**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **1341** | **rev** | **1** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

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|  | | | | | | | | | | |
| ***Title:*** | Support for AF Specific Identifier Selection in Multiple Identifiers Translation in UDM | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CEWiT | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2024-10-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | UE identifier translation service of UDM, to convert internal identifiers to external identifiers, can results in a list of identifiers as output matching the input internal identifier e.g SUPI. In such case there can be further parameters provided to choose more appropriate identifier, out of output list obtained. Identifier translation service already has provision to take in query parameter to choose identifier more appropriate to the target AF. Currently, Multiple Identifiers Translation Service does not have this support.  This CR targets to update the Nudm\_SDM\_Get Multiple Identifiers Translation service, to include the AF specific identifiers as query parameters and handle appropriate failure conditions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Addition for the support of AF specific parameters in Multiple Identifiers Translation Service of UDM in clause 5.2.2.2.25 2. Addition of “af-id”, “app-port-id”, “af-service-id”, “mtc-provider-info” and “mtc-provider-info” in URI query of Multiple Identifier Translation service request in clause 6.1.3.33.3.1 3. Addition of “MtcProviderInformation” in Nudm\_SDM re-used Data Types in clause 6.1.6.1 4. Addition of note in the response of Multiple Identifiers Translation service in clause 6.1.6.2.87 5. Addition of two cause values in the application cause table in 6.1.7.3 6. Addition of new query parameters in Open API in clause A.2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | If not approved, support for AF specific GPSI selection cannot be achieved in Multiple UE Identifier Translation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2.2.25, 6.1.3.33.3.1, 6.1.6.1, 6.1.6.2.87, 6.1.7.3, A.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces a backward compatible updates to the OpenAPI description of the Nudm\_SubscriberDataManagement Service API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | None | | | | | | | | |

\* \* \* First Change \* \* \* \*

##### 5.2.2.2.25 Multiple Identifiers Translation

Figure 5.2.2.2.25-1 shows a scenario where the NF service consumer (e.g TSCTSF, NEF) sends a request to the UDM to receive the list of the UE identifiers (i.e. SUPIs/GPSIs) that corresponds to the provided UE identifiers (i.e. GPSIs/SUPIs) (see 3GPP TS 23.502 [3] clause 4.15.6.14, clause 4.15.9.2 and clause 4.15.9.4).



Figure 5.2.2.2.25: GPSIs/SUPIs Translation

1. The NF Service Consumer (e.g. TSCTSF, NEF) shall send a GET request to the resource representing the list of GPSIs/SUPIs handled by UDM; the list of GPSIs/SUPIs are passed in a query parameter of the request URI and/or necessary information used for identifier translation (e.g. af-id, app-port-id, etc.).

2a. On success, the UDM shall respond with "200 OK" with the message body containing the list of UE Identifiers with list of SUPIs/GPSIs that belong to each provided GPSI/SUPI.

If the expected result of multiple identifier translation is GPSIs and the AF specific query parameters (e.g. af-id, app-port-id, af-service-id, mtc-provider-info, etc) are provided, the UDM shall take the provided AF specific information into account to determine the GPSI to be returned for each UE in the supi-list. The AF specific GPSI may be an MSISDN or an External Identifier.

2b. If there is no valid data for this list of GPSIs/SUPIs, HTTP status code "404 Not Found" shall be returned including additional error information in the response body (in the "ProblemDetails" element).

2c. If the AF identified by the AF specific parameters in the query, is not allowed to perform this operation for all UEs in the list, HTTP status code "403 Forbidden" shall be returned including additional error information in the response body (in the "ProblemDetails" element).

On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the GET response body.

\* \* \* Next Change \* \* \* \*

6.1.3.33.3.1 GET

This method shall support the URI query parameters specified in table 6.1.3.33.3.1-1.

