ETSI TS 129 505 V15.2.0 (2019-04)

5G;
5G System;
Usage of the Unified Data Repository services for Subscription Data;
Stage 3
(3GPP TS 29.505 version 15.2.0 Release 15)

Reference
RTS/TSGC-0429505vf20

Keywords
5G

ETSI

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
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.
The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2019.
All rights reserved.

DECT™, **PLUGTESTS**™, **UMTS**™ and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE**™ are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.
GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights 2
Foreword 2
Modal verbs terminology 2
Foreword 7
1 Scope 8
2 References 8
3 Definitions and abbreviations 8
3.1 Definitions 8
3.2 Abbreviations 9
4 Overview 9
5 Usage of Nudr_DataRepository Service 9
5.1 Introduction 9
5.2 Resources 10
5.2.1 Overview 10
5.2.2 Resource: AuthenticationSubscription 16
5.2.2.1 Description 16
5.2.2.2 Resource Definition 16
5.2.2.3 Resource Standard Methods 16
5.2.2.3.1 GET 16
5.2.2.3.2 PATCH 17
5.2.3 Resource: AccessAndMobilitySubscriptionData 17
5.2.3.1 Description 17
5.2.3.2 Resource Definition 17
5.2.3.3 Resource Standard Methods 18
5.2.3.3.1 GET 18
5.2.4 Resource: SmfSelectionSubscriptionData 18
5.2.4.1 Description 18
5.2.4.2 Resource Definition 18
5.2.4.3 Resource Standard Methods 19
5.2.4.3.1 GET 19
5.2.5 Resource: SessionManagementSubscriptionData 19
5.2.5.1 Description 19
5.2.5.2 Resource Definition 19
5.2.5.3 Resource Standard Methods 20
5.2.5.3.1 GET 20
5.2.6 Resource: Amf3GppAccessRegistration 20
5.2.6.1 Description 20
5.2.6.2 Resource Definition 21
5.2.6.3 Resource Standard Methods 21
5.2.6.3.1 PUT 21
5.2.6.3.2 PATCH 21
5.2.6.3.3 GET 22
5.2.7 Resource: AmfNon3GppAccessRegistration 22
5.2.7.1 Description 22
5.2.7.2 Resource Definition 22
5.2.7.3 Resource Standard Methods 23
5.2.7.3.1 PUT 23
5.2.7.3.2 PATCH 23
5.2.7.3.3 GET 24
5.2.8 Resource: SmfRegistrations 24
5.2.8.1 Description 24
5.2.8.2 Resource Definition 24
5.2.8.3 Resource Standard Methods 25
5.2.8.3.1 GET 25

5.2.9 Resource: IndividualSmfRegistration 25
5.2.9.1 Description 25
5.2.9.2 Resource Definition 25
5.2.9.3 Resource Standard Methods 26
5.2.9.3.1 PUT 26
5.2.9.3.2 DELETE 26
5.2.9.3.3 GET 26
5.2.10 Resource: OperatorSpecificData 27
5.2.10.1 Description 27
5.2.10.2 Resource Definition 27
5.2.10.3 Resource Standard Methods 27
5.2.10.3.1 GET 27
5.2.10.3.2 PATCH 28
5.2.11 Resource: Smsf3GppAccessRegistration 29
5.2.11.1 Description 29
5.2.11.2 Resource Definition 29
5.2.11.3 Resource Standard Methods 29
5.2.11.3.1 PUT 29
5.2.11.3.2 DELETE 29
5.2.11.3.4 GET 30
5.2.12 Resource: SmsfNon3GppAccessRegistration 30
5.2.12.1 Description 30
5.2.12.2 Resource Definition 30
5.2.12.3 Resource Standard Methods 31
5.2.12.3.1 PUT 31
5.2.12.3.2 DELETE 31
5.2.12.3.4 GET 32
5.2.13 Resource: SMSManagementSubscriptionData 32
5.2.13.1 Description 32
5.2.13.2 Resource Definition 32
5.2.13.3 Resource Standard Methods 32
5.2.13.3.1 GET 32
5.2.14 Resource: ProvisionedParamenterData 33
5.2.14.1 Description 33
5.2.14.2 Resource Definition 33
5.2.14.3 Resource Standard Methods 33
5.2.14.3.1 GET 33
5.2.14.3.2 PATCH 34
5.2.15 Resource: SMSSubscriptionData 34
5.2.15.1 Description 34
5.2.15.2 Resource Definition 34
5.2.15.3 Resource Standard Methods 35
5.2.15.3.1 GET 35
5.2.16 Resource: SdmSubscriptions 35
5.2.16.1 Description 35
5.2.16.2 Resource Definition 35
5.2.16.3 Resource Standard Methods 36
5.2.16.3.1 GET 36
5.2.16.3.2 POST 36
5.2.17 Resource: IndividualSdmSubscription 37
5.2.17.1 Description 37
5.2.17.2 Resource Definition 37
5.2.17.3 Resource Standard Methods 37
5.2.17.3.1 PUT 37
5.2.17.3.2 DELETE 37
5.2.18 Resource: EeSubscriptions 38
5.2.18.1 Description 38
5.2.18.2 Resource Definition 38
5.2.18.3 Resource Standard Methods 38
5.2.18.3.1 GET 38
5.2.18.3.2 POST 39
5.2.19 Resource: IndividualEeSubscription 39

