

Oracle® Communications

Cloud Native Unified Data Repository REST Specification Document



Release 1.6
F30627-01
May 2020

ORACLE®

F30627-01

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1

Introduction

This document provides information about the REST specifications for Cloud Native Unified Data Repository.

Overview

The 5G Unified Data Repository (UDR) is one of the main key component of the 5G Service Based Architecture. UDR is a converged repository, which is used by 5G Network Functions to store the data.

Oracle 5G UDR is implemented as cloud native function and it offers a unified database for storing application, subscription, authentication, service authorization, policy data, session binding and Application state information. It exposes a HTTP2 based RESTful API for NF's and provisioning clients to access the stored data.

Oracle's 5G UDR:

- Leverages a common Oracle Communications Cloud Native Framework
- Is compliant to 3GPP Release 15 specification UDM
- Is compliant to 3GPP v29.519 v16.2 (backward compatible with v15.3.0, by configuration) specification for PCF
- Has tiered architecture providing separation between the connectivity, business logic and data layers
- Uses Oracle MySQL Cluster CGE backend database provides through DB Tier.
- Registers with NRF in the 5G network, so the other NFs in the network can discover UDR through NRF.

As per 3GPP, UDR supports following functionality:

- Storage and retrieval of subscription data by the UDM.
- Storage and retrieval of policy data by the PCF.
- Storage and retrieval of structured data for exposure.
- Storage and retrieval of SLF information, consumed by NRF.
- Application data (including Packet Flow Descriptions (PFDs) for application detection, AF request information for multiple UEs), by the NEF.
- Subscription and Notification feature.

Oracle's 5G UDR provides Unstructured Data Storage Function (UDSF) functionality. This functionality:

- Supports storage and retrieval of unstructured data by any 5G NF. The specifications of UDSF are presently not defined by 3GPP completely.
- This functionality is part of Oracle's 5G UDR solution.

Oracle's 5G UDR provides 5G SLF functionality. This functionality:

- Supports Nudr-groupid-map service as defined by 3GPP
- Complaint with 3GPP Release 16 for APIs to be consumed by 5G NRF
- Supports REST/JSON based provisioning APIs for SLF data

Acronyms

The following table provides information about the acronyms used in the document.

Field	Description
5G-AN	5G Access Network
5GC	5G Core Network
5G-GUTI	5G Globally Unique Temporary Identifier
5GS	5G System
AMF	Access and Mobility Management Function
AUSF	Authentication Server Function
NEF	Network Exposure Function
NF	Network Function
NRF	Network Repository Function
NSI ID	Network Slice Instance Identifier
NSSAI	Network Slice Selection Assistance Information
NSSF	Network Slice Selection Function
NSSP	Network Slice Selection Policy
PCF	Policy Control Function
REST	Representational State Transfer
SEPP	Security Edge Protection Proxy
SLF	Subscriber Location Function
SMF	Session Management Function
UDM	Unified Data Management
UDR	Unified Data Repository
UDSF	Unstructured Data Storage Function

Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view and register for Oracle Communications training:

<http://education.oracle.com/communication>

To obtain contact phone numbers of countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

My Oracle Support

My Oracle Support is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <http://www.oracle.com/us/support/contact/index.html>. When calling, make the selections in the sequence shown below on the Support telephone menu:

- For Technical issues such as creating a new Service Request (SR), select 1
- For Non-technical issues such as registration or assistance with MOS, select 2
- For Hardware, Networking and Solaris Operating System Support, select 3

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

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REST Specifications

In this chapter, you will learn about UDR REST Specifications.

Operations Supported for PCF

This section provides information about the operations supported for PCF.

 Note:

All APIs supported are as per TS29.500 v16.2.

Resource Name: `AccessAndMobilityPolicyData`

HTTP Method: GET

Base URI: `{apiRoot}/nudr-dr/{version}/policy-data/ues/{ueId}/am-data`

Sample Request URL: `https://10.75.212.116:31873/nudr-dr/v2/policy-data/ues/msisd-7777777779/am-data`

Possible Error Codes:

- **400:** "Invalid URI sent from client"
- **404:** "Subscriber does not exist"
- **404:** "Data field does not exist"
- **400:** "Unknown key, the key provided in the request is invalid"

Resource Name: `SessionManagementPolicyData`

HTTP Method: GET, PATCH

Base URI: `{apiRoot}/nudr-dr/{version}/policy-data/ues/{ueId}/sm-data`

Operation Type	Sample REST URL	Possible Error Codes
GET	Different samples of GET - Complete SM data GET: https://10.75.212.116:31873/nudr-dr/v2/policy-data/ues/msisdn-777777779/sm-data - Using query parameters https://10.75.212.116:31873/nudr-dr/v2/policy-data/ues/msisdn-777777779/sm-data?dnn=dnn1&snssai={"sst":11,"sd":"abc123"}&fields=umData https://10.75.212.116:31873/nudr-dr/v2/policy-data/ues/msisdn-777777779/sm-data?dnn=dnn1&fields=umData,smpolicySnssaiData https://10.75.212.116:31873/nudr-dr/v2/policy-data/ues/msisdn-777777779/sm-data?snssai={"sst":11,"sd":"abc123"}&fields=smpolicySnssaiData	400: "Invalid URI sent from client" 404: "Subscriber does not exist" 400: "Unknown key, the key provided in the request is invalid" 404: "Requested data not found" 400: "Invalid query parameters supplied"
PATCH	Base URI: {apiRoot}/nudr-dr/{version}/policy-data/ues/{ueId}/sm-data Sample REST URL: See https://localhost:9443/nudr-dr/v2/policy-data/ues/msisdn-1111111111/sm-data Payload: See PATCH-SessionManagementPolicyData	400: "Blob syntax error with corresponding error details" 400: "Invalid URI sent from client" 404: "Subscriber does not exist" 400: "Unknown key, the key provided in the request is invalid" 404: Data field does not exist.

Resource Name: UEPolicySet

HTTP Method: PUT, GET, PATCH

Base URI: [{apiRoot}/nudr-dr/{version}/policy-data/ues/{ueId}/ue-policy-set](#)

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://localhost:9443/nudr-dr/v2/policy-data/ues/msisdn-1111111111/ue-policy-set Payload: See PUT-UEPolicySet	400: "Blob syntax error with corresponding error details" 400: "Invalid URI sent from client" 404: "Subscriber does not exist" 400: "Unknown key, the key provided in the request is invalid"
GET	https://localhost:9443/nudr-dr/v2/policy-data/ues/msisdn-1111111111/ue-policy-set	400: "Invalid URI sent from client" 404: "Subscriber does not exist" 400: "Unknown key, the key provided in the request is invalid"
PATCH	https://localhost:9443/nudr-dr/v2/policy-data/ues/msisdn-1111111111/ue-policy-set Payload: See PATCH-UEPolicySet	400 : "Blob syntax error with corresponding error details" 400 : "Invalid URI sent from client" 404 : "Subscriber does not exist" 400 : "Unknown key, the key provided in the request is invalid" 404: "Data field does not exist"

Resource Name: UsageMonitoringInformation

HTTP Method: GET, PUT, DELETE

Base URI: {apiRoot}/nudr-dr/{version}/policy-data/ues/{ueId}/sm-data/{usageMonId}

Operation Type	Sample REST URL	Possible Error Codes
GET	https://localhost:9443/nudr-dr/v2/policy-data/ues/msisdn-1111111111/sm-data/mk1	400 : "Invalid URI sent from client" 404 : "Subscriber does not exist" 404 : "Data field does not exist " 400 : "Unknown key, the key provided in the request is invalid"

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://localhost:9443/nudr-dr/v2/ policy-data/ues/ msisdn-1111111111/sm-data/mk1 Payload: See PUT-UsageMonitoringInformation	• 400 : "Blob syntax error with corresponding error details" • 400 : "Invalid URI sent from client" • 404 : "Subscriber does not exist" • 400 : "Unknown key, the key provided in the request is invalid" • 404 : "Data field does not exist"
DELETE	https://localhost:9443/nudr-dr/v2/ policy-data/ues/ msisdn-1111111111/sm-data/mk1	• 400 : "Invalid URI sent from client" • 404 : "Subscriber does not exist" • 400 : "Unknown key, the key provided in the request is invalid" • 404 : "Data field does not exist"

Provisioning Operations for PCF Data

This section provides provisioning operations for PCF data.

Resource Name: ProfileData

HTTP Method: POST, PUT, DELETE, GET

BASE URI: {apiRoot}/nudr-dr-prov/{version}/profile-data/{ue-id}

Operation Type	Sample REST URL	Possible Error Codes
POST	This is for initial subscriber provisioning (Create subscriber), https://localhost:9443/nudr-dr-prov/v1/profile-data/ msisdn-1111111114 Payload : See POST-ProfileData You can add profile-data and policy-data in single rest request. For sample data blob, see POST-Profile Data and Policy Data You can add profile-data and SLF-data in single rest request. For sample data blob, see POST-Profile Data and SLF Data	• 400: "Invalid URI sent from client" • 400: "Unknown key, the key provided in the request is invalid" • 400: "Payload should contain key-value pair present in URI" • 400: "Invalid content request data supplied" • 400: "Occurrence constraint violation" • 400: "Duplicate key"

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://localhost:9443/nudr-dr-prov/v1/profile-data/nai-333333332 Payload: PUT-ProfileData	• 400: "Invalid URI sent from client" • 400: "Unknown key, the key provided in the request is invalid" • 400: "Payload should contain key-value pair present in URI " • 400: "Invalid content request data supplied" • 400: "Occurrence constraint violation"
DELETE	This operation deletes all data from all DATA tables (PCF, UDM etc.), https://localhost:9443/nudr-dr-prov/v1/profile-data/nai-333333332	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"
GET	https://localhost:9443/nudr-dr-prov/v1/profile-data/msisdn-111111113	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

PCF Data Provisioning APIs

Resource Name: `AccessAndMobilityPolicyData`

HTTP Method: PUT, GET, DELETE

Base URI: `{apiRoot}/nudr-dr-prov/{version}/policy-data/{ueld}/am-data`

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/am-data Payload: See PUT-AccessAndMobilityPolicyData	• 400: "Blob syntax error with corresponding error details" • 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Operation Type	Sample REST URL	Possible Error Codes
GET	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/am-data	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist" • 400: "Unknown key, the key provided in the request is invalid"
DELETE	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/am-data	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Resource Name: SessionManagementPolicyData

HTTP Method: PUT, GET, DELETE

Base URI: {apiRoot}/nudr-dr-prov/{version}/policy-data/{ueld}/sm-data

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/sm-data Payload: PUT-SessionManagementPolicyData	• 400: "Blob syntax error with corresponding error details" • 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"
GET	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/sm-data	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist" • 400: "Unknown key, the key provided in the request is invalid"
DELETE	https://10.75.212.116:31873/nudr-dr-prov/v2/policy-data/msisdn-777777779/sm-data	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Resource Name: UEPolicySet

HTTP Method: PUT, GET, DELETE

Base URI: *{apiRoot}/nudr-dr-prov/{version}/policy-data/{ueId}/ue-policy-set*

Operation Type	Sample REST URL	Possible Error Codes
PUT	https://localhost:9443/nudr-dr-prov/v2/policy-data/msisdn-1111111111/ue-policy-set Payload: See PUT-UEPolicySet - Provisioning	• 400: "Blob syntax error with corresponding error details" • 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"
GET	https://localhost:9443/nudr-dr-prov/v2/policy-data/msisdn-1111111111/ue-policy-set	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist" • 400: "Unknown key, the key provided in the request is invalid"
DELETE	https://localhost:9443/nudr-dr-prov/v2/policy-data/msisdn-1111111111/ue-policy-set	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Subscription Operations for PCF Data

In this section, you will learn about PCF Subscription Notification Formats.

Request	Notification Formats
PUT/PATCH	<pre>[{'ue-id': 'msisdn-7777777779', 'smPolicyData': {'umData': {'mk1': {'scopes': {'11-abc123': {'dnn': ['dnn1'], 'snssai': {'sd': 'abc123', 'sst': 11}}, '22-abc123': {'dnn': ['dnn2'], 'snssai': {'sd': 'abc123', 'sst': 22}}, '33-abc123': {'dnn': ['dnn1', 'dnn2'], 'snssai': {'sd': 'abc123', 'sst': 33}}}}, 'limitId': 'mk1', 'umLevel': 'SERVICE_LEVEL', 'resetTime': {'period': 'YEARLY'}, 'allowedUsage': {'duration': 9000, 'totalVolume': 8888, 'uplinkVolume': 6666, 'downlinkVolume': 7777}}}, 'umDataLimits': {'mk1': {'scopes': {'11-abc123': {'dnn': ['dnn1'], 'snssai': {'sd': 'abc123', 'sst': 11}}, '22-abc123': {'dnn': ['dnn2'], 'snssai': {'sd': 'abc123', 'sst': 22}}, '33-abc123': {'dnn': ['dnn1', 'dnn2'], 'snssai': {'sd': 'abc123', 'sst': 33}}}}, 'endDate': '2018-11-05T08:17:14.090Z', 'limitId': 'mk1', 'umLevel': 'SESSION_LEVEL', 'startDate': '2018-09-05T08:17:14.090Z', 'usageLimit': {'duration': 6000, 'totalVolume': 9000, 'uplinkVolume': 5000, 'downlinkVolume': 4000}, 'resetPeriod': '2018-01-02T08:17:14.090Z'}}, 'smPolicySnssaiData': {'11-abc123': {'snssai': {'sd': 'abc123', 'sst': 11}, 'smPolicyDnnData': {'dnn1': {'dnn': 'dnn1', 'gbrDl': '7788 Kbps', 'gbrUl': '5566 Kbps', 'online': True, 'chfInfo': {'primaryChfAddress': '1.1.1.1', 'secondaryChfAddress': '2.2.2.2'}, 'offline': True, 'praInfos': {'p1': {'praId': 'p1', 'ecgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, 'eutraCellId': '92FFdBE'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'eutraCellId': '8F868C4'}]}, 'ncgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, 'nrCellId': 'b2fB6fE9D'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'nrCellId': '5d1B4127b'}]}, 'trackingAreaList': [{'tac': '5CB6', 'plmnId': {'mcc': '976', 'mnc': '32'}}, {'tac': '5CB7', 'plmnId': {'mcc': '977',</pre>

Request	Notification Formats
	<pre> 'mnc': '33'}]}, 'globalRanNodeIdList': [{ 'plmnId': { 'mcc': '965', 'mnc': '235'}, 'n3IwfId': 'fFf0f2AFbFa16CEfE7'}, { 'gNbId': { 'gNBValue': '1A8F1D', 'bitLength': 25}, 'plmnId': { 'mcc': '967', 'mnc': '238'}}]}]}, 'bdtRefIds': { 'abc': 'xyz', 'xyz': 'bdtRefIds'}, 'ipv4Index': 0, 'ipv6Index': 0, 'subscCats': ['cat1', 'cat2'], 'adcSupport': True, 'mpsPriority': True, 'allowedServices': ['ser1', 'ser2'], 'mpsPriorityLevel': 2, 'imsSignallingPrio': True, 'refUmDataLimitIds': { 'mk1': { 'monkey': ['monkey1'], 'limitId': 'mk1'}}, 'subscSpendingLimits': True}}}, '22-abc123': { 'snssai': { 'sd': 'abc123', 'sst': 22}, 'smPolicyDnnData': { 'dnn2': { 'dnn': 'dnn2', 'gbrDl': '7788 Kbps', 'gbrUl': '5566 Kbps', 'online': True, 'chfInfo': { 'primaryChfAddress': '1.1.1.1', 'secondaryChfAddress': '2.2.2.2'}, 'offline': True, 'praInfos': { 'p1': { 'praId': 'p1', 'ecgiList': [{ 'plmnId': { 'mcc': '976', 'mnc': '32'}, 'eutraCellId': '92FFdBE'}, { 'plmnId': { 'mcc': '977', 'mnc': '33'}, 'eutraCellId': '8F868C4'}]}, 'ncgiList': [{ 'plmnId': { 'mcc': '976', 'mnc': '32'}, 'nrCellId': 'b2fB6fE9D'}, { 'plmnId': { 'mcc': '977', 'mnc': '33'}, 'nrCellId': '5d1B4127b'}]}, 'trackingAreaList': [{ 'tac': '5CB6', 'plmnId': { 'mcc': '976', 'mnc': '32'}}, { 'tac': '5CB7', 'plmnId': { 'mcc': '977', 'mnc': '33'}}]}, 'globalRanNodeIdList': [{ 'plmnId': { 'mcc': '965', 'mnc': '235'}, 'n3IwfId': 'fFf0f2AFbFa16CEfE7'}, { 'gNbId': { 'gNBValue': '1A8F1D', 'bitLength': 25}, 'plmnId': { 'mcc': '967', 'mnc': '238'}}]}]}, 'ipv4Index': 0, 'ipv6Index': 0, 'subscCats': ['cat1', 'cat2'], 'adcSupport': True, 'mpsPriority': True, 'allowedServices': ['ser1', 'ser2'], 'mpsPriorityLevel': 2, 'imsSignallingPrio': True, 'refUmDataLimitIds': { 'mk1': { 'monkey': ['monkey1'], 'limitId': 'mk1'}}, </pre>

Request	Notification Formats
	<pre> 'subscSpendingLimits': True}}, '33-abc123': {'snssai': {'sd': 'abc123', 'sst': 33}, 'smPolicyDnnData': {'dnn1': {'dnn': 'dnn1', 'gbrDl': '7788 Kbps', 'gbrUl': '5566 Kbps', 'online': True, 'chfInfo': {'primaryChfAddress': '1.1.1.1', 'secondaryChfAddress': '2.2.2.2'}, 'offline': True, 'praInfos': {'p1': {'praId': 'p1', 'ecgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, 'eutraCellId': '92FFdBE'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'eutraCellId': '8F868C4'}}] , 'ncgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, 'nrCellId': 'b2fB6fE9D'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'nrCellId': '5d1B4127b'}]}, 'trackingAreaList': [{'tac': '5CB6', 'plmnId': {'mcc': '976', 'mnc': '32'}}, {'tac': '5CB7', 'plmnId': {'mcc': '977', 'mnc': '33'}}]}, 'globalRanNodeIdList': [{'plmnId': {'mcc': '965', 'mnc': '235'}, 'n3IwfId': 'fFf0f2AFbFa16CEfE7'}, {'gNbId': {'gNBValue': '1A8F1D', 'bitLength': 25}, 'plmnId': {'mcc': '967', 'mnc': '238'}}]}]}, 'ipv4Index': 0, 'ipv6Index': 0, 'subscCats': ['cat1', 'cat2'], 'adcSupport': True, 'mpsPriority': True, 'allowedServices': ['ser1', 'ser2'], 'mpsPriorityLevel': 2, 'imsSignallingPrio': True, 'refUmDataLimitIds': {'mk1': {'monkey': ['monkey1'], 'limitId': 'mk1'}}, 'subscSpendingLimits': True}, 'dnn2': {'dnn': 'dnn2', 'gbrDl': '7788 Kbps', 'gbrUl': '5566 Kbps', 'online': True, 'chfInfo': {'primaryChfAddress': '1.1.1.1', 'secondaryChfAddress': '2.2.2.2'}, 'offline': True, 'praInfos': {'p1': {'praId': 'p1', 'ecgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, 'eutraCellId': '92FFdBE'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'eutraCellId': '8F868C4'}}]}, 'ncgiList': [{'plmnId': {'mcc': '976', 'mnc': '32'}, </pre>

Request	Notification Formats
	<pre>'nrCellId': 'b2fB6fE9D'}, {'plmnId': {'mcc': '977', 'mnc': '33'}, 'nrCellId': '5d1B4127b'}], 'trackingAreaList': [{'tac': '5CB6', 'plmnId': {'mcc': '976', 'mnc': '32'}}, {'tac': '5CB7', 'plmnId': {'mcc': '977', 'mnc': '33'}}], 'globalRanNodeIdList': [{'plmnId': {'mcc': '965', 'mnc': '235'}, 'n3IwfId': 'fFf0f2AFbFa16CEfE7'}, {'gNbId': {'gNBValue': '1A8F1D', 'bitLength': 25}, 'plmnId': {'mcc': '967', 'mnc': '238'}}]]], 'ipv4Index': 0, 'ipv6Index': 0, 'subscCats': ['cat1', 'cat2'], 'adcSupport': True, 'mpsPriority': True, 'allowedServices': ['ser1', 'ser2'], 'mpsPriorityLevel': 2, 'imsSignallingPrio': True, 'refUmDataLimitIds': {'mk1': {'monkey': ['monkey1'], 'limitId': 'mk1'}}, 'subscSpendingLimits': True}}]]]]]</pre>
DELETE DATA	<pre>[{'ueId': 'msisdn-7777777779', 'smPolicyData': None}]</pre>
DELETE SUBSCRIBER	<pre>[{'ueId': 'msisdn-7777777779', 'uePolicySet': None, 'amPolicyData': None, 'smPolicyData': None, 'usageMonData' : None}]</pre>

Operations Supported for UDM

This section provides information about the operations supported for UDM as per 29.505 v16.2.

