/amf-non-3gpp-access

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

5.2.7.3 Resource Standard Methods

5.2.7.3.1 PUT

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 PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.7.3.1-2 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 PUT Request Body on this resource

Data type	P	Cardinality	Description
AmfNon3GppAccessRegistration	M	1	The AMF registration for non 3GPP access is replaced with the received information.

Table 5.2.7.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.7.3.2 PATCH

This method is used to modify AMF registration data for non-3GPP access in the UDR.

This method shall support the URI query parameters specified in table 5.2.7.3.2-1.

Table 5.2.7.3.2-1: 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 5.2.7.3.2-2 and the response data structures and response codes specified in table 5.2.7.3.2-3.

Table 5.2.7.3.2-2: 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 AMF registration data for non-3GPP access

Table 5.2.7.3.2-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.7.3.3 GET

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

Table 5.2.7.3.3-1: 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.7.3.3-2 and the response data structures and response codes specified in table 5.2.7.3.3-3.

Table 5.2.7.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.7.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AmfNon3GppAccessRegistration	M	1	200 OK	Upon success, a response body containing the Amf3GppAccessRegistration shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.8 Resource: SmfRegistrations

5.2.8.1 Description

This resource is used to represent SMF registrations to be stored in the UDR.

This resource is modelled with the Store resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.8.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/ subscription-data/{ueId}/context-data/smf-registrations

This resource shall support the resource URI variables defined in table 6.2.3.4.2-1.

Table 5.2.8.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See clause 6.4.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [2] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
SmfRegList	M	1	200 OK	Upon success, a response body containing the list of SMF registrations of the relevant UE shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.9   Resource: IndividualSmfRegistration

5.2.9.1   Description

This resource is used to represent individual PDU session SMF registrations to be stored in the UDR.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.9.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/{ueId}/context-data/smf-registrations/{pduSessionId}

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	Definition
apiRoot	See clause 6.4.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [11] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
pduSessionId	The pduSessionId identifies an individual SMF registration.

5.2.9.3 Resource Standard Methods

5.2.9.3.1 PUT

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 PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.9.3.1-2 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 PUT Request Body on this resource

Data type	P	Cardinality	Description
SmfRegistration	M	1	The registration that is to be created

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

Data type	P	Cardinality	Response codes	Description
SmfRegistration	M	1	201 Created	Upon success, a response body containing a representation of the created Individual SmfRegistration resource shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.9.3.2 DELETE

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 DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.9.3.2-2 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 DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.9.3.2-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.9.3.3 GET

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 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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 GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

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

Data type	P	Cardinality	Response codes	Description
SmfRegistration	M	1	200 OK	The SMF registration that is to be retrieved
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.10 Resource: OperatorSpecificData

5.2.10.1 Description

This resource represents the UE's operator specific data.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.10.2 Resource Definition

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

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
NOTE: The content of ueId SUPI or GPSI depends on the service.	

5.2.10.3 Resource Standard Methods

5.2.10.3.1 GET

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

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

Table 5.2.10.3.1-1: 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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 GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

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

Data type	P	Cardinality	Response codes	Description
map(OperatorSpecificDataContainer)	M	1..N	200 OK	Upon success, 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.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.10.3.2 PATCH

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

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

Table 5.2.10.3.2-1: 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 5.2.10.3.2-2 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 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 5.2.10.3.2-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.11 Resource: Smsf3GppAccessRegistration

5.2.11.1 Description

This resource represents registered SMSF for 3GPP access.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).-

5.2.11.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/smsf-3gpp-access

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

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
SmsfRegistration	M	1	The SMSF registration for 3GPP access is created or updated with the received information.

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
n/a			204 No Content	Upon success, an empty response body shall be returned
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.11.3.4 GET

This method shall support the URI query parameters specified in table 5.2.11.3.4-1.

Table 5.2.11.3.4-1: 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.11.3.4-2 and the response data structures and response codes specified in table 5.2.11.3.4-3.

Table 5.2.11.3.4-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.11.3.4-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SmsfRegistration	M	1	200 OK	Upon success, a response body containing the SMSF registration for 3GPP access Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.12 Resource: SmsfNon3GppAccessRegistration

5.2.12.1 Description

This resource represents registered SMSF for Non 3GPP access.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.12.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/smsf-non-3gpp-access

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

5.2.12.3 Resource Standard Methods

5.2.12.3.1 PUT

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 PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.12.3.1-2 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 PUT Request Body on this resource

Data type	P	Cardinality	Description
SmsfRegistration	M	1	The SMSF registration for non 3GPP access is created or updated with the received information.

Table 5.2.12.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.12.3.2 DELETE

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 DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.12.3.2-2 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 DELETE Request Body on this resource

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

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

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.12.3.4 GET

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 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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 GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

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

Data type	P	Cardinality	Response codes	Description
SmsfRegistration	M	1	200 OK	Upon success, a response body containing the SMSF registration for non 3GPP access Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.13 Resource: SMSManagementSubscriptionData

5.2.13.1 Description

This resource represents the subscribed SMSManagementSubscriptionData for a SUPI for use in a serving PLMN. It is queried by the SMSF via the UDM after registering.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.13.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
SmsManagementSubscriptionData	M	1	200 OK	Upon success, a response body containing the SMS Management Subscription Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.14 Resource: ProvisionedParamenterData

5.2.14.1 Description

This resource represents the subscribed ProvisionedParameterData for a GPSI. It is triggered by the AF/NEF via the UDM to update provisioned data stored for the subscriber.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.14.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/pp-data

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

5.2.14.3 Resource Standard Methods

5.2.14.3.1 GET

This method retrieves the provisioned data of a given UE.

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
PpData	M	1	200 OK	Upon success, a response body is returned containing the provisioned data of the GPSI.

5.2.14.3.2 PATCH

This method is used to modify the provisioned parameter data in the UDR.

This method shall support the URI query parameters specified in table 5.2.14.3.2-1.

Table 5.2.14.3.2-1: 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 5.2.14.3.2-2 and the response data structures and response codes specified in table 5.2.14.3.2-3.

Table 5.2.14.3.2-2: 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 provisioned parameter data

Table 5.2.14.3.2-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.15   Resource: SMSSubscriptionData

5.2.15.1   Description

This resource represents the subscribed SMS Subscription Data for a SUPI for use in a serving PLMN. It is queried by the AMF via the UDM after registering.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.15.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{serving-plmn-id}/provisioned-data/sms-data

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
Ue-id	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
serving-plmn-id	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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
SmsSubscriptionData	M	1	200 OK	Upon success, a response body containing the SMS Management Subscription Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.16 Resource: SdmSubscriptions

5.2.16.1 Description

This resource represents the collection of SDM Subscriptions for a UE.

This resource is modelled with the Collection resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.16.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/sdm-subscriptions

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-.+|.+)"

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.16.3.1-2 and the response data structures and response codes specified in table 5.2.16.3.1-3.

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
array(SdmSubscription)	M	1..N	200 OK	Upon success, a response body containing the individual SDM subscriptions shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.16.3.2 POST

This method shall support the URI query parameters specified in table 5.2.16.3.2-1.

Table 5.2.16.3.2-1: 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 5.2.16.3.1-2 and the response data structures and response codes specified in table 5.2.16.3.1-3.

Table 5.2.16.3.2-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
SdmSubscription	M	1	Identifies the subscriber data subscription to be stored in the UDR.

Table 5.2.16.3.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SdmSubscription	M	1	201 Created	Upon success, a response body containing a representation of the UeId's 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.17 Resource: IndividualSdmSubscription

5.2.17.1 Description

This resource represents an individual SDM Subscription for a UE.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.17.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
subsId	Identifier of the subscription (as allocated by the UDR)

5.2.17.3 Resource Standard Methods

5.2.17.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.17.3.1-1.

Table 5.2.17.3.1-1: 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 5.2.17.3.1-2 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 PUT Request Body on this resource

Data type	P	Cardinality	Description
SdmSubscription	M	1	The individual SDM subscription that is to be stored

Table 5.2.17.3.1-3: Data structures supported by the PUT 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.
ProblemDetails	M	1	404 Not Found	If the resource does not exist, a response code of 404 Not Found shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.17.3.2 DELETE

This method shall support the URI query parameters specified in table 5.2.17.3.2-1.

Table 5.2.17.3.2-1: 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 5.2.17.3.2-2 and the response data structures and response codes specified in table 5.2.17.3.2-3.

Table 5.2.17.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.17.3.2-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.17.3.3   PATCH

This method shall support the URI query parameters specified in table 5.2.17.3.3-1.

Table 5.2.17.3.3-1: 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 5.2.17.3.3-2 and the response data structures and response codes specified in table 5.2.17.3.3-3.

Table 5.2.17.3.3-2: 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 Individual SDM Subscription data.

Table 5.2.17.3.3-3: 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.
ProblemDetails	M	1	404 Not Found	The resource corresponding to the SubscriptionId can't be found. The "cause" attribute shall be set to: - SUBSCRIPTION_NOT_FOUND
	M	1	403 Forbidden	One or more attributes are not allowed to be modified. The "cause" attribute shall be set to: - MODIFY_NOT_ALLOWED
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.18   Resource: EeSubscriptions

5.2.18.1   Description

This resource represents the collection of EE Subscriptions for a UE.

This resource is modelled with the Collection resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.18.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/ee-subscriptions

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

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
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

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 5.2.18.3.1-3.

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
array(EeSubscription)	M	1..N	200 OK	Upon success, a response body containing the individual EE subscriptions shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.18.3.2 POST

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 POST method on this resource

Name	Data type	P	Cardinality	Description
n/a				

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

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

Data type	P	Cardinality	Description
EeSubscription	M	1	Identifies the subscriber data subscription to be stored in the UDR.

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

Data type	P	Cardinality	Response codes	Description
EeSubscription	M	1	201 Created	Upon success, a response body containing a representation of the UeId's 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.19 Resource: IndividualEeSubscription

5.2.19.1 Description

This resource represents an individual EE Subscription for a UE.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.19.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}

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	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
subsId	Identifier of the subscription (allocated by the UDR)

5.2.19.3 Resource Standard Methods

5.2.19.3.1 PUT

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 PUT method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.19.3.1-2 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 PUT Request Body on this resource

Data type	P	Cardinality	Description
EeSubscription	M	1	The individual EE subscription that is to be stored

Table 5.2.19.3.1-3: Data structures supported by the PUT 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.
ProblemDetails	M	1	404 Not Found	If the resource does not exist, a response code of 404 Not Found shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.19.3.2 DELETE

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 DELETE method on this resource

Name	Data type	P	Cardinality	Description
n/a				

This method shall support the request data structures specified in table 5.2.19.3.2-2 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 DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.19.3.2-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.19.3.3 PATCH

This method shall support the URI query parameters specified in table 5.2.19.3.3-1.

Table 5.2.19.3.3-1: 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 5.2.19.3.3-2 and the response data structures and response codes specified in table 5.2.19.3.3-3.

Table 5.2.19.3.3-2: 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 Individual EE Subscription data

Table 5.2.19.3.3-3: 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.
ProblemDetails	M	1	404 Not Found	The resource corresponding to the SubscriptionId can't be found. The "cause" attribute shall be set to: - SUBSCRIPTION_NOT_FOUND
	M	1	403 Forbidden	One or more attributes are not allowed to be modified. The "cause" attribute shall be set to: - MODIFY_NOT_ALLOWED
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.19A Resource: IndividualEeGroupSubscription

5.2.19A.1 Description

This resource represents an individual EE Subscription for a group of UEs or any UE (i.e. all UEs).

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.19A.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/group-data/{ueGroupId}/ee-subscriptions/{subsId}

This resource shall support the resource URI variables defined in table 5.2.19A.2-1.

Table 5.2.19A.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueGroupId	Represents the identifier of the Group of UEs. For this resource, either External Group Identifier or any UE shall be present. Pattern: '^(extgroupid-[^@]+@[^@]+|anyUE)$'
subsId	Identifier of the subscription (allocated by the UDM)

5.2.19A.3 Resource Standard Methods

5.2.19A.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.19A.3.1-1.

Table 5.2.19A.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 5.2.19A.3.1-2 and the response data structures and response codes specified in table 5.2.19A.3.1-3.

Table 5.2.19A.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
EeSubscription	M	1	The individual EE subscription for the group of UEs that is to be stored

Table 5.2.19A.3.1-3: Data structures supported by the PUT 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.
ProblemDetails	M	1	404 Not Found	If the resource does not exist, a response code of 404 Not Found shall be returned.
NOTE: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.19A.3.2 DELETE

This method shall support the URI query parameters specified in table 5.2.19A.3.2-1.

Table 5.2.19A.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 5.2.19A.3.2-2 and the response data structures and response codes specified in table 5.2.19A.3.2-3.