5.2.19.1 Description 39
5.2.19.2 Resource Definition 39
5.2.19.3 Resource Standard Methods 40
5.2.19.3.1 PUT 40
5.2.19.3.2 DELETE 40
5.2.20 Resource: SubscriptionDataSubscriptions 40
5.2.20.1 Description 40
5.2.20.2 Resource Definition 41
5.2.20.3 Resource Standard Methods 41
5.2.20.3.1 POST 41
5.2.21 Resource: IndividualSubscriptionDataSubscription 41
5.2.21.1 Description 41
5.2.21.2 Resource Definition 41
5.2.21.3 Resource Standard Methods 42
5.2.21.3.1 DELETE 42
5.2.22 Resource: TraceData 42
5.2.22.1 Description 42
5.2.22.2 Resource Definition 42
5.2.22.3 Resource Standard Methods 42
5.2.3.3.1 GET 42
5.2.23 Resource: IdentityData 43
5.2.23.1 Description 43
5.2.23.2 Resource Definition 43
5.2.23.3 Resource Standard Methods 43
5.2.23.3.1 GET 43
5.2.24 Resource: AuthenticationStatus 44
5.2.24.1 Description 44
5.2.24.2 Resource Definition 44
5.2.24.3.1 PUT 44
5.2.24.3.2 GET 44
5.2.25 Resource: AuthenticationSoR 45
5.2.25.1 Description 45
5.2.25.2 Resource Definition 45
5.2.25.3.1 PUT 45
5.2.25.3.2 GET 46
5.2.26 Resource: ProvisionedData 46
5.2.26.1 Description 46
5.2.26.2 Resource Definition 46
5.2.26.3 Resource Standard Methods 47
5.2.26.3.1 GET 47
5.2.27 Resource: OperatorDeterminedBarringData 47
5.2.27.1 Description 47
5.2.27.2 Resource Definition 47
5.2.27.3 Resource Standard Methods 47
5.2.27.3.1 GET 47
5.2.28 Resource: EeProfileData 48
5.2.28.1 Description 48
5.2.28.2 Resource Definition 48
5.2.28.3 Resource Standard Methods 48
5.2.28.3.1 GET 48
5.2.29 Resource: EeGroupSubscriptions 49
5.2.29.1 Description 49
5.2.29.2 Resource Definition 49
5.2.29.3 Resource Standard Methods 49
5.2.29.3.1 GET 49
5.2.29.3.2 POST 49
5.2.30 Resource: SharedData 50
5.2.30.1 Description 50
5.2.30.2 Resource Definition 50
5.2.30.3 Resource Standard Methods 50
5.2.30.3.1 GET 50
5.2.31 Resource: AmfSubscriptionInfo 51