Sub-level Name: Authentication Data

Resource Name: AuthenticationSubscriptionData

HTTP Method: GET, PATCH

Base URI: /subscription-data/{ueId}/authentication-data/authentication-subscription

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/authentication-data/authentication-subscription	Output: <pre>{ "encOpcKey": "ABED", "encTopcKey": "ACED", "algorithmId": "algoID", "sequenceNumber" : { "sqn": "123456789ABE", "difSign": "NEGATIVE", "indLength": 5, "sqnScheme": "GENERAL", "lastIndexes": { "ausf": 5 }, "encPermanentKey ": "ABBA", "authenticationM ethod": "5G_AKA", "protectionParam eterId": "ProtecID", "authenticationM anagementField": "ABBE" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/authentication-data/authentication-subscription?fields=encOpckey,algorithmId	Output: { "encOpckey": "ABED", "algorithmId": "algoID" }	
PATCH	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/authentication-data/authentication-subscription Payload: case1: REPLACE [{ "op" : "replace", "path" : "/" sequenceNumber/ sqn", "value" : "123456789ABC" }] case2: ADD case3: REMOVE		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Resource Name: AuthenticationStatus

HTTP Method: PUT, GET

Base URI: /subscription-data/{ueId}/authentication-data/authentication-status

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/ authentication-data/ authentication-status Payload: <pre>{ "nfInstanceId" : "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "success" : true, "timeStamp" : "2018-01-02T08:1 7:14.090Z", "authType" : "5G_AKA", "servingNetworkName" : "5G:mnc123.mcc45 6.3gppnetwork.or g" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
GET	Sample URI: http:// localhost:8080/nudr- dr/v2/subscription- data/ imsi-911000000028/ authentication-data/ authentication-status? fields=nfInstanceId,su ccess	Output: <pre>{ "nfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "success": true }</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/authentication-data/authentication-status	Output: <pre>{ "success": true, "authType": "5G_AKA", "timeStamp": "2018-01-02T08:17:14.090Z", "nfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9", "servingNetworkName": "5G:mnc123.mcc456.3gppnetwork.org" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: Context Data

Resource Name: ContextData

HTTP Method: GET

Base URI: /subscription-data/{ueld}/context-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data	Output: See GET-ContextData	
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data?context-dataset-names=SMSF_3GPP	Output: GET - Context Data - SMSF	

Resource Name: Amf3GppAccessRegistration

HTTP Method: PUT, PATCH, GET**Base URI:** *subscription-data/{ueld}/context-data/amf-3gpp-access*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-3gpp-access Payload: See PUT - Amf3GppAccessRegistration		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
PATCH	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-3gpp-access Payload: See PATCH - Amf3GppAccessRegistration		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-3gpp-access	Output: See GET - Amf3GppAccessRegistration	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-3gpp-access?fields=pei,ratType,epsInterworkingInfo,backupAmfInfo,drFlag	Output: See GET - Amf3GppAccessRegistration	

Resource Name: AmfNon3GppAccessRegistration**HTTP Method:** PUT, PATCH, GET**Base URI:** *subscription-data/{ueld}/ context-data/amf-non-3gpp-access*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access Payload: See PUT-AmfNon3GppAccessRegistration		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PATCH	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access Payload: <pre> case1: REPLACE [{"op": "replace", "path": "/backupAmfInfo/0/guamiList/0/plmnId/mcc", "value": "998"}] case2: ADD [{"op": "add", "path": "/backupAmfInfo/0/guamiList/1", "value": { "amfId": "5678AA", "plmnId": { "mcc": "666", "mnc": "456" } }] case3: REMOVE [{"op": "remove", "path": "/backupAmfInfo/0/ </pre>		400: "Invalid URI sent from client" 404: "Subscriber does not exist" 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	guamiList/2"}]		
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access	Output: See GET-AmfNon3GppAccessRegistration	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access?fields=amfInstanceId,guami	Output: See GET-AmfNon3GppAccessRegistration	

Resource Name: SmfRegistrations

HTTP Method: GET

Base URI: *subscription-data/{ueld}/context-data/smf-registrations*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/ context-data/smf- registrations	Output: [{ "supportedFeatures": "supFeature1", "dnn": "dnn2", "singleNssai": { "sd": "abcdef", "sst": 32 }, "smfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "emergencyServices": true, "pcscfRestorationCallbackUri": "http://ocnrf- ambassador.default.svc.cluster.local/nnrf- nfm/v1/nf- instances", "plmnId": { "mnc": "011", "mcc": "001" }, "pduSessionId": 123, "pgwFqdn": "abcdefgh" }]]	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Resource Name: IndividualSmfRegistration

HTTP Method: PUT, DELETE, GET

Base URI: *subscription-data/{ueld}/context-data /smf-registrations/{pduSessionId}*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smf-registrations/123 Payload: <pre>{ "smfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9", "pduSessionId" : 123, "singleNssai" : { "sst" : 32, "sd" : "abcdef" }, "plmnId" : { "mcc" : "001", "mnc" : "011" }, "supportedFeatures" : { "supFeature1", "dnn" : "dnn2", "emergencyServices" : true, "pcscfRestorationCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances", "pgwFqdn" : "abcdefgh" } }</pre>	Output: <pre>{ "smfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9", "pduSessionId" : 123, "singleNssai" : { "sst" : 32, "sd" : "abcdef" }, "plmnId" : { "mcc" : "001", "mnc" : "011" }, "supportedFeatures" : { "supFeature1", "dnn" : "dnn2", "emergencyServices" : true, "pcscfRestorationCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances", "pgwFqdn" : "abcdefgh" } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	}		
DELETE	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smf-registrations/123		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smf-registrations/123	Output: <pre>{ "dnn": "dnn2", "plmnId": { "mcc": "001", "mnc": "011" }, "pgwFqdn": "abcdefgh", "singleNssai": { "sd": "abcdef", "sst": 32 }, "pduSessionId": 123, "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9", "emergencyServices": true, "supportedFeatures": "supFeature1", "pcscfRestorationCallbackUri": "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smf-registrations/123?fields=singleNssai,smfInstanceId	Output: <pre>{ "singleNssai": { "sd": "abcdef", "sst": 32 }, "smfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9" }</pre>	

Resource Name: Smf3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Base URI: subscription-data/{ueld}/context-data /smf-3gpp-access

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access Payload: <pre>{ { "smsfInstanceId": : "69d3da66-9e25-1 1e9- a2a3-2a2ae2dbcce 4", "supportedFeatures": "BA2b5d3b977eF24 58EEC80592E", "plmnId": { "mcc": "452", "mnc": "45" }, "smsfMAPAddress": : "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LBi31n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwdldoo eh", "realm": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LBi31n OBxEBV2ZePCfKpUi</pre>		400: "Invalid URI sent from client" 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	EB0ULZMxudPsPepu d.emteshurwdldoo eh" } }		
DELETE	Sample URI: http:// localhost:8080/nudr- dr/v2/subscription- data/ imsi-911000000028/ context-data/ smsf-3gpp-access		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/udr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access	Output: <pre>{ "plmnId": { "mcc": "452", "mnc": "45" }, "smsfInstanceId" : "69d3da66-9e25-1 1e9- a2a3-2a2ae2dbcce 4", "smsfMAPAddress" : "977347916", "supportedFeatur es": "BA2b5d3b977eF24 58EEC80592E", "smsfDiameterAdd ress": { "name": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LBi31n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwldloo eh", "realm": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LBi31n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwldloo eh" } } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access?fields=smsfDiameterAddress,smsfMAPAddress	Output: <pre>{ "smsfMAPAddress": "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } }</pre>	

Resource Name: SmfNon3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Base URI: subscription-data/{ueld}/context-data /smsf-non-3gpp-access

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access Payload: <pre>{ "plmnId": { "mcc": "452", "mnc": "45" }, "smsfInstanceId": "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4", "smsfMAPAddress": "977347916", "supportedFeatures": "BA2b5d3b977eF2458EEC80592E", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepu"</pre>		400: "Invalid URI sent from client" 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	d.emteshurwdldoo eh" } }		
DELETE	Sample URI: http:// localhost:8080/nudr- dr/v2/subscription- data/ imsi-911000000028/ context-data/smsf- non-3gpp-access		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/udr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access	Output: <pre>{ "plmnId": { "mcc": "452", "mnc": "45" }, "smsfInstanceId": "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4", "smsfMAPAddress": "977347916", "supportedFeatures": "BA2b5d3b977eF2458EEC80592E", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access?fields=smsfMAPAddress,smsfDiameterAddress	Output: <pre>{ "smsfMAPAddress": "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } }</pre>	

Resource Name: AccessAndMobilitySubscriptionData

HTTP Method: GET

Base URI: /subscription-data/{ueld}/{servingPlmnId}/provisioned-data /am-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/am-data	Output: See GET - AccessAndMobilitySubscriptionData	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/am-data?fields=gpsis,nssai,sorlinfo	Output: See PUT-AccessAndMobilitySubscriptionData	

Resource Name: SmfSelectionSubscriptionData

HTTP Method: GET

Base URI: /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/smf-selection-subscription-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/7889/provisioned-data/smf-selection-subscription-data	Output: <pre>{ "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12" , "sharedSnssaiInfosId": "96367-9z}MD*", "subscribedSnssaiInfos": { "snsai1": { "dnnInfos": [{ "dnn": "Dnn1", "iwkEpsInd": true, "lboRoamingAllowed": true, "defaultDnnIndicator": true }], { "dnn": "Dnn2", "iwkEpsInd": true, "lboRoamingAllowed": true,</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre>"defaultDnnIndicator": false }] } }</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/smf-selection-subscription-data?fields=subscribedSnssaiInfos,supportedFeatures	Output: <pre>{ "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12" , "subscribedSnssaiInfos": { "snsai1": { "dnnInfos": [{ "defaultDnnIndicator": true, "iwkEpsInd": true, "dnn": "Dnn1", "lboRoamingAllowed": true }, { "defaultDnnIndicator": false, "iwkEpsInd": true, "dnn": "Dnn2",</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre> "lboRoamingAllowed": true }] } } </pre>	

Resource Name: SessionManagementSubscriptionData

HTTP Method: GET

Base URI: /subscription-data/{ueld}/{servingPlmnId}/provisioned-data/sm-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data	Output: GET-SessionManagementSubscriptionData	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data?fields=internalGroupIds,singleNssai	Output: <pre>[{ "singleNssai": { "sd": "ABC654", "sst": 1 }, "internalGroupIds": ["9ABAB803-203-299-95A9", "9ABAB803-203-299-95A2", "79e0c480-719-085-f2A55e6DDc91Df802438"] }]</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/77889/provisioned-data/sm-data?single-nssai=1-ABC654&dnn=dnn1&fields=internalGroupIds,singleNssai	Output: <pre>[{ "singleNssai": { "sd": "ABC654", "sst": 1 }, "internalGroupIds": ["9ABAB803-203-299-95A9", "9ABAB803-203-299-95A2", "79e0c480-719-085-f2A55e6DDc91Df802438"] }]</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/7889/provisioned-data/sm-data?dnn=dnn1&fields=internalGroupIds,singleNssai	sm-data should be provisioned for a subscriber with same ueld, same servingPlmId but different single-Nssai Output: <pre>[{ "singleNssai": { "sd": "ABC654", "sst": 1 }, "internalGroupIds": ["9ABAB803-203-299-95A9", "9ABAB803-203-299-95A2", "79e0c480-719-085-f2A55e6DDc91Df802438"] }, { "singleNssai": { "sst": 2 }, "internalGroupIds": ["9ABAB803-203-299-95A9", "9ABAB803-203-299-95A2", "79e0c480-719-08</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre> 5- f2A55e6DDc91Df80 2438"] }] </pre>	
	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/77889/provisioned-data/sm-data?single-nssai=1-ABC654&fields=internalGroupIds,singleNssai	Output: <pre> [{ "singleNssai": { "sd": "ABC654", "sst": 1 }, "internalGroupIds": ["9ABAB803-203-299-95A9", "9ABAB803-203-299-95A2", "79e0c480-719-085-f2A55e6DDc91Df802438"] }] </pre>	

Resource Name: SMSManagementSubscriptionData

HTTP Method: GET

Base URI: /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/7889/provisioned-data/sms-mng-data	Output: <pre>{ "moSmsBarringAll": true, "moSmsSubscribed": false, "mtSmsBarringAll": true, "mtSmsSubscribed": true, "supportedFeatures": "CAe8de215CFa721BB2AE7Ef9c5f71a2e", "moSmsBarringRoaming": true, "mtSmsBarringRoaming": false, "sharedSmsMngDataIds": ["16994-'JD", "693599-9~~GX"] }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Resource Name: TraceData

HTTP Method: GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/trace-data	Output: { "traceRef": "070207-baE6Dd", "eventList": "855B5bf7beC3AFB 8c", "neTypeList": "0f4FBefe95bF8", "traceDepth": "MINIMUM", "collectionEntit yIpv4Addr": "26.118.255.253" , "collectionEntit yIpv6Addr": "2001:db8:85a3:: 8a2e:370:7334" } }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Resource Name: SMSSubscriptionData

HTTP Method: GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/sms-data	Output: { "smsSubscribed": true, "sharedSmsSubsDa taId": "63472- BTkzoYkBL1" } }	

Sub-level Name: Provisioned Data

Resource Name: ProvisionedData**HTTP Method: GET****Base URI:** /subscription-data/{ueId}/{servingPlmnId}/provisioned-data

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000089/7 7889/provisioned-data	Output: GET-ProvisionedData	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	Sample URI: http:// localhost:8080/nudr- dr/v2/subscription- data/ imsi-911000000089/7 7889/provisioned- data?dataset- names=AM,SM	Output: GET-ProvisionedData	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: ue-update-confirmation-data**Resource Name: Sor-data****HTTP Method: GET, PUT**

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/u e-update- confirmation-data/sor- data	Output: { "sorMacIue": "3a84eBBb8C694Cc e4ebA2FCC9307af1 A", "sorXmacIue": "3a84eBBb8C694Cc e4ebA2FCC9307af1 F", "ueUpdateStatus": "NOT_SENT", "provisioningTim e": "2012-04-23T18:2 5:43.511Z" }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/u e-update- confirmation-data/sor- data Payload: <pre>{ "provisioningTime": "2012-04-23T18:25:43.511Z", "ueUpdateStatus": "NOT_SENT", "sorXmacIue": "3a84eBBb8C694Cce4ebA2FCC9307af1F", "sorMacIue": "3a84eBBb8C694Cce4ebA2FCC9307af1A" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Sub-level Name: OperatorSpecificData

HTTP Method: GET, PATCH

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/ operator-specific-data	Output: { "NumberTypeElements": { "1": 1.1 }, "StringTypeElements": { "1": "s" }, "BooleanTypeElements": { "1": true }, "IntegerTypeElements": { "1": 1 } }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
PATCH	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/ operator-specific-data Payload: case1: REPLACE [{ "op" : "replace", "path" : "/" IntegerTypeElements/1", "value" : 2 }] Case2: ADD case3: REMOVE		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: OperatorDeterminedBarringData

HTTP Method: GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/operator-determined-barring-data	Output: { "roamingOdb": "OUTSIDE_HOME_PLMN" }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: ProvisionedParameterData

HTTP Method: PATCH, GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PATCH	http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/pp-data Payload: case1: REPLACE [{ "op" : "replace", "path" : "/communicationCharacteristics/ppSubsRegTimer/subsRegTimer", "value" : 13 }] case2: ADD case3: REMOVE		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/p p-data	Output: <pre>{ "supportedFeatures": "751b", "communicationCharacteristics": { "ppActiveTime": { "activeTime": 23, "referenceId": 2, "afInstanceId": "f9dc5b9c-a460-11e9-a2a3-2a2ae2dbcce4" }, "ppSubsRegTimer": { "referenceId": 1, "afInstanceId": "f9dc5b9c-a460-11e9-a2a3-2a2ae2dbcce4", "subsRegTimer": 12 }, "ppDlPacketCount": 1 } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: EeProfileData

HTTP Method: GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/e- e-profile-data	Output: { "supportedFeatures": "fcB2fFC084Fc2d5 B4Afcfa2Df8614", "restrictedEvent Types": ["LOSS_OF_CONNECT IVITY", "CHANGE_OF_SUPI_ PEI_ASSOCIATION"] }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/e- e-profile-data? fields=restrictedEvent Types	Output: { "restrictedEvent Types": ["LOSS_OF_CONNECT IVITY", "CHANGE_OF_SUPI_ PEI_ASSOCIATION"] }	

Sub-level Name: IdentityData

HTTP Method: GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ imsi-911000000028/ identity-data	Output: <pre>{ "gpsiList": ["msisdn-10117698 3803402"], "supiList": ["imsi-516737872" , "imsi-516737873"] }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Provisioning Operations for UDM Data

This section provides information about the operations supported for UDM data through provisioning interface.