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

Data type	P	Cardinality	Description
n/a			

Table 5.2.19A.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: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.19A.3.3 PATCH

This method shall support the URI query parameters specified in table 5.2.19A.3.3-1.

Table 5.2.19A.3.3-1: 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 5.2.19A.3.3-2 and the response data structures and response codes specified in table 5.2.19A.3.3-3.

Table 5.2.19A.3.3-2: 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 Individual EE Group Subscription data

Table 5.2.19A.3.3-3: 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.
ProblemDetails	M	1	404 Not Found	The resource corresponding to the SubscriptionId can't be found. The "cause" attribute shall be set to: - SUBSCRIPTION_NOT_FOUND
	M	1	403 Forbidden	One or more attributes are not allowed to be modified. The "cause" attribute shall be set to: - MODIFY_NOT_ALLOWED
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.20 Resource: SubscriptionDataSubscriptions

5.2.20.1 Description

This resource is used to represent explicit subscriber data subscriptions to notifications.

5.2.20.2 Resource Definition

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

This resource shall support the resource URI variables defined in table 5.2.20.2-1.

Table 5.2.20.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1

5.2.20.3 Resource Standard Methods

5.2.20.3.1 POST

This method shall support the URI query parameters specified in table 5.2.20.3.1-1.

Table 5.2.20.3.1-1: 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 5.2.20.3.1-2 and the response data structures and response codes specified in table 5.2.20.3.1-3.

Table 5.2.20.3.1-2: Data structures supported by the POST Request Body on this resource

Data type	P	Cardinality	Description
SubscriptionData Subscriptions	M	1	Identifies the subscriber data subscription to be stored in the UDR.

Table 5.2.20.3.1-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SubscriptionDataSubscriptions	M	1	201 Created	Upon success, a response body containing a representation of the UeId's Individual subscription resource shall be returned. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the created resource.
ProblemDetails	M	1	404 Not Found	The "cause" attribute shall be set to the following application error: - SUBSCRIPTION_NOT_FOUND
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.20.3.2 GET

This method shall support the URI query parameters specified in table 5.2.20.3.2-1.

Table 5.2.20.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
ue-id	VarUeId	M	1	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.20.3.2-2 and the response data structures and response codes specified in table 5.2.20.3.2-3.

Table 5.2.20.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.20.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(SubscriptionDataSubscriptions)	M	0..N	200 OK	Upon success, a response body containing the individual subscriptions shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.20.3.3 DELETE

This method shall support the URI query parameters specified in table 5.2.20.3.3-1.

Table 5.2.20.3.3-1: URI query parameters supported by the DELETE method on this resource

Name	Data type	P	Cardinality	Description
ue-id	VarUeId	M	1	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) of the UE associated to this subscription. Pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
nf-instance-id	NfInstanceId	C	0..1	If included, this IE shall contain the Instance ID of the original NF Service Consumer of the UDM that created the subscription, and the UDR shall delete all subscriptions associated to the ue-id that were created by this specific nf-instance-id. If not included, the UDR shall delete all subscriptions matching the rest of query parameters. (See NOTE)
delete-all-nfs	boolean	C	0..1	If included, this IE indicates that the UDR shall delete all subscriptions associated to the ue-id. (See NOTE)
implicit-unsubscribe-indication	boolean	O	0..1	If included, this IE shall contain the content of the "implicitUnsubscribe" attribute sent during the creation of the subscription in UDM. If it is set to true, it means that the UDR shall delete all those subscriptions from NF Service Consumers of UDM, whose implicitUnsubscribe value is set to true. It not included, or set to false, the UDR shall delete all subscriptions matching the rest of query parameters.
NOTE: Either "nf-instance-id" or "delete-all-nfs" shal be included in the request.				

This method shall support the request data structures specified in table 5.2.20.3.3-2 and the response data structures and response codes specified in table 5.2.20.3.3-3.

Table 5.2.20.3.3-2: 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 5.2.20.3.3-3: Data structures supported by the DELETE Response Body on this resource

Data type	P	Cardinality	Response codes	Description
n/a			204 No Content	Upon success, an empty response body shall be returned.
NOTE: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.21   Resource: IndividualSubscriptionDataSubscription

5.2.21.1   Description

This resource is used to represent an individual subscriber data subscriptions to notifications.

5.2.21.2   Resource Definition

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

This resource shall support the resource URI variables defined in table 5.2.21.2-1.

Table 5.2.21.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
subsId	The subsId identifies an individual SubscriptionDataSubscriptions to notifications. The value is allocated by the UDR during creation of the SubscriptionDataSubscriptions resource.

5.2.21.3   Resource Standard Methods

5.2.21.3.1   DELETE

This method shall support the URI query parameters specified in table 5.2.21.3.1-1.

Table 5.2.21.3.1-1: 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 5.2.21.3.1-2 and the response data structures and response codes specified in table 5.2.21.3.1-3.

Table 5.2.21.3.1-2: 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 5.2.21.3.1-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.21.3.2   PATCH

This method shall support the URI query parameters specified in table 5.2.21.3.2-1.

Table 5.2.21.3.2-1: 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 5.2.21.3.2-2 and the response data structures and response codes specified in table 5.2.21.3.2-3.

Table 5.2.21.3.2-2: 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 Individual Subscription Data Subscription.

Table 5.2.21.3.2-3: 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.
ProblemDetails	M	1	404 Not Found	The resource corresponding to the SubscriptionId can't be found. The "cause" attribute shall be set to: - SUBSCRIPTION_NOT_FOUND
	M	1	403 Forbidden	One or more attributes are not allowed to be modified. The "cause" attribute shall be set to: - MODIFY_NOT_ALLOWED
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.22 Resource: TraceData

5.2.22.1 Description

This resource represents the trace configuration data for a SUPI for use in a serving PLMN. It is queried by the AMF via the UDM after registering.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.22.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data/trace-data

This resource shall support the resource URI variables defined in table 5.2.22.2-1.

Table 5.2.22.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

5.2.22.3 Resource Standard Methods

5.2.3.3.1 GET

This method shall support the URI query parameters specified in table 5.2.22.3.1-1.

Table 5.2.22.3.1-1: 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 5.2.22.3.1-2 and the response data structures and response codes specified in table 5.2.22.3.1-3.

Table 5.2.22.3.1-2: 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
TraceData	M	1	200 OK	Upon success, a response body containing the Trace Configuration Data shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.23   Resource: IdentityData

5.2.23.1   Description

This resource represents the identity data. It is queried by the UDM by GPSI or SUPI.

5.2.23.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/identity-data

This resource shall support the resource URI variables defined in table 5.2.23.2-1.

Table 5.2.23.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

5.2.23.3   Resource Standard Methods

5.2.23.3.1   GET

This method shall support the URI query parameters specified in table 5.2.23.3.1-1.

Table 5.2.23.3.1-1: 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 5.2.23.3.1-2 and the response data structures and response codes specified in table 5.2.23.3.1-3.

Table 5.2.23.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.23.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
IdentityData	M	1	200 OK	Upon success, a response body containing the identity data that corresponds to the provided ueId
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.24 Resource: AuthenticationStatus

5.2.24.1 Description

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.24.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/authentication-data/authentication-status

This resource shall support the resource URI variables defined in table 5.2.24.2-1.

Table 5.2.24.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|.+)$"

5.2.24.3 Resource Standard Methods

5.2.24.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.24.3.1-1.

Table 5.2.24.3.1-1: 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 5.2.24.3.1-2 and the response data structures and response codes specified in table 5.2.24.3.1-3.

Table 5.2.24.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
AuthEvent	M	1	To store the authentication status of the UE.

Table 5.2.24.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.24.3.2   GET

This method shall support the URI query parameters specified in table 5.2.24.3.2-1.

Table 5.2.24.3.2-1: 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.
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.24.3.2-2 and the response data structures and response codes specified in table 5.2.24.3.2-3.

Table 5.2.24.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.24.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
AuthEvent	M	1	200 OK	Upon success, a response body containing the AuthEvent shall be returned.
NOTE:	In addition common data structures as listed in table 5.5-1 are supported.			

5.2.25   Resource: AuthenticationSoR

5.2.25.1   Description

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.25.2   Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/ue-update-confirmation-data/sor-data

This resource shall support the resource URI variables defined in table 5.2.25.2-1.

Table 5.2.25.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|.+)$"

5.2.25.3   Resource Standard Methods

5.2.25.3.1   PUT

This method shall support the URI query parameters specified in table 5.2.25.3.1-1.

Table 5.2.25.3.1-1: 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 5.2.25.3.1-2 and the response data structures and response codes specified in table 5.2.25.3.1-3.

Table 5.2.25.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
SorData	M	1	The SoR acknowledgement information to be stored temporarily.

Table 5.2.25.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.25.3.2 GET

This method shall support the URI query parameters specified in table 5.2.25.3.2-1.

Table 5.2.25.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.25.3.2-2 and the response data structures and response codes specified in table 5.2.25.3.2-3.

Table 5.2.25.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.25.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
SorData	M	1	200 OK	Upon success, a response body containing the SorData shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.25A Resource: AuthenticationUPU

5.2.25A.1 Description

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.25A.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/ue-update-confirmation-data/upu-data

This resource shall support the resource URI variables defined in table 5.2.25A.2-1.

Table 5.2.25A.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|.+)$"

5.2.25A.3 Resource Standard Methods

5.2.25A.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.25A.3.1-1.

Table 5.2.25A.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 5.2.25A.3.1-2 and the response data structures and response codes specified in table 5.2.25A.3.1-3.

Table 5.2.25A.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
UpuData	M	1	The UPU acknowledgement information to be stored temporarily.

Table 5.2.25A.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.25A.3.2 GET

This method shall support the URI query parameters specified in table 5.2.25A.3.2-1.

Table 5.2.25A.3.2-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.25A.3.2-2 and the response data structures and response codes specified in table 5.2.25A.3.2-3.

Table 5.2.25A.3.2-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.25A.3.2-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
UpuData	M	1	200 OK	Upon success, a response body containing the UpuData shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.26 Resource: ProvisionedData

5.2.26.1 Description

This resource represents the subscribed ProvisionedData for a UE ID for use in a serving PLMN.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.26.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/{servingPlmnId}/provisioned-data

This resource shall support the resource URI variables defined in table 5.2.26.2-1.

Table 5.2.26.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"
servingPlmnId	Represents the Serving PLMN ID (<MCC><MNC>) pattern: "^[0-9]{5,6}$"

5.2.26.3 Resource Standard Methods

5.2.26.3.1 GET

This method shall support the URI query parameters specified in table 5.2.26.3.1-1.

Table 5.2.26.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
dataset-names	array(DataSetName)	O	1..N	If included, this IE shall contain the names of data sets to the retrieved. If not included, all provisioned data sets shall be returned.

This method shall support the request data structures specified in table 5.2.26.3.1-2 and the response data structures and response codes specified in table 5.2.26.3.1-3.

Table 5.2.26.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.26.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ProvisionedDataSets	M	1	200 OK	Upon success, a response body containing the requested data sets shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.27 Resource: OperatorDeterminedBarringData

5.2.27.1 Description

This resource represents the subscribed OperatorDeterminedBarringData for a SUPI. It is queried by the UDM during registration.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.27.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/operator-determined-barring-data

This resource shall support the resource URI variables defined in table 5.2.27.2-1.

Table 5.2.27.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-.+|.+)"

5.2.27.3 Resource Standard Methods

5.2.27.3.1 GET

This method shall support the URI query parameters specified in table 5.2.27.3.1-1.

Table 5.2.27.3.1-1: 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 5.2.27.3.1-2 and the response data structures and response codes specified in table 5.2.27.3.1-3.

Table 5.2.27.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.27.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
OdbData	M	1	200 OK	Upon success, a response body containing the Operator Determined Barring Data shall be returned.
NOTE: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.28 Resource: EeProfileData

5.2.28.1 Description

This resource represents a list of the Event Exposure Profile Data. It is queried by the UDM by either GPSI or SUPI.

5.2.28.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/ee-profile-data

This resource shall support the resource URI variables defined in table 5.2.28.2-1.

Table 5.2.28.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)".

5.2.28.3 Resource Standard Methods

5.2.28.3.1 GET

This method shall support the URI query parameters specified in table 5.2.28.3.1-1.

Table 5.2.28.3.1-1: 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.
supportedFeatures	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.28.3.1-2 and the response data structures and response codes specified in table 5.2.28.3.1-3.

Table 5.2.28.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.28.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EeProfileData	M	1	200 OK	Upon success, a response body containing the Event Exposure Profile that corresponds to the provided ueId
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.29 Resource: EeGroupSubscriptions

5.2.29.1 Description

This resource represents the collection of EE Subscriptions for a group of UEs or any UE (i.e. all UEs).

This resource is modelled with the Collection resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.29.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/group-data/{ueGroupId}/ee-subscriptions

This resource shall support the resource URI variables defined in table 5.2.29.2-1.