5.2.31.1 Description 51
5.2.31.2 Resource Definition 51
5.2.31.3 Resource Standard Methods 51
5.2.31.3.1 PUT 51
5.2.31.3.2 DELETE 52
5.2.31.3.3 GET 52
5.2.31.3.4 PATCH 52
5.3 Notifications 53
5.3.1 General 53
5.3.2 Data Change Notification 53
5.4 Data Model 54
5.4.1 General 54
5.4.2 Structured data types 55
5.4.2.1 Introduction 55
5.4.2.2 Type: AuthenticationSubscription 56
5.4.2.3 Type: OperatorSpecificDataContainer 56
5.4.2.4 Type: SmfRegList 56
5.4.2.5 Type: SubscriptionDataSubscriptions 57
5.4.2.6 Type: DataChangeNotify 57
5.4.2.7 Type: IdentityData 57
5.4.2.8 Type: ProvisionedDataSets 58
5.4.2.9 Type: SorData 58
5.4.2.10 Type: PermanentKey 58
5.4.2.11 Type: Milenage 58
5.4.2.12 Type: Tuak 58
5.4.2.13 Type: Op 59
5.4.2.14 Type: Opc 59
5.4.2.15 Type: Top 59
5.4.2.16 Type: Topc 59
5.4.2.17 Type: Rotations 59
5.4.2.18 Type: Constants 60
5.4.2.19 Type: AmfSubscriptionInfo 60
5.4.2.20 Type: EeProfileData 60
5.4.3 Simple data types and enumerations 60
5.4.3.1 Introduction 60
5.4.3.2 Simple data types 60
5.4.3.3 Enumeration: AuthMethod 61
5.4.3.4 Enumeration: DataSetName 61
5.4.3.5 Enumeration: VectorAlgorithm 61
5.4.4 Binary data 61
5.5 Error handling 61
5.6 Feature negotiation 62

Annex A (normative): OpenAPI specification 63
A.1 General 63
A.2 Nudr_DataRepository API for Subscription Data 63

History 97

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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 ".

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 subclauses 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 subclauses.

5.2 Resources

5.2.1 Overview

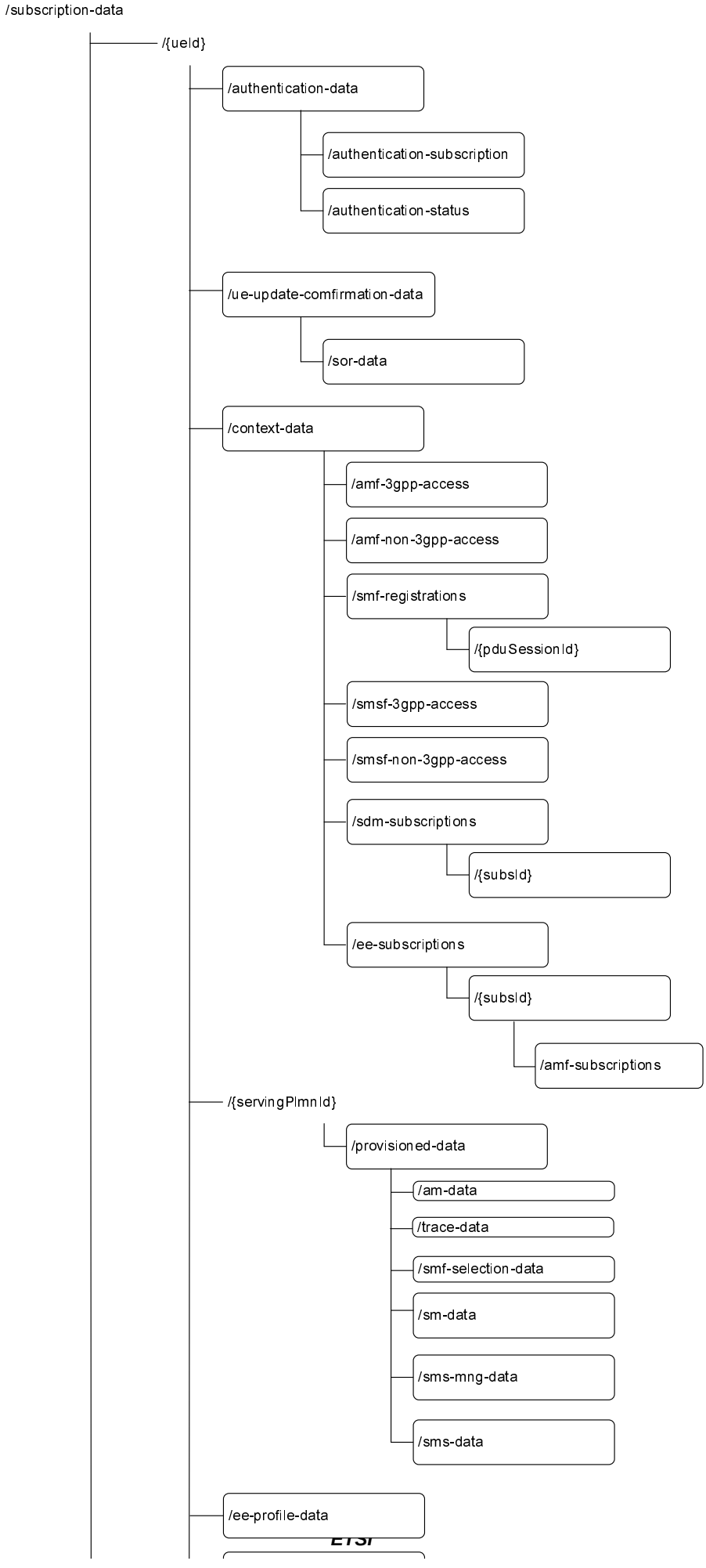
/subscription-data
/{ueId}
/authentication-data
/authentication-subscription
/authentication-status
/ue-update-comfirmation-data
/sor-data
/context-data
/amf-3gpp-access
/amf-non-3gpp-access
/smf-registrations
/{pduSessionId}
/smsf-3gpp-access
/smsf-non-3gpp-access
/sdm-subscriptions
/{subsId}
/ee-subscriptions
/{subsId}
/amf-subscriptions
/{servingPlmnId}
/provisioned-data
/am-data
/trace-data
/smf-selection-data
/sm-data
/sms-mng-data
/sms-data
/ee-profile-data