Resource Name: AuthenticationSubscriptionData

HTTP Method: GET, PUT, DELETE

Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/
imsi-911000000028/authentication-data/authentication-subscription

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: https:// 10.75.212.116:31873/ nudr-dr-prov/v1/ subscription-data/ msisdn-777777779/ authentication-data/ authentication- subscription	{ "encOpckKey": "ABED", "encTopckKey": "ACED", "algorithmId": "algoID", "sequenceNumber" : { "sqn": "123456789ABE", "difSign": "NEGATIVE", "indLength": 5, "sqnScheme": "GENERAL", "lastIndexes": { "ausf": 5 } }, "encPermanentKey" : "ABBA", "authenticationM ethod": "5G_AKA", "protectionParam eterId": "ProtecID", "authenticationM anagementField": "ABBE" }	• 400: "Invalid URI sent from client" • 404: "Data field does not exist " • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/authentication-data/authentication-subscription?fields=encOpckey,algorithmId	{ "encOpckey": "ABED", "algorithmId": "algoID" }	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/authentication-data/authentication-subscription Payload: <pre>{ "authenticationMethod" : "5G_AKA", "encPermanentKey" : "ABBA", "protectionParameterId" : "ProtecID", "sequenceNumber" : { "sqnScheme" : "GENERAL", "sqn" : "123456789ABE", }, "lastIndexes" : { "ausf" : 5 }, "indLength" : 5, "difSign" : "NEGATIVE" }, "authenticationManagementField" : "ABBE", "algorithmId" : "algoID", "encOpckKey" : "ABED", "encTopckKey" :</pre>		• 400: " Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	"ACED" }		
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ authentication-data/ authentication- subscription		

Resource Name: AuthenticationStatus

HTTP Method: PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http:// localhost:8080/nudr- dr-prov/v1/ subscription-data/ imsi-911000000028/ authentication-data/ authentication-status Payload: <pre>{ "nfInstanceId" : "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "success" : true, "timeStamp" : "2018-01-02T08:1 7:14.090Z", "authType" : "5G_AKA", "servingNetworkN ame" : "5G:mnc123.mcc45 6.3gppnetwork.or g" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ authentication-data/ authentication-status	{ "success": true, "authType": "5G_AKA", "timeStamp": "2018-01-02T08:1 7:14.090Z", "nfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "servingNetworkN ame": "5G:mnc123.mcc45 6.3gppnetwork.or g" }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	Sample URI: http:// localhost:8080/nudr- dr-prov/v1/ subscription-data/ imsi-911000000028/ authentication-data/ authentication-status? fields=nfInstanceId	{ "nfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9" }	
DELETE	Sample URI: http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ authentication-data/ authentication-status		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Sub-level Name: Context Data

Resource Name: Amf3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-3gpp-access Payload: See PUT-Amf3GppAccessRegistration		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-3gpp-access		
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-3gpp-access/all		
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-3gpp-access?fields=pei,guami	Output: <pre>{ "pei": "imei-100000000000000001", "guami": { "plmnId": { "mnc": "123", "mcc": "001" }, "amfId": "1234AA" } }</pre>	
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-3gpp-access/all	Output: GET - Amf3GppAccessRegistration	

Resource Name: AmfNon3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Base URI: *subscription-data/{ueld}/ context-data/amf-non-3gpp-access*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access Payload: See PUT-AmfNon3GppAccessRegistration		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access		
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000025/context-data/amf-non-3gpp-access/all		
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access	Output: See GET-AmfNon3GppAccessRegistration	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/amf-non-3gpp-access?fields=backupAmfInfo, ratType	Output: <pre>{ "ratType": "WLAN", "backupAmfInfo": [{ "AmfName": "amf1.cluster1.net2.amf. 5gc.mnc012.mcc34 5.3gppnetwork.org", "guamiList": [{ "plmnId": { "mnc": "456", "mcc": "002" }, "amfId": "5678AA" }, { "plmnId": { "mnc": "789", "mcc": "003" }, "amfId": "9876AA" }] }</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre> }] }] } </pre>	
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000025/context-data/amf-non-3gpp-access/all		

Resource Name: SmfRegistrations

HTTP Method: GET, DELETE

Base URI: *subscription-data/{ueld}/context-data/smf-registrations*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smf-registrations	Output: <pre>[{ "supportedFeatures": "supFeature1", "dnn": "dnn2", "singleNssai": { "sd": "abcdef", "sst": 32 }, "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9", "emergencyServices": true, "pcscfRestorationCallbackUri": "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances", "plmnId": { "mnc": "011", "mcc": "001" }, "pduSessionId": 123, "pgwFqdn": "abcdefgh" }]</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
DELETE	Sample URI: http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ context-data/smf- registrations		

Resource Name: IndividualSmfRegistration

HTTP Method: PUT, DELETE, GET

Base URI: *subscription-data/{ueld}/context-data /smf-registrations/{pduSessionId}*

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smf-registrations/123 Payload: <pre>{ "smfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9", "pduSessionId" : 123, "singleNssai" : { "sst" : 32, "sd" : "abcdef" }, "plmnId" : { "mcc" : "001", "mnc" : "011" }, "supportedFeatures" : { "supFeature1", "dnn" : "dnn2", "emergencyServices" : true, "pcscfRestorationCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances", "pgwFqdn" : "abcdefgh" } }</pre>	Output: <pre>{ "smfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9", "pduSessionId" : 123, "singleNssai" : { "sst" : 32, "sd" : "abcdef" }, "plmnId" : { "mcc" : "001", "mnc" : "011" }, "supportedFeatures" : { "supFeature1", "dnn" : "dnn2", "emergencyServices" : true, "pcscfRestorationCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances", "pgwFqdn" : "abcdefgh" } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smf-registrations/123		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smf-registrations/123	Output: <pre>{ "dnn": "dnn2", "plmnId": { "mcc": "001", "mnc": "011" }, "pgwFqdn": "abcdefgh", "singleNssai": { "sd": "abcdef", "sst": 32 }, "pduSessionId": 123, "smfInstanceId": "abae35e5- cc45-4016-8dd4-8 9598e5311b9", "emergencyServic es": true, "supportedFeatur es": "supFeature1", "pcscfRestoratio nCallbackUri": "http://ocnrf- ambassador.defau lt.svc.cluster.l ocal/nnrf- nfm/v1/nf- instances" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smf-registrations/123?fields=dnn	Output: <pre>{ "dnn": "dnn2", "emergencyServices": true }</pre>	

Resource Name: Smsf3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access Payload: <pre>{ "smsfInstanceId": "69d3da66-9e25-1 1e9- a2a3-2a2ae2dbcce 4", "supportedFeatures": "BA2b5d3b977eF24 58EEC80592E", "plmnId": { "mcc": "452", "mnc": "45" }, "smsfMAPAddress": "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LB131n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwdldoo eh", "realm": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597LB131n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwdldoo eh"</pre>		400: "Invalid URI sent from client" 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	d.emteshurwdldoo eh" } }		
DELETE	Sample URI: http:// localhost:8080/nudr- dr-prov/v1/ subscription-data/ imsi-911000000028/ context-data/ smsf-3gpp-access		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access	Output: <pre>{ "smsfInstanceId" : "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4", "supportedFeatures": "BA2b5d3b977eF2458EEC80592E", "plmnId": { "mcc": "452", "mnc": "45" }, "smsfMAPAddress": "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31n0BxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-3gpp-access?fields=plmnId,smsfInstanceId	Output: <pre>{ "smsfInstanceId" : "69d3da66-9e25-11e9- a2a3-2a2ae2dbcce4", "plmnId": { "mnc": "45", "mcc": "452" } }</pre>	

Resource Name: SmsfNon3GppAccessRegistration

HTTP Method: PUT, DELETE, GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access Payload: <pre>{ "smsfInstanceId": "69d3da66-9e25-1 1e9- a2a3-2a2ae2dbcce 4", "supportedFeatures": "BA2b5d3b977eF24 58EEC80592E", "plmnId": { "mcc": "452", "mnc": "45" }, "smsfMAPAddress": "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597Lbi31n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu d.emteshurwldoo eh", "realm": "uLmBAnz2b7S60ev NkC7tHvcEZidEXpp NIp7Le9yXzucgboi XFRkYg6597Lbi31n OBxEBV2ZePCfKpUi EB0ULZMxudPsPepu</pre>		400: "Invalid URI sent from client" 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	d.emteshurwdldoo eh" } }		
DELETE	Sample URI: http:// localhost:8080/nudr- dr-prov/v1/ subscription-data/ imsi-911000000028/ context-data/smsf- non-3gpp-access		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access	Output: <pre>{ "smsfInstanceId" : "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4", "supportedFeatures": "BA2b5d3b977eF2458EEC80592E", "plmnId": { "mcc": "452", "mnc": "45" }, "smsfMAPAddress" : "977347916", "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597LBi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/context-data/smsf-non-3gpp-access?fields=plmnId,smsfDiameterAddress	Output: <pre>{ "plmnId": { "mnc": "45", "mcc": "452" }, "smsfDiameterAddress": { "name": "uLmBAnz2b7S60evNkC7tHvcEZidEXpNIP7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh", "realm": "uLmBAnz2b7S60evNkC7tHvcEZidEXpNIP7Le9yXzucgboiXFRkYg6597Lbi31nOBxEBV2ZePCfKpUiEB0ULZMxudPsPepud.emteshurwdldooeh" } }</pre>	

Resource Name: AccessAndMobilitySubscriptionData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/am-data	Sample Output: GET-AccessAndMobilitySubscriptionData	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist in data table"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/am-data?fields=gpsis,nssai,sorl nfo		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist in data table"
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/am-data Payload: See PUT - AccessAndMobilitySubscriptionData		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/am-data		

Resource Name: SmfSelectionSubscriptionData

HTTP Method: PUT, DELETE, GET

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/smf-selection-subscription-data Payload: <pre>{ "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12" , "subscribedSnsaiInfos" :{ "snsai1": {"dnnInfos":[{ "dnn":"Dnn1", "defaultDnnIndicator": true, "lboRoamingAllowed":true, "iwkEpsInd": true }, { "dnn":"Dnn2", "defaultDnnIndicator": false, "lboRoamingAllowed":true, "iwkEpsInd": true }]} }, }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	<pre>"sharedSnssaiInfoId":"96367-9z }MD*" }</pre>		
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/smf-selection-subscription-data		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/smf-selection-subscription-data	Output: <pre>{ "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12" , "sharedSnssaiInfosId": "96367-9z}MD*", "subscribedSnssaiInfos": { "snsai1": { "dnnInfos": [{ "dnn": "Dnn1", "iwkEpsInd": true, "lboRoamingAllowed": true, "defaultDnnIndicator": true }], { "dnn": "Dnn2", "iwkEpsInd": true, "lboRoamingAllowed": true,</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre>"defaultDnnIndicator": false }] } }</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/smf-selection-subscription-data?fields=subscribedSnssaiInfos	Output: <pre>{ "subscribedSnssaiInfos": { "snsai1": { "dnnInfos": [{ "defaultDnnIndicator": true, "iwkEpsInd": true, "dnn": "Dnn1", "lboRoamingAllowed": true }, { "defaultDnnIndicator": false, "iwkEpsInd": true, "dnn": "Dnn2", "lboRoamingAllowed": true }] } } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
		<pre> } } </pre>	

Resource Name: SessionManagementSubscriptionData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data	Output: GET-SessionManagementSubscriptionData-Provisioning	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data?fields=internalGroupIds,dnnConfigurations	Output: GET-SessionManagementSubscriptionData-Provisioning	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data Payload: PUT-SessionManagementSubscriptionData		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sm-data		

Resource Name: SMSManagementSubscriptionData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/7889/provisioned-data/sms-mng-data	Output: <pre>{ "moSmsBarringAll": true, "moSmsSubscribed": false, "mtSmsBarringAll": true, "mtSmsSubscribed": true, "supportedFeatures": "CAe8de215CFa721BB2AE7Ef9c5f71a2e", "moSmsBarringRoaming": true, "mtSmsBarringRoaming": false, "sharedSmsMngDataIds": ["16994-'JD", "693599-9~~GX"] }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sms-mng-data?fields=mtSmsSubscribed,sharedSmsMngDataIds	Output: <pre>{ "mtSmsSubscribed": true, "sharedSmsMngDataIds": ["16994-'JD", "693599-9~~GX"] }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sms-mng-data Payload: <pre>{ "supportedFeatures": "CAe8de215Cfa721BB2AE7Ef9c5f71a2e", "mtSmsSubscribed": true, "mtSmsBarringAll": true, "mtSmsBarringRoaming": false, "moSmsSubscribed": false, "moSmsBarringAll": true, "moSmsBarringRoaming": true, "sharedSmsMngDataIds": ["16994-JD", "693599-9--GX"] }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	Sample URI: http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000089/77889/provisioned-data/sms-mng-data		

Resource Name: TraceData

HTTP Method: PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/trace-data <pre>{ "traceRef": "0702 07-baE6Dd", "traceDepth": "MINIMUM", "neTypeList": "0f4FBEfe95bF8", "eventList": "855B5bf7beC3AFB 8c", "collectionEntit yIpv4Addr": "26.118.255.253" , "collectionEntit yIpv6Addr": "2001:db8:85a3:: 8a2e:370:7334" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/trace-data	Output: { "traceRef": "070207-baE6Dd", "eventList": "855B5bf7beC3AFB 8c", "neTypeList": "0f4FBefe95bF8", "traceDepth": "MINIMUM", "collectionEntit yIpv4Addr": "26.118.255.253" , "collectionEntit yIpv6Addr": "2001:db8:85a3:: 8a2e:370:7334" } }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/trace-data		

Resource Name: SMSSubscriptionData

HTTP Method:PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/sms-data Payload: <pre>{ "smsSubscribed": true, "sharedSmsSubsDa taId": "63472- BTkzoYkBL1" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/sms-data	Output: <pre>{ "smsSubscribed": true, "sharedSmsSubsDa taId": "63472- BTkzoYkBL1" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/7 7889/provisioned- data/sms-data		

Sub-level Name: OperatorSpecificData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/operator-specific-data	Output: <pre>{ "NumberTypeElements": { "1": 1.1 }, "StringTypeElements": { "1": "s" }, "BooleanTypeElements": { "1": true }, "IntegerTypeElements": { "1": 1 } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
	http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/operator-specific-data?fields=NumberTypeElements	Output: <pre>{ "NumberTypeElements": { "1": 1.1 } }</pre>	

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ operator-specific-data Payload: <pre>{ "StringTypeElements": { "1": "s" }, "IntegerTypeElements": { "1": 1 }, "NumberTypeElements": { "1": 1.1 }, "BooleanTypeElements": { "1": true } }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ operator-specific-data		

Sub-level Name: OperatorDeterminedBarringData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ operator-determined- barring-data Payload: <pre>{ "roamingOdb": "OUTSIDE_HOME_PL MN" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ operator-determined- barring-data		
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ operator-determined- barring-data	Output: <pre>{ "roamingOdb": "OUTSIDE_HOME_PL MN" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: ProvisionedParameterData

HTTP Method: GET, PUT, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/p p-data Payload: <pre>{ "communicationCh aracteristics": { "ppSubsRegTimer" : { "subsRegTimer": 12, "afInstanceId": "f9dc5b9c- a460-11e9- a2a3-2a2ae2dbcce 4", "referenceId": 1 }, "ppActiveTime": { "activeTime": 23, "afInstanceId": "f9dc5b9c- a460-11e9- a2a3-2a2ae2dbcce 4", "referenceId": 2 }, "ppDlPacketCount ": 1 },</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	<pre>"supportedFeatures": "751b" }</pre>		
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/p- data		

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/p p-data	Output: <pre>{ "supportedFeatures": "751b", "communicationCharacteristics": { "ppActiveTime": { "activeTime": 23, "referenceId": 2, "afInstanceId": "f9dc5b9c-a460-11e9-a2a3-2a2ae2dbcce4" }, "ppSubsRegTimer": { "referenceId": 1, "afInstanceId": "f9dc5b9c-a460-11e9-a2a3-2a2ae2dbcce4", "subsRegTimer": 12 }, "ppDlPacketCount": 1 } }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Sub-level Name: EeProfileData

HTTP Method: PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/e e-profile-data Payload: <pre>{ "restrictedEvent Types": ["LOSS_OF_CONNEC TIVITY", "CHANGE_ OF_SUPI_PEI_ASSO CIATION"], "supportedFeatur es": "fcB2fFC084F c2d5B4Afcfa2Df86 14" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/e e-profile-data	Output: <pre>{ "supportedFeatur es": "fcB2fFC084Fc2d5 B4Afcfa2Df8614", "restrictedEvent Types": ["LOSS_OF_CONNECT IVITY", "CHANGE_OF_SUPI_ PEI_ASSOCIATION"] }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/e- e-profile-data? fields=restrictedEvent Types	Output: { "restrictedEvent Types": ["LOSS_OF_CONNECT IVITY", "CHANGE_OF_SUPI_ PEI_ASSOCIATION"] }	
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/e- e-profile-data		

Sub-level Name: IdentityData

HTTP Method: PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ identity-data { "supiList": ["imsi-516737872 ", "imsi-51673787 3"], "gpsiList": ["msisdn-1011769 83803402"] }		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ identity-data	Output: { "gpsiList": ["msisdn-10117698 3803402"], "supiList": ["imsi-516737872" , "imsi-516737873"] }	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
DELETE	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/ identity-data		

Sub-level Name: ue-update-confirmation-data

Resource Name: Sor-data

HTTP Method: PUT, GET, DELETE

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-dr-prov/v1/ subscription-data/ imsi-911000000028/u e-update- confirmation-data/sor- data <pre>{ "provisioningTime": "2012-04-23T18:25:43.511Z", "ueUpdateStatus": "NOT_SENT", "sorXmacIue": "3a84eBBb8C694Cce4ebA2FCC9307af1F", "sorMacIue": "3a84eBBb8C694Cce4ebA2FCC9307af1A" }</pre>		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist"

Operation Type	Sample Request REST URL	Sample Response	Possible Error Codes
GET	http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/ue-update-confirmation-data/sor-data	Output: <pre>{ "sorMacIue": "3a84eBBb8C694Cc e4ebA2FCC9307af1 A", "sorXmacIue": "3a84eBBb8C694Cc e4ebA2FCC9307af1 F", "ueUpdateStatus": "NOT_SENT", "provisioningTime": "2012-04-23T18:25:43.511Z" }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist "
DELETE	http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000028/ue-update-confirmation-data/sor-data		

Subscription Operations for UDM Data

This table provides information about the subscription operations for UDM data.