Table 5.2.29.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueGroupId	Represents the identifier of the Group of UEs. For this resource, either External Group Identifier or any UE shall be present. pattern: '^(extgroupid-[^@]+@[^@]+|anyUE)$'

5.2.29.3 Resource Standard Methods

5.2.29.3.1 GET

This method shall support the URI query parameters specified in table 5.2.29.3.1-1.

Table 5.2.29.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [8] clause 6.6

This method shall support the request data structures specified in table 5.2.29.3.1-2 and the response data structures and response codes specified in table 5.2.29.3.1-3.

Table 5.2.29.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.29.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(EeSubscription)	M	1..N	200 OK	Upon success, a response body containing the individual EE subscriptions for the groups of UEs shall be returned.
NOTE: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.29.3.2 POST

This method shall support the URI query parameters specified in table 5.2.29.3.2-1.

Table 5.2.29.3.2-1: 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 5.2.19.3.2-2 and the response data structures and response codes specified in table 5.2.29.3.2-3.

Data type	P	Cardinality	Description
EeSubscription	M	1	Identifies the data subscription to be stored in the UDR.

Table 5.2.29.3.2-3: Data structures supported by the POST Response Body on this resource

Data type	P	Cardinality	Response codes	Description
EeSubscription	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: In addition, common data structures as listed in table 5.5-1 are supported.				

5.2.30 Resource: SharedData

5.2.30.1 Description

This resource represents the collection of data that can be shared by multiple UEs.

5.2.30.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/shared-data

This resource shall support the resource URI variables defined in table 5.2.30.2-1.

Table 5.2.30.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1

5.2.30.3 Resource Standard Methods

5.2.30.3.1 GET

This method shall support the URI query parameters specified in table 5.2.30.3.1-1.

Table 5.2.30.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
shared-data-ids	array(SharedDataId)	M	1..N	

This method shall support the request data structures specified in table 5.2.30.3.1-2 and the response data structures and response codes specified in table 5.2.30.3.1-3.

Table 5.2.30.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.30.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(SharedData)	M	1..N	200 OK	Upon success, a response body containing a list of SharedData shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.31 Resource: AmfSubscriptionInfo

5.2.31.1 Description

This resource represents information relevant to an individual EE Subscription for a UE. Depending on the Event Types of the EeSubscription, the UDM may need to consume the Namf_EventExposure_Subscribe service operation to subscribe at the AMF (see 3GPP TS 29.518 [13]). After successful subscription at the AMF, the UDM needs to store within the UDR related information, e.g. the SubscriptionId allocated by the AMF.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.31.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}/amf-subscriptions

This resource shall support the resource URI variables defined in table 5.2.31.2-1.

Table 5.2.31.2-1: Resour ce URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)"
subsId	Identifier of the subscription (allocated by the UDM)

5.2.31.3 Resource Standard Methods

5.2.31.3.1 PUT

This method shall support the URI query parameters specified in table 5.2.31.3.1-1.

Table 5.2.31.3.1-1: 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 5.2.31.3.1-2 and the response data structures and response codes specified in table 5.2.31.3.1-3.

Table 5.2.31.3.1-2: Data structures supported by the PUT Request Body on this resource

Data type	P	Cardinality	Description
array(AmfSubscriptionInfo)	M	1..N	AMF subscription info for one or two AMFs

Table 5.2.31.3.1-3: Data structures supported by the PUT 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.31.3.2 DELETE

This method shall support the URI query parameters specified in table 5.2.31.3.2-1.

Table 5.2.31.3.2-1: 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 5.2.31.3.2-2 and the response data structures and response codes specified in table 5.2.31.3.2-3.

Table 5.2.31.3.2-2: Data structures supported by the DELETE Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.31.3.2-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.31.3.3 GET

This method shall support the URI query parameters specified in table 5.2.31.3.3-1.

Table 5.2.31.3.3-1: 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 5.2.31.3.3-2 and the response data structures and response codes specified in table 5.2.31.3.3-3.

Table 5.2.31.3.3-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.31.3.3-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
array(AmfSubscriptionInfo)	M	1..N	200 OK	Upon success, a response body containing AMF Subscription Infos shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.31.3.4 PATCH

This method is used to modify the AMF subscription Infos in the UDR.

This method shall support the URI query parameters specified in table 5.2.31.3.4-1.

Table 5.2.31.3.4-1: 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 5.2.31.3.2-2 and the response data structures and response codes specified in table 5.2.31.3.4-3.

Table 5.2.31.3.4-2: 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 provisioned parameter data

Table 5.2.31.3.4-3: 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.
ProblemDetails	M	1	403 Forbidden	One or more attributes are not allowed to be modified according to e.g. policy or local configuration. The invalidParams attribute shall contain the JSON pointers of attributes which are not allowed to be modified. The cause attribute shall be set to "MODIFY_NOT_ALLOWED", see 3GPP TS 29.500 [8] table 5.2.7.2-1.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.32 Resource: ContextData

5.2.32.1 Description

This resource represents the ContextData for a UE ID.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [7]).

5.2.32.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data

This resource shall support the resource URI variables defined in table 5.2.32.2-1.

Table 5.2.32.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] clause 5.9.2) pattern: "^(imsi-[0-9]{5,15}|nai-.+|msisdn-[0-9]{5,15}|extid-[^@]+@[^@]+|.+)$"

5.2.32.3 Resource Standard Methods

5.2.32.3.1 GET

This method shall support the URI query parameters specified in table 5.2.32.3.1-1.

Table 5.2.32.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
context-dataset-names	array(ContextDataSetName)	M	2..N	If included, this IE shall contain the names of context data sets to be retrieved. If not included, all context data sets shall be returned.

This method shall support the request data structures specified in table 5.2.32.3.1-2 and the response data structures and response codes specified in table 5.2.32.3.1-3.

Table 5.2.32.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.32.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
ContextDataSets	M	1	200 OK	Upon success, a response body containing the requested context data sets shall be returned.
NOTE: In addition common data structures as listed in table 5.5-1 are supported.				

5.2.33 Resource: GroupIdentifiers

5.2.33.1 Description

This resource represents the collection of data that can be shared by multiple UEs.

5.2.33.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/group-data/group-identifiers

This resource shall support the resource URI variables defined in table 5.2.33.2-1.

Table 5.2.33.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] clause 6.1.1

5.2.33.3 Resource Standard Methods

5.2.33.3.1 GET

This method shall support the URI query parameters specified in table 5.2.33.3.1-1.

Table 5.2.33.3.1-1: URI query parameters supported by the GET method on this resource

Name	Data type	P	Cardinality	Description
supported-features	SupportedFeatures	O	0..1	see 3GPP TS 29.500 [4] clause 6.6
ext-groud-id	ExtGroupId	C	0..1	External Group ID
int-group-id	GroupId	C	0..1	Internal Group ID
NOTE: Either ext-group-id or int-group-id shall be present in the request.				

Either the ext-group-id or the int-group-id shall be present in the request.

This method shall support the request data structures specified in table 5.2.33.3.1-2 and the response data structures and response codes specified in table 5.2.33.3.1-3.

Table 5.2.33.3.1-2: Data structures supported by the GET Request Body on this resource

Data type	P	Cardinality	Description
n/a			

Table 5.2.33.3.1-3: Data structures supported by the GET Response Body on this resource

Data type	P	Cardinality	Response codes	Description
GroupIdentifiers	M	1	200 OK	Upon success, a response body containing the group identifier(s) shall be returned.
NOTE: In addition, common data structures as listed in table 5.5-1 are supported.				

5.3 Notifications

5.3.1 General

This clause describes the resources to provide Notification to NF service consumers which have explicitly or implicitly subscribed to UDR to be notified when data is changed.

5.3.2 Data Change Notification

The POST method shall be used for Data Change Notifications.

- For explicit subscriptions (i.e., subscriptions created under the "subs-to-notif" collection resource, the URI shall be as provided during the subscription procedure;

- For implicit subscriptions, the UDR shall use either a locally configured callback URI of the UDM, or the UDR may retrieve from NRF a default notification URI stored by UDM in NRF during the NF registration procedure.

- The UDM should register in NRF a default notification URI globally at NF Profile level, rather than registering individual default notification URIs per NF Service.

  NOTE 1: If the UDM registers different default notification URIs per NF Service, then how UDR determines which resources are monitored per UDM service is implementation dependent.

The "callback" clause of the OpenAPI specification found in Annex A.2 associated to the POST method of the "subs-to-notif" resource shall be used as the notification request for both explicit and implicit subscriptions.

  NOTE 2: For explicit subscriptions, a stateless UDM/NF provides a URI which identifies a set of UDMs/NFs; a stateful UDM/NF provides a specific URI identifying a node.

Resource URI: {callbackReference}

Support of URI query parameters is 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				

Support of request data structures is specified in table 5.3.2-2 and of response data structures and response codes is 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
DataChangeNotify	M	1	

Table5.3.2-3: 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: In addition common data structures as listed in table 5.5-1 are supported.				

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 service based interface protocol.

Table 5.4.1-1: Nudr Subscriber Data specific Data Types

Data type	Clause defined	Description
AuthenticationSubscription	5.4.2.2	A UE's authentication data
OperatorSpecificDataContainer	5.4.2.3	Container for operator specific data
SmfRegList	5.4.2.4	The list of all the SMF registrations of a UE
SubscriptionDataSubscriptions	5.4.2.5	A subscription to notifications.
DataChangeNotify	5.4.2.6	Container for data which have changed and notification was requested when changed.
IdentityData	5.4.2.7	Identity data corresponds to the provided ueId
ProvisionedDataSets	5.4.2.8	
SorData	5.4.2.9	Used to store the status of the latest SOR data update
UpuData	5.4.2.9A	Used to store the status of the latest UPU data update
AmfSubscriptionInfo	5.4.2.19	Information the UDR stores and retrieves related to active subscriptions at the AMF(s)
EeProfileData	5.4.2.20	Event Exposure Profile Data
ContextDataSets	5.4.2.22	
AuthMethod	5.4.3.3	
DataSetName	5.4.3.4	
ContextDataSetName	5.4.3.6	
SqnScheme	5.4.3.7	
Sign	5.4.3.8	
UeUpdateStatus	5.4.3.9	

Table 5.4.1-2 specifies data types re-used by the Nudr 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 service based interface.

Table 5.4.1-2: Nudr re-used Data Types

`	Reference	Comments
AccessAndMobilitySubscriptionData	3GPP TS 29.503 [6]	Access and Mobility Subscription Data
SmfSelectionSubscriptionData	3GPP TS 29.503 [6]	SMF Selection Subscription Data
SessionManagementSubscriptionData	3GPP TS 29.503 [6]	Session Management Subscription Data
Amf3GppAccessRegistration	3GPP TS 29.503 [6]	
AmfNon3GppAccessRegistration	3GPP TS 29.503 [6]	The complete set of information relevant to the AMF where the UE has registered via non 3GPP access.
SmfRegistration	3GPP TS 29.503 [6]	
SmsfRegistration	3GPP TS 29.503 [6]	
SmsManagementSubscriptionData	3GPP TS 29.503 [6]	
SupportedFeatures	3GPP TS 29.571 [7]	Used to negotiate the applicability of the optional features
ProblemDetails	3GPP TS 29.571 [7]	Detailed information about the status code.
PpData	3GPP TS 29.503 [6]	
SmsSubscriptionData	3GPP TS 29.503 [6]	
PatchItem	3GPP TS 29.571 [7]	Data structure used for JSON patch.
SdmSubscription	3GPP TS 29.503 [6]	
EeSubscription	3GPP TS 29.503 [6]	
Uri	3GPP TS 29.571 [7]	
TraceData	3GPP TS 29.571 [7]	
Dnn	3GPP TS 29.571 [7]	Data Network Name
Snssai	3GPP TS 29.571 [7]	Single NSSAI
VarUeId	3GPP TS 29.571 [7]	String represents the SUPI or GPSI.
NfInstanceId	3GPP TS 29.571 [7]	
NotifyItem	3GPP TS 29.571 [7]	Common data type used for data change notification.
OdbData	3GPP TS 29.571 [7]	Operator Determined Barring Data
EventType	3GPP TS 29.503 [6]	
ExtGroupId	3GPP TS 29.503 [6]	External Group Identifier
PduSessionId	3GPP TS 29.571 [7]	
DateTime	3GPP TS 29.571 [7]	
UpuMac	3GPP TS 29.509 [15]	

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: AuthenticationSubscription

Table 5.4.2.2-1: Definition of type AuthenticationSubscription

Attribute name	Data type	P	Cardinality	Description
authenticationMethod	AuthMethod	M	1	String containing the Authentication Method ("5G_AKA" , "EAP_AKA_PRIME, "EAP_TLS"...)."
encPermanentKey	string	C	0..1	The encrypted value (hexstring) of the permanent authentication key (K) (see 3GPP TS 33.501 [9]). It shall be present if the authentication method is "5G_AKA" or "EAP_AKA_PRIME".
protectionParameterId	string	C	0..1	Identifies a parameter set securely stored in the UDM(ARPF) that can be used to decrypt the encPermanentKey (and encOpcKey or encTopcKey if present). Values and their meaning are HPLMN-operator specific. It shall be present if the authentication method is "5G_AKA" or "EAP_AKA_PRIME".
sequenceNumber	SequenceNumber	C	0..1	String containing the SQN as defined in 3GPP TS 33.102 [10]. It shall be present if the authentication method is "5G_AKA" or "EAP_AKA_PRIME".
authenticationManagementField	string	C	0..1	Hexstring containing the Authentication management field as defined in 3GPP TS 33.501 [9]. It shall be present if the authentication method is "5G_AKA" or "EAP_AKA_PRIME". Pattern: '^[A-Fa-f0-9]{4}$'
algorithmId	string	C	0..1	Identifies a parameter set securely stored in the UDM(ARPF) that provides details on the algorithm and parameters used to generate authentication vectors. Values and their meaning are HPLMN-operator specific. It shall be present if the authentication method is "5G_AKA" or "EAP_AKA_PRIME".
encOpcKey	string	O	0..1	Hexstring of the encrypted OPC Key. Presence indicates that the provided value (decrypted) shall be used instead of the value derived from OP and K.
encTopcKey	string	O	0..1	Hexstring of the encrypted TOPC Key. Presence indicates that the provided value (decrypted) shall be used instead of the value derived from TOP and K.