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

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
AuthenticationSubscriptionData	/subscription-data/{ueId}/authentication-data/authentication-subscription	GET	Retrieve a UE's authentication subscription data
		PATCH	Update a UE's authentication subscription data
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
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
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	Store an individual SDM subscription
		DELETE	Delete 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	Store/update an individual EE subscription
		DELETE	Delete 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	POST	Create a subscription, i.e. subscribe a node to receive notification for change of data

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
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	Store/update an individual EE subscription for a group of UEs
		DELETE	Delete 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

5.2.2 Resource: AuthenticationSubscription

5.2.2.1 Description

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

5.2.2.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.3.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.4.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.5.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.6.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.7.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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 5.2.72-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [2] subclause 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] subclause 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
AmfNon3GppAccessRegistration	M	1	The AMF registration for non 3GPP access is replaced with the received information.

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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.8.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/ 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 subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.9.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/{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 subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.10.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 6.1.1
ueId	Represents the Subscription Identifier SUPI or GPSI (see 3GPP TS 23.501 [4] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).-

5.2.11.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.12.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.13.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.14.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.15.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 Store resource archetype (see subclause C.1 of 3GPP TS 29.501 [7]).

5.2.16.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.17.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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 UDM)

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.
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.				

5.2.18 Resource: EeSubscriptions

5.2.18.1 Description

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

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

5.2.18.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.19.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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)

5.2.19.3 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.
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.				

5.2.20 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/v1/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] subclause 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
SubscriptionData Subscriptions	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.				

5.2.21 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/v1/subscription-data/subsc-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] subclause 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.				

5.2.22 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.22.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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/v1/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 subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.24.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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-.+|.+)$"

5.2.24.3.1 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.25.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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-.+|.+)$"

5.2.25.3.1 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] subclause 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.				

5.2.26 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.26.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.27.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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
OperatorDeterminedBarringData	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/v1/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 subclause 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] subclause 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.29.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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] subclause 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 5.2.18.3.1-2 and the response data structures and response codes specified in table 5.2.18.3.1-3.

Table 5.2.29.3.2-2: Data structures supported by the POST Request Body on this resource

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/v1/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] subclause 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 [x9]). 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 subclause C.1 of 3GPP TS 29.501 [7]).

5.2.31.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/v1/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] subclause 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.				

5.3 Notifications

5.3.1 General

This subclause 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 can retrieve from NRF a default notification URI stored by UDM in NRF during the NF registration procedure.