Operations Type	Sample Request REST URL	Sample Response	Possible Error codes
POST	Header-Location: http://localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/sdm-subscriptions RequestData: See POST-SDMSubscriptions	Header-Location: http://localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/sdm-subscriptions/5 Output: See POST-SDMSubscriptions	• 400: "Duplicate subscription" • 404: "Subscriber does not exist" • 400: "Schema Validation failure " • 404: "Data does not exist "

Operations Type	Sample Request REST URL	Sample Response	Possible Error codes
PUT	http://localhost:8080/ nudr-dr/v2/ subscription-data/ nai-990991@nai/ context-data/sdm- subscriptions/5 RequestData: See PUT - SDMSubscriptions	-	• 400: "Duplicate subscription" • 404: "Subscriber does not exist" • 400: "Schema Validation failure" • 404: "Data does not exist "
GET	http://localhost:8080/ nudr-dr/v2/ subscription-data/ nai-990991@nai/ context-data/sdm- subscriptions	Output See: GET- SDMSubscriptions	• 404: "Subscriber does not exist" • 404: "Data does not exist "
PATCH	http://localhost:8080/ nudr-dr/v2/ subscription-data/ nai-990991@nai/ context-data/sdm- subscriptions/5 RequestData: [{ "op": "replace", "path": "/" dnn", "value": "sbsb" }]		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data does not exist "
DELETE	http://localhost:8080/ nudr-dr/v2/ subscription-data/ nai-990991@nai/ context-data/sdm- subscriptions/5		• 404: "Subscriber does not exist" • 404: "Subscription not found"
POST	http://localhost:8080/ nudr-dr/v2/ subscription-data/ subs-to-notify RequestData: See Post- SubscriptionDataSubs criptions	Output: See Post- Output- SubscriptionDataSubs criptions	• 400: "Invalid Data Content" • 400: "Duplicate subscription" • 404: "Subscriber does not exist" • 400: "Schema Validation failure" • 404: "Data does not exist "

Operations Type	Sample Request REST URL	Sample Response	Possible Error codes
GET	http://localhost:8080/ nuds-dr/v2/ subscription-data/ subs-to-notify?ue- id=nai-990991@nai	Output: See Get- Output- SubscriptionDataSubs criptions	400: "Invalid URI sent from client "
PATCH	http://localhost:8080/ nuds-dr/v2/ subscription-data/ subs-to-notify/7 RequestData: <pre>[{ "op": "replace", "path": "/" supportedFeature s", "value": "sf" }]</pre>		
DELETE	http://localhost:8080/ nuds-dr/v2/ subscription-data/ subs-to-notify?ue- id=nai-990991@nai,d elete-all-nfs=true,nf- instance- id=cb59c48c- a2fa-11e9- a2a3-2a2ae2dbcce4,i mplicit-unsubscribe- indication=true		

Management URI Schema Update

The table provides information about the operations supported for management URI schema update.

The OpenAPI for Management URI: mgmapl.yml

Operation Type	URI	Sample Schema	Possible Error Codes
PUT	https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data	To add a new field, custom for am-data. Payload: PUT-schemablob <pre>{ "\$schema": "http://json-schema.org/draft-07/schema#", "additionalProperties": false, "type": "object", "properties": { "subscCats": { "minItems": 1, "type": "array", "items": { "type": "string" } }, "custom": { "type": "string" }, "praInfos": { "patternProperties": { "^(.*)\$": { "additionalProperties": false, "type": "object", "properties": { "ecgiList": { "minItems": 1, "type": "array", "items": { "additionalProperties": false, "type": "object", "required": ["plmnId", "eutraCellId"], "properties": { "eutraCellId": { "pattern": "^[A-Fa-f0-9]{7}\$", "type": "string" }, "plmnId": { "additionalProperties": false, "type": "object", "required": ["mcc", "mnc"], "properties": { "mnc": { "pattern": "^[\\d]{2,3}\$", "type": "string" }, "mcc":</pre>	• 405: "Operation not allowed" (for nudr-dr) • 400: Incase of json syntax error, an appropriate error message is sent from SQL db.

Operation Type	URI	Sample Schema	Possible Error Codes
		<pre> { "pattern": "^\\ \\d{3}\$", "type": "string" } } } } } }, "globalRanNodeIdList": { "minItems": 1, "type": "array", "items": { "additionalProperties" : false, "type": "object", "required": ["plmnId"], "properties": { "gNbId": { "additionalProperties" : false, "type": "object", "required": ["bitLength", "gNbValue"], "properties": { "bitLength": { "type": "integer" }, "NbValue": { "pattern": "[A-Fa- f0-9]{6,8}\$", "type": "string" } } }, "plmnId": { "additionalProperties" : false, "type": "object", "required": ["mcc", "mnc"], "properties": { "mnc": { "pattern": "^[\\d{2,3}\$", "type": "string" }, "mcc": { "pattern": "^[\\d{3}\$", "type": "string" } } }, "n3IwfId": { "pattern": "[A-Fa- f0-9]+\$", "type": "string" }, "nNbId": { "pattern": "^(MacroGenB-[A-Fa- f0-9]{5} LMacroGenB-[A- Fa-f0-9] </pre>	

Operation Type	URI	Sample Schema	Possible Error Codes
		<pre> {6} SMacroNGeNB-[A-Fa- f0-9]{5})\$", "type": "string" } } } }, "praId": { "type": "string" }, "ncgiList": { "minItems": 1, "type": "array", "items": { "additionalProperties" : false, "type": "object", "required": ["plmnId", "nrCellId"], "properties": { "plmnId": { "additionalProperties" : false, "type": "object", "required": ["mcc", "mnc"], "properties": { "mnc": { "pattern": "^\d{2,3}\$", "type": "string" }, "mcc": { "pattern": "^\d{3}\$", "type": "string" } } }, "nrCellId": { "pattern": "^[A-Fa- f0-9]{9}\$", "type": "string" } } } }, "trackingAreaList": { "minItems": 1, "type": "array", "items": { "additionalProperties" : false, "type": "object", "required": ["plmnId", "tac"], "properties": { "tac": { "default": "", "pattern": "^[A-Fa-f0-9]{4}\$ ^[A-Fa-f0-9]{6}\$", "type": "string" }, "plmnId": </pre>	

Operation Type	URI	Sample Schema	Possible Error Codes
		<pre>{ "additionalProperties": : false, "type": "object", "required": ["mcc", "mnc"], "properties": { "mnc": { "pattern": "^\\ \\d{2,3}\$", "type": "string" }, "mcc": { "pattern": "^\\ \\d{3}\$", "type": "string" } } } } } } } }, "additionalProperties": false } } }</pre> This operation adds one new schema with version tag as "v1" and database points to "v1" now. To rollback to any other schema version, which already exists in database, see https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data/version/v0.	

Operation Type	URI	Sample Schema	Possible Error Codes
GET	- To get currently supported schema: https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data - To get all schema versions supported by a resource. https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data?version=all - To get any specific schema version: https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data?version=v1		405: "Operation not allowed" (for nudr-dr)
DELETE	- Schema, which is currently in use could not be deleted. - To delete any other stored schema: https://localhost:9443/nudr-dr-mgm/v1/policy-data/schema/am-data/version/v1		405: "Operation not allowed" (in case of deleting current schema)

UDSF Data Operations

The table given below provides information about the UDSF Data Operations.

Operations Type	URI	Notes	Possible Error codes
PUT	https://localhost:9443/nudsf-dr/v1/udsf/msisdn-1111111111/udsf-data	Sample data blob for UDSF data is: <pre>{ "a": 1, "b": 2 }</pre>	• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid" • 400: "Blob syntax error with corresponding error details"
GET	https://localhost:9443/nudsf-dr/v1/udsf/msisdn-1111111111/udsf-data		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 404: "Data field does not exist" • 400: "Unknown key, the key provided in the request is invalid"
DELETE	https://localhost:9443/nudsf-dr/v1/udsf/msisdn-1111111111/udsf-data		• 400: "Invalid URI sent from client" • 404: "Subscriber does not exist" • 400: "Unknown key, the key provided in the request is invalid"

Policy Data Subscription Operations

The table given below provides information about the Policy Data Subscription Operations.

 Note:

All APIs supported are as per TS29.500v16.2

Operations Type	URI	Notes	Possible Error codes
POST	http://localhost:8080/nudr-dr/v2/policy-data/subs-to-notify	{ "notificationUri":"http://mlu-pcf-api-gateway.mlu-pcf.svc/user-service/userservice/notification/msisdn-1871587819", "monitoredResourceUris": ["https://localhost:9443/nudr-dr-prov/v1/policy-data/msisdn-1111111111/sm-data"], "supportedFeatures":"f", "expires": "2022-04-23T18:25:43.511Z" }	400 : "Schema validation failed for this request"
PUT	http://localhost:8080/nudr-dr/v2/policy-data/subs-to-notify/4	{ "notificationUri":"http://mlu-pcf-api-gateway.mlu-pcf.svc/user-service/userservice/notification/msisdn-1871587819", "monitoredResourceUris": ["https://localhost:9443/nudr-dr-prov/v1/policy-data/msisdn-1111111111/sm-data"], "supportedFeatures":"f", "expires": "2022-04-23T18:25:43.511Z" }	400: "Schema validation failed for this request" 404: "Not found "
GET	http://localhost:8080/nudr-dr-prov/v2/policy-data/subs-to-notify/4	{ "subscribedResources": ["policy-data/msisdn-819191945001/am-data"], "expires": "2022-04-23T18:25:43.511Z", "supportedFeatures": "f", "notificationUri": "http://http2-service.default.svc.cluster.local/policy-data/uri1/" }	404 : "Requested data not found"
DELETE	http://localhost:8080/nudr-dr/v2/policy-data/subs-to-notify/4	-	404 : "Not found"

Title and its Types under Problem Details in Error Response

The table given below lists the titles that can be accompanied by any of the types given below.

Error Codes	Title	Type
400	Bad request	Invalid Data Content Schema Validation Failure Invalid URI Occurrence Constraint Violation Key Not Supported Invalid Payload Invalid Value Invalid JSON Format Invalid Number Format
404	Not Found	Not Found
405	Operation Not Allowed	Operation Not Allowed
500	Internal Server Error	Invalid Result Set Access Data Access Denied Data Access Denied/Resource Failure Temporary Resource Failure Acquire Lock Failure Transaction Rollback
501	Not Implemented	Bad SQL Grammar

Provisioning Operations for SLF Lookup

The provisioning operations for SLF Lookup are given below:

Operation Type	Sample Request	Sample Response	Possible Error Codes
PUT	http://localhost:8080/ nudr-group-id-map- prov/v1/nf-group-ids/ msisdn-1111111111 { "nfGroupIDs": { "NEF": "nef- group- name", "UDM": "udm- group- name", "PCF": "pcf- group- name", "AUSF": "aus- f-group-name" } }	201 Created	400 Bad Request: Schema validation failed
DELETE	http://localhost:8080/ nudr-group-id-map- prov/v1/nf-group-ids/ msisdn-1111111111	204 No Content	404 Not Found: Subscriber does not exist

Operation Type	Sample Request	Sample Response	Possible Error Codes
GET	http://localhost:8080/nudr-group-id-map-prov/v1/nf-group-ids/msisdn-1111111111	200 OK {"nfGroupIDs": {"PCF": "pcf-group-name", "AUSF": "ausf-group-name", "NEF": "nef-group-name", "UDM": "udm-group-name"}}	404 Not Found: Subscriber does not exist 404 Not Found: Data field does not exist

Operations Supported for SLF Lookup Feature

This section provides information about operations supported for SLF Lookup feature.



Note:

These APIs are compliant with 3gpp TS 29.504 v16.2.0

Operation Type	Sample Request	Sample Response	Possible Error Codes	Notes
GET	http://localhost:8080/nudr-group-id-map/v1/nf-group-ids?subscriber-id=msisdn-1111111111&nf-type=udm?>	200 OK Response Body: {"nfGroupIDs": {"UDM": "udm-group-name"}}	404 Not Found: Subscriber does not exist	subscriber-id and nf-type parameters are mandatory in URI
GET	http://localhost:8080/nudr-group-id-map/v1/nf-group-ids?subscriber-id=msisdn-1111111111&nf-type=udm,ausf,nef	200 OK {"nfGroupIDs": {"AUSF": "ausf-group-name", "NEF": "nef-group-name", "UDM": "udm-group-name"}}	404 Not Found: Subscriber does not exist	subscriber-id and nf-type parameters are mandatory in URI

A

Payload References

In this appendix, you will learn about Payload Reference details.

Payload Reference for PCF

This section provides payload details for the following PCF Operations.

- [PATCH-SessionManagementPolicyData](#)
- [PUT-UEPolicySet](#)
- [PATCH-UEPolicySet](#)
- [PUT-UsageMonitoringInformation](#)

PATCH-SessionManagementPolicyData

```
{
  "umData": {
    "mk1": {
      "scopes": {
        "11-abc123": {
          "dnn": [
            "dnn1"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 11
          }
        },
        "22-abc123": {
          "dnn": [
            "dnn2"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 22
          }
        },
        "33-abc123": {
          "dnn": [
            "dnn1",
            "dnn2"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 33
          }
        }
      }
    }
  }
}
```

```

    },
    "limitId": "mk1",
    "umLevel": "SERVICE_LEVEL",
    "resetTime": {
      "period": "YEARLY"
    },
    "allowedUsage": {
      "duration": 9000,
      "totalVolume": 8888,
      "uplinkVolume": 6666,
      "downlinkVolume": 7777
    }
  },
  "smPolicySnssaiData": {
    "11-abc123": {
      "snssai": {
        "sd": "abc123",
        "sst": 11
      },
      "smPolicyDnnData": {
        "dnn1": {
          "dnn": "dnn1",
          "bdtRefIds": {
            "abc": "bdtRefIds",
            "xyz": "PCF123"
          }
        }
      }
    }
  }
}

```

PUT-UEPolicySet

```

{
  "praInfos": {
    "p1": {
      "praId": "p1",
      "trackingAreaList": [ {
        "plmnId": {
          "mcc": "976",
          "mnc": "32"
        },
        "tac": "5CB6"
      },
      {
        "plmnId": {
          "mcc": "977",
          "mnc": "33"
        },
        "tac": "5CB7"
      }
    ]
  }
}

```

```
],
"ecgiList": [{
  "plmnId": {
    "mcc": "976",
    "mnc": "32"
  },
  "eutraCellId": "92FFdBE"
},
{
  "plmnId": {
    "mcc": "977",
    "mnc": "33"
  },
  "eutraCellId": "8F868C4"
}
],
"ncgiList": [{
  "plmnId": {
    "mcc": "976",
    "mnc": "32"
  },
  "nrCellId": "b2fB6fE9D"
},
{
  "plmnId": {
    "mcc": "977",
    "mnc": "33"
  },
  "nrCellId": "5d1B4127b"
}
],
"globalRanNodeIdList": [{
  "plmnId": {
    "mcc": "965",
    "mnc": "235"
  },
  "n3IwfId": "fFf0f2AFbFa16CEfE7"
},
{
  "plmnId": {
    "mcc": "967",
    "mnc": "238"
  },
  "gNbId": {
    "bitLength": 25,
    "gNBValue": "1A8F1D"
  }
}
]
},
"subscCats": ["cat1", "cat2"],
"uePolicySections": {
```

```

    "111": {
      "upsi": "111",
      "uePolicySectionInfo": "1"
    },
    "33": {
      "upsi": "33",
      "uePolicySectionInfo": "2"
    }
  },
  "upsis": ["111", "33"],
  "allowedRouteSelDescs": {
    "965-235": {
      "servingPlmn": {
        "mcc": "965",
        "mnc": "235"
      },
      "snssaiRouteSelDescs": [{
        "snssai": {
          "sd": "abc123",
          "sst": 11
        }
      },
      "dnnRouteSelDescs": [{
        "dnn": "dnn1",
        "sscModes": ["SSC_MODE_1", "SSC_MODE_2"],
        "pduSessTypes": ["IPV4"]
      }
    ]
  }
},
"andspInd": true,
"pei": "imei-355375345274757",
"osIds": ["bceafb30-31bd-4b8d-b3c2-ed79d029531a",
"cc9d9f97-0127-497c-9bca-79e8e9080ea8"]
}

```

PATCH-UEPolicySet

```

{
  "praInfos":{
    "p1": {
      "praId": "p1",
      "trackingAreaList": [{
        "plmnId": {
          "mcc": "976",
          "mnc": "32"
        },
        "tac": "5CB6"
      },
      {
        "plmnId": {
          "mcc": "977",
          "mnc": "33"
        },
        "tac": "5CB7"
      }
    ]
  }
}

```

```

    }
  ],
  "ecgiList": [{
    "plmnId": {
      "mcc": "976",
      "mnc": "32"
    },
    "eutraCellId": "92FFdBE"
  },
  {
    "plmnId": {
      "mcc": "977",
      "mnc": "33"
    },
    "eutraCellId": "8F868C4"
  }
],
  "ncgiList": [{
    "plmnId": {
      "mcc": "976",
      "mnc": "32"
    },
    "nrCellId": "b2fB6fE9D"
  },
  {
    "plmnId": {
      "mcc": "977",
      "mnc": "33"
    },
    "nrCellId": "5d1B4127b"
  }
],
  "globalRanNodeIdList": [{
    "plmnId": {
      "mcc": "965",
      "mnc": "235"
    },
    "n3IwfId": "fFf0f2AFbFa16CEfE7"
  },
  {
    "plmnId": {
      "mcc": "967",
      "mnc": "238"
    },
    "gNbId": {
      "bitLength": 25,
      "gNBValue": "1A8F1D"
    }
  }
]
},
"subscCats": ["cat1", "cat2"],

```

```

"uePolicySections": {
  "111": {
    "upsi": "111",
    "uePolicySectionInfo": "1"
  },
  "33": {
    "upsi": "33",
    "uePolicySectionInfo": "2"
  }
},
"upsis": ["111", "33"],
"allowedRouteSelDescs": {
  "965-235": {
    "servingPlmn": {
      "mcc": "965",
      "mnc": "235"
    },
    "snssaiRouteSelDescs": [{
      "snssai": {
        "sd": "abc123",
        "sst": 11
      }
    }]
  }
},
"andspInd": true,
"pei": "imei-355375345274757",
"osIds": ["bceafb30-31bd-4b8d-b3c2-ed79d029531a",
"cc9d9f97-0127-497c-9bca-79e8e9080ea8"]
}

```

PUT-UsageMonitoringInformation

```

{
  "scopes": {
    "11-abc123": {
      "dnn": [
        "dnn1"
      ],
      "snssai": {
        "sd": "abc123",
        "sst": 11
      }
    },
    "22-abc123": {
      "dnn": [
        "dnn2"
      ],
      "snssai": {
        "sd": "abc123",
        "sst": 22
      }
    },
    "33-abc123": {

```

```
        "dnn": [
            "dnn1",
            "dnn2"
        ],
        "snssai": {
            "sd": "abc123",
            "sst": 33
        }
    },
    "limitId": "mk1",
    "umLevel": "SERVICE_LEVEL",
    "resetTime": {
        "period": "YEARLY"
    },
    "allowedUsage": {
        "duration": 9000,
        "totalVolume": 8888,
        "uplinkVolume": 6666,
        "downlinkVolume": 7777
    }
}
```

Payload Reference for Provisioning System

This section provides payload details for the following Provisioning System Operations.