5.4.2.3 Type: OperatorSpecificDataContainer

Table 5.4.2.3-1: Definition of type OperatorSpecificDataContainer

Attribute name	Data type	P	Cardinality	Description
dataType	string	M	1	This attribute value must be a string equals to the name of the actual data type of the "Value" attribute.
value	any type	M	1	

NOTE: In this release of the specification, if dataType attribute takes value "object", it is not possible to indicate the schema of the JSON object included in the "value" attribute, and therefore the usage of the "object" type is not recommended.

5.4.2.4 Type: SmfRegList

Table 5.4.2.4-1: Definition of type SmfRegList

Attribute name	Data type	P	Cardinality	Description
N/A	array(SmfRegistration)	M	1..N	Each member of the array is an individual SMF registration of the UE.

5.4.2.5 Type: SubscriptionDataSubscriptions

Table 5.4.2.5-1: Definition of type SubscriptionDataSubscriptions

Attribute name	Data type	P	Cardinality	Description
callbackReference	Uri	M	1	Identifies the UDM/NF pool or an individual UDM/NF which should be used by the UDR to send notification to UDM/NF.
originalCallbackReference	Uri	O	0..1	URI provided by the NF service consumer to the UDM to receive notifications from the UDR. If "sdmSubscription" is present, this attribute may be absent (and, if it is also present, it shall take the same value as the attribute "callbackReference" of "sdmSubscription").
ueId	VarUeId	O	0..1	User identity if subscription to notifications is related to a user.
monitoredResourceUris	array(Uri)	M	1..N	A set of URIs that identify the resources for which a modification of the representation triggers a notification. The URI shall take the form of either an absolute URI or an absolute-path reference as defined in IETF RFC 3986 [16].
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.
sdmSubscription	SdmSubscription	O	0..1	Data related to the subscription to changes on SDM data, created by the NF Service Consumer of the UDM (see 3GPP TS 29.503 [6], clause 6.1.6.2.3).
subscriptionId	string	C	0..1	This attribute shall be present if the SubscriptionDataSubscriptions is sent in a GET response message or in a Notification. It identifies the individual SubscriptionDataSubscriptions stored in the UDR and may be used by the UDM to e.g. delete or update a SubscriptionDataSubscriptions. Read Only: true
supportedFeatures	SupportedFeatures	O	0..1	Used to negotiate the applicability of optional features

5.4.2.6 Type: DataChangeNotify

Table 5.4.2.6-1: Definition of type DataChangeNotify

Attribute name	Data type	P	Cardinality	Description
originalCallbackReference	array(Uri)	C	1..N	Original Callback Reference shall be present if a UDM has subscribed to notification due to an request from an NF. If present it is Identifying the NF to which the UDM has to provide the notification of data change.
ueId	VarUeId	C	0..1	User identity if subscription to notifications is related to a user that may be provided e.g. in case OriginalCallback URI is not included.
notifyItems	array(NotifyItem)	O	1..N	This attribute contains the changes which have been applied on the resources.
sdmSubscription	SdmSubscription	O	0..1	Data related to the subscription to changes on SDM data created by the NF Service Consumer of the UDM (see 3GPP TS 29.503 [6], clause 6.1.6.2.3). This attribute should be omitted if the SubscriptionsDataSubscriptions array is included.
subscriptionDataSubscriptions	array(SubscriptionDataSubscriptions)	O	1..N	This attribute contain the Subscription Data Subscriptions (subs-to-notify) associated with the Notification.

5.4.2.7 Type: IdentityData

Table 5.4.2.7-1: Definition of type IdentityData

Attribute name	Data type	P	Cardinality	Description
supiList	array(Supi)	C	1..N	Supi list corresponding to the provided gpsi ueId.
gpsiList	array(Gpsi)	C	1..N	Gpsi list corresponding to the provided supi ueId. Zero or one MSISDN and/or zero or more external Identifiers may be included.

5.4.2.8 Type: ProvisionedDataSets

Table 5.4.2.8-1: ProvisionedDataSets

Attribute name	Data type	P	Cardinality	Description
amData	AccessAndMobilitySubscriptionData	O	0..1	Access and Mobility Subscription Data
smfSelData	SmfSelectionSubscriptionData	O	0..1	SMF Selection Subscription Data
smsSubsData	SmsSubscriptionData	O	0..1	SMS Subscription Data
smData	array(SessionManagementSubscriptionData)	O	1..N	Session Management Subscription Data
traceData	TraceData	O	0..1	Trace Data. The Null value indicates that trace is not active.
smsMngData	SmsManagementSubscriptionData	O	0..1	SMS Management Subscription Data

5.4.2.9 Type: SorData

Table 5.4.2.9-1: Definition of type SorData

Attribute name	Data type	P	Cardinality	Description
provisioningTime	DateTime	M	1	Point in time of provisioning
ueUpdateStatus	UeUpdateStatus	M	1	status of the SOR data update procedure
sorXmacIue	SorMac	C	0..1	String containing SoR-XMAC-IUE as specified in 3GPP TS 33.501 [9]. Shall be present if UeUpdateStatus is "WAITING_FOR_ACK" or "ACK_RECEIVED".
sorMacIue	SorMac	C	0..1	String containing SoR-MAC-IUE as specified in 3GPP TS 33.501 [9]. Shall be preset if UeUpdateStatus is "ACK_RECEIVED".

5.4.2.9A Type: UpuData

Table 5.4.2.9A-1: Definition of type UpuData

Attribute name	Data type	P	Cardinality	Description
provisioningTime	DateTime	M	1	Point in time of provisioning
ueUpdateStatus	UeUpdateStatus	M	1	status of the UPU data update procedure
upuXmacIue	UpuMac	C	0..1	String containing UPU-XMAC-IUE as specified in 3GPP TS 33.501 [9]. Shall be present if UeUpdateStatus is "WAITING_FOR_ACK" or "ACK_RECEIVED".
upuMacIue	UpuMac	C	0..1	String containing UPU-MAC-IUE as specified in 3GPP TS 33.501 [9]. Shall be preset if UeUpdateStatus is "ACK_RECEIVED".

5.4.2.10 Void

5.4.2.11 Void

5.4.2.12 Void

5.4.2.13 Void

5.4.2.14 Void

5.4.2.15 Void

5.4.2.16 Void

5.4.2.17 Void

5.4.2.18 Void

5.4.2.19 Type: AmfSubscriptionInfo

Table 5.4.2.19-1: Definition of type AmfSubscriptionInfo

Attribute name	Data type	P	Cardinality	Description
amfInstanceId	NfInstanceId	M	1	InstanceId of the AMF to which the subscription was sent
subscriptionId	Uri	M	1	The Subscription Id allocated by the AMF as received by the UDM in the HTTP "Location" header of the Namf_EventExposure_Subscribe response
subsChangeNotifyCorrelationId	string	O	1	The Correlation Id allocated by the UDM and sent to the AMF for correlation of subscriptionId-change-notifications

5.4.2.20 Type: EeProfileData

Table 5.4.2.20-1: Definition of type EeProfileData

Attribute name	Data type	P	Cardinality	Description
restrictedEventTypes	array(EventType)	O	1..N	List of the event types that are restricted (if any) for the UE. The absence of this IE indicates that all event types are authorized for the UE.
supportedFeatures	SupportedFeatures	O	0..1	

5.4.2.21 Void

5.4.2.22 Type: ContextDataSets

Table 5.4.2.22-1: ContextDataSets

Attribute name	Data type	P	Cardinality	Description
amf3Gpp	Amf3GppAccessRegistration	O	0..1	AMF 3GPP Access registration
amfNon3Gpp	AmfNon3GppAccessRegistration	O	0..1	AMF Non 3GPP Access registration
sdmSubscriptions	array(SdmSubscription)	O	1..N	SDM-Subscriptions
eeSubscriptions	array(EeSubscription)	O	1..N	Event Exposure Subscriptions
smsf3GppAccess	SmsfRegistration	O	0..1	SMSF 3GPP Access registration
smsfNon3GppAccess	SmsfRegistration	O	0..1	SMSF Non 3GPP Access registration
subscriptionDataSubscriptions	array(SubscriptionDataSubscriptions)	O	1..N	This attribute contain the Subscription Data Subscriptions (subs-to-notify) associated with the Notification.

5.4.2.23 Type: SequenceNumber

Table 5.4.2.23-1: Definition of type SequenceNumber

Attribute name	Data type	P	Cardinality	Description
sqnScheme	SqnScheme	M	1	The scheme used to generate the sequence numbers, as described in 3GPP TS 33.102 [10], clause C.1.1.
sqn	string	C	0..1	A 48-bit hex string containing the SEQ part of SQN (most significant bits), as specified in 3GPP TS 33.102 [10], and where the IND part (least significant bits) is filled with 0's. When the sqnScheme is "TIME_BASED", the SEQ part (most significant bits) of this attribute contains the DIF value. This IE may be absent, if it does not exist in UDR (e.g. right after the subscriber is provisioned); otherwise, it shall be present. Pattern: '^[A-Fa-f0-9]{12}$'
lastIndexes	map(integer)	C	1..N	A map of integer values, where the key of the map is the type of node that is requesting the generation of an authentication vector in UDM, and the integer is the last used value of IND for the corresponding type of node. The types of nodes currently defined are: - "ausf" This IE may be absent, if it does not exist in UDR (e.g. right after the subscriber is provisioned); otherwise, it shall be present.
indLength	integer	O	1	Number of bits of the IND part of SQN. The length of the SEQ part is, therefore, (48 - indLength) bits. If not present, the default value is 5.
difSign	Sign	O	1	Sign of the DIF value. It is applicable when the sqnScheme is "TIME_BASED". If not present, the default value is "NEGATIVE".

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

5.4.3.3 Enumeration: AuthMethod

Table 5.4.3.3-1: Enumeration AuthMethod

Enumeration value	Description
"5G_AKA"	5G AKA
"EAP_AKA_PRIME"	EAP AKA'

5.4.3.4 Enumeration: DataSetName

Table 5.4.3.4-1: Enumeration DataSetName

Enumeration value	Description
"AM"	Access and Mobility Subscription Data
"SMF_SEL"	SMF Selection Subscription Data
"SMS_SUB"	SMS Subscription Data
"SM"	Session Management Subscription Data
"TRACE"	Trace Data
"SMS_MNG"	SMS Management Subscription Data

5.4.3.5 Void

5.4.3.6 Enumeration: ContextDataSetName

Table 5.4.3.6-1: Enumeration ContextDataSetName

Enumeration value	Description
"AMF_3GPP"	AMF 3GPP Access Registration
"AMF_NON_3GPP"	SMF Non 3GPP Access Registration
"SDM SUBSCRIPTIONS"	SDM Subscriptions
"EE_SUBSCRIPTIONS"	EE Subscriptions
"SMSF_3GPP"	SMSF 3GPP Access Registration
"SMSF_NON3GPP"	SMSF Non 3GPP Access Registration
"SUBS_TO_NOTIFY"	UDR Subscriptions

5.4.3.7 Enumeration: SqnScheme

Table 5.4.3.7-1: Enumeration SqnScheme

Enumeration value	Description
"GENERAL"	Scheme for generation of Sequence Numbers (partially time-based), as described in 3GPP TS 33.102 [10], clause C.1.1.1
"NON_TIME_BASED"	Scheme for generation of Sequence Numbers (non-time-based), as described in 3GPP TS 33.102 [10], clause C.1.1.2
"TIME_BASED"	Scheme for generation of Sequence Numbers (entirely time-based), as described in 3GPP TS 33.102 [10], clause C.1.1.3
NOTE: These schemes for Sequence Number generation are documented in an informative Annex in 3GPP TS 33.102 [10]; having these different schemes listed in this Enumeration type does not imply that UDM implementations are required to support all of them; the Sequence Number generation schemes that need to be supported by UDM is deployment-specific.	