The "callback" section 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: 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 subclause 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	Section defined	Description
AuthenticationData	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	SOR data for later checking
PermanentKey	5.4.2.10	
Milenage	5.4.2.11	
Tuak	5.4.2.12	
Op	5.4.2.13	
Opc	5.4.2.14	
Top	5.4.2.15	
Topc	5.4.2.16	
Rotations	5.4.2.17	
Constants	5.4.2.18	
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

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

5.4.2 Structured data types

5.4.2.1 Introduction

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

5.4.2.2 Type: AuthenticationSubscription

Table 5.4.2.2-1: Definition of type AuthenticationData

Attribute name	Data type	P	Cardinality	Description
authenticationMethod	AuthMethod	M	1	string either "5G_AKA" or "EAP_AKA_PRIME"
permanentKey				
sequenceNumber				
authenticationManagementField	AuthenticationManagementField	C	0..1	String containing the Authentication management field as defined in 3GPP TS 33.501 [yy]. Shall be present if sharedAuthenticationSubscription is absent.
vectorAlgorithm	VectorAlgorithm	C	0..1	Specifies the algorithm used for the generation of authentication vectors. Shall be present if sharedAuthenticationSubscription is absent.
milenage	Milenage	C	0..1	Milenage specific attributes as defined in 3GPP TS 35.206 [11]. Shall be present if both sharedAuthenticationSubscription and tuak are absent.
tuak	Tuak	C	0..1	Milenage specific attributes as defined in 3GPP TS 35.231 [12]. Shall be present if both sharedAuthenticationSubscription and milenage are absent.
opc	Opc	O	0..1	A value derived from OP and K as defined in 3GPP TS 35.206 [11].
topc	Topc	O	0..1	A value derived from TOP and K as defined in 3GPP TS 35.231 [12].
sharedAuthenticationSubscriptionId	SharedDataId	O	0..1	If present, the authenticationManagementField, vectorAlgorithm, milenage, tuak, opc and topc may be absent.

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	

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.
ueId	string	O	0..1	User identity if subscription to notifications is related to a user.
monitoredResourceUri	array(Uri)	M	1..N	A set or URIs that identify the resources for which a modification of the representation triggers a notification.
expiry	DateTime	C	0..1	This IE shall be included in a subscription response, if, based on operator policy and taking into account the expiry time included in the request, the UDR needs to include an expiry time. This IE may be included in a subscription request. When present, this IE shall represent the time after which the subscription becomes invalid. The absence of this attribute in the subscription response means the subscription to be valid without an expiry time.
supportedFeatures	SupportedFeatures	M	1	Used to negotiate the applicability of the 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	string	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)		1..N	This attribute contains the changes which have been applied on the resources.

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..2	Supi list corresponding to the provided gpsi ueId. One IMSI and/or one NAI may be returned.
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 returned.

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
sorXmacIue	SorMac	M	1	String containing SoR-XMAC-IUE as specified in 3GPP TS 33.501 [9].

5.4.2.10 Type: PermanentKey

Table 5.4.2.10-1: Definition of type PermanentKey

Attribute name	Data type	P	Cardinality	Description
permanentKeyValue	PermanentKeyValue	M	1	The encrypted authentication key (K) defined in 3GPP TS 33.501 [yy]
encryptionKey	EncryptionKey	M	1	The reference to the key used to encrypt the permanent key.
encryptionAlgorithm	EncryptionAlgorithm	M	1	The reference to the algorithm used to encrypt the permanent key.

5.4.2.11 Type: Milenage

Table 5.4.2.11-1: Definition of type Milenage

Attribute name	Data type	P	Cardinality	Description
op	Op	O	0..1	The Operator Variant Algorithm Configuration Field as defined in 3GPP TS 35.206 [11].
rotations	Rotations	O	0..1	Defines the amounts by which intermediate variables are cyclically rotated as defined in 3GPP TS 35.206 [11].
constants	Constants	O	0..1	Constants, which are XORed onto intermediate variables as defined in 3GPP TS 35.206 [11].

5.4.2.12 Type: Tuak

Table 5.4.2.12-1: Definition of type Tuak

Attribute name	Data type	P	Cardinality	Description
top	Top	O	0..1	The Tuak Operator Variant Algorithm Configuration Field (TOP) as defined in 3GPP TS 35.231 [12].
keccakIterations	Integer	O	0..1	Number of keccak iterations in the range of 1 to 255. If absent, 1 shall be used as the default value.

5.4.2.13 Type: Op

Table 5.4.2.13-1: Definition of type Opc

Attribute name	Data type	P	Cardinality	Description
opcValue	OpValue	M	1	The encrypted OP as defined in 3GPP TS 35.206 [11]
encryptionKey	EncryptionKey	M	1	The reference to the key used to encrypt the OP.
encryptionAlgorithm	EncryptionAlgorithm	M	1	The reference to the algorithm used to encrypt the OP.