- [POST-ProfileData](#)
- [POST-Profile Data and Policy Data](#)
- [PUT-ProfileData](#)
- [PUT-AccessAndMobilityPolicyData](#)
- [PUT-SessionManagementPolicyData](#)
- [PUT-UEPolicySet - Provisioning](#)

POST-ProfileData

```
{
  "profile-data": {
    "MSISDN": ["1111111112", "1111111113"],
    "IMSI": ["2222222221", "2222222222", "2222222223"],
    "NAI": ["3333333331", "3333333332", "3333333333"]
  }
}
```

POST-Profile Data and Policy Data

```
{
  "profile-data": {
```

```

    "MSISDN": [
      "9111111112",
      "9211111112",
      "1111111114"
    ],
    "policy-data": {
      "am-data": {
        "praInfos": {
          "p1": {
            "praId": "p1",
            "trackingAreaList": [
              {
                "plmnId": {
                  "mcc": "976",
                  "mnc": "32"
                },
                "tac": "5CB6"
              },
              {
                "plmnId": {
                  "mcc": "977",
                  "mnc": "33"
                },
                "tac": "5CB7"
              }
            ],
            "ecgiList": [
              {
                "plmnId": {
                  "mcc": "976",
                  "mnc": "32"
                },
                "eutraCellId": "92FFdBE"
              },
              {
                "plmnId": {
                  "mcc": "977",
                  "mnc": "33"
                },
                "eutraCellId": "8F868C4"
              }
            ],
            "ncgiList": [
              {
                "plmnId": {
                  "mcc": "976",
                  "mnc": "32"
                },
                "nrCellId": "b2fB6fE9D"
              },
              {
                "plmnId": {
                  "mcc": "977",
                  "mnc": "33"
                }
              }
            ]
          }
        }
      }
    }
  }
}

```

```

    },
    "nrCellId": "5d1B4127b"
  },
  ],
  "globalRanNodeIdList": [
    {
      "plmnId": {
        "mcc": "965",
        "mnc": "235"
      },
      "n3IwfId": "fFf0f2AFbFa16CEfE7"
    },
    {
      "plmnId": {
        "mcc": "967",
        "mnc": "238"
      },
      "gNbId": {
        "bitLength": 25,
        "gNBValue": "1A8F1D"
      }
    }
  ]
},
"subscCats": [
  "cat1",
  "cat2"
],
"sm-data": {
  "umData": {
    "mk1": {
      "scopes": {
        "11-abc123": {
          "dnn": [
            "dnn1"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 11
          }
        },
        "22-abc123": {
          "dnn": [
            "dnn2"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 22
          }
        },
        "33-abc123": {
          "dnn": [
            "dnn1",

```

```

        "dnn2"
      ],
      "snssai": {
        "sd": "abc123",
        "sst": 33
      }
    }
  },
  "limitId": "mk1",
  "umLevel": "SERVICE_LEVEL",
  "resetTime": {
    "period": "YEARLY"
  },
  "allowedUsage": {
    "duration": 9000,
    "totalVolume": 8888,
    "uplinkVolume": 6666,
    "downlinkVolume": 7777
  }
},
"smPolicySnssaiData": {
  "11-abc123": {
    "snssai": {
      "sd": "abc123",
      "sst": 11
    },
    "smPolicyDnnData": {
      "dnn1": {
        "dnn": "dnn1",
        "bdtRefIds": {
          "abc": "bdtRefIds",
          "xyz": "PCF123"
        }
      }
    }
  }
},
"ue-policy-set": {
  "praInfos": {
    "p1": {
      "praId": "p1",
      "trackingAreaList": [
        {
          "plmnId": {
            "mcc": "976",
            "mnc": "32"
          },
          "tac": "5CB6"
        },
        {
          "plmnId": {
            "mcc": "977",
            "mnc": "33"
          }
        }
      ]
    }
  }
}

```

```

    },
    "tac": "5CB7"
  },
  ],
  "ecgiList": [
    {
      "plmnId": {
        "mcc": "976",
        "mnc": "32"
      },
      "eutraCellId": "92FFdBE"
    },
    {
      "plmnId": {
        "mcc": "977",
        "mnc": "33"
      },
      "eutraCellId": "8F868C4"
    }
  ],
  "ncgiList": [
    {
      "plmnId": {
        "mcc": "976",
        "mnc": "32"
      },
      "nrCellId": "b2fB6fE9D"
    },
    {
      "plmnId": {
        "mcc": "977",
        "mnc": "33"
      },
      "nrCellId": "5d1B4127b"
    }
  ],
  "globalRanNodeIdList": [
    {
      "plmnId": {
        "mcc": "965",
        "mnc": "235"
      },
      "n3IwfId": "fFf0f2AFbFa16CEfE7"
    },
    {
      "plmnId": {
        "mcc": "967",
        "mnc": "238"
      },
      "gNbId": {
        "bitLength": 25,
        "gNBValue": "1A8F1D"
      }
    }
  ]
]

```

```

    }
  },
  "subscCats": [
    "cat1",
    "cat2"
  ],
  "uePolicySections": {
    "33": {
      "upsi": "33",
      "uePolicySectionInfo": "2"
    },
    "111": {
      "upsi": "111",
      "uePolicySectionInfo": "1"
    }
  },
  "upsis": [
    "111",
    "33"
  ],
  "allowedRouteSelDescs": {
    "965-235": {
      "servingPlmn": {
        "mcc": "965",
        "mnc": "235"
      },
      "snssaiRouteSelDescs": [
        {
          "snssai": {
            "sd": "abc123",
            "sst": 11
          },
          "dnnRouteSelDescs": [
            {
              "dnn": "dnn1",
              "sscModes": [
                "SSC_MODE_1",
                "SSC_MODE_2"
              ],
              "pduSessTypes": [
                "IPV4"
              ]
            }
          ]
        }
      ]
    }
  },
  "andspInd": true,
  "pei": "imei-355375345274757",
  "osIds": [
    "bceafb30-31bd-4b8d-b3c2-ed79d029531a",
    "cc9d9f97-0127-497c-9bca-79e8e9080ea8"
  ]
}

```

```
}
}
```

POST - Profile Data and SLF Data

```
{
  "profile-data": {
    "MSISDN": [
      "1111111112",
      "1111111113"
    ],
    "IMSI": [
      "2222222221",
      "2222222222",
      "2222222223"
    ],
    "NAI": [
      "3333333331",
      "3333333332",
      "3333333333"
    ]
  },
  "nf-group-ids": {
    "nfGroupIDs": {
      "NRF": "nrf-group-name",
      "UDM": "udm-group-name"
    }
  }
}
```

PUT-ProfileData

```
{
  "profile-data": {
    "MSISDN": ["1111111112", "1111111113", "1111111114", "1111111115",
      "1111111116"],
    "IMSI": ["2222222221", "2222222222", "2222222223"],
    "NAI": ["3333333331", "3333333332", "3333333333"]
  }
}
```

PUT-AccessAndMobilityPolicyData

```
{
  "praInfos": {
    "p1": {
      "praId": "p1",
      "trackingAreaList": [{
        "plmnId": {
          "mcc": "976",
          "mnc": "32"
        }
      }]
    }
  }
}
```

```

        },
        "tac": "5CB6"
    },
    {
        "plmnId": {
            "mcc": "977",
            "mnc": "33"
        },
        "tac": "5CB7"
    }
],
"ecgiList": [{
    "plmnId": {
        "mcc": "976",
        "mnc": "32"
    },
    "eutraCellId": "92FFdBE"
},
{
    "plmnId": {
        "mcc": "977",
        "mnc": "33"
    },
    "eutraCellId": "8F868C4"
}
],
"ncgiList": [{
    "plmnId": {
        "mcc": "976",
        "mnc": "32"
    },
    "nrCellId": "b2fB6fE9D"
},
{
    "plmnId": {
        "mcc": "977",
        "mnc": "33"
    },
    "nrCellId": "5d1B4127b"
}
],
"globalRanNodeIdList": [{
    "plmnId": {
        "mcc": "965",
        "mnc": "235"
    },
    "n3IwfId": "fFf0f2AFbFa16CEfE7"
},
{
    "plmnId": {
        "mcc": "967",
        "mnc": "238"
    }
},

```

```

        "gNbId": {
            "bitLength": 25,
            "gNBValue": "1A8F1D"
        }
    ]
}
},
"subscCats": ["cat1", "cat2"]
}

```

PUT-SessionManagementPolicyData

```

{
  "umData": {
    "mk1": {
      "scopes": {
        "11-abc123": {
          "dnn": [
            "dnn1"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 11
          }
        },
        "22-abc123": {
          "dnn": [
            "dnn2"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 22
          }
        },
        "33-abc123": {
          "dnn": [
            "dnn1",
            "dnn2"
          ],
          "snssai": {
            "sd": "abc123",
            "sst": 33
          }
        }
      },
      "limitId": "mk1",
      "umLevel": "SERVICE_LEVEL",
      "resetTime": {
        "period": "YEARLY"
      },
      "allowedUsage": {
        "duration": 9000,
        "totalVolume": 8888,

```

```

        "uplinkVolume": 6666,
        "downlinkVolume": 7777
      }
    },
    "umDataLimits": {
      "mk1": {
        "scopes": {
          "11-abc123": {
            "dnn": [
              "dnn1"
            ],
            "snssai": {
              "sd": "abc123",
              "sst": 11
            }
          },
          "22-abc123": {
            "dnn": [
              "dnn2"
            ],
            "snssai": {
              "sd": "abc123",
              "sst": 22
            }
          },
          "33-abc123": {
            "dnn": [
              "dnn1",
              "dnn2"
            ],
            "snssai": {
              "sd": "abc123",
              "sst": 33
            }
          }
        }
      },
      "endDate": "2018-11-05T08:17:14.090Z",
      "limitId": "mk1",
      "umLevel": "SESSION_LEVEL",
      "startDate": "2018-09-05T08:17:14.090Z",
      "usageLimit": {
        "duration": 6000,
        "totalVolume": 9000,
        "uplinkVolume": 5000,
        "downlinkVolume": 4000
      },
      "resetPeriod": "2018-01-02T08:17:14.090Z"
    },
    "smPolicySnssaiData": {
      "11-abc123": {
        "snssai": {
          "sd": "abc123",
          "sst": 11
        }
      }
    }
  }
}

```

```

},
"smPolicyDnnData": {
  "dnn1": {
    "dnn": "dnn1",
    "bdtRefIds": {

      "xyz": "bdtRefIds",
      "abc": "xyz"
    },
    "gbrDl": "7788 Kbps",
    "gbrUl": "5566 Kbps",
    "online": true,
    "chfInfo": {
      "primaryChfAddress": "1.1.1.1",
      "secondaryChfAddress": "2.2.2.2"
    },
    "offline": true,
    "praInfos": {
      "p1": {
        "praId": "p1",
        "trackingAreaList": [{
          "plmnId": {
            "mcc": "976",
            "mnc": "32"
          },
          "tac": "5CB6"
        },
        {
          "plmnId": {
            "mcc": "977",
            "mnc": "33"
          },
          "tac": "5CB7"
        }
      ],
      "ecgiList": [{
        "plmnId": {
          "mcc": "976",
          "mnc": "32"
        },
        "eutraCellId": "92FFdBE"
      },
      {
        "plmnId": {
          "mcc": "977",
          "mnc": "33"
        },
        "eutraCellId": "8F868C4"
      }
    ],
    "ncgiList": [{
      "plmnId": {
        "mcc": "976",
        "mnc": "32"
      },
    },

```

```

        "nrCellId": "b2fB6fE9D"
      },
      {
        "plmnId": {
          "mcc": "977",
          "mnc": "33"
        },
        "nrCellId": "5d1B4127b"
      }
    ],
    "globalRanNodeIdList": [{
      "plmnId": {
        "mcc": "965",
        "mnc": "235"
      },
      "n3IwfId": "fFf0f2AFbFa16CEfE7"
    },
    {
      "plmnId": {
        "mcc": "967",
        "mnc": "238"
      },
      "gNbId": {
        "bitLength": 25,
        "gNBValue": "1A8F1D"
      }
    }
  ]
},
"ipv4Index": 0,
"ipv6Index": 0,
"subscCats": [
  "cat1",
  "cat2"
],
"adcSupport": true,
"mpsPriority": true,
"allowedServices": [
  "ser1",
  "ser2"
],
"mpsPriorityLevel": 2,
"imsSignallingPrio": true,
"refUmDataLimitIds": {
  "mk1": {
    "monkey": [
      "monkey1"
    ],
    "limitId": "mk1"
  }
},
"subscSpendingLimits": true

```

```

    }
  },
  "22-abc123": {
    "snssai": {
      "sd": "abc123",
      "sst": 22
    },
    "smPolicyDnnData": {
      "dnn2": {
        "dnn": "dnn2",
        "gbrDl": "7788 Kbps",
        "gbrUl": "5566 Kbps",
        "online": true,
        "chfInfo": {
          "primaryChfAddress": "1.1.1.1",
          "secondaryChfAddress": "2.2.2.2"
        },
        "offline": true,
        "praInfos": {
          "p1": {
            "praId": "p1",
            "trackingAreaList": [{
              "plmnId": {
                "mcc": "976",
                "mnc": "32"
              },
              "tac": "5CB6"
            },
            {
              "plmnId": {
                "mcc": "977",
                "mnc": "33"
              },
              "tac": "5CB7"
            }
          ],
          "ecgiList": [{
            "plmnId": {
              "mcc": "976",
              "mnc": "32"
            },
            "eutraCellId": "92FFdBE"
          },
          {
            "plmnId": {
              "mcc": "977",
              "mnc": "33"
            },
            "eutraCellId": "8F868C4"
          }
        ],
        "ncgiList": [{
          "plmnId": {
            "mcc": "976",

```

```

        "mnc": "32"
      },
      "nrCellId": "b2fB6fE9D"
    },
    {
      "plmnId": {
        "mcc": "977",
        "mnc": "33"
      },
      "nrCellId": "5d1B4127b"
    }
  ],
  "globalRanNodeIdList": [{
    "plmnId": {
      "mcc": "965",
      "mnc": "235"
    },
    "n3IwfId": "fFf0f2AFbFa16CEfE7"
  },
  {
    "plmnId": {
      "mcc": "967",
      "mnc": "238"
    },
    "gNbId": {
      "bitLength": 25,
      "gNBValue": "1A8F1D"
    }
  }
]
},
"ipv4Index": 0,
"ipv6Index": 0,
"subscCats": [
  "cat1",
  "cat2"
],
"adcSupport": true,
"mpsPriority": true,
"allowedServices": [
  "ser1",
  "ser2"
],
"mpsPriorityLevel": 2,
"imsSignallingPrio": true,
"refUmDataLimitIds": {
  "mk1": {
    "monkey": [
      "monkey1"
    ],
    "limitId": "mk1"
  }
}

```

```

    },
    "subscSpendingLimits": true
  }
},
"33-abc123": {
  "snssai": {
    "sd": "abc123",
    "sst": 33
  },
  "smPolicyDnnData": {
    "dnn1": {
      "dnn": "dnn1",
      "gbrDl": "7788 Kbps",
      "gbrUl": "5566 Kbps",
      "online": true,
      "chfInfo": {
        "primaryChfAddress": "1.1.1.1",
        "secondaryChfAddress": "2.2.2.2"
      },
      "offline": true,
      "praInfos": {
        "p1": {
          "praId": "p1",
          "trackingAreaList": [{
            "plmnId": {
              "mcc": "976",
              "mnc": "32"
            },
            "tac": "5CB6"
          },
          {
            "plmnId": {
              "mcc": "977",
              "mnc": "33"
            },
            "tac": "5CB7"
          }
        ],
        "ecgiList": [{
          "plmnId": {
            "mcc": "976",
            "mnc": "32"
          },
          "eutraCellId": "92FFdBE"
        },
        {
          "plmnId": {
            "mcc": "977",
            "mnc": "33"
          },
          "eutraCellId": "8F868C4"
        }
      ],
      "ncgiList": [{

```

```

        "plmnId": {
            "mcc": "976",
            "mnc": "32"
        },
        "nrCellId": "b2fB6fE9D"
    },
    {
        "plmnId": {
            "mcc": "977",
            "mnc": "33"
        },
        "nrCellId": "5d1B4127b"
    }
],
"globalRanNodeIdList": [{
    "plmnId": {
        "mcc": "965",
        "mnc": "235"
    },
    "n3IwfId": "fFf0f2AFbFa16CEfE7"
},
{
    "plmnId": {
        "mcc": "967",
        "mnc": "238"
    },
    "gNbId": {
        "bitLength": 25,
        "gNBValue": "1A8F1D"
    }
}
]
}
},
"ipv4Index": 0,
"ipv6Index": 0,
"subscCats": [
    "cat1",
    "cat2"
],
"adcSupport": true,
"mpsPriority": true,
"allowedServices": [
    "ser1",
    "ser2"
],
"mpsPriorityLevel": 2,
"imsSignallingPrio": true,
"refUmDataLimitIds": {
    "mk1": {
        "monkey": [
            "monkey1"
        ],

```

```

        "limitId": "mk1"
      }
    },
    "subscSpendingLimits": true
  },
  "dnn2": {
    "dnn": "dnn2",
    "gbrDl": "7788 Kbps",
    "gbrUl": "5566 Kbps",
    "online": true,
    "chfInfo": {
      "primaryChfAddress": "1.1.1.1",
      "secondaryChfAddress": "2.2.2.2"
    },
    "offline": true,
    "praInfos": {
      "p1": {
        "praId": "p1",
        "trackingAreaList": [{
          "plmnId": {
            "mcc": "976",
            "mnc": "32"
          },
          "tac": "5CB6"
        }],
        {
          "plmnId": {
            "mcc": "977",
            "mnc": "33"
          },
          "tac": "5CB7"
        }
      ],
      "ecgiList": [{
        "plmnId": {
          "mcc": "976",
          "mnc": "32"
        },
        "eutraCellId": "92FFdBE"
      }],
      {
        "plmnId": {
          "mcc": "977",
          "mnc": "33"
        },
        "eutraCellId": "8F868C4"
      }
    ],
    "ncgiList": [{
      "plmnId": {
        "mcc": "976",
        "mnc": "32"
      },
      "nrCellId": "b2fB6fE9D"
    }],
  },

```

```

        {
            "plmnId": {
                "mcc": "977",
                "mnc": "33"
            },
            "nrCellId": "5d1B4127b"
        },
        "globalRanNodeIdList": [{
            "plmnId": {
                "mcc": "965",
                "mnc": "235"
            },
            "n3IwfId": "fFf0f2AFbFa16CEfE7"
        },
        {
            "plmnId": {
                "mcc": "967",
                "mnc": "238"
            },
            "gNbId": {
                "bitLength": 25,
                "gNBValue": "1A8F1D"
            }
        }
    ],
    "ipv4Index": 0,
    "ipv6Index": 0,
    "subscCats": [
        "cat1",
        "cat2"
    ],
    "adcSupport": true,
    "mpsPriority": true,
    "allowedServices": [
        "ser1",
        "ser2"
    ],
    "mpsPriorityLevel": 2,
    "imsSignallingPrio": true,
    "refUmDataLimitIds": {
        "mk1": {
            "monkey": [
                "monkey1"
            ],
            "limitId": "mk1"
        }
    },
    "subscSpendingLimits": true
}

```

```
    }  
  }  
}
```

PUT-UEPolicySet - Provisioning

```
{  
  "praInfos": {  
    "p1": {  
      "praId": "p1",  
      "trackingAreaList": [{  
        "plmnId": {  
          "mcc": "976",  
          "mnc": "32"  
        },  
        "tac": "5CB6"  
      },  
      {  
        "plmnId": {  
          "mcc": "977",  
          "mnc": "33"  
        },  
        "tac": "5CB7"  
      }  
    ],  
    "ecgiList": [{  
      "plmnId": {  
        "mcc": "976",  
        "mnc": "32"  
      },  
      "eutraCellId": "92FFdBE"  
    },  
    {  
      "plmnId": {  
        "mcc": "977",  
        "mnc": "33"  
      },  
      "eutraCellId": "8F868C4"  
    }  
  ],  
  "ncgiList": [{  
    "plmnId": {  
      "mcc": "976",  
      "mnc": "32"  
    },  
    "nrCellId": "b2fB6fE9D"  
  },  
  {  
    "plmnId": {  
      "mcc": "977",  
      "mnc": "33"  
    },  
    "nrCellId": "5d1B4127b"  
  }  
}
```

```

    },
    "globalRanNodeIdList": [{
      "plmnId": {
        "mcc": "965",
        "mnc": "235"
      },
      "n3IwfId": "fFf0f2AFbFa16CEfE7"
    },
    {
      "plmnId": {
        "mcc": "967",
        "mnc": "238"
      },
      "gNbId": {
        "bitLength": 25,
        "gNBValue": "1A8F1D"
      }
    }
  ],
  "subscCats": ["cat1", "cat2"],
  "uePolicySections": {
    "111": {
      "upsi": "111",
      "uePolicySectionInfo": "1"
    },
    "33": {
      "upsi": "33",
      "uePolicySectionInfo": "2"
    }
  },
  "upsis": ["111", "33"],
  "allowedRouteSelDescs": {
    "965-235": {
      "servingPlmn": {
        "mcc": "965",
        "mnc": "235"
      },
      "snssaiRouteSelDescs": [{
        "snssai": {
          "sd": "abc123",
          "sst": 11
        }
      },
      "dnnRouteSelDescs": [{
        "dnn": "dnn1",
        "sscModes": ["SSC_MODE_1", "SSC_MODE_2"],
        "pduSessTypes": ["IPv4"]
      }
    ]
  }
},

```

```
    "andspInd": true,  
    "pei": "imei-355375345274757",  
    "osIds": ["bceafb30-31bd-4b8d-b3c2-ed79d029531a",  
    "cc9d9f97-0127-497c-9bca-79e8e9080ea8"]  
  }  
}
```

Payload Reference for UDM APIs

This section provides payload details for the following UDM APIs Operations.