Table 6.1.3.33.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| supported-features | SupportedFeatures | O | 0..1 | see 3GPP TS 29.500 [4] clause 6.6 |  |
| gpsi-list | array(Gpsi) | C | 1..N | List of GPSIs.  Shall be present if supi-list is not present or MultiSupiToGpsiTranslation feature is not supported. |  |
| supi-list | array(Supi) | C | 1..N | List of SUPIs. | MultiSupiToGpsiTranslation |
| af-id | string | O | 0..1 | AF Identifier.  If not present, additional authorization on AF identifier is not required. |  |
| app-port-id | AppPortId | C | 0..1 | Indicates the Application port identity.  This attribute shall be present if supi-list is present in the query parameters and if the application port identity is available. | MultiSupiToGpsiTranslation |
| af-service-id | string | C | 0..1 | Indicates the Application Service Identifier.  This attribute shall be present if supi-list is present in the query parameters and if the application service identifier is available. | MultiSupiToGpsiTranslation |
| mtc-provider-info | MtcProviderInformation | C | 0..1 | Indicates the information of MTC Service Provider and/or MTC Application.  This attribute shall be present if supi-list is present in the query parameters and if the MTC provider information is available. | MultiSupiToGpsiTranslation |
| requested-gpsi-type | GpsiType | C | 0..1 | Indicates the requested GPSI type, and it may be included when the query parameters has supi-list. | MultiSupiToGpsiTranslation |
| NOTE: The attributes “gpsi-list” and “supi-list” are mutually exclusive. | | | | | |

This method shall support the request data structures specified in table 6.1.3.33.3.1-2 and the response data structures and response codes specified in table 6.1.3.33.3.1-3.

Table 6.1.3.33.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.33.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| UeIdentifiers | M | 1 | 200 OK | Upon success, a response body containing the list of UE identifier(s) shall be returned. |
| ProblemDetails | O | 0..1 | 404 Not Found | The "cause" attribute may be used to indicate one of the following application errors:  - USER\_NOT\_FOUND  - DATA\_NOT\_FOUND |
| ProblemDetails | O | 0..1 | 403 Forbidden | The "cause" attribute may be used to indicate one of the following application errors:  - AF\_NOT\_ALLOWED  - MTC\_PROVIDER\_NOT\_ALLOWED |
| NOTE: In addition, common data structures as listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] are supported. | | | | |

\* \* \* Next Change \* \* \* \*

### 6.1.6 Data Model

#### 6.1.6.1 General

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

Table 6.1.6.1-1 specifies the data types defined for the Nudm\_SDM service API.