5.4.3.8 Enumeration: Sign

Table 5.4.3.8-1: Enumeration Sign

Enumeration value	Description
"POSITIVE"	
"NEGATIVE"	

5.4.3.9 Enumeration: UeUpdateStatus

Table 5.4.3.9-1: Enumeration UeUpdateStatus

Enumeration value	Description
"NOT_SENT"	SOR data update has not been sent to the AMF e.g. because no AMF was registered at provisioning time
"SENT_NO_ACK_REQUIRED"	SOR data update has been sent to the AMF; Acknowledgement was not requested
"WAITING_FOR_ACK"	SOR data update has been sent to the AMF; Acknowledgement has been requested. In this state sorXmacIue shall be present.
"ACK_RECEIVED"	SOR data update has been acknowledged by the UE. In this state sorXmacIue and sorMacIue shall be present

5.4.4 Binary data

N/A

5.5 Error handling

Table 5.5-1 lists common response body data structures used within the Nudr-dr API

Table 5.5-1: Common Response Body Data Structures

Data type	P	Cardinality	Response codes	Description
ProblemDetails	O	0..1	4xx, 5xx responses	For unsuccessful status codes, the UDR may provide detailed information.
NOTE: In addition common data structures as defined in 3GPP TS 29.500 [8] are supported.				

The application layer error handling shall follow 3GPP TS 29.504 [2] 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 [2] 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 [8].

Annex A (normative): OpenAPI specification

A.1 General

This Annex specifies the formal definition of the Nudr_DataRepository service API for Subscription Data. It consists of OpenAPI 3.0.0 specifications, in YAML format.

This Annex takes precedence when being discrepant to other parts of the specification with respect to the encoding of information elements and methods within the API(s).

NOTE 1: 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 the public 3GPP file server in the following locations (see clause 5B of the 3GPP TR 21.900 [14] for further information):

- https://www.3gpp.org/ftp/Specs/archive/OpenAPI/<Release>/, and

- https://www.3gpp.org/ftp/Specs/<Plenary>/<Release>/OpenAPI/.

NOTE 2: To fetch the OpenAPI specification file after CT#83 plenary meeting for Release 15 in the above links <Plenary> must be replaced with the date the CT Plenary occurs, in the form of year-month (yyyy-mm), e.g. for CT#83 meeting <Plenary> must be replaced with value "2019-03" and <Release> must be replaced with value "Rel-15".

A.2 Nudr_DataRepository API for Subscription 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 "TS29505_Subscription_Data.yaml".

```
openapi: 3.0.0
info:
  version: '-'
  title: 'Unified Data Repository Service API file for subscription data'
  description: |
    Unified Data Repository Service (subscription data).
    The API version is defined in 3GPP TS 29.504.
    © 2019, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
    All rights reserved.

externalDocs:
  description: 3GPP TS 29.505 V15.6.0; 5G System; Usage of the Unified Data Repository Service for
subscription data; Stage 3
  url: 'http://www.3gpp.org/ftp/Specs/archive/29_series/29.505/'

paths:

  /subscription-data/{ueId}/authentication-data/authentication-subscription:
    get:
      summary: Retrieves the authentication subscription data of a UE
      operationId: QueryAuthSubsData
      tags:
        - Authentication Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
```

```
                  description: Supported Features
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
            responses:
              '200':
                description: Expected response to a valid request
                content:
                  application/json:
                    schema:
                      $ref: '#/components/schemas/AuthenticationSubscription'
              default:
                description: Unexpected error
                content:
                  application/problem+json:
                    schema:
                      $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        patch:
          summary: modify the authentication subscription data of a UE
          operationId: ModifyAuthenticationSubscription
          tags:
            - Authentication Subscription (Document)
          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: Expected response to a valid request
            '403':
              description: modification is rejected
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/authentication-data/authentication-status:
    put:
      summary: To store the Authentication Status data of a UE
      operationId: CreateAuthenticationStatus
      tags:
        - Authentication Status (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        content:
          application/json:
            schema:
              $ref: 'TS29503_Nudm_UEAU.yaml#/components/schemas/AuthEvent'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
```

```
                        $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

      get:
        summary: Retrieves the Authentication Status of a UE
        operationId: QueryAuthenticationStatus
        tags:
          - AuthEvent (Document)
        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
            style: form
            explode: false
          - name: supported-features
            description: Supported Features
            in: query
            schema:
               $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        responses:
          '200':
            description: Expected response to a valid request
            content:
              application/json:
                schema:
                  $ref: 'TS29503_Nudm_UEAU.yaml#/components/schemas/AuthEvent'
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/ue-update-confirmation-data/sor-data:
    put:
      summary: To store the SoR acknowledgement information of a UE
      operationId: CreateAuthenticationSoR
      tags:
        - Authentication SoR (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SorData'
      responses:
        '204':
          description: Expected response to a valid request
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    get:
      summary: Retrieves the SoR acknowledgement information of a UE
```

```
          operationId: QueryAuthSoR
          tags:
            - Authentication SoR (Document)
          parameters:
            - name: ueId
              in: path
              description: UE id
              required: true
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
            - name: supportedFeatures
              in: query
              description: Supported Features
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
          responses:
            '200':
              description: Expected response to a valid request
              content:
                application/json:
                  schema:
                    $ref: '#/components/schemas/SorData'
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/ue-update-confirmation-data/upu-data:
    put:
      summary: To store the UPU acknowledgement information of a UE
      operationId: CreateAuthenticationUPU
      tags:
        - Authentication UPU (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/UpuData'
      responses:
        '204':
          description: Expected response to a valid request
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    get:
      summary: Retrieves the UPU acknowledgement information of a UE
      operationId: QueryAuthUPU
      tags:
        - Authentication UPU (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supportedFeatures
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
```

```
          responses:
            '200':
              description: Expected response to a valid request
              content:
                application/json:
                  schema:
                    $ref: '#/components/schemas/UpuData'
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data:
    get:
      summary: Retrieve multiple provisioned data sets of a UE
      operationId: QueryProvisionedData
      tags:
        - Provisioned Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: dataset-names
          in: query
          description: List of dataset names
          style: form
          explode: false
          schema:
            $ref: '#/components/schemas/DatasetNames'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/ProvisionedDataSets'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'


  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/am-data:
    get:
      summary: Retrieves the access and mobility subscription data of a UE
      operationId: QueryAmData
      tags:
        - Access And Mobility Subscription Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: fields
          in: query
          description: attributes to be retrieved
          required: false
```

```
                schema:
                  type: array
                  items:
                    type: string
                  minItems: 1
                style: form
                explode: false
              - name: supported-features
                in: query
                description: Supported Features
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
              - name: If-None-Match
                in: header
                description: Validator for conditional requests, as described in RFC 7232, 3.2
                schema:
                  type: string
              - name: If-Modified-Since
                in: header
                description: Validator for conditional requests, as described in RFC 7232, 3.3
                schema:
                  type: string
            responses:
              '200':
                description: Expected response to a valid request
                content:
                  application/json:
                    schema:
                      $ref: '#/components/schemas/AccessAndMobilitySubscriptionData'
                headers:
                  Cache-Control:
                    description: Cache-Control containing max-age, as described in RFC 7234, 5.2
                    schema:
                      type: string
                  ETag:
                    description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                    schema:
                      type: string
                  Last-Modified:
                    description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                    schema:
                      type: string
              default:
                description: Unexpected error
                content:
                  application/problem+json:
                    schema:
                      $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/smf-selection-subscription-data:
    get:
      summary: Retrieves the SMF selection subscription data of a UE
      operationId: QuerySmfSelectData
      tags:
        - SMF Selection Subscription Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: fields
          in: query
          description: attributes to be retrieved
          required: false
          schema:
            type: array
            items:
              type: string
            minItems: 1
```

```
                style: form
                explode: false
              - name: supported-features
                in: query
                description: Supported Features
                schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
              - name: If-None-Match
                in: header
                description: Validator for conditional requests, as described in RFC 7232, 3.2
                schema:
                  type: string
              - name: If-Modified-Since
                in: header
                description: Validator for conditional requests, as described in RFC 7232, 3.3
                schema:
                  type: string
          responses:
            '200':
              description: Expected response to a valid request
              content:
                application/json:
                  schema:
                    $ref: '#/components/schemas/SmfSelectionSubscriptionData'
              headers:
                Cache-Control:
                  description: Cache-Control containing max-age, as described in RFC 7234, 5.2
                  schema:
                    type: string
                ETag:
                  description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                  schema:
                    type: string
                Last-Modified:
                  description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                  schema:
                    type: string
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sm-data:
    get:
      summary: Retrieves the Session Management subscription data of a UE
      operationId: QuerySmData
      tags:
        - Session Management Subscription Data
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: single-nssai
          in: query
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/VarSnssai'
          description: single NSSAI
          required: false
        - name: dnn
          in: query
          description: DNN
          required: false
          schema:
            $ref: '#/components/schemas/Dnn'
```

ETSI

```
            - name: fields
              in: query
              description: attributes to be retrieved
              required: false
              schema:
                type: array
                items:
                  type: string
                minItems: 1
              style: form
              explode: false
            - name: supported-features
              in: query
              description: Supported Features
              schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
            - name: If-None-Match
              in: header
              description: Validator for conditional requests, as described in RFC 7232, 3.2
              schema:
                type: string
            - name: If-Modified-Since
              in: header
              description: Validator for conditional requests, as described in RFC 7232, 3.3
              schema:
                type: string
          responses:
            '200':
              description: Expected response to a valid request
              content:
                application/json:
                  schema:
                    type: array
                    items:
                      $ref: '#/components/schemas/SessionManagementSubscriptionData'
                    minItems: 1
              headers:
                Cache-Control:
                  description: Cache-Control containing max-age, as described in RFC 7234, 5.2
                  schema:
                    type: string
                ETag:
                  description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                  schema:
                    type: string
                Last-Modified:
                  description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                  schema:
                    type: string
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/amf-3gpp-access:
    get:
      summary: Retrieves the AMF context data of a UE using 3gpp access
      operationId: QueryAmfContext3gpp
      tags:
        - AMF 3GPP Access Registration (Document)
      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
        style: form
        explode: false
      - name: supported-features
        in: query
        description: Supported Features
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    responses:
      '200':
        description: Expected response to a valid request
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/Amf3GppAccessRegistration'
      default:
        description: Unexpected error
        content:
          application/problem+json:
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  put:
    summary: To store the AMF context data of a UE using 3gpp access in the UDR
    operationId: CreateAmfContext3gpp
    tags:
      - AMF 3GPP Access Registration (Document)
    parameters:
      - name: ueId
        in: path
        description: UE id
        required: true
        schema:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
    requestBody:
      content:
        application/json:
          schema:
            $ref: '#/components/schemas/Amf3GppAccessRegistration'
    responses:
      '204':
        description: Upon success, an empty response body shall be returned
      default:
        description: Unexpected error
        content:
          application/problem+json:
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
  patch:
    summary: To modify the AMF context data of a UE using 3gpp access in the UDR
    operationId: AmfContext3gpp
    tags:
      - AMF 3GPP Access Registration (Document)
    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: Expected response to a valid request
      '403':
        description: modification is rejected
        content:
          application/problem+json:
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
      default:
        description: Unexpected error
```

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                content:
                  application/problem+json:
                    schema:
                      $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/amf-non-3gpp-access:
    get:
      summary: Retrieves the AMF context data of a UE using non-3gpp access
      operationId: QueryAmfContextNon3gpp
      tags:
        - AMF Non-3GPP Access Registration (Document)
      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
          style: form
          explode: false
        - name: supported-features
          in: query
          description: Supported Features
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/AmfNon3GppAccessRegistration'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    put:
      summary: To store the AMF context data of a UE using non-3gpp access in the UDR
      operationId: CreateAmfContextNon3gpp
      tags:
        - AMF Non-3GPP Access Registration (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/AmfNon3GppAccessRegistration'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    patch:
      summary: To modify the AMF context data of a UE using non 3gpp access in the UDR
      operationId: AmfContextNon3gpp
      tags:
        - AMF Non-3GPP Access Registration (Document)
```