- [PUT-Amf3GppAccessRegistration](#)
- [PATCH-Amf3GppAccessRegistration](#)
- [PUT-AmfNon3GppAccessRegistration](#)
- [PUT-SessionManagementSubscriptionData](#)

PATCH-Amf3GppAccessRegistration

```
case 1: REPLACE  
[  
  {  
    "op" : "replace",  
    "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/0/plmnId/mcc",  
    "value" : "998"  
  }  
]  
  
case2: ADD  
[  
  {  
    "op" : "add",  
    "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/1",  
    "value" : {  
      "amfId": "5678AA",  
      "plmnId": {  
        "mcc": "666",  
        "mnc": "456"  
      }  
    }  
  }  
]  
  
case3: REMOVE  
[  
  {  
    "op" : "remove",  
    "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/2"  
  }  
]
```

PUT-Amf3GppAccessRegistration

```
{  
  "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",  
  "supportedFeatures": "AF",  
}
```

```

    "purgeFlag": true,
    "pei": "imei-1000000000000001",
    "imsVoPs": "HOMOGENEOUS_SUPPORT",
    "deregCallbackUri": "http://ocnrf-ambassador.default.svc.cluster.local/
nnrf-nfm/v1/nf-instances",
    "amfServiceNameDereg": "nudm-sdm",
    "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "amfServiceNamePcscfRest": "nausf-auth",
    "initialRegistrationInd": true,
    "guami": {
      "plmnId": {
        "mcc": "001",
        "mnc": "123"
      },
      "amfId": "1234AA"
    },
    "backupAmfInfo": [
      {
        "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
        "guamiList": [
          {
            "plmnId": {
              "mcc": "002",
              "mnc": "456"
            },
            "amfId": "5678AA"
          },
          {
            "plmnId": {
              "mcc": "003",
              "mnc": "789"
            },
            "amfId": "9876AA"
          }
        ]
      }
    ],
    "drFlag": true,
    "ratType": "WLAN",
    "urrrIndicator": true,
    "amfEeSubscriptionId": "subscriptionId",
    "epsInterworkingInfo": {
      "dnn1": {
        "pgwFqdn": "hijklm",
        "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9"
      },
      "dnn2": {
        "pgwFqdn": "abcdefgh",
        "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b7"
      }
    }
  }
}

```

PUT-AmfNon3GppAccessRegistration

```
{
  "amfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9",
  "supportedFeatures" : "AF",
  "purgeFlag" : true,
  "pei" : "imei-1000000000000001",
  "imsVoPs" : "HOMOGENEOUS_SUPPORT",
  "deregCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/
nnrf-nfm/v1/nf-instances",
  "amfServiceNameDereg" : "nudm-sdm",
  "pcscfRestorationCallbackUri" : "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
  "amfServiceNamePcscfRest" : "nausf-auth",
  "guami" : {
    "plmnId" : {
      "mcc" : "001",
      "mnc" : "123"
    },
    "amfId" : "1234AA"
  },
  "backupAmfInfo" : [
    {
      "backupAmf" : "amf1.cluster1.net2.amf.5gc.mnc012.mcc345.3gppnetwork.org",
      "guamiList" : [{"plmnId" : {"mcc" : "002", "mnc" : "456"}, "amfId" :
"5678AA"}, {"plmnId" : {"mcc" : "003", "mnc" : "789"}, "amfId" : "9876AA"}]}
    ],
  "ratType" : "WLAN",
  "amfEeSubscriptionId" : "subscriptionId",
  "urrrIndicator" : true
}
```

PUT-SessionManagementSubscriptionData

```
{
  "singleNssai": {
    "sd": "ABC654",
    "sst": 1
  },
  "internalGroupIds": [
    "9ABAB803-203-299-95A9",
    "9ABAB803-203-299-95A2",
    "79e0c480-719-085-f2A55e6DDc91Df802438"
  ],
  "dnnConfigurations": {
    "dnn1": {
      "sscModes": {
        "defaultSscMode": "SSC_MODE_1",
        "allowedSscModes": [
          "SSC_MODE_2",
          "SSC_MODE_3"
        ]
      }
    },
  },
}
```

```

        "iwkEpsInd": true,
        "upSecurity": {
            "upConfid": "REQUIRED",
            "upIntegr": "REQUIRED"
        },
        "sessionAmbr": {
            "uplink": "125 Mbps",
            "downlink": "25 Mbps"
        },
        "5gQosProfile": {
            "5qi": 123,
            "arp": {
                "preemptCap": "MAY_PREEMPT",
                "preemptVuln": "PREEMPTABLE",
                "priorityLevel": 1
            },
            "priorityLevel": 79
        },
        "pduSessionTypes": {
            "defaultSessionType": "IPv4",
            "allowedSessionTypes": [
                "IPv6",
                "IPv4V6",
                "UNSTRUCTURED",
                "ETHERNET"
            ]
        },
        "staticIpAddress": [
            "1.1.1.1",
            "191.0.2.1"
        ],
        "3gppChargingCharacteristics": "123A"
    },
    "sharedDnnConfigurationsId": "85868-mZE$cy",
    "odbPacketServices": "ALL_PACKET_SERVICES"
}

```

POST-SDMSubscriptions

```

{
    "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
    "expires": "2012-04-23T18:25:43.511Z",
    "implicitUnsubscribe": true,
    "dnn": "sasa",
    "singleNssai": {
        "sd": "651Bf9",
        "sst": 23
    },
    "callbackReference": "udr",
    "amfServiceName": "nnrf-nfm",
    "monitoredResourceUris": [
        "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
    ]
}

```

```

    ],
    "plmnId": {
      "mnc": "124",
      "mcc": "123"
    },
    "subscriptionId": "sa"
  }

```

Post-SubscriptionDataSubscriptions

```

{
  "callbackReference": "http://10.75.212.167:8787",
  "originalCallbackReference": "http://10.75.212.167:8787",
  "ueId": "nai-990991@nai",
  "subscriptionId": "7",
  "monitoredResourceUris": [
    "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
  ],
  "expiry": "2020-01-02T08:17:14.090Z",
  "supportedFeatures": "f",
  "sdmSubscription": {
    "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
    "expires": "2012-04-23T18:25:43.511Z",
    "implicitUnsubscribe": true,
    "dnn": "sasb",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 23
    }
  },
  "callbackReference": "udr",
  "amfServiceName": "nnrf-nfm",
  "monitoredResourceUris": [
    "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-data/nai-919090909010@nai/context-data/amf-3gpp-access"
  ],
  "plmnId": {
    "mnc": "124",
    "mcc": "123"
  },
  "subscriptionId": "sa"
}

```

PUT - SDMSubscriptions

```

{
  "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
  "expires": "2012-04-23T18:25:43.511Z",
  "implicitUnsubscribe": true,
  "dnn": "sasa",
  "singleNssai": {

```

```
"sd": "651Bf9",
"sst": 23
},
"callbackReference": "udr",
"amfServiceName": "nnrf-nfm",
"monitoredResourceUris": [
  "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-
  data/nai-990991@nai/context-data/amf-3gpp-access"
],
"plmnId": {
  "mnc": "124",
  "mcc": "123"
},
"subscriptionId": "sb"
}
```

Response Reference for UDM APIs

This section provides output details for the following UDM APIs.

- [GET-ContextData](#)
- [GET-Amf3GppAccessRegistration](#)
- [GET-AmfNon3GppAccessRegistration](#)
- [PUT-AccessAndMobilitySubscriptionData](#)
- [GET-SessionManagementSubscriptionData](#)
- [GET-ProvisionedData](#)
- [GET-SessionManagementSubscriptionData- Provisioning](#)

GET-ContextData

Following is the Result Code when the Sample URL is: <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data>

```
{
  "amfNon3Gpp": {
    "imsVoPs": "HOMOGENEOUS_SUPPORT",
    "deregCallbackUri": "http://ocnrf-
    ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "purgeFlag": true,
    "supportedFeatures": "AF",
    "ratType": "WLAN",
    "urrrIndicator": true,
    "amfServiceNameDereg": "nudm-sdm",
    "amfServiceNamePcscfRest": "nausf-auth",
    "guami": {
      "plmnId": {
        "mnc": "123",
        "mcc": "001"
      },
      "amfId": "1234AA"
    }
  }
}
```

```

    },
    "pei": "imei-1000000000000001",
    "amfEeSubscriptionId": "subscriptionId",
    "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
    "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "backupAmfInfo": [
      {
        "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
        "guamiList": [
          {
            "plmnId": {
              "mnc": "456",
              "mcc": "002"
            },
            "amfId": "5678AA"
          },
          {
            "plmnId": {
              "mnc": "789",
              "mcc": "003"
            },
            "amfId": "9876AA"
          }
        ]
      }
    ]
  },
  "smsf3GppAccess": {
    "smsfInstanceId": "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4",
    "supportedFeatures": "BA2b5d3b977eF2458EEC80592E",
    "smsfMAPAddress": "977347916",
    "plmnId": {
      "mnc": "45",
      "mcc": "452"
    },
    "smsfDiameterAddress": {
      "name":
"uLmBAnz2b7S60evNkC7tHvceZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEbV2ZePC
fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh",
      "realm":
"uLmBAnz2b7S60evNkC7tHvceZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEbV2ZePC
fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh"
    }
  },
  "amf3Gpp": {
    "imsVoPs": "HOMOGENEOUS_SUPPORT",
    "deregCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "purgeFlag": true,
    "supportedFeatures": "AF",
    "ratType": "WLAN",
    "urrrIndicator": true,
    "amfServiceNameDereg": "nudm-sdm",

```

```

    "amfServiceNamePcscfRest": "nausf-auth",
    "guami": {
      "plmnId": {
        "mnc": "123",
        "mcc": "001"
      },
      "amfId": "1234AA"
    },
    "pei": "imei-1000000000000001",
    "amfEeSubscriptionId": "subscriptionId",
    "drFlag": true,
    "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
    "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "backupAmfInfo": [
      {
        "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
        "guamiList": [
          {
            "plmnId": {
              "mnc": "456",
              "mcc": "002"
            },
            "amfId": "5678AA"
          },
          {
            "plmnId": {
              "mnc": "789",
              "mcc": "003"
            },
            "amfId": "9876AA"
          }
        ]
      }
    ],
    "epsInterworkingInfo": {
      "dnn2": {
        "smfInstanceId": "abae35e5-
cc45-4016-8dd4-89598e5311b7",
        "pgwFqdn": "abcdefgh"
      },
      "dnn1": {
        "smfInstanceId": "abae35e5-
cc45-4016-8dd4-89598e5311b9",
        "pgwFqdn": "hijklm"
      }
    },
    "initialRegistrationInd": true
  },
  "smsfNon3GppAccess": {
    "smsfInstanceId": "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4",
    "supportedFeatures": "BA2b5d3b977eF2458EEC80592E",
    "smsfMAPAddress": "977347916",
    "plmnId": {

```

```

        "mnc": "45",
        "mcc": "452"
    },
    "smsfDiameterAddress": {
        "name":
        "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEBV2ZePC
        fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh",
        "realm":
        "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEBV2ZePC
        fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh"
    }
}

```

GET - Context Data - SMSF

```

{
    "smsf3GppAccess": {
        "smsfInstanceId": "69d3da66-9e25-11e9-a2a3-2a2ae2dbcce4",
        "supportedFeatures": "BA2b5d3b977eF2458EEC80592E",
        "smsfMAPAddress": "977347916",
        "plmnId": {
            "mnc": "45",
            "mcc": "452"
        },
        "smsfDiameterAddress": {
            "name":
            "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEBV2ZePC
            fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh",
            "realm":
            "uLmBAnz2b7S60evNkC7tHvcEZidEXppNIp7Le9yXzucgboiXFRkYg6597Lbi31n0BxEBV2ZePC
            fKpUiEB0ULZMxudPsPepud.emteshurwdldooeh"
        }
    }
}

```

GET-ProvisionedData

Below is the output when the Sample URL is: <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data>.

```

{
    "amData": {
        "upuInfo": {
            "upuAckInd": true,
            "upuRegInd": true,
            "upuDataList": [
                {
                    "secPacket": "aGVsbG8="
                }
            ],
            "provisioningTime": "2012-04-23T18:25:43.511Z",

```

```

        "upuMacIausf": "E0b0cCF4EcCC5CA55DBfeA3B2Ad3aE80",
        "counterUpu": "3Ab5"
    },
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "mcsPriority": true,
    "activeTime": 3,
    "subscribedDnnList": [
        "hello",
        "ocudr"
    ],
    "subscribedUeAmbr": {
        "uplink": "123 Gbps",
        "downlink": "12 Gbps"
    },
    "sharedAmDataIds": [
        "62626-esp}W3A?hIgZ{47Qiuuj@GR:Ped>@k`Px,76390-Cd[s[TECI"
    ],
    "coreNetworkTypeRestrictions": [
        "5GC",
        "EPC"
    ],
    "nssai": {
        "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
        "defaultSingleNssais": [
            {
                "sd": "abc123",
                "sst": 1
            },
            {
                "sd": "abc124",
                "sst": 2
            }
        ],
        "singleNssais": [
            {
                "sd": "abc789",
                "sst": 3
            },
            {
                "sd": "abc799",
                "sst": 5
            }
        ]
    },
    "dlPacketCount": -1,
    "gpsis": [
        "msisdn-1585632",
        "msisdn-2969851"
    ],
    "rfspIndex": 123,
    "mpsPriority": true,
    "forbiddenAreas": [
        {
            "tacs": [
                "d11fdA",

```

```

        "EcccaD"
      ]
    }
  ],
  "serviceAreaRestriction": {
    "restrictionType": "ALLOWED_AREAS",
    "maxNumOfTAs": 23,
    "areas": [
      {
        "tacs": [
          "d11fdA",
          "EcccaD"
        ]
      }
    ]
  },
  "odbPacketServices": "ALL_PACKET_SERVICES",
  "sorInfo": {
    "sorMacIausf": "Bf85A791dCCDa7D6d9754264F02EDcBc",
    "steeringContainer": [
      {
        "plmnId": {
          "mnc": "456",
          "mcc": "123"
        },
        "accessTechList": [
          "NR"
        ]
      }
    ],
    "provisioningTime": "2012-04-23T18:25:43.511Z",
    "countersor": "8ebc",
    "ackInd": true
  },
  "ratRestrictions": [
    "NR",
    "WLAN",
    "EUTRA",
    "VIRTUAL"
  ],
  "subsRegTimer": 2,
  "ueUsageType": 9,
  "internalGroupIds": [
    "E1465DF5-483-159-Fc23DE491edb354dABAA",
    "51e851ea-577-297-Ef4d7Cf28CaC0D"
  ],
  "micoAllowed": true
},
"smfSelData": {
  "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
  "subscribedSnssaiInfos": {
    "snsai1": {
      "dnnInfos": [
        {
          "defaultDnnIndicator": true,

```

```

        "iwkEpsInd": true,
        "dnn": "Dnn1",
        "lboRoamingAllowed": true
    },
    {
        "defaultDnnIndicator": false,
        "iwkEpsInd": true,
        "dnn": "Dnn2",
        "lboRoamingAllowed": true
    }
]
},
"sharedSnssaiInfosId": "96367-9z}MD*"
},
"smData": {
    "2": {
        "dnnConfigurations": {
            "dnn1": {
                "iwkEpsInd": true,
                "sessionAmbr": {
                    "uplink": "125 Mbps",
                    "downlink": "25 Mbps"
                },
                "5gQosProfile": {
                    "priorityLevel": 79,
                    "5qi": 123,
                    "arp": {
                        "preemptCap": "MAY_PREEMPT",
                        "priorityLevel": 1,
                        "preemptVuln": "PREEMPTABLE"
                    }
                }
            },
            "upSecurity": {
                "upIntegr": "REQUIRED",
                "upConfid": "REQUIRED"
            },
            "sscModes": {
                "allowedSscModes": [
                    "SSC_MODE_2",
                    "SSC_MODE_3"
                ],
                "defaultSscMode": "SSC_MODE_1"
            },
            "3gppChargingCharacteristics": "123A",
            "pduSessionTypes": {
                "defaultSessionType": "IPV4",
                "allowedSessionTypes": [
                    "IPV6",
                    "IPV4V6",
                    "UNSTRUCTURED",
                    "ETHERNET"
                ]
            },
            "staticIpAddress": [