Table 6.1.6.1-1: Nudm\_SDM specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| Nssai | 6.1.6.2.2 | Network Slice Selection Assistance Information |
| SdmSubscription | 6.1.6.2.3 | A subscription to notifications |
| AccessAndMobilitySubscriptionData | 6.1.6.2.4 | Access and Mobility Subscription Data |
| SmfSelectionSubscriptionData | 6.1.6.2.5 | SMF Selection Subscription Data |
| DnnInfo | 6.1.6.2.6 | Data Network Name and associated information (LBO roaming allowed flag) |
| SnssaiInfo | 6.1.6.2.7 | S-NSSAI and associated information (DNN Info) |
| SessionManagementSubscriptionData | 6.1.6.2.8 | User subscribed session management data |
| DnnConfiguration | 6.1.6.2.9 | User subscribed data network configuration |
| PduSessionTypes | 6.1.6.2.11 | Default/allowed session types for a data network |
| SscModes | 6.1.6.2.12 | Default/allowed SSC modes for a data network |
| SmsSubscriptionData | 6.1.6.2.13 |  |
| SmsManagementSubscriptionData | 6.1.6.2.14 | SMS Management Subscription Data |
| SubscriptionDataSets | 6.1.6.2.15 |  |
| UeContextInSmfData | 6.1.6.2.16 | UE Context In SMF Data |
| PduSession | 6.1.6.2.17 |  |
| IdTranslationResult | 6.1.6.2.18 | SUPI that corresponds to a given GPSI |
| ModificationNotification | 6.1.6.2.21 |  |
| IpAddress | 6.1.6.2.22 | IP address (IPv4, or IPv6, or IPv6 prefix) |
| UeContextInSmsfData | 6.1.6.2.23 |  |
| SmsfInfo | 6.1.6.2.24 |  |
| AcknowledgeInfo | 6.1.6.2.25 |  |
| SorInfo | 6.1.6.2.26 | Steering Of Roaming Information |
| SharedData | 6.1.6.2.27 | Subscription Data shared by multiple UEs |
| PgwInfo | 6.1.6.2.28 | Information about the DNNs/APNs and PGW-C+SMF FQDNs used in interworking with EPS |
| TraceDataResponse | 6.1.6.2.29 | Contains Trace Data or a shared data Id identifying shared Trace Data |
| SteeringContainer | 6.1.6.2.30 |  |
| SdmSubsModification | 6.1.6.2.31 | Modification instruction for a subscription to notifications |
| EmergencyInfo | 6.1.6.2.32 | Information about emergency session |
| UpuInfo | 6.1.6.2.33 | UE Parameters Update Information |
| GroupIdentifiers | 6.1.6.2.34 |  |
| NiddInformation | 6.1.6.2.35 | Non-IP Data Delivery information |
| CagData | 6.1.6.2.36 |  |
| CagInfo | 6.1.6.2.37 |  |
| DataSetName | 6.1.6.3.3 |  |
| PduSessionContinuityInd | 6.1.6.3.7 |  |
| AdditionalSnssaiData | 6.1.6.2.38 | Additional information specific to a slice |
| VnGroupData | 6.1.6.2.39 |  |
| AppDescriptor | 6.1.6.2.40 |  |
| AppPortId | 6.1.6.2.41 | Application Port Id |
| LcsPrivacyData | 6.1.6.2.42 |  |
| Lpi | 6.1.6.2.43 |  |
| UnrelatedClass | 6.1.6.2.44 |  |
| PlmnOperatorClass | 6.1.6.2.45 |  |
| ValidTimePeriod | 6.1.6.2.46 |  |
| LcsMoData | 6.1.6.2.47 |  |
| EcRestrictionDataWb | 6.1.6.2.48 | Enhance Coverage Restriction Data |
| ExpectedUeBehaviourData | 6.1.6.2.49 | Expected UE Behaviour Data |
| SuggestedPacketNumDl | 6.1.6.2.52 | Suggested Number of Downlink Packets |
| FrameRouteInfo | 6.1.6.2.54 | Frame Route Information |
| SorUpdateInfo | 6.1.6.2.55 |  |
| EnhancedCoverageRestrictionData | 6.1.6.2.56 | Enhanced Coverage Restriction Data |
| EdrxParameters | 6.1.6.2.57 | eDRX Parameters |