```
      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: Expected response to a valid request
        '403':
          description: modification is rejected
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/smf-registrations:
    get:
      summary: Retrieves the SMF registration list of a UE
      operationId: QuerySmfRegList
      tags:
        - SMF Registrations (Collection)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SmfRegList'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/smf-registrations/{pduSessionId}:
    get:
      summary: Retrieves the individual SMF registration of a UE
      operationId: QuerySmfRegistration
      tags:
        - SMF Registration (Document)
      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: fields
                    in: query
                    description: attributes to be retrieved
                    required: false
                    schema:
                      type: array
                      items:
                        type: string
                      minItems: 1
                    style: form
                    explode: false
                  - name: supported-features
                    in: query
                    description: Supported Features
                    schema:
                      $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
              responses:
                '200':
                  description: Expected response to a valid request
                  content:
                    application/json:
                      schema:
                        $ref: '#/components/schemas/SmfRegistration'
                default:
                  description: Unexpected error
                  content:
                    application/problem+json:
                      schema:
                        $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
            put:
              summary: To create an individual SMF context data of a UE in the UDR
              operationId: CreateSmfContextNon3gpp
              tags:
                - SMF Registration (Document)
              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:
                content:
                  application/json:
                    schema:
                      $ref: '#/components/schemas/SmfRegistration'
              responses:
                '201':
                  description: Upon success, a response body containing a representation of the created
        Individual SmfRegistration resource shall be returned
                default:
                  description: Unexpected error
                  content:
                    application/problem+json:
                      schema:
                        $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
                  headers:
                    Location:
                      description: 'Contains the URI of the newly created resource, according to the
        structure: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/smf-
        registrations/{pduSessionId}'
                      required: true
                      schema:
                        type: string
            delete:
              summary: To remove an individual SMF context data of a UE the UDR
              operationId: DeleteSmfContext
              tags:
```

```
          - SMF Registration (Document)
      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.
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/operator-specific-data:
    get:
      summary: Retrieves the operator specific data of a UE
      operationId: QueryOperSpecData
      tags:
        - Operator-Specific Data Container (Document)
      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
          style: form
          explode: false
        - name: supported-features
          in: query
          description: Supported Features
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        - name: If-None-Match
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.2
          schema:
            type: string
        - name: If-Modified-Since
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.3
          schema:
            type: string
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                type: object
                additionalProperties:
                  $ref: '#/components/schemas/OperatorSpecificDataContainer'
          headers:
            Cache-Control:
              description: Cache-Control containing max-age, as described in RFC 7234, 5.2
              schema:
                type: string
            ETag:
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                description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                schema:
                  type: string
              Last-Modified:
                description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                schema:
                  type: string
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    patch:
      summary: To modify operator specific data of a UE
      operationId: ModifyOperSpecData
      tags:
        - Operator-Specific Data Container (Document)
      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: Expected response to a valid request
        '403':
          description: modification is rejected
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/smsf-3gpp-access:
    put:
      summary: Create the SMSF context data of a UE via 3GPP access
      operationId: CreateSmsfContext3gpp
      tags:
        - SMSF 3GPP Registration (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SmsfRegistration'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
```

```
        summary: To remove the SMSF context data of a UE via 3GPP access
        operationId: DeleteSmsfContext3gpp
        tags:
          - SMSF 3GPP Registration (Document)
        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
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
      get:
        summary: Retrieves the SMSF context data of a UE using 3gpp access
        operationId: QuerySmsfContext3gpp
        tags:
          - SMSF 3GPP Registration (Document)
        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
            style: form
            explode: false
          - name: supported-features
            in: query
            description: Supported Features
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        responses:
          '200':
            description: Expected response to a valid request
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/SmsfRegistration'
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/smsf-non-3gpp-access:
    put:
      summary: Create the SMSF context data of a UE via non-3GPP access
      operationId: CreateSmsfContextNon3gpp
      tags:
        - SMSF Non-3GPP Registration (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        content:
          application/json:
```

```
            schema:
              $ref: '#/components/schemas/SmsfRegistration'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: To remove the SMSF context data of a UE via non-3GPP access
      operationId: DeleteSmsfContextNon3gpp
      tags:
        - SMSF Non-3GPP Registration (Document)
      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
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    get:
      summary: Retrieves the SMSF context data of a UE using non-3gpp access
      operationId: QuerySmsfContextNon3gpp
      tags:
        - SMSF Non-3GPP Registration (Document)
      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
          style: form
          explode: false
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SmsfRegistration'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data:
    get:
      summary: Retrieves the SMS management subscription data of a UE
      operationId: QuerySmsMngData
```

```
      tags:
        - SMS Management Subscription Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        - name: If-None-Match
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.2
          schema:
            type: string
        - name: If-Modified-Since
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.3
          schema:
            type: string
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SmsManagementSubscriptionData'
          headers:
            Cache-Control:
              description: Cache-Control containing max-age, as described in RFC 7234, 5.2
              schema:
                type: string
            ETag:
              description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
              schema:
                type: string
            Last-Modified:
              description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
              schema:
                type: string
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-data:
    get:
      summary: Retrieves the SMS subscription data of a UE
      operationId: QuerySmsData
      tags:
        - SMS Subscription Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: supported-features
```

```
              in: query
              description: Supported Features
              schema:
                 $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
          - name: If-None-Match
            in: header
            description: Validator for conditional requests, as described in RFC 7232, 3.2
            schema:
              type: string
          - name: If-Modified-Since
            in: header
            description: Validator for conditional requests, as described in RFC 7232, 3.3
            schema:
              type: string
        responses:
          '200':
            description: Expected response to a valid request
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/SmsSubscriptionData'
            headers:
              Cache-Control:
                description: Cache-Control containing max-age, as described in RFC 7234, 5.2
                schema:
                  type: string
              ETag:
                description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                schema:
                  type: string
              Last-Modified:
                description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                schema:
                  type: string
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/pp-data:
    get:
      summary: Read the profile of a given UE
      operationId: GetppData
      tags:
      - Parameter Provision (Document)
      parameters:
        - name: ueId
          in: path
          description: pp data for a UE
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
             $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        - name: If-None-Match
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.2
          schema:
            type: string
        - name: If-Modified-Since
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.3
          schema:
            type: string
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/PpData'
          headers:
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            Cache-Control:
              description: Cache-Control containing max-age, as described in RFC 7234, 5.2
              schema:
                type: string
            ETag:
              description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
              schema:
                type: string
            Last-Modified:
              description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
              schema:
                type: string
        '403':
          description: Forbidden
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    patch:
      summary: modify the provisioned parameter data
      operationId: ModifyPpData
      tags:
        - ProvisionedParameterData (Document)
      parameters:
        - name: ueId
          in: path
          description: pp data for a UE
          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: Expected response to a valid request
        '403':
          description: modification is rejected
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/ee-subscriptions:
    get:
      summary: Retrieves the ee subscriptions of a UE
      operationId: Queryeesubscriptions
      tags:
        - Event Exposure Subscriptions (Collection)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
```

```
                        $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
              responses:
                '200':
                  description: Expected response to a valid request
                  content:
                    application/json:
                      schema:
                        type: array
                        items:
                          $ref: '#/components/schemas/EeSubscription'
                default:
                  description: Unexpected error
                  content:
                    application/problem+json:
                      schema:
                        $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        post:
          summary: Create individual EE subscription
          operationId: CreateEeSubscriptions
          tags:
            - Event Exposure Subscriptions (Collection)
          parameters:
            - name: ueId
              in: path
              description: UE ID
              required: true
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
          requestBody:
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/EeSubscription'
            required: true
          responses:
            '201':
              description: Expected response to a valid request
              content:
                application/json:
                  schema:
                    $ref: '#/components/schemas/EeSubscription'
              headers:
                Location:
                  description: 'Contains the URI of the newly created resource, according to the
structure: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/ee-
subscriptions/{subsId}'
                  required: true
                  schema:
                    type: string
            default:
              description: Unexpected error
              content:
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

    /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}:
      put:
        summary: Update an individual ee subscriptions of a UE
        operationId: UpdateEesubscriptions
        tags:
          - Event Exposure Subscription (Document)
        parameters:
          - name: ueId
            in: path
            required: true
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
          - name: subsId
            in: path
            required: true
            schema:
              type: string
        requestBody:
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/EeSubscription'
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        responses:
          '204':
            description: Upon success, an empty response body shall be returned
          '404':
            description: update of non-existing resource is rejected
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: Deletes a eeSubscription
      operationId: RemoveeeSubscriptions
      tags:
        - Event Exposure Subscription (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          description: Unique ID of the subscription to remove
          schema:
            type: string
      responses:
        '204':
          description: Expected response to a successful subscription removal

    patch:
      summary: Modify an individual ee subscription of a UE
      operationId: ModifyEesubscription
      tags:
        - Event Exposure Subscription (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json-patch+json:
            schema:
              type: array
              items:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
              minItems: 1
        required: true
      responses:
        '204':
          description: Successful response
        '403':
          $ref: 'TS29571_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29571_CommonData.yaml#/components/responses/404'
        default:
          description: Unexpected error

  /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}/amf-subscriptions:
    put:
      summary: Create AmfSubscriptions for an individual ee subscriptions of a UE
      operationId: Create AMF Subscriptions
      tags:
        - AMF Subscription Info (Document)
```

```
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/AmfSubscriptionInfo'
              minItems: 1
        required: true
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: Deletes AMF Subscription Info for an eeSubscription
      operationId: RemoveAmfSubscriptionsInfo
      tags:
        - Event AMF Subscription Info (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      responses:
        '204':
          description: Expected response to a successful subscription removal
    patch:
      summary: modify the AMF Subscription Info
      operationId: ModifyAmfSubscriptionInfo
      tags:
        - AmfSubscriptionInfo (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json-patch+json:
            schema:
              type: array
              items:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
        required: true
      responses:
        '204':
          description: Expected response to a valid request
        '403':
          description: modification is rejected
          content:
```

```
                application/problem+json:
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    get:
      summary: Retrieve AMF subscription Info
      operationId: GetAmfSubscriptionInfo
      tags:
        - Query AMF Subscription Info (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      responses:
        '200':
          description: OK
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/AmfSubscriptionInfo'
                minItems: 1
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/group-data/{ueGroupId}/ee-subscriptions:
    get:
      summary: Retrieves the ee subscriptions of a group of UEs or any UE
      operationId: QueryEeGroupSubscriptions
      tags:
        - Event Exposure Group Subscriptions (Collection)
      parameters:
        - name: ueGroupId
          in: path
          description: Group of UEs or any UE
          required: true
          schema:
            $ref: '#/components/schemas/VarUeGroupId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/EeSubscription'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    post:
      summary: Create individual EE subscription for a group of UEs or any UE
      operationId: CreateEeGroupSubscriptions
```

```
      tags:
        - Event Exposure Group Subscriptions (Collection)
      parameters:
        - name: ueGroupId
          in: path
          description: Group of UEs or any UE
          required: true
          schema:
              $ref: '#/components/schemas/VarUeGroupId'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/EeSubscription'
        required: true
      responses:
        '201':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/EeSubscription'
          headers:
            Location:
            description: 'Contains the URI of the newly created resource, according to the
structure: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/group-data/{ueGroupId}/ee-subscriptions
'
                required: true
                schema:
                  type: string
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/group-data/{ueGroupId}/ee-subscriptions/{subsId}:
    put:
      summary: Update an individual ee subscription of a group of UEs or any UE
      operationId: UpdateEeGroupSubscriptions
      tags:
        - Event Exposure Subscription (Document)
      parameters:
        - name: ueGroupId
          in: path
          required: true
          schema:
              $ref: '#/components/schemas/VarUeGroupId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/EeSubscription'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        '404':
          description: update of non-existing resource is rejected
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: Deletes a eeSubscription for a group of UEs or any UE
      operationId: RemoveEeGroupSubscriptions
      tags:
```

```
            - Event Exposure Subscription (Document)
        parameters:
          - name: ueGroupId
            in: path
            required: true
            schema:
                $ref: '#/components/schemas/VarUeGroupId'
          - name: subsId
            in: path
            required: true
            description: Unique ID of the subscription to remove
            schema:
              type: string
        responses:
          '204':
            description: Expected response to a successful subscription removal

      patch:
        summary: Modify an individual ee subscription for a group of a UEs
        operationId: ModifyEeGroupSubscription
        tags:
          - Event Exposure Subscription (Document)
        parameters:
          - name: ueGroupId
            in: path
            required: true
            schema:
                $ref: '#/components/schemas/VarUeGroupId'
          - name: subsId
            in: path
            required: true
            schema:
              type: string
        requestBody:
          content:
            application/json-patch+json:
              schema:
                type: array
                items:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
                minItems: 1
          required: true
        responses:
          '204':
            description: Successful response
          '403':
            $ref: 'TS29571_CommonData.yaml#/components/responses/403'
          '404':
            $ref: 'TS29571_CommonData.yaml#/components/responses/404'
          default:
            description: Unexpected error

  /subscription-data/{ueId}/ee-profile-data:
    get:
      summary: Retrieves the ee profile data of a UE
      operationId: QueryEEData
      tags:
        - Event Exposure Data (Document)
      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
          style: form
          explode: false
        - name: supportedFeatures
          in: query
          description: Supported Features
```