```

```

        "1.1.1.1",
        "191.0.2.1"
    ]
    },
    "singleNssai": {
        "sst": 2
    },
    "odbPacketServices": "ALL_PACKET_SERVICES",
    "internalGroupIds": [
        "9ABAB803-203-299-95A9",
        "9ABAB803-203-299-95A2",
        "79e0c480-719-085-f2A55e6DDc91Df802438"
    ],
    "sharedDnnConfigurationsId": "85868-mZE$cy"
},
"3": {
    "dnnConfigurations": {
        "dnn1": {
            "iwkEpsInd": true,
            "sessionAmbr": {
                "uplink": "125 Mbps",
                "downlink": "25 Mbps"
            },
            "5gQosProfile": {
                "priorityLevel": 79,
                "5qi": 123,
                "arp": {
                    "preemptCap": "MAY_PREEMPT",
                    "priorityLevel": 1,
                    "preemptVuln": "PREEMPTABLE"
                }
            },
            "upSecurity": {
                "upIntegr": "REQUIRED",
                "upConfid": "REQUIRED"
            },
            "sscModes": {
                "allowedSscModes": [
                    "SSC_MODE_2",
                    "SSC_MODE_3"
                ],
                "defaultSscMode": "SSC_MODE_1"
            },
            "3gppChargingCharacteristics": "123A",
            "pduSessionTypes": {
                "defaultSessionType": "IPV4",
                "allowedSessionTypes": [
                    "IPV6",
                    "IPV4V6",
                    "UNSTRUCTURED",
                    "ETHERNET"
                ]
            },
            "staticIpAddress": [

```

```

        "1.1.1.1",
        "191.0.2.1"
    ]
    },
    "singleNssai": {
        "sst": 3
    },
    "OdbPacketServices": "ALL_PACKET_SERVICES",
    "internalGroupIds": [
        "9ABAB803-203-299-95A9",
        "9ABAB803-203-299-95A2",
        "79e0c480-719-085-f2A55e6DDc91Df802438"
    ],
    "sharedDnnConfigurationsId": "85868-mZE$cy"
}
},
"traceData": {
    "eventList": "855B5bf7beC3AFB8c",
    "collectionEntityIpv6Addr": "2001:db8:85a3::8a2e:370:7334",
    "collectionEntityIpv4Addr": "26.118.255.253",
    "traceRef": "070207-baE6Dd",
    "neTypeList": "0f4FBefe95bF8",
    "traceDepth": "MINIMUM"
},
"smsMngData": {
    "moSmsBarringAll": true,
    "supportedFeatures": "CAe8de215CFa721BB2AE7Ef9c5f71a2e",
    "mtSmsBarringRoaming": false,
    "mtSmsSubscribed": true,
    "moSmsBarringRoaming": true,
    "mtSmsBarringAll": true,
    "moSmsSubscribed": false,
    "sharedSmsMngDataIds": [
        "16994-JD",
        "693599-9--GX"
    ]
},
"smsSubsData": {
    "sharedSmsSubsDataId": [
        "372063-P",
        "372063-O"
    ],
    "smsSubscribed": true
}
}
}

```

Below is the output when the Sample URL is <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data?dataset-names=AM,SM>

```

{
    "amData": {
        "upuInfo": {

```

```

        "upuAckInd": true,
        "upuRegInd": true,
        "upuDataList": [
            {
                "secPacket": "aGVsbG8="
            }
        ],
        "provisioningTime": "2012-04-23T18:25:43.511Z",
        "upuMacIausf": "E0b0cCF4EcCC5CA55DBfeA3B2Ad3aE80",
        "counterUpu": "3Ab5"
    },
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "mcsPriority": true,
    "activeTime": 3,
    "subscribedDnnList": [
        "hello",
        "ocudr"
    ],
    "subscribedUeAmbr": {
        "uplink": "123 Gbps",
        "downlink": "12 Gbps"
    },
    "sharedAmDataIds": [
        "62626-esp}W3A?hIgZ{47Qiuuj@GR:Ped>@k`Px,76390-Cd[s[TECI"
    ],
    "coreNetworkTypeRestrictions": [
        "5GC",
        "EPC"
    ],
    "nssai": {
        "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
        "defaultSingleNssais": [
            {
                "sd": "abc123",
                "sst": 1
            },
            {
                "sd": "abc124",
                "sst": 2
            }
        ],
        "singleNssais": [
            {
                "sd": "abc789",
                "sst": 3
            },
            {
                "sd": "abc799",
                "sst": 5
            }
        ]
    },
    "dlPacketCount": -1,
    "gpsis": [
        "msisdn-1585632",

```

```

        "msisdn-2969851"
    ],
    "rfspIndex": 123,
    "mpsPriority": true,
    "forbiddenAreas": [
        {
            "tacs": [
                "d11fdA",
                "EcccaD"
            ]
        }
    ],
    "serviceAreaRestriction": {
        "restrictionType": "ALLOWED_AREAS",
        "maxNumOfTAs": 23,
        "areas": [
            {
                "tacs": [
                    "d11fdA",
                    "EcccaD"
                ]
            }
        ]
    },
    "odbPacketServices": "ALL_PACKET_SERVICES",
    "sorInfo": {
        "sorMacIausf": "Bf85A791dCCDa7D6d9754264F02EDcBc",
        "steeringContainer": [
            {
                "plmnId": {
                    "mnc": "456",
                    "mcc": "123"
                },
                "accessTechList": [
                    "NR"
                ]
            }
        ],
        "provisioningTime": "2012-04-23T18:25:43.511Z",
        "countersor": "8ebc",
        "ackInd": true
    },
    "ratRestrictions": [
        "NR",
        "WLAN",
        "EUTRA",
        "VIRTUAL"
    ],
    "subsRegTimer": 2,
    "ueUsageType": 9,
    "internalGroupIds": [
        "E1465DF5-483-159-Fc23DE491edb354dABAa",
        "51e851ea-577-297-Ef4d7Cf28CaC0D"
    ],
    "micoAllowed": true

```

```

    },
    "smData": {
      "2": {
        "dnnConfigurations": {
          "dnn1": {
            "iwkEpsInd": true,
            "sessionAmbr": {
              "uplink": "125 Mbps",
              "downlink": "25 Mbps"
            },
            "5gQosProfile": {
              "priorityLevel": 79,
              "5qi": 123,
              "arp": {
                "preemptCap": "MAY_PREEMPT",
                "priorityLevel": 1,
                "preemptVuln": "PREEMPTABLE"
              }
            },
            "upSecurity": {
              "upIntegr": "REQUIRED",
              "upConfid": "REQUIRED"
            },
            "sscModes": {
              "allowedSscModes": [
                "SSC_MODE_2",
                "SSC_MODE_3"
              ],
              "defaultSscMode": "SSC_MODE_1"
            },
            "3gppChargingCharacteristics": "123A",
            "pduSessionTypes": {
              "defaultSessionType": "IPV4",
              "allowedSessionTypes": [
                "IPV6",
                "IPV4V6",
                "UNSTRUCTURED",
                "ETHERNET"
              ]
            },
            "staticIpAddress": [
              "1.1.1.1",
              "191.0.2.1"
            ]
          }
        },
        "singleNssai": {
          "sst": 2
        },
        "odbPacketServices": "ALL_PACKET_SERVICES",
        "internalGroupIds": [
          "9ABAB803-203-299-95A9",
          "9ABAB803-203-299-95A2",
          "79e0c480-719-085-f2A55e6DDc91Df802438"
        ]
      }
    }
  ],

```

```

        "sharedDnnConfigurationsId": "85868-mZE$cy"
    },
    "3": {
        "dnnConfigurations": {
            "dnn1": {
                "iwkEpsInd": true,
                "sessionAmbr": {
                    "uplink": "125 Mbps",
                    "downlink": "25 Mbps"
                },
                "5gQosProfile": {
                    "priorityLevel": 79,
                    "5qi": 123,
                    "arp": {
                        "preemptCap": "MAY_PREEMPT",
                        "priorityLevel": 1,
                        "preemptVuln": "PREEMPTABLE"
                    }
                },
                "upSecurity": {
                    "upIntegr": "REQUIRED",
                    "upConfid": "REQUIRED"
                },
                "sscModes": {
                    "allowedSscModes": [
                        "SSC_MODE_2",
                        "SSC_MODE_3"
                    ],
                    "defaultSscMode": "SSC_MODE_1"
                },
                "3gppChargingCharacteristics": "123A",
                "pduSessionTypes": {
                    "defaultSessionType": "IPv4",
                    "allowedSessionTypes": [
                        "IPv6",
                        "IPv4v6",
                        "UNSTRUCTURED",
                        "ETHERNET"
                    ]
                },
                "staticIpAddress": [
                    "1.1.1.1",
                    "191.0.2.1"
                ]
            }
        },
        "singleNssai": {
            "sst": 3
        },
        "odbPacketServices": "ALL_PACKET_SERVICES",
        "internalGroupIds": [
            "9ABAB803-203-299-95A9",
            "9ABAB803-203-299-95A2",
            "79e0c480-719-085-f2A55e6DDc91Df802438"
        ],

```

```

        "sharedDnnConfigurationsId": "85868-mZE$cy"
    }
}

```

PUT-AccessAndMobilitySubscriptionData

```

{
  "gpsis": [
    "msisdn-1585632",
    "msisdn-2969851"
  ],
  "nssai": {
    "singleNssais": [
      {
        "sd": "abc789",
        "sst": 3
      },
      {
        "sd": "abc799",
        "sst": 5
      }
    ],
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "defaultSingleNssais": [
      {
        "sd": "abc123",
        "sst": 1
      },
      {
        "sd": "abc124",
        "sst": 2
      }
    ]
  },
  "sorInfo": {
    "ackInd": true,
    "countersor": "8ebc",
    "sorMacIausf": "Bf85A791dCCDa7D6d9754264F02EDcBc",
    "provisioningTime": "2012-04-23T18:25:43.511Z",
    "steeringContainer": [
      {
        "plmnId": {
          "mcc": "123",
          "mnc": "456"
        },
        "accessTechList": [
          "NR"
        ]
      }
    ]
  },
  "upuInfo": {
    "upuAckInd": true,

```

```

        "upuRegInd": true,
        "counterUpu": "3Ab5",
        "upuDataList": [
            {
                "secPacket": "aGVsbG8="
            }
        ],
        "upuMacIausf": "E0b0cCF4EcCC5CA55DBfeA3B2Ad3aE80",
        "provisioningTime": "2012-04-23T18:25:43.511Z"
    },
    "rfspIndex": 123,
    "activeTime": 3,
    "mcsPriority": true,
    "micoAllowed": true,
    "mpsPriority": true,
    "ueUsageType": 9,
    "subsRegTimer": 2,
    "dlPacketCount": -1,
    "forbiddenAreas": [
        {
            "tacs": [
                "d11fdA",
                "EcccaD"
            ]
        }
    ],
    "ratRestrictions": [
        "NR",
        "WLAN",
        "EUTRA",
        "VIRTUAL"
    ],
    "sharedAmDataIds": [
        "62626-esp}W3A?hIgZ{47Qiuuj@GR:Ped>@k`Px,76390-Cd[s[TECI"
    ],
    "internalGroupIds": [
        "E1465DF5-483-159-Fc23DE491edb354dABAA",
        "51e851ea-577-297-Ef4d7Cf28CaC0D"
    ],
    "subscribedUeAmbr": {
        "uplink": "123 Gbps",
        "downlink": "12 Gbps"
    },
    "odbPacketServices": "ALL_PACKET_SERVICES",
    "subscribedDnnList": [
        "hello",
        "ocudr"
    ],
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "serviceAreaRestriction": {
        "areas": [
            {
                "tacs": [
                    "d11fdA",
                    "EcccaD"
                ]
            }
        ]
    }
}

```

```

    ]
  },
  "maxNumOfTAs": 23,
  "restrictionType": "ALLOWED_AREAS"
},
"coreNetworkTypeRestrictions": [
  "5GC",
  "EPC"
]
}

```

GET-Amf3GppAccessRegistration

Below is the output when the sample URL is <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000028/context-data/amf-3gpp-access>.

```

{
  "imsVoPs": "HOMOGENEOUS_SUPPORT",
  "deregCallbackUri": "http://ocnrf-ambassador.default.svc.cluster.local/
nnrf-nfm/v1/nf-instances",
  "purgeFlag": true,
  "supportedFeatures": "AF",
  "ratType": "WLAN",
  "urrpIndicator": true,
  "amfServiceNameDereg": "nudm-sdm",
  "amfServiceNamePcscfRest": "nausf-auth",
  "guami": {
    "plmnId": {
      "mnc": "123",
      "mcc": "001"
    },
    "amfId": "1234AA"
  },
  "pei": "imei-1000000000000001",
  "amfEeSubscriptionId": "subscriptionId",
  "drFlag": true,
  "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
  "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
  "backupAmfInfo": [
    {
      "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
      "guamiList": [
        {
          "plmnId": {
            "mnc": "456",
            "mcc": "002"
          },
          "amfId": "5678AA"
        },
        {
          "plmnId": {

```

```

        "mnc": "789",
        "mcc": "003"
      },
      "amfId": "9876AA"
    }
  ]
},
"epsInterworkingInfo": {
  "dnn2": {
    "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b7",
    "pgwFqdn": "abcdefgh"
  },
  "dnn1": {
    "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
    "pgwFqdn": "hijklm"
  }
},
"initialRegistrationInd": true
}

```

Below is the output when the sample URL is <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-9110000000028/context-data/amf-3gpp-access?fields=pei,ratType,epsInterworkingInfo,backupAmfInfo,drFlag>

```

{
  "pei": "imei-1000000000000001",
  "drFlag": true,
  "ratType": "WLAN",
  "backupAmfInfo": [
    {
      "AmfName": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
      "guamiList": [
        {
          "plmnId": {
            "mnc": "456",
            "mcc": "002"
          },
          "amfId": "5678AA"
        },
        {
          "plmnId": {
            "mnc": "789",
            "mcc": "003"
          },
          "amfId": "9876AA"
        }
      ]
    }
  ],
  "epsInterworkingInfo": {
    "dnn2": {

```

```

        "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b7",
        "pgwFqdn": "abcdefgh"
    },
    "dnn1": {
        "smfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
        "pgwFqdn": "hijklm"
    }
}

```

PATCH-Amf3GppAccessRegistration

```

case 1: REPLACE
[
{
  "op" : "replace",
  "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/0/plmnId/mcc",
  "value" : "998"
}
]

```

```

case2: ADD
[
{
  "op" : "add",
  "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/1",
  "value" : {
    "amfId": "5678AA",
    "plmnId": {
      "mcc": "666",
      "mnc": "456"
    }
  }
}
]

```

```

case3: REMOVE
[
{
  "op" : "remove",
  "path" : "/mnc-mcc-amfId/backupAmfInfo/0/guamiList/2"
}
]

```

PUT-AmfNon3GppAccessRegistration

```

{
  "amfInstanceId" : "abae35e5-cc45-4016-8dd4-89598e5311b9",
  "supportedFeatures" : "AF",
  "purgeFlag" : true,
  "pei" : "imei-1000000000000001",
  "imsVoPs" : "HOMOGENEOUS_SUPPORT",
  "deregCallbackUri" : "http://ocnrf-ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
  "amfServiceNameDereg" : "nudm-sdm",
  "pcscfRestorationCallbackUri" : "http://ocnrf-

```

```
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
"amfServiceNamePcscfRest" : "nausf-auth",
"guami" : {
  "plmnId" : {
    "mcc" : "001",
    "mnc" : "123"
  },
  "amfId" : "1234AA"
},
"backupAmfInfo" : [
  {
    "backupAmf" : "amf1.cluster1.net2.amf.5gc.mnc012.mcc345.3gppnetwork.org",
    "guamiList" : [{"plmnId" : {"mcc" : "002", "mnc" : "456"}, "amfId" :
"5678AA"}, {"plmnId" : {"mcc" : "003", "mnc" : "789"}, "amfId" : "9876AA"}]}
],
"ratType" : "WLAN",
"amfEeSubscriptionId": "subscriptionId",
"urrrpIndicator" : true
}
```

GET-AmfNon3GppAccessRegistration

The output of **Sample URI**: <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-9110000000028/context-data/amf-non-3gpp-access> is:

```
{
  "pei": "imei-1000000000000001",
  "guami": {
    "amfId": "1234AA",
    "plmnId": {
      "mcc": "001",
      "mnc": "123"
    }
  },
  "imsVoPs": "HOMOGENEOUS_SUPPORT",
  "ratType": "WLAN",
  "purgeFlag": true,
  "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
  "backupAmfInfo": [
    {
      "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
      "guamiList": [
        {
          "amfId": "5678AA",
          "plmnId": {
            "mcc": "002",
            "mnc": "456"
          }
        },
        {
          "amfId": "9876AA",
          "plmnId": {
            "mcc": "003",
            "mnc": "789"
          }
        }
      ]
    }
  ]
}
```

```

    }
  }
],
"urpIndicator": true,
"deregCallbackUri": "http://ocnrf-ambassador.default.svc.cluster.local/
nnrf-nfm/v1/nf-instances",
"supportedFeatures": "AF",
"amfEeSubscriptionId": "subscriptionId",
"amfServiceNameDereg": "nudm-sdm",
"amfServiceNamePcscfRest": "nausf-auth",
"pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances"
}

```

The output of **Sample URI**: `http://localhost:8080/nudr-dr-prov/v1/subscription-data/imsi-911000000025/context-data/amf-non-3gpp-access/all` is:

```

{
  "active": {
    "guami": "223-004-1234AA",
    "timeStamp": "2020-04-23 09:36:24.621"
  },
  "previousActive": {
    "guami": "123-004-1234AA",
    "timeStamp": "2020-04-23 09:36:17.919"
  },
  "2020-04-23 09:36:02.444": {
    "123-001-1234AA": {
      "pei": "imei-1000000000000001",
      "guami": {
        "amfId": "1234AA",
        "plmnId": {
          "mcc": "001",
          "mnc": "123"
        }
      }
    },
    "imsVoPs": "HOMOGENEOUS_SUPPORT",
    "ratType": "WLAN",
    "purgeFlag": true,
    "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
    "backupAmfInfo": [
      {
        "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
        "guamiList": [
          {
            "amfId": "5678AA",
            "plmnId": {
              "mcc": "002",
              "mnc": "456"
            }
          }
        ]
      }
    ]
  },
}

```

```

        {
            "amfId": "9876AA",
            "plmnId": {
                "mcc": "003",
                "mnc": "789"
            }
        }
    ],
    },
    "urrrIndicator": true,
    "deregCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
    "supportedFeatures": "AF",
    "amfEeSubscriptionId": "subscriptionId",
    "amfServiceNameDereg": "nudm-sdm",
    "amfServiceNamePcscfRest": "nausf-auth",
    "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances"
    }
},
"2020-04-23 09:36:10.504": {
    "123-002-1234AA": {
        "pei": "imei-1000000000000001",
        "guami": {
            "amfId": "1234AA",
            "plmnId": {
                "mcc": "002",
                "mnc": "123"
            }
        },
        "imsVoPs": "HOMOGENEOUS_SUPPORT",
        "ratType": "WLAN",
        "purgeFlag": true,
        "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
        "backupAmfInfo": [
            {
                "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
                "guamiList": [
                    {
                        "amfId": "5678AA",
                        "plmnId": {
                            "mcc": "002",
                            "mnc": "456"
                        }
                    },
                    {
                        "amfId": "9876AA",
                        "plmnId": {
                            "mcc": "003",
                            "mnc": "789"
                        }
                    }
                ]
            }
        ]
    }
}