5.4.2.14 Type: Opc

Table 5.4.2.14-1: Definition of type Opc

Attribute name	Data type	P	Cardinality	Description
opcValue	OpcValue	M	1	The encrypted OPc as defined in 3GPP TS 35.206 [11]
encryptionKey	EncryptionKey	M	1	The reference to the key used to encrypt the OPc.
encryptionAlgorithm	EncryptionAlgorithm	M	1	The reference to the algorithm used to encrypt the OPc.

5.4.2.15 Type: Top

Table 5.4.2.15-1: Definition of type Topc

Attribute name	Data type	P	Cardinality	Description
topcValue	TopcValue	M	1	The encrypted TOP as defined in 3GPP TS 35.231 [12]
encryptionKey	EncryptionKey	M	1	The reference to the key used to encrypt the TOP.
encryptionAlgorithm	EncryptionAlgorithm	M	1	The reference to the algorithm used to encrypt the TOP.

5.4.2.16 Type: Topc

Table 5.4.2.16-1: Definition of type Topc

Attribute name	Data type	P	Cardinality	Description
topcValue	TopcValue	M	1	The encrypted TOPc as defined in 3GPP TS 35.231 [12]
encryptionKey	EncryptionKey	M	1	The reference to the key used to encrypt the TOPc.
encryptionAlgorithm	EncryptionAlgorithm	M	1	The reference to the algorithm used to encrypt the TOPc.

5.4.2.17 Type: Rotations

Table 5.4.2.17-1: Definition of type Rotations

Attribute name	Data type	P	Cardinality	Description
r1	RValue	M	1	The encrypted r1 as defined in 3GPP TS 35.206 [12].
r2	RValue	M	1	The encrypted r2 as defined in 3GPP TS 35.206 [12].
r3	RValue	M	1	The encrypted r3 as defined in 3GPP TS 35.206 [12].
r4	RValue	M	1	The encrypted r4 as defined in 3GPP TS 35.206 [12].
r5	RValue	M	1	The encrypted r5 as defined in 3GPP TS 35.206 [12].

5.4.2.18 Type: Constants

Table 5.4.2.18-1: Definition of type Constants

Attribute name	Data type	P	Cardinality	Description
c1	CValue	M	1	The encrypted c1 as defined in 3GPP TS 35.206 [12].
c2	CValue	M	1	The encrypted c2 as defined in 3GPP TS 35.206 [12].
c3	CValue	M	1	The encrypted c3 as defined in 3GPP TS 35.206 [12].
c4	CValue	M	1	The encrypted c4 as defined in 3GPP TS 35.206 [12].
c5	CValue	M	1	The encrypted c5 as defined in 3GPP TS 35.206 [12].

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

Attr21 ibute 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	

5.4.3 Simple data types and enumerations

5.4.3.1 Introduction

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

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
PermanentKeyValue	string	A hexstring of the encrypted authentication key (K) defined in 3GPP TS 33.501 [yy]. Pattern: '^[A-Fa-f0-9]+$'
SequenceNumber	string	A hexstring of the SQN as specified in 3GPP TS 33.102 [10]. Pattern: '^[A-Fa-f0-9]{12}$'
AuthenticationManagementField	string	A hexstring of the Authentication Management Field (AMF) as specified in 3GPP TS 33.102 [10]. Pattern: '^[A-Fa-f0-9]{4}$
OpcValue	string	A hexstring of the encrypted OPc as defined in 3GPP TS 35.206 [11]. Pattern: '^[A-Fa-f0-9]+$'
TopcValue	string	A hexstring of the encrypted TOPc as defined in 3GPP TS 35.231 [12]. Pattern: '^[A-Fa-f0-9]+$'
RValue	string	A hexstring of the encrypted R as defined in 3GPP TS 35.206 [12]. Pattern: '^[A-Fa-f0-9]+$'
CValue	string	A hexstring of the encrypted C as defined in 3GPP TS 35.206 [12]. Pattern: '^[A-Fa-f0-9]+$
EncryptionKey	integer	A reference to the key used to encrypt a value.
EncryptionAlgorithm	integer	A reference to the encryption algorithm used to encrypt a value.

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 Enumeration: VectorAlgorithm

Table 5.4.3.5-1: Enumeration VectorAlgorithm

Enumeration value	Description
"MILENAGE"	Milenage
"TUAK"	TUAK

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] subclause 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 subclause 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.

