



**5G;
5G System;
Usage of the Unified Data Repository
Service for Policy Data, Application Data and
Structured Data for Exposure;
Stage 3
(3GPP TS 29.519 version 15.6.0 Release 15)**



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Foreword

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1 Scope

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

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

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

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

3 Definitions and abbreviations

3.1 Definitions

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

3.2 Abbreviations

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

AM	Access and Mobility Management
BDT	Background Data Transfer
DNAI	DN Access Identifier
DNN	Data Network Name
GPSI	Generic Public Subscription Identifier
JSON	JavaScript Object Notation
NEF	Network Exposure Function
NR	New Radio
NRF	Network Repository Function
PCF	Policy Control Function
PFD	Packet Flow Description
SM	Session Management
S-NSSAI	Single Network Slice Selection Assistance Information
SUPI	Subscription Permanent Identifier
UDR	Unified Data Repository
UPSI	UE Policy Section Identifier

4 Overview

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

5 Usage of Nudr_DataRepository Service API for Policy Data

5.1 Introduction

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

5.2 Resources

5.2.1 Overview

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

5.2.2 Resource Structure

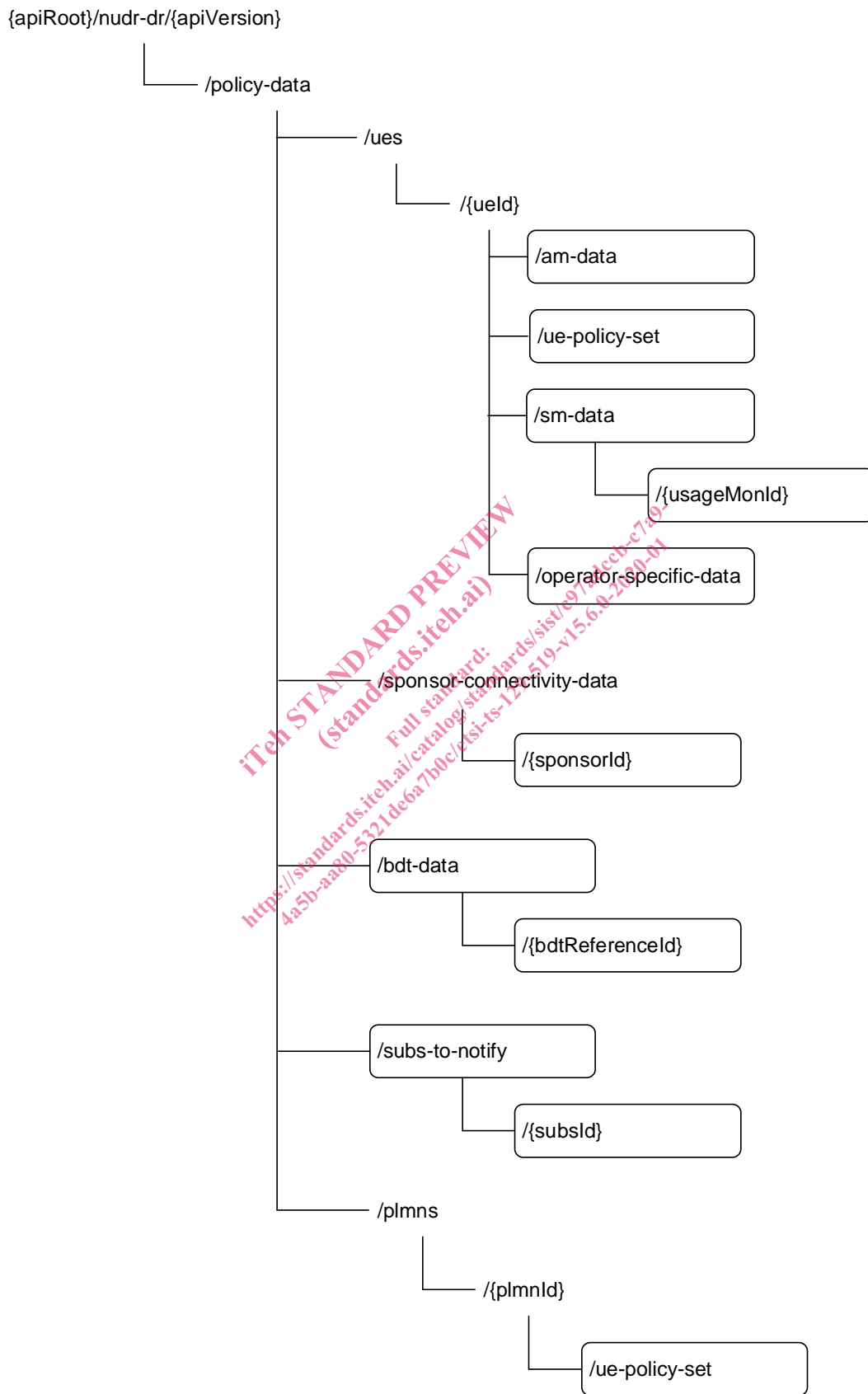


Figure 5.2.2-1: Resource URI structure of the Nudr_DataRepository API for policy data

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

Table 5.2.2-1: Resources and methods overview

Resource name	Resource URI	HTTP method or custom operation	Description
AccessAndMobilityPolicyData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/ues/{ueId}/am-data	GET	Retrieves the access and mobility policy data for a subscriber.
UEPolicySet	{apiRoot}/nudr-dr/{apiVersion}/policy-data/ues/{ueId}/ue-policy-set	GET	Retrieves the UE policy set data for a subscriber.
		PUT	Create or modify the UE policy set data for a subscriber.
		PATCH	Modify the UE policy set data for a subscriber.
SessionManagementPolicyData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/ues/{ueId}/sm-data	GET	Retrieves the session management policy data for a subscriber.
UsageMonitoringInformation	{apiRoot}/nudr-dr/{apiVersion}/policy-data/ues/{ueId}/sm-data/{usageMonId}	GET	Retrieve a usage monitoring resource.
		PUT	Create a usage monitoring resource.
		DELETE	Delete a usage monitoring resource.