| PtwParameters | 6.1.6.2.58 | Paging Time Window Parameters |
| OperationMode | 6.1.6.3.12 | Operation Mode |
| SorUpdateIndicator | 6.1.6.3.13 | SoR Update Indicator |
| ExternalUnrelatedClass | 6.1.6.2.62 |  |
| AfExternal | 6.1.6.2.63 |  |
| LcsClientExternal | 6.1.6.2.64 |  |
| LcsClientGroupExternal | 6.1.6.2.65 |  |
| ServiceTypeUnrelatedClass | 6.1.6.2.66 |  |
| UeId | 6.1.6.2.67 |  |
| DefaultUnrelatedClass | 6.1.6.2.68 |  |
| ContextInfo | 6.1.6.2.69 | Contains the HTTP Headers received by the NFs |
| UeContextInAmfData | 6.1.6.2.70 |  |
| V2xSubscriptionData | 6.1.6.2.71 | V2X Subscription Data |
| LcsBroadcastAssistanceTypesData | 6.1.6.2.72 | LCS Broadcast Assistance Data Types |
| DatasetNames | 6.1.6.2.73 | Data Set Names |
| PlmnRestriction | 6.1.6.2.74 |  |
| ProseSubscriptionData | 6.1.6.2.76 | ProSe Subscription Data |
| AerialUeSubscriptionInfo | 6.1.6.2.78 | Aerial UE Subscription Information |
| SmSubsData | 6.1.6.2.79 |  |
| ExtendedSmSubsData | 6.1.6.2.80 |  |
| AmfInfo | 6.1.6.2.81 | AMF information |
| ProSeAllowedPlmn | 6.1.6.2.82 | Contains the allowed PLMN information for ProSe Service |
| ImmediateReport | 6.1.6.2.83 | UDM SDM Immediate Report |
| MbsSubscriptionData | 6.1.6.2.84 | 5MBS Subscription Data |
| UcSubscriptionData | 6.1.6.2.85 | User Consent Subscription Data |
| UeContextInSmfDataSubFilter | 6.1.6.2.86 | UE Context In Smf Data Subscription Filter |
| UeIdentifiers | 6.1.6.2.87 | List of UE identifiers |
| SupiInfo | 6.1.6.2.88 | List of the SUPIs |
| TimeSyncData | 6.1.6.2.89 | Time Synchronization Data |
| TimeSyncSubscriptionData | 6.1.6.2.90 |  |
| AfRequestAuthorization | 6.1.6.2.91 |  |
| TimeSyncServiceId | 6.1.6.2.92 |  |
| LcsSubscriptionData | 6.1.6.2.93 | LCS Subscription Data |
| ConditionalCagInfo | 6.1.6.2.94 |  |
| RangingSlPosSubscriptionData | 6.1.6.2.97 | Ranging/SL positioning Subscription Data |
| RangingSlPosPlmn | 6.1.6.2.98 | Contains the allowed PLMN information for Ranging/SL positioning Service |
| AppSpecificExpectedUeBehaviourData | 6.1.6.2.99 | Application specific UE Behaviour Data |
| ExpectedUeBehaviourThreshold | 6.1.6.2.100 | Expected UE Behaviour Threshold in SdmSubscription |
| A2xSubscriptionData | 6.1.6.2.101 | A2X Subscription Data |
| RangingSlPosQos | 6.1.6.2.102 | Ranging/SL Positioning QoS |
| MbsrOperationAllowed | 6.1.6.2.103 | MBSR Operation Allowed Information |
| DnnLadnServiceAreas | 6.1.6.2.105 | LADN Service Areas for DNNs |
| DnnLadnServiceArea | 6.1.6.2.106 | LADN ServiceArea for a DNN |
| GptpAllowedInfo | 6.1.6.2.107 | AF Authorization Info for gPTP |
| AstiAllowedInfo | 6.1.6.2.108 | AF Authorization Info for ASTI |
| MbsrLocationInfo | 6.1.6.2.109 | MBSR operation location information |
| MbsrTimeInfo | 6.1.6.2.110 | MBSR operation time information |
| RecurTime | 6.1.6.2.111 | Recurring time |
| RangingSlPrivacyData | 6.1.6.2.112 | Ranging/SL positioning Privacy Data |
| Rslppi | 6.1.6.2.113 | Ranging/SL positioning Privacy Indication |
| RangingSlUnrelatedClass | 6.1.6.2.114 | Call/Session unrelated Classes for Ranging/SL positioning |
| RangingSlPlmnOperatorClass | 6.1.6.2.115 | PLMN Operator Class for Ranging/SL positioning |