```
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        responses:
          '200':
            description: Expected response to a valid request
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/EeProfileData'
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'


  /subscription-data/{ueId}/context-data/sdm-subscriptions:
    get:
      summary: Retrieves the sdm subscriptions of a UE
      operationId: Querysdmsubscriptions
      tags:
        - SDM Subscriptions (Collection)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/SdmSubscription'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    post:
      summary: Create individual sdm subscription
      operationId: CreateSdmSubscriptions
      tags:
        - SDM Subscriptions (Collection)
      parameters:
        - name: ueId
          in: path
          description: UE ID
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SdmSubscription'
        required: true
      responses:
        '201':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SdmSubscription'
          headers:
            Location:
```

```
                    description: 'Contains the URI of the newly created resource, according to the
structure: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/{ueId}/context-data/sdm-
subscriptions/{subsId}'
                  required: true
                  schema:
                    type: string
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId}:
    put:
      summary: Update an individual sdm subscriptions of a UE
      operationId: Updatesdmsubscriptions
      tags:
        - SDM Subscription (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/SdmSubscription'
      responses:
        '204':
          description: Upon success, an empty response body shall be returned
        '404':
          description: update of non-existing resource is rejected
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: Deletes a sdmsubscriptions
      operationId: RemovesdmSubscriptions
      tags:
        - SDM Subscription (Document)
      parameters:
        - name: ueId
          in: path
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: subsId
          in: path
          required: true
          description: Unique ID of the subscription to remove
          schema:
            type: string
      responses:
        '204':
          description: Expected response to a successful subscription removal

    patch:
      summary: Modify an individual sdm subscription
      operationId: ModifysdmSubscription
      tags:
        - SDM Subscription (Document)
      parameters:
        - name: ueId
```

```
              in: path
              description: UE id
              required: true
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
            - name: subsId
              in: path
              required: true
              schema:
                type: string
      requestBody:
        content:
          application/json-patch+json:
            schema:
              type: array
              items:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
              minItems: 1
        required: true
      responses:
        '204':
          description: Successful response
        '403':
          $ref: 'TS29571_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29571_CommonData.yaml#/components/responses/404'
        default:
          description: Unexpected error

  /subscription-data/shared-data:
    get:
      summary: retrieve shared data
      operationId: GetSharedData
      tags:
        - Retrieval of shared data
      parameters:
        - name: shared-data-ids
          in: query
          description: List of shared data ids
          required: true
          style: form
          explode: false
          schema:
            $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SharedDataIds'
        - name: supportedFeatures
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SharedData'
                minItems: 1
        '400':
          $ref: 'TS29571_CommonData.yaml#/components/responses/400'
        '404':
          $ref: 'TS29571_CommonData.yaml#/components/responses/404'
        '500':
          $ref: 'TS29571_CommonData.yaml#/components/responses/500'
        '503':
          $ref: 'TS29571_CommonData.yaml#/components/responses/503'
        default:
          description: Unexpected error
  /subscription-data/subs-to-notify:
    post:
      summary: Subscription data subscriptions
      operationId: SubscriptionDataSubscriptions
      tags:
        - Subs To Nofify (Collection)
      requestBody:
        content:
          application/json:
```

```
              schema:
                $ref: '#/components/schemas/SubscriptionDataSubscriptions'
          required: true
      responses:
        '201':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/SubscriptionDataSubscriptions'
          headers:
            Location:
              description: 'Contains the URI of the newly created resource, according to the
structure: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/subs-to-notify/{subsId}'
              required: true
              schema:
                type: string
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
      callbacks:
        onDataChange:
          '{request.body#/callbackReference}':
            post:
              requestBody:
                required: true
                content:
                  application/json:
                    schema:
                      $ref: '#/components/schemas/DataChangeNotify'
              responses:
                '204':
                  description: Expected response to a valid request

    get:
      summary: Retrieves the list of subscriptions
      operationId: QuerySubsToNotify
      tags:
        - Subs To Nofify (Collection)
      parameters:
        - name: ue-id
          in: query
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/SubscriptionDataSubscriptions'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
    delete:
      summary: Deletes subscriptions identified by a given ue-id parameter
      operationId: RemoveMultipleSubscriptionDataSubscriptions
      tags:
        - Subs To Notify (Collection)
      parameters:
        - name: ue-id
          in: query
          required: true
```

```
              description: UE ID
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
          - name: nf-instance-id
            in: query
            required: false
            description: NF Instance ID
            schema:
              $ref: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
          - name: delete-all-nfs
            in: query
            required: false
            description: Flag to delete subscriptions from all NFs
            schema:
              type: boolean
          - name: implicit-unsubscribe-indication
            in: query
            required: false
            description: Implicit Unsubscribe Indication
            schema:
              type: boolean
        responses:
          '204':
            description: Expected response to a successful subscription removal

  /subscription-data/subs-to-notify/{subsId}:
    delete:
      summary: Deletes a subscriptionDataSubscriptions
      operationId: RemovesubscriptionDataSubscriptions
      tags:
        - Subs To Notify (Document)
      parameters:
        - name: subsId
          in: path
          required: true
          description: Unique ID of the subscription to remove
          schema:
            type: string
      responses:
        '204':
          description: Expected response to a successful subscription removal

    patch:
      summary: Modify an individual subscriptionDataSubscription
      operationId: ModifysubscriptionDataSubscription
      tags:
        - Subs To Notify (Document)
      parameters:
        - name: subsId
          in: path
          required: true
          schema:
            type: string
      requestBody:
        content:
          application/json-patch+json:
            schema:
              type: array
              items:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/PatchItem'
              minItems: 1
        required: true
      responses:
        '204':
          description: Successful response
        '403':
          $ref: 'TS29571_CommonData.yaml#/components/responses/403'
        '404':
          $ref: 'TS29571_CommonData.yaml#/components/responses/404'
        default:
          description: Unexpected error

  /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/trace-data:
    get:
      summary: Retrieves the trace configuration data of a UE
      operationId: QueryTraceData
      tags:
        - Trace Data (Document)
```

```
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: servingPlmnId
          in: path
          description: PLMN ID
          required: true
          schema:
            $ref: '#/components/schemas/VarPlmnId'
        - name: If-None-Match
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.2
          schema:
            type: string
        - name: If-Modified-Since
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.3
          schema:
            type: string
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
          headers:
            Cache-Control:
              description: Cache-Control containing max-age, as described in RFC 7234, 5.2
              schema:
                type: string
            ETag:
              description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
              schema:
                type: string
            Last-Modified:
              description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
              schema:
                type: string
        default:
          $ref: 'TS29571_CommonData.yaml#/components/responses/default'
  /subscription-data/{ueId}/identity-data:
    get:
      summary: Retrieve identity data by SUPI or GPSI
      operationId: GetIdentityData
      tags:
        - Query Identity Data by SUPI or GPSI (Document)
      parameters:
        - name: ueId
          in: path
          description: UE ID
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: If-None-Match
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.2
          schema:
            type: string
        - name: If-Modified-Since
          in: header
          description: Validator for conditional requests, as described in RFC 7232, 3.3
          schema:
            type: string
      responses:
        '200':
          description: OK
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/IdentityData'
          headers:
            Cache-Control:
```

```
                    description: Cache-Control containing max-age, as described in RFC 7234, 5.2
                      schema:
                        type: string
                  ETag:
                    description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3
                    schema:
                        type: string
                  Last-Modified:
                    description: Timestamp for last modification of the resource, as described in RFC
7232, 2.2
                    schema:
                        type: string
          default:
            description: Unexpected error
            content:
              application/problem+json:
                schema:
                  $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/operator-determined-barring-data:
    get:
      summary: Retrieve ODB Data data by SUPI or GPSI
      operationId: GetOdbData
      tags:
        - Query ODB Data by SUPI or GPSI (Document)
      parameters:
        - name: ueId
          in: path
          description: UE ID
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
      responses:
        '200':
          description: OK
          content:
            application/json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/OdbData'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/{ueId}/context-data:
    get:
      summary: Retrieve multiple context data sets of a UE
      operationId: QueryContextData
      tags:
        - Context Data (Document)
      parameters:
        - name: ueId
          in: path
          description: UE id
          required: true
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        - name: context-dataset-names
          in: query
          description: List of context dataset names
          style: form
          explode: false
          required: true
          schema:
            $ref: '#/components/schemas/ContextDatasetNames'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/ContextDataSets'
        default:
          description: Unexpected error
          content:
            application/problem+json:
```

```
                  schema:
                    $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

  /subscription-data/group-data/group-identifiers:
    get:
      summary: Mapping of Group Identifiers
      operationId: GetGroupIdentifiers
      tags:
        - Group Identifiers
      parameters:
        - name: ext-group-id
          in: query
          description: External Group Identifier
          required: false
          schema:
            $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/ExtGroupId'
        - name: int-group-id
          in: query
          description: Internal Group Identifier
          required: false
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        - name: supported-features
          in: query
          description: Supported Features
          schema:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      responses:
        '200':
          description: Expected response to a valid request
          content:
            application/json:
              schema:
                $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/GroupIdentifiers'

components:
  schemas:
    AuthenticationSubscription:
      type: object
      required:
        - authenticationMethod
      properties:
        authenticationMethod:
          $ref: '#/components/schemas/AuthMethod'
        encPermanentKey:
          type: string
        protectionParameterId:
          type: string
        sequenceNumber:
          $ref: '#/components/schemas/SequenceNumber'
        authenticationManagementField:
          type: string
          pattern: '^[A-Fa-f0-9]{4}$'
        algorithmId:
          type: string
        encOpcKey:
          type: string
        encTopcKey:
          type: string
    SequenceNumber:
      type: object
      properties:
        sqnScheme:
          $ref: '#/components/schemas/SqnScheme'
        sqn:
          type: string
          pattern: '^[A-Fa-f0-9]{12}$'
        lastIndexes:
          type: object
          additionalProperties:
            type: integer
            minimum: 0
        indLength:
          type: integer
          minimum: 0
        difSign:
          $ref: '#/components/schemas/Sign'
```

```
    SqnScheme:
      anyOf:
      - type: string
        enum:
          - GENERAL
          - NON_TIME_BASED
          - TIME_BASED
      - type: string
    Sign:
      type: string
      enum:
        - POSITIVE
        - NEGATIVE
    VarPlmnId:
      type: string
      pattern: '^[0-9]{5,6}$'
    DatasetNames:
      type: array
      items:
        $ref: '#/components/schemas/DataSetName'
      minItems: 1
      uniqueItems: true
    DataSetName:
      anyOf:
      - type: string
        enum:
        - AM
        - SMF_SEL
        - SMS_SUB
        - SM
        - TRACE
        - SMS_MNG
      - type: string
    ProvisionedDataSets:
      type: object
      properties:
        amData:
          $ref: '#/components/schemas/AccessAndMobilitySubscriptionData'
        smfSelData:
          $ref: '#/components/schemas/SmfSelectionSubscriptionData'
        smsSubsData:
          $ref: '#/components/schemas/SmsSubscriptionData'
        smData:
          type: array
          items:
            $ref: '#/components/schemas/SessionManagementSubscriptionData'
        traceData:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
        smsMngData:
          $ref: '#/components/schemas/SmsManagementSubscriptionData'
    AccessAndMobilitySubscriptionData:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/AccessAndMobilitySubscriptionData'
    SmfSelectionSubscriptionData:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmfSelectionSubscriptionData'
    VarSnssai:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    Dnn:
      $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    SessionManagementSubscriptionData:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SessionManagementSubscriptionData'
    Amf3GppAccessRegistration:
      $ref: 'TS29503_Nudm_UECM.yaml#/components/schemas/Amf3GppAccessRegistration'
    AmfNon3GppAccessRegistration:
      $ref: 'TS29503_Nudm_UECM.yaml#/components/schemas/AmfNon3GppAccessRegistration'
    SmfRegistration:
      $ref: 'TS29503_Nudm_UECM.yaml#/components/schemas/SmfRegistration'
    SmsfRegistration:
      $ref: 'TS29503_Nudm_UECM.yaml#/components/schemas/SmsfRegistration'
    SmsManagementSubscriptionData:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmsManagementSubscriptionData'
    SmsSubscriptionData:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SmsSubscriptionData'
    OperatorSpecificDataContainer:
      type: object
      required:
        - dataType
        - value
      properties:
```