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: 'The API version is defined in 3GPP TS 29.504'

externalDocs:
  description: 3GPP TS 29.505 V15.2.0; 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: ModifyAuthentication
      tags:
        - Authentication Data (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}/{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
          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'
        - 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
          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:
          type: string
      - 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:
            type: integer
      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}/nsmf-pdusession/v1/sm-contexts/{smContextRef}/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:
            type: string
      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:
                $ref: '#/components/schemas/OperatorSpecificDataContainer'
          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'
    patch:
      summary: To modify operator specific data of a UE
      operationId: AmfContext3gpp
      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:
            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}/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: Stores 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'
      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 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

/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/v1/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: Stores 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
        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

/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}/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: Stores 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
      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


/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}/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

  /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

  /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: '#/components/schemas/OperatorDeterminedBarringData'
        default:
          description: Unexpected error
          content:
            application/problem+json:
              schema:
                $ref: 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'

components:
  schemas:
    AuthenticationSubscription:
      type: object
      required:
        - authenticationMethod
        - permanentKey
        - sequenceNumber
      properties:
        authenticationMethod:
          $ref: '#/components/schemas/AuthMethod'
        permanentKey:
          $ref: '#/components/schemas/PermanentKey'
        sequenceNumber:
          $ref: '#/components/schemas/SequenceNumber'

        authenticationManagementField:
          $ref: '#/components/schemas/AuthenticationManagementField'
        vectorAlgorithm:
          $ref: '#/components/schemas/VectorAlgorithm'
        milenage:
          $ref: '#/components/schemas/Milenage'
        tuak:
          $ref: '#/components/schemas/Tuak'
        opc:
          $ref: '#/components/schemas/Opc'
        topc:
          $ref: '#/components/schemas/Topc'
        sharedAuthenticationSubscriptionId:
          $ref: 'TS29503_Nudm_SDM.yaml#/components/schemas/SharedData'

    SharedAuthenticationSubscription:
      type: object
      required:
        - authenticationMethod
        - vectorAlgorithm
      properties:
        authenticationManagementField:
          $ref: '#/components/schemas/AuthenticationManagementField'
        vectorAlgorithm:
```

```
      $ref: '#/components/schemas/VectorAlgorithm'
    milenage:
      $ref: '#/components/schemas/Milenage'
    tuak:
      $ref: '#/components/schemas/Tuak'


PermanentKey:
  type: object
  required:
    - permanentKeyValue
    - encryptionKey
    - encryptionAlgorithm
  properties:
    permanentKeyValue:
      $ref: '#/components/schemas/PermanentKeyValue'
    encryptionKey:
      $ref: '#/components/schemas/EncryptionKey'
    encryptionAlgorithm:
      $ref: '#/components/schemas/EncryptionAlgorithm'


Milenage:
  type: object
  properties:
    op:
      $ref: '#/components/schemas/Op'
    rotations:
      $ref: '#/components/schemas/Rotations'
    constants:
      $ref: '#/components/schemas/Constants'

Tuak:
  type: object
  properties:
    top:
      $ref: '#/components/schemas/Top'
    keccakIterations:
      type: integer
      minimum: 1
      maximum: 255


Op:
  type: object
  required:
    - opValue
    - encryptionKey
    - encryptionAlgorithm
  properties:
    opValue:
      $ref: '#/components/schemas/OpValue'
    encryptionKey:
      $ref: '#/components/schemas/EncryptionKey'
    encryptionAlgorithm:
      $ref: '#/components/schemas/EncryptionAlgorithm'

Opc:
  type: object
  required:
    - opcValue
    - encryptionKey
    - encryptionAlgorithm
  properties:
    opcValue:
      $ref: '#/components/schemas/OpcValue'
    encryptionKey:
      $ref: '#/components/schemas/EncryptionKey'
    encryptionAlgorithm:
      $ref: '#/components/schemas/EncryptionAlgorithm'

Top:
  type: object
  required:
    - topValue
    - encryptionKey
    - encryptionAlgorithm
  properties:
```

```
      topValue:
        $ref: '#/components/schemas/TopValue'
      encryptionKey:
        $ref: '#/components/schemas/EncryptionKey'
      encryptionAlgorithm:
        $ref: '#/components/schemas/EncryptionAlgorithm'

  Topc:
    type: object
    required:
      - topcValue
      - encryptionKey
      - encryptionAlgorithm
    properties:
      topcValue:
        $ref: '#/components/schemas/TopcValue'
      encryptionKey:
        $ref: '#/components/schemas/EncryptionKey'
      encryptionAlgorithm:
        $ref: '#/components/schemas/EncryptionAlgorithm'