| RangingSlDefaultUnrelatedClass | 6.1.6.2.116 | Default Call/Session unrelated Class subscription for Ranging/SL positioning for unidentified value added LCS clients or AFs |
| RangingSlExternalUnrelatedClass | 6.1.6.2.117 | Call/Session unrelated Class subscriptions for Ranging/SL positioning for identified value added LCS Clients or AFs |
| RangingSlAfExternal | 6.1.6.2.118 | List of Call/session Unrelated Class for ranging and sidelink positioning identified by AF in the external LCS client list |
| RangingSlLcsClientExternal | 6.1.6.2.119 | List of Call/session Unrelated Class for ranging and sidelink positioning identified by LCS client in the external LCS client list |
| RangingSlAppIDUnrelatedClass | 6.1.6.2.120 | Call/Session unrelated Class subscriptions for ranging and sidelink positioning service for identified service type for UE |
| AdditionalSmfSelectionInfo | 6.1.6.2.121 | Additional parameters for SMF selection in target PLMN |
| OdbExemptedDnnInfo | 6.1.6.2.122 | ODB Exempted DNN Information |
| OdbExemptedConditions | 6.1.6.2.123 | ODB Exempted Conditions |
| GpsiInfo | 6.1.6.2.X | List of the GPSIs |
| DefaultDnnIndicator | 6.1.6.3.2 |  |
| LboRoamingAllowed | 6.1.6.3.2 |  |
| UeUsageType | 6.1.6.3.2 |  |
| MpsPriorityIndicator | 6.1.6.3.2 |  |
| McsPriorityIndicator | 6.1.6.3.2 |  |
| 3GppChargingCharacteristics | 6.1.6.3.2 | 3GPP Charging Characteristics |
| MicoAllowed | 6.1.6.3.2 |  |
| SmsSubscribed | 6.1.6.3.2 |  |
| SharedDataId | 6.1.6.3.2 |  |
| IwkEpsInd | 6.1.6.3.2 | Interworking with EPS Indication |
| SecuredPacket | 6.1.6.3.2 |  |
| UpuRegInd | 6.1.6.3.2 |  |
| ExtGroupId | 6.1.6.3.2 |  |
| NbIoTUePriority | 6.1.6.3.2 |  |
| CodeWord | 6.1.6.3.2 |  |
| AfId | 6.1.6.3.2 |  |
| LcsClientId | 6.1.6.3.2 |  |
| DataSetName | 6.1.6.3.3 |  |
| PduSessionContinuityInd | 6.1.6.3.7 |  |
| LocationPrivacyInd | 6.1.6.3.8 |  |
| PrivacyCheckRelatedAction | 6.1.6.3.9 |  |
| LcsClientClass | 6.1.6.3.10 |  |
| LcsMoServiceClass | 6.1.6.3.11 |  |
| OperationMode | 6.1.6.3.12 |  |
| CodeWordInd | 6.1.6.3.14 |  |
| MdtUserConsent | 6.1.6.3.15 | MDT User Consent |
| SharedDataTreatmentInstruction | 6.1.6.3.16 |  |
| GpsiType | 6.1.6.3.17 | Type of GPSI (MSISDN or External-ID) |
| SorTransparentContainer | 6.1.6.3.2 |  |
| AerialUeIndication | 6.1.6.3.18 | Indication on whether Aerial service for UE is allowed or not. |
| UpuTransparentContainer | 6.1.6.3.2 |  |
| ProseDirectAllowed | 6.1.6.3.19 | Contains the ProSe Services that can be authorised by the given PLMN identity. |
| UcPurpose | 6.1.6.3.20 | Purpose of the user consent |
| UserConsent | 6.1.6.3.21 | User Consent |
| NsacAdmissionMode | 6.1.6.3.22 | NSAC Admission Mode |
| PruInd | 6.1.6.3.23 | PRU Indicator |
| AreaUsageInd | 6.1.6.3.24 | Area Usage Indication |
| RangingSlPosAllowed | 6.1.6.3.28 | Contains the Ranging/SL positioning Services that can be authorised by the given PLMN identity. |
| ExpectedUeBehaviourDataset | 6.1.6.3.29 | Expected UE Behaviour Dataset Names |
| RecurType | 6.1.6.3.31 | Recurring Type |
| RangingSlPrivacyInd | 6.1.6.3.32 |  |
| RangingSlPrivacyCheckRelatedAction | 6.1.6.3.33 |  |

Table 6.1.6.1-2 specifies data types re-used by the Nudm\_SDM service API from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nudm\_SDM service API.

Table 6.1.6.1-2: Nudm\_SDM re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| Dnn | 3GPP TS 29.571 [7] | Data Network Name with Network Identifier only; this type is used as key in a map of:  - DnnConfigurations; see clause 6.1.6.2.8;  - EpsIwkPgws; see clause 6.2.6.2.2;  - ExpectedUeBehaviourData; see clause 6.1.6.2.8; |
| DurationSec | 3GPP TS 29.571 [7] | Time value in seconds |
| ProblemDetails | 3GPP TS 29.571 [7] | Common data type used in response bodies |
| Snssai | 3GPP TS 29.571 [7] | Single NSSAI |
| Uri | 3GPP TS 29.571 [7] | Uniform Resource Identifier |
| Gpsi | 3GPP TS 29.571 [7] | Generic Public Subscription Identifier |
| RatType | 3GPP TS 29.571 [7] | Radio Access Technology Type |
| Area | 3GPP TS 29.571 [7] |  |
| AreaCode | 3GPP TS 29.571 [7] |  |
| ServiceAreaRestriction | 3GPP TS 29.571 [7] |  |
| CoreNetworkType | 3GPP TS 29.571 [7] |  |
| SupportedFeatures | 3GPP TS 29.571 [7] | see 3GPP TS 29.500 [4] clause 6.6 |
| PlmnId | 3GPP TS 29.571 [7] | PLMN Identity |
| PduSessionType | 3GPP TS 29.571 [7] |  |
| SubscribedDefaultQos | 3GPP TS 29.571 [7] | Subscribed Default QoS |
| Ambr | 3GPP TS 29.571 [7] |  |
| AmbrRm | 3GPP TS 29.571 [7] |  |
| SliceMbrRm | 3GPP TS 29.571 [7] |  |
| PduSessionId | 3GPP TS 29.571 [7] | PduSessionId is used as key in a map of PduSessions; see clause 6.1.6.2.16. |
| NfInstanceId | 3GPP TS 29.571 [7] |  |
| Supi | 3GPP TS 29.571 [7] |  |
| RfspIndexRm | 3GPP TS 29.571 [7] |  |
| SscMode | 3GPP TS 29.571 [7] |  |
| Ipv4Addr | 3GPP TS 29.571 [7] |  |
| Ipv6Addr | 3GPP TS 29.571 [7] |  |
| Ipv6Prefix | 3GPP TS 29.571 [7] |  |
| SorMac | 3GPP TS 29.509 [24] |  |
| SteeringInfo | 3GPP TS 29.509 [24] |  |
| AckInd | 3GPP TS 29.509 [24] |  |
| CounterSor | 3GPP TS 29.509 [24] |  |
| UpuMac | 3GPP TS 29.509 [24] |  |
| UpuData | 3GPP TS 29.509 [24] |  |
| UpuAckInd | 3GPP TS 29.509 [24] |  |
| CounterUpu | 3GPP TS 29.509 [24] |  |
| TraceData | 3GPP TS 29.571 [7] | Trace control and configuration parameters |
| NotifyItem | 3GPP TS 29.571 [7] |  |
| UpSecurity | 3GPP TS 29.571 [7] |  |
| ServiceName | 3GPP TS 29.510 [19] |  |
| OdbPacketServices | 3GPP TS 29.571 [7] |  |
| GroupId | 3GPP TS 29.571 [7] | This type is also used as key of a map in attributes:  - vnGroupInfo and sharedVnGroupDataIds; see clause 6.1.6.2.4, 6.1.6.2.8, 6.1.6.2.27; |
| DateTime | 3GPP TS 29.571 [7] |  |
| DayOfWeek | 3GPP TS 29.571 [7] |  |
| MonthOfYear | 3GPP TS 29.571 [7] |  |
| CagId | 3GPP TS 29.571 [7] |  |
| StnSr | 3GPP TS 29.571 [7] | Session Transfer Number for SRVCC |
| CMsisdn | 3GPP TS 29.571 [7] | Correlation MSISDN |
| OsId | 3GPP TS 29.519 [33] |  |
| Uint16 | 3GPP TS 29.571 [7] |  |
| RgWirelineCharacteristics | 3GPP TS 29.571 [7] |  |
| GeographicArea | 3GPP TS 29.572 [34] |  |
| LcsServiceType | 3GPP TS 29.572 [34] |  |
| ScheduledCommunicationTime | 3GPP TS 29.571 [7] | Scheduled Communication Time |
| LocationArea | 6.5.6.2.10 |  |
| DataRestorationNotification | 6.2.6.2.25 | Contains identities representing those UEs potentially affected by a data-loss event at the UDR |
| StationaryIndication | 3GPP TS 29.571 [7] | Stationary Indication |
| TrafficProfile | 3GPP TS 29.571 [7] | Traffic Profile |
| ScheduledCommunicationType | 3GPP TS 29.571 [7] | Scheduled Communication Type |
| BatteryIndication | 3GPP TS 29.571 [7] | Battery Indication |
| AcsInfo | 3GPP TS 29.571 [7] | ACS Information |
| IPv4AddrMask | 3GPP TS 29.571 [7] |  |
| Fqdn | 3GPP TS 29.571 [7] | Fully Qualified Domain Name |
| NefId | 3GPP TS 29.510 [19] |  |
| PatchResult | 3GPP TS 29.571 [7] |  |
| NrV2xAuth | 3GPP TS 29.571 [7] |  |
| LteV2xAuth | 3GPP TS 29.571 [7] |  |
| ProseServiceAuth | 3GPP TS 29.571 [7] |  |
| BitRate | 3GPP TS 29.571 [7] |  |
| MdtConfiguration | 3GPP TS 29.571 [7] |  |
| Uint64 | 3GPP TS 29.571 [7] |  |
| WirelineArea | 3GPP TS 29.571 [7] |  |
| WirelineServiceAreaRestriction | 3GPP TS 29.571 [7] |  |
| NfGroupId | 3GPP TS 29.571 [7] |  |
| EcsServerAddr | 3GPP TS 29.571 [7] |  |
| RedirectResponse | 3GPP TS 29.571 [7] | Response body of the redirect response message |
| Bytes | 3GPP TS 29.571 [7] | Binary data encoded as a base64 character string |
| SpatialValidityCond | 3GPP TS 29.571 [7] |  |
| AccessType | 3GPP TS 29.571 [7] | Access Type |
| NsSrg | 3GPP TS 29.571 [7] | NSSRG value |
| MbsSessionId | 3GPP TS 29.571 [7] | 5MBS Session Id |
| RoamingRestrictions | 3GPP TS 29.571 [7] | Roaming Restrictions related information |
| PlmnIdNid | 3GPP TS 29.571 [7] |  |
| Uinteger | 3GPP TS 29.571 [7] | Unsigned Integer |
| Tai | 3GPP TS