```

```

    }
  ],
  "urrrIndicator": true,
  "deregCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
  "supportedFeatures": "AF",
  "amfEeSubscriptionId": "subscriptionId",
  "amfServiceNameDereg": "nudm-sdm",
  "amfServiceNamePcscfRest": "nausf-auth",
  "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances"
}
},
"2020-04-23 09:36:17.919": {
  "123-004-1234AA": {
    "pei": "imei-1000000000000001",
    "guami": {
      "amfId": "1234AA",
      "plmnId": {
        "mcc": "004",
        "mnc": "123"
      }
    },
    "imsVoPs": "HOMOGENEOUS_SUPPORT",
    "ratType": "WLAN",
    "purgeFlag": true,
    "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
    "backupAmfInfo": [
      {
        "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
        "guamiList": [
          {
            "amfId": "5678AA",
            "plmnId": {
              "mcc": "002",
              "mnc": "456"
            }
          },
          {
            "amfId": "9876AA",
            "plmnId": {
              "mcc": "003",
              "mnc": "789"
            }
          }
        ]
      }
    ]
  },
  "urrrIndicator": true,
  "deregCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
  "supportedFeatures": "AF",
  "amfEeSubscriptionId": "subscriptionId",
  "amfServiceNameDereg": "nudm-sdm",

```

```

        "amfServiceNamePcscfRest": "nausf-auth",
        "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances"
    }
},
"2020-04-23 09:36:24.621": {
    "223-004-1234AA": {
        "pei": "imei-1000000000000001",
        "guami": {
            "amfId": "1234AA",
            "plmnId": {
                "mcc": "004",
                "mnc": "223"
            }
        },
        "imsVoPs": "HOMOGENEOUS_SUPPORT",
        "ratType": "WLAN",
        "purgeFlag": true,
        "amfInstanceId": "abae35e5-cc45-4016-8dd4-89598e5311b9",
        "backupAmfInfo": [
            {
                "backupAmf": "amf1.cluster1.net2.amf.
5gc.mnc012.mcc345.3gppnetwork.org",
                "guamiList": [
                    {
                        "amfId": "5678AA",
                        "plmnId": {
                            "mcc": "002",
                            "mnc": "456"
                        }
                    },
                    {
                        "amfId": "9876AA",
                        "plmnId": {
                            "mcc": "003",
                            "mnc": "789"
                        }
                    }
                ]
            }
        ],
        "urrrIndicator": true,
        "deregCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances",
        "supportedFeatures": "AF",
        "amfEeSubscriptionId": "subscriptionId",
        "amfServiceNameDereg": "nudm-sdm",
        "amfServiceNamePcscfRest": "nausf-auth",
        "pcscfRestorationCallbackUri": "http://ocnrf-
ambassador.default.svc.cluster.local/nnrf-nfm/v1/nf-instances"
    }
}
}

```

GET-SessionManagementSubscriptionData

```
[
  {
    "dnnConfigurations": {
      "dnn1": {
        "iwkEpsInd": true,
        "sessionAmbr": {
          "uplink": "125 Mbps",
          "downlink": "25 Mbps"
        },
        "5gQosProfile": {
          "priorityLevel": 79,
          "5qi": 123,
          "arp": {
            "preemptCap": "MAY_PREEMPT",
            "priorityLevel": 1,
            "preemptVuln": "PREEMPTABLE"
          }
        },
        "upSecurity": {
          "upIntegr": "REQUIRED",
          "upConfid": "REQUIRED"
        },
        "sscModes": {
          "allowedSscModes": [
            "SSC_MODE_2",
            "SSC_MODE_3"
          ],
          "defaultSscMode": "SSC_MODE_1"
        },
        "3gppChargingCharacteristics": "123A",
        "pduSessionTypes": {
          "defaultSessionType": "IPV4",
          "allowedSessionTypes": [
            "IPV6",
            "IPV4V6",
            "UNSTRUCTURED",
            "ETHERNET"
          ]
        },
        "staticIpAddress": [
          "1.1.1.1",
          "191.0.2.1"
        ]
      }
    },
    "singleNssai": {
      "sd": "ABC654",
      "sst": 1
    },
    "odfPacketServices": "ALL_PACKET_SERVICES",
    "internalGroupIds": [
```

```

        "9ABAB803-203-299-95A9",
        "9ABAB803-203-299-95A2",
        "79e0c480-719-085-f2A55e6DDc91Df802438"
    ],
    "sharedDnnConfigurationsId": "85868-mZE$cy"
}
]

```

GET-SessionManagementSubscriptionData- Provisioning

```

[
  {
    "dnnConfigurations": {
      "dnn1": {
        "iwkEpsInd": true,
        "sessionAmbr": {
          "uplink": "125 Mbps",
          "downlink": "25 Mbps"
        },
        "5gQosProfile": {
          "priorityLevel": 79,
          "5qi": 123,
          "arp": {
            "preemptCap": "MAY_PREEMPT",
            "priorityLevel": 1,
            "preemptVuln": "PREEMPTABLE"
          }
        },
        "upSecurity": {
          "upIntegr": "REQUIRED",
          "upConfid": "REQUIRED"
        },
        "sscModes": {
          "allowedSscModes": [
            "SSC_MODE_2",
            "SSC_MODE_3"
          ],
          "defaultSscMode": "SSC_MODE_1"
        },
        "3gppChargingCharacteristics": "123A",
        "pduSessionTypes": {
          "defaultSessionType": "IPV4",
          "allowedSessionTypes": [
            "IPV6",
            "IPV4V6",
            "UNSTRUCTURED",
            "ETHERNET"
          ]
        },
        "staticIpAddress": [
          "1.1.1.1",
          "191.0.2.1"
        ]
      }
    }
  ]
}

```

```
    },
    "internalGroupIds": [
      "9ABAB803-203-299-95A9",
      "9ABAB803-203-299-95A2",
      "79e0c480-719-085-f2A55e6DDc91Df802438"
    ]
  }
]
```

GET-SDMSubscriptions

Following is the Result Code:

```
[
  {
    "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce5",
    "expires": "2012-04-23T18:25:43.511Z",
    "implicitUnsubscribe": false,
    "dnn": "sasa",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 23
    },
    "callbackReference": "udr",
    "amfServiceName": "nnrf-nfm",
    "monitoredResourceUris": [
      "http://localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
    ],
    "plmnId": {
      "mnc": "124",
      "mcc": "123"
    },
    "subscriptionId": "sa"
  },
  {
    "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce5",
    "expires": "2012-04-23T18:25:43.511Z",
    "implicitUnsubscribe": true,
    "dnn": "sasa",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 23
    },
    "callbackReference": "https://https://www.google.com",
    "amfServiceName": "nnrf-nfm",
    "monitoredResourceUris": [
      "http://localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
    ],
    "plmnId": {
      "mnc": "124",
      "mcc": "123"
    }
  },
]
```

```
        "subscriptionId": "sa"
    }
]
```

Post-Output-SubscriptionDataSubscriptions

Following is the Result Code:

```
{
  "supportedFeatures": "f",
  "callbackReference": "http://10.75.212.167:8787",
  "sdmSubscription": {
    "nfInstanceId": "cb59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
    "expires": "2012-04-23T18:25:43.511Z",
    "implicitUnsubscribe": true,
    "dnn": "sasb",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 23
    },
    "callbackReference": "udr",
    "amfServiceName": "nnrf-nfm",
    "monitoredResourceUris": [
      "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-data/nai-919090909010@nai/context-data/amf-3gpp-access"
    ],
    "plmnId": {
      "mnc": "124",
      "mcc": "123"
    },
    "subscriptionId": "sa"
  },
  "monitoredResourceUris": [
    "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
  ],
  "originalCallbackReference": "http://10.75.212.167:8787",
  "expiry": "2020-01-02T08:17:14.090Z",
  "subscriptionId": "7",
  "ueId": "nai-990991@nai"
}
```

Get-Output-SubscriptionDataSubscriptions

Following is the Result Code:

```
[
  {
    "supportedFeatures": "f",
    "callbackReference": "http://mlu-pcf-api-gateway.mlu-pcf.svc/user-service/userservice/notification/imsi-1111111111",
    "monitoredResourceUris": [
      "http://localhost:8080/nudr-dr/v2/subscription-data/"
    ]
  }
]
```

```

nai-990991@nai/context-data/amf-3gpp-access"
    ],
    "originalCallbackReference": "http://mlu-pcf-api-gateway.mlu-
pcf.svc/user-service/userservice/notification/imsi-111111111",
    "expiry": "2020-01-02T08:17:14.090Z",
    "subscriptionId": "2",
    "ueId": "nai-990991@nai"
  },
  {
    "supportedFeatures": "f",
    "callbackReference": "http://10.75.212.167:8787",
    "sdmSubscription": {
      "supportedFeatures": "f",
      "callbackReference": "http://10.75.212.167:8787",
      "sdmSubscription": true,
      "monitoredResourceUris": [
        "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-
dr/v2/subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
      ],
      "originalCallbackReference": "http://10.75.212.167:8787",
      "expiry": "2020-01-02T08:17:14.090Z",
      "subscriptionId": "7",
      "ueId": "nai-990991@nai"
    },
    "monitoredResourceUris": [
      "http://sims-udr-2-udr-simulator.sims-udr-2:5807/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/amf-3gpp-access"
    ],
    "originalCallbackReference": "http://10.75.212.167:8787",
    "expiry": "2020-01-02T08:17:14.090Z",
    "subscriptionId": "7",
    "ueId": "nai-990991@nai"
  }
]

```

GET - AccessAndMobilitySubscriptionData

```

{
  "gpsis": [
    "msisdn-1585632",
    "msisdn-2969851"
  ],
  "nssai": {
    "singleNssais": [
      {
        "sd": "abc789",
        "sst": 3
      },
      {
        "sd": "abc799",
        "sst": 5
      }
    ]
  },
  "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",

```

```

        "defaultSingleNssais": [
            {
                "sd": "abc123",
                "sst": 1
            },
            {
                "sd": "abc124",
                "sst": 2
            }
        ]
    },
    "sorInfo": {
        "ackInd": true,
        "countersor": "8ebc",
        "sorMacIausf": "Bf85A791dCCDa7D6d9754264F02EDcBc",
        "provisioningTime": "2012-04-23T18:25:43.511Z",
        "steeringContainer": [
            {
                "plmnId": {
                    "mcc": "123",
                    "mnc": "456"
                },
                "accessTechList": [
                    "NR"
                ]
            }
        ]
    },
    "upuInfo": {
        "upuAckInd": true,
        "upuRegInd": true,
        "counterUpu": "3Ab5",
        "upuDataList": [
            {
                "secPacket": "aGVsbG8="
            }
        ],
        "upuMacIausf": "E0b0cCF4Eccc5CA55DBfeA3B2Ad3aE80",
        "provisioningTime": "2012-04-23T18:25:43.511Z"
    },
    "rfspIndex": 123,
    "activeTime": 3,
    "mcsPriority": true,
    "micoAllowed": true,
    "mpsPriority": true,
    "ueUsageType": 9,
    "subsRegTimer": 2,
    "dlPacketCount": -1,
    "forbiddenAreas": [
        {
            "tacs": [
                "d11fdA",
                "EcccaD"
            ]
        }
    ]
}

```

```

    ],
    "ratRestrictions": [
      "NR",
      "WLAN",
      "EUTRA",
      "VIRTUAL"
    ],
    "sharedAmDataIds": [
      "62626-esp}W3A?hIgZ{47Qiuuj@GR:Ped>@k`Px,76390-Cd[s[TECI"
    ],
    "internalGroupIds": [
      "E1465DF5-483-159-Fc23DE491edb354dABAA",
      "51e851ea-577-297-Ef4d7Cf28CaC0D"
    ],
    "subscribedUeAmbr": {
      "uplink": "123 Gbps",
      "downlink": "12 Gbps"
    },
    "odbPacketServices": "ALL_PACKET_SERVICES",
    "subscribedDnnList": [
      "hello",
      "ocudr"
    ],
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "serviceAreaRestriction": {
      "areas": [
        {
          "tacs": [
            "d11fdA",
            "EcccaD"
          ]
        }
      ],
      "maxNumOfTAs": 23,
      "restrictionType": "ALLOWED_AREAS"
    },
    "coreNetworkTypeRestrictions": [
      "5GC",
      "EPC"
    ]
  }
}

```

The output of **Sample URI**: <http://localhost:8080/nudr-dr/v2/subscription-data/imsi-911000000089/77889/provisioned-data/am-data?fields=gpsis,nssai,sorInfo> is:

```

{
  "nssai": {
    "supportedFeatures": "692F296F2Cb3BCA76Bc1E126FeEC12",
    "defaultSingleNssais": [
      {
        "sd": "abc123",
        "sst": 1
      },
      {

```

```

        "sd": "abc124",
        "sst": 2
    },
    ],
    "singleNssais": [
        {
            "sd": "abc789",
            "sst": 3
        },
        {
            "sd": "abc799",
            "sst": 5
        }
    ]
},
"gpsis": [
    "msisdn-1585632",
    "msisdn-2969851"
],
"sorInfo": {
    "sorMacIausf": "Bf85A791dCCDa7D6d9754264F02EDcBc",
    "steeringContainer": [
        {
            "plmnId": {
                "mnc": "456",
                "mcc": "123"
            },
            "accessTechList": [
                "NR"
            ]
        }
    ],
    "provisioningTime": "2012-04-23T18:25:43.511Z",
    "countersor": "8ebc",
    "ackInd": true
}
}

```

B

UDM Subscription Notification Formats

The UDM subscription notification format for different request types are as follows:

PUT- Notification Format

```
{
  "ueId": "nai-990991@nai",
  "notifyItems": [{
    "changes": [{
      "op": "REPLACE",
      "from": "",
      "path": "$",
      "newValue": {
        "dnn": "sasa",
        "plmnId": {
          "mcc": "123",
          "mnc": "124"
        },
        "expires": "2032-04-23T18:25:43.511Z",
        "singleNssai": {
          "sd": "651Bf9",
          "sst": 25
        },
        "nfInstanceId": "db59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
        "amfServiceName": "nnrf-nfm",
        "subscriptionId": "sb",
        "callbackReference": "udr",
        "implicitUnsubscribe": true,
        "monitoredResourceUris": ["http://localhost:8080/nudr-
dr/v2/subscription-data/nai-990991@nai/context-data/sdm-subscriptions",
"http://localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/
operator-determined-barring-data"]
      },
      "origValue": ""
    }],
    "resourceId": "http://localhost:8080/nudr-dr/v2/subscription-data/
nai-990991@nai/context-data/sdm-subscriptions/1"
  }],
  "sdmSubscription": {
    "dnn": "sasa",
    "plmnId": {
      "mcc": "123",
      "mnc": "124"
    },
    "expires": "2032-04-23T18:25:43.511Z",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 25
    }
  }
}
```

```

    },
    "nfInstanceId": "db59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
    "amfServiceName": "nnrf-nfm",
    "subscriptionId": "sb",
    "callbackReference": "udr",
    "implicitUnsubscribe": true,
    "monitoredResourceUris": ["http://localhost:8080/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/sdm-subscriptions", "http://
localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/operator-
determined-barring-data"]
  },
  "originalCallbackReference": ["udr"],
  "subscriptionDataSubscriptions": [{
    "ueId": "nai-990991@nai",
    "expiry": "2020-01-02T08:17:14.090Z",
    "subscriptionId": "1",
    "sdmSubscription": true,
    "callbackReference": "http://10.75.212.167:8787",
    "supportedFeatures": "f",
    "monitoredResourceUris": ["http://localhost:8080/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/sdm-subscriptions", "http://
localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/operator-
determined-barring-data"],
    "originalCallbackReference": "http://mlu-pcf-api-gateway.mlu-
pcf.svc/user-service/userservice/notification/imsi-9999999998"
  }]
}

```

DELETE ENTITY- Notification Format

```

{
  "ueId": "nai-990991@nai",
  "notifyItems": [{
    "changes": [{
      "op": "REMOVE",
      "from": "",
      "path": "$",
      "newValue": null,
      "origValue": ""
    }],
    "resourceId": "http://localhost:8080/nudr-dr/v2/subscription-data/
nai-990991@nai/context-data/sdm-subscriptions/1"
  }],
  "sdmSubscription": null,
  "originalCallbackReference": ["udr"],
  "subscriptionDataSubscriptions": [{
    "ueId": "nai-990991@nai",
    "expiry": "2020-01-02T08:17:14.090Z",
    "subscriptionId": "1",
    "sdmSubscription": true,
    "callbackReference": "http://10.75.212.167:8787",
    "supportedFeatures": "f",
    "monitoredResourceUris": ["http://localhost:8080/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/sdm-subscriptions", "http://

```

```
localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/operator-
determined-barring-data"],
  "originalCallbackReference": "http://mlu-pcf-api-gateway.mlu-
pcf.svc/user-service/userservice/notification/imsi-9999999998"
}]
}
```

Patch- Notification Format

```
{
  "ueId": "nai-990991@nai",
  "notifyItems": [{
    "changes": [{
      "op": "REPLACE",
      "from": "",
      "path": "/dnn",
      "newValue": "sbsa",
      "origValue": "sbsb"
    }],
    "resourceId": "http://localhost:8080/nudr-dr/v2/subscription-data/
nai-990991@nai/context-data/sdm-subscriptions/4"
  }],
  "sdmSubscription": {
    "dnn": "sbsa",
    "plmnId": {
      "mcc": "123",
      "mnc": "124"
    },
    "expires": "2032-04-23T18:25:43.511Z",
    "singleNssai": {
      "sd": "651Bf9",
      "sst": 25
    },
    "nfInstanceId": "db59c48c-a2fa-11e9-a2a3-2a2ae2dbcce4",
    "amfServiceName": "nnrf-nfm",
    "subscriptionId": "sb",
    "callbackReference": "udr",
    "implicitUnsubscribe": true,
    "monitoredResourceUris": ["http://localhost:8080/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/sdm-subscriptions", "http://
localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/operator-
determined-barring-data"]
  },
  "originalCallbackReference": ["udr"],
  "subscriptionDataSubscriptions": [{
    "ueId": "nai-990991@nai",
    "expiry": "2020-01-02T08:17:14.090Z",
    "subscriptionId": "4",
    "sdmSubscription": true,
    "callbackReference": "http://10.75.212.167:8787",
    "supportedFeatures": "f",
    "monitoredResourceUris": ["http://localhost:8080/nudr-dr/v2/
subscription-data/nai-990991@nai/context-data/sdm-subscriptions", "http://
localhost:8080/nudr-dr/v2/subscription-data/nai-990991@nai/operator-
```

```

determined-barring-data"],
    "originalCallbackReference": "http://mlu-pcf-api-gateway.mlu-
pcf.svc/user-service/userservice/notification/imsi-9999999998"
  }]
}

```

DELETE SUBSCRIBER- Notification Format

```

{
  "ueId": "nai-990991@nai",
  "notifyItems": {
    "changes": [{
      "op": "REMOVE",
      "from": "",
      "path": "$",
      "newValue": null,
      "origValue": null
    }],
    "resourceId": "http://localhost:8080/nudr-dr-prov/v1/profile-data/
nai-990991@nai"
  },
  "sdmSubscription": null,
  "originalCallbackReference": ["udr"],
  "subscriptionDataSubscriptions": null
}

```