```
          dataType:
            type: string
            enum:
              - string
              - integer
              - number
              - boolean
              - object
          value:
            oneOf:
              - type: string
              - type: integer
              - type: number
              - type: boolean
              - type: object
    AuthMethod:
      anyOf:
        - type: string
          enum:
            - 5G_AKA
            - EAP_AKA_PRIME
            - EAP_TLS
        - type: string
    PpData:
      $ref: 'TS29503_Nudm_PP.yaml#/components/schemas/PpData'
    EeSubscription:
      $ref: 'TS29503_Nudm_EE.yaml#/components/schemas/EeSubscription'
    VarUeGroupId:
      type: string
      pattern: '^(extgroupid-[^@]+@[^@]+|anyUE)$'
    SdmSubscription:
      $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SdmSubscription'
    SmfRegList:
      type: array
      items:
        $ref: '#/components/schemas/SmfRegistration'
    SubscriptionDataSubscriptions:
      type: object
      required:
        - monitoredResourceUris
        - callbackReference
      properties:
        ueId:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        callbackReference:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        originalCallbackReference:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        monitoredResourceUris:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        expiry:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        sdmSubscription:
          $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SdmSubscription'
        subscriptionId:
          type: string

        supported-features:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    DataChangeNotify:
      type: object
      properties:
        originalCallbackReference:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
          minItems: 1
        ueId:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
        notifyItems:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/NotifyItem'
          minItems: 1
        sdmSubscription:
          $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SdmSubscription'
```

```
      subscriptionDataSubscriptions:
        type: array
        items:
          $ref: '#/components/schemas/SubscriptionDataSubscriptions'

    IdentityData:
      type: object
      properties:
        supiList:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
          minItems: 1
        gpsiList:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
          minItems: 1
    SorData:
      type: object
      properties:
        provisioningTime:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        ueUpdateStatus:
          $ref: '#/components/schemas/UeUpdateStatus'
        sorXmacIue:
          $ref: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
        sorMacIue:
          $ref: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
      required:
        - provisioningTime
        - ueUpdateStatus

    UpuData:
      type: object
      properties:
        provisioningTime:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        ueUpdateStatus:
          $ref: '#/components/schemas/UeUpdateStatus'
        upuXmacIue:
          $ref: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuMac'
        upuMacIue:
          $ref: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuMac'
      required:
        - provisioningTime
        - ueUpdateStatus

    UeUpdateStatus:
      type: string
      enum:
        - NOT_SENT
        - SENT_NO_ACK_REQUIRED
        - WAITING_FOR_ACK
        - ACK_RECEIVED

    EeProfileData:
      type: object
      properties:
        restrictedEventTypes:
          type: array
          items:
            $ref: 'TS29503_Nudm_EE.yaml#/components/schemas/EventType'
        supportedFeatures:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    AmfSubscriptionInfo:
      type: object
      required:
        - amfInstanceId
        - subscriptionId
      properties:
        amfInstanceId:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
        subscriptionId:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        subsChangeNotifyCorrelationId:
          type: string
    ContextDatasetNames:
```

```
          type: array
          items:
            $ref: '#/components/schemas/ContextDataSetName'
          minItems: 1
          uniqueItems: true
      ContextDataSetName:
        anyOf:
        - type: string
          enum:
            - AMF_3GPP
            - AMF_NON_3GPP
            - SDM_SUBSCRIPTIONS
            - EE_SUBSCRIPTIONS
            - SMSF_3GPP
            - SMSF_NON_3GPP
            - SUBS_TO_NOTIFY
        - type: string
      ContextDataSets:
        type: object
        properties:
          amf3Gpp:
            $ref: '#/components/schemas/Amf3GppAccessRegistration'
          amfNon3Gpp:
            $ref: '#/components/schemas/AmfNon3GppAccessRegistration'
          sdmSubscriptions:
            type: array
            items:
              $ref: '#/components/schemas/SdmSubscription'
            minItems: 1
          eeSubscriptions:
            type: array
            items:
              $ref: '#/components/schemas/EeSubscription'
            minItems: 1
          smsf3GppAccess:
            $ref: '#/components/schemas/SmsfRegistration'
          smsfNon3GppAccess:
            $ref: '#/components/schemas/SmsfRegistration'
          subscriptionDataSubscriptions:
            type: array
            items:
              $ref: '#/components/schemas/SubscriptionDataSubscriptions'
            minItems: 1
```

Annex B (informative):
Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2018-01	CT4#82					TS skeleton of Usage of the Unified Data Repository service for Subscription Data	0.0.0
2018-01	CT4#82	C4-181397				Version after CT4#82 including agreed pCRs	0.1.0
2018-03	CT4#83	C4-182442				Version after CT4#83 including agreed pCRs	0.2.0
2018-04	CT4#84	C4-183523				Version after CT4#84 including agreed pCRs	0.3.0
2018-05	CT4#85	C4-184638				Version after CT4#85 including agreed pCRs	0.4.0
2018-06	CT#80	CP-181103				Presented for information and approval	1.0.0
2018-06	CT#80					Approved in CT#80.	15.0.0
2018-09	CT#81	CP-182058	0004	-	F	Path Segment Correction	15.1.0
2018-09	CT#81	CP-182058	0005	-	F	URI variables for the Resource OperatorSpecificData	15.1.0
2018-09	CT#81	CP-182058	0008	-	F	Formatting of query parameter	15.1.0
2018-09	CT#81	CP-182212	0009	2	B	PATCH method for ProvisionedParamenterData	15.1.0
2018-09	CT#81	CP-182058	0010	-	F	JSON structure in query and missing data type reference	15.1.0
2018-09	CT#81	CP-182058	0014	-	F	Description of Structured data types	15.1.0
2018-09	CT#81	CP-182058	0016	-	F	Implicit Subscriptions	15.1.0
2018-09	CT#81	CP-182058	0011	1	F	Align security and servers clause in openAPI	15.1.0
2018-09	CT#81	CP-182058	0013	1	F	VarUeId used in TS 29.505	15.1.0
2018-09	CT#81	CP-182058	0012	2	F	OpenAPI schema for SubscriptionData	15.1.0
2018-09	CT#81	CP-182058	0018	1	F	Supported Features Negotiation	15.1.0
2018-09	CT#81	CP-182041	0015	1	B	Nudr Id Translation	15.1.0
2018-09	CT#81	CP-182043	0001	2	B	Add support for 5G Trace to Nudr	15.1.0
2018-12	CT#82	CP-183016	0026	-	F	Corrections in Query Parameters	15.2.0
2018-12	CT#82	CP-183016	0030	-	F	29505 CR data change notification data type	15.2.0
2018-12	CT#82	CP-183016	0021	1	F	Pattern correction	15.2.0
2018-12	CT#82	CP-183016	0022	1	F	Session Management Subscription Data	15.2.0
2018-12	CT#82	CP-183016	0019	1	F	Shared Data	15.2.0
2018-12	CT#82	CP-183016	0029	1	F	29505 CR cardinality	15.2.0
2018-12	CT#82	CP-183016	0025	2	F	Clarification of contents of SUPI list	15.2.0
2018-12	CT#82	CP-183016	0032	-	F	Cache control and conditional request header addition	15.2.0
2018-12	CT#82	CP-183016	0024	3	F	Introduction of Barring of Roaming in 5GC	15.2.0
2018-12	CT#82	CP-183016	0037	1	F	Session Management Subscription Data	15.2.0
2018-12	CT#82	CP-183016	0039	1	F	Authorized Event Types	15.2.0
2018-12	CT#82	CP-183016	0040	1	F	Group Subscriptions	15.2.0
2018-12	CT#82	CP-183016	0041	1	F	Location header in 201 response	15.2.0
2018-12	CT#82	CP-183016	0038	2	F	Active AmfSubscriptions storage	15.2.0
2018-12	CT#82	CP-183016	0036	2	F	lifetime of subscription	15.2.0
2018-12	CT#82	CP-183158	0028	3	F	Definition of Authentication Data for steering of roaming	15.2.0
2018-12	CT#82	CP-183159	0027	4	F	Definition of Authentication Status	15.2.0
2018-12	CT#82	CP-183160	0020	5	F	Definition of Authentication data	15.2.0
2018-12	CT#82	CP-183187	0023	3	F	Get multiple datasets for ProvisionedData	15.2.0
2018-12	CT#82	CP-183249	0042	-	F	Corrections on openAPI	15.2.0
2019-03	CT#83	CP-190179	0043		F	CR 0019r1 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0044		F	CR 0020r5 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0045		F	CR 0021r1 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0046		F	CR 0023r3 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0047		F	CR 0038r2 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0048		F	CR 0039r1 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0049		F	CR 0040r1 was not correctly implemented	15.3.0
2019-03	CT#83	CP-190179	0050		F	Correction of annex B	15.3.0
2019-03	CT#83	CP-190179	0052	2	F	Clarification on use of PUT	15.3.0
2019-03	CT#83	CP-190179	0054		F	Missing Headlines	15.3.0
2019-03	CT#83	CP-190179	0055	2	F	Sequence Number	15.3.0
2019-03	CT#83	CP-190179	0056	1	F	Retrieval of multiple context data sets	15.3.0
2019-03	CT#83	CP-190179	0057	3	F	UDR Subscriptions	15.3.0
2019-03	CT#83	CP-190179	0058	1	F	Data Set Names in URI Query Parameters	15.3.0
2019-03	CT#83	CP-190179	0060	2	F	AuthenticationSubscription correction	15.3.0
2019-03	CT#83	CP-190179	0061	2	F	SOR data update status	15.3.0
2019-03	CT#83	CP-190168	0062	1	F	3GPP TS 29.505 API version update	15.3.0
2019-06	CT#84	CP-191032	0065		F	CR 0049 was not correctly implemented	15.4.0
2019-06	CT#84	CP-191032	0066		F	CR 0050 was not correctly implemented	15.4.0
2019-06	CT#84	CP-191032	0067		F	CR 0054 was not correctly implemented	15.4.0

2019-06	CT#84	CP-191032	0068		F	CR 0056r1 was not correctly implemented	15.4.0
2019-06	CT#84	CP-191032	0070		F	Update of the SubsToNotify	15.4.0
2019-06	CT#84	CP-191032	0071		F	Update of the EESubscription	15.4.0
2019-06	CT#84	CP-191032	0064	1	F	Update Individual Subscription	15.4.0
2019-06	CT#84	CP-191032	0072	1	F	missing enties of data type summary table	15.4.0
2019-06	CT#84	CP-191032	0073	1	F	correction on operationId	15.4.0
2019-06	CT#84	CP-191032	0074	1	F	404 error response	15.4.0
2019-06	CT#84	CP-191032	0076	1	F	Correct the GET Request Body of AmfNon3GppAccessRegistration resource	15.4.0
2019-06	CT#84	CP-191032	0077	1	F	Default Notification URI	15.4.0
2019-06	CT#84	CP-191032	0081	1	F	OdbData Correction	15.4.0
2019-06	CT#84	CP-191032	0086	2	F	Storage of OpenAPI specification files	15.4.0
2019-06	CT#84	CP-191032	0075	3	F	CR 0062r1 was not correctly implemented	15.4.0
2019-06	CT#84	CP-191032	0079	2	F	Subscriptions Deletion	15.4.0
2019-06	CT#84	CP-191032	0087		F	PduSessionId	15.4.0
2019-06	CT#84	CP-191032	0063	2	F	UE Parameter Update (UPU)	15.4.0
2019-06	CT#84	CP-191032	0078	2	F	Group Identifier Translation	15.4.0
2019-06	CT#84	CP-191032	0080	2	F	Authentication Subscription	15.4.0
2019-06	CT#84	CP-191032	0069	2	F	CR 0062r1 was not correctly implemented	15.4.0
2019-06	CT#84	CP-191032	0088	1	F	Protection Parameter ID	15.4.0
2019-06	CT#84	CP-191032	0089	1	F	Copyright Note in YAML file	15.4.0
2019-06	CT#84	CP-191032	0083	6	F	SubscriptionDataSubscriptions identification	15.4.0
2019-09	CT#85	CP-192105	0091	-	F	Extra parameter in OpenAPI specification	15.5.0
2019-09	CT#85	CP-192228	0093	1	F	Definition of OperatorSpecificDataContainer	15.5.0
2019-09	CT#85	CP-192105	0102	-	F	Error in UpuData	15.5.0
2019-09	CT#85	CP-192105	0092	1	F	Cardinality of SUPI in IdentityData	15.5.0
2019-09	CT#85	CP-192105	0097	1	F	Storage of Authentication Subscription Data	15.5.0
2019-09	CT#85	CP-192119	0103	-	F	3GPP TS 29.505 externalDoc correction	15.5.0
2019-12	CT#86	CP-193029	0107		F	Monitored Resource URI	15.6.0
2019-12	CT#86	CP-193029	0262		F	GroupIdentifier resource URI	15.6.0
2019-12	CT#86	CP-193132	0264		F	externalDocs correction	15.6.0

History

Document history		
V15.0.0	September 2018	Publication
V15.1.0	October 2018	Publication
V15.2.0	April 2019	Publication
V15.3.0	April 2019	Publication
V15.4.0	July 2019	Publication
V15.5.0	October 2019	Publication
V15.6.0	January 2020	Publication