  Rotations:
    type: object
    required:
      - r1
      - r2
      - r3
      - r4
      - r5
    properties:
      r1:
        $ref: '#/components/schemas/RValue'
      r2:
        $ref: '#/components/schemas/RValue'
      r3:
        $ref: '#/components/schemas/RValue'
      r4:
        $ref: '#/components/schemas/RValue'
      r5:
        $ref: '#/components/schemas/RValue'

  Constants:
    type: object
    required:
      - c1
      - c2
      - c3
      - c4
      - c5
    properties:
      c1:
        $ref: '#/components/schemas/CValue'
      c2:
        $ref: '#/components/schemas/CValue'
      c3:
        $ref: '#/components/schemas/CValue'
      c4:
        $ref: '#/components/schemas/CValue'
      c5:
        $ref: '#/components/schemas/CValue'

  PermanentKeyValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  SequenceNumber:
    type: string
    pattern: '^[A-Fa-f0-9]{12}$'
  AuthenticationManagementField:
    type: string
    pattern: '^[A-Fa-f0-9]{4}$'
  OpValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  OpcValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  TopValue:
    type: string
```

```
    pattern: '^[A-Fa-f0-9]+$'
  TopcValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  RValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  CValue:
    type: string
    pattern: '^[A-Fa-f0-9]+$'
  EncryptionKey:
    type: integer
  EncryptionAlgorithm:
    type: integer
  VectorAlgorithm:
    type: string
    enum:
      - MILENAGE
      - TUAK
  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
      properties:
        StringTypeElements:
          type: object
          additionalProperties:
            type: string
        IntegerTypeElements:
          type: object
          additionalProperties:
            type: integer
        NumberTypeElements:
          type: object
          additionalProperties:
            type: number
        BooleanTypeElements:
          type: object
          additionalProperties:
            type: boolean
    AuthMethod:
      type: string
      enum:
        - 5G_AKA
        - EAP_AKA_PRIME
    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:
        - ueId
        - callbackReference
        - originalCallbackReference
        - supported-features
      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'
        monitoredResourceUri:
          type: array
          items:
            $ref: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        expiry:
          $ref: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        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
    IdentityData:
      type: object
      properties:
        supiList:
```

```
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Supi'
      minItems: 1
      maxItems: 2
    gpsiList:
      type: array
      items:
        $ref: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      minItems: 1
SorData:
  type: object
  properties:
    sorXmacIue:
      $ref: 'TS29509_Nausf_SoRProtections.yaml#/components/schemas/SorMac'
  required:
    - sorXmacIue
OperatorDeterminedBarringData:
  $ref: 'TS29571_CommonData.yaml#/components/schemas/OdbData'
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
```

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 section 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-183018	0026	-	F	Corrections in Query Parameters	15.2.0
2018-12	CT#82	CP-183018	0030	-	F	29505 CR data change notification data type	15.2.0
2018-12	CT#82	CP-183018	0021	1	F	Pattern correction	15.2.0
2018-12	CT#82	CP-183018	0022	1	F	Session Management Subscription Data	15.2.0
2018-12	CT#82	CP-183018	0019	1	F	Shared Data	15.2.0
2018-12	CT#82	CP-183018	0029	1	F	29505 CR cardinality	15.2.0
2018-12	CT#82	CP-183018	0025	2	F	Clarification of contents of SUPI list	15.2.0
2018-12	CT#82	CP-183018	0032	-	F	Cache control and conditional request header addition	15.2.0
2018-12	CT#82	CP-183018	0024	3	F	Introduction of Barring of Roaming in 5GC	15.2.0
2018-12	CT#82	CP-183018	0037	1	F	Session Management Subscription Data	15.2.0
2018-12	CT#82	CP-183018	0039	1	F	Authorized Event Types	15.2.0
2018-12	CT#82	CP-183018	0040	1	F	Group Subscriptions	15.2.0
2018-12	CT#82	CP-183018	0041	1	F	Location header in 201 response	15.2.0
2018-12	CT#82	CP-183018	0038	2	F	Active AmfSubscriptions storage	15.2.0
2018-12	CT#82	CP-183018	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

History

Document history		
V15.0.0	September 2018	Publication
V15.1.0	October 2018	Publication
V15.2.0	April 2019	Publication