OperatorSpecificData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/ues/{ueId}/operator-specific-data	GET	Retrieve the operator specific policy data of an UE
		PATCH	Modify the operator specific policy data of an UE.
		PUT	Modify the operator specific policy data of an UE.
SponsorConnectivityData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/sponsor-connectivity-data/{sponsorId}	GET	Retrieves the sponsored connectivity information for a given sponsorId.
BdtData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/bdt-data	GET	Retrieves the BDT data collection.
IndividualBdtData	{apiRoot}/nudr-dr/{apiVersion}/policy-data/bdt-data/{bdtReferenceId}	GET	Retrieves the BDT data information associated with a BDT reference Id.
		PUT	Creates an BDT data resource associated with an BDT reference Id.
		DELETE	Deletes an BDT data resource associated with an BDT reference Id.
PolicyDataSubscriptions	{apiRoot}/nudr-dr/{apiVersion}/policy-data/subs-to-notify	POST	Create a subscription to receive notification of policy data changes.
IndividualPolicyDataSubscription	{apiRoot}/nudr-dr/{apiVersion}/policy-data/subs-to-notify/{subId}	PUT	Modify a subscription to receive notification of policy data changes.
		DELETE	Delete the subscription identified by {subId}.
PlmnUePolicySet	{apiRoot}/nudr-dr/{apiVersion}/policy-data/plmns/{plmnId}/ue-policy-set	GET	Retrieve the UE policy set data for a H-PLMN.

5.2.3 Resource: AccessAndMobilityPolicyData

5.2.3.1 Description

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

5.2.3.2 Resource definition

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

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

Table 5.2.3.2-1: Resource URI variables for this resource

Name	Definition
apiRoot	See 3GPP TS 29.504 [6] subclause 6.1.1
apiVersion	See 3GPP TS 29.504 [6] subclause 6.1.1.
ueId	Represents the Subscription Identifier SUPI or GPSI, see the data type VarUeId as defined in 3GPP TS 29.571 [7].

5.2.3.3 Resource Standard Methods

5.2.3.3.1 GET

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

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

Name	Data type	P	Cardinality	Description
n/a				

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

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

Data type	P	Cardinality	Description
n/a			

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

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

5.2.4 Resource: UEPolicySet

5.2.4.1 Description

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

5.2.4.2 Resource definition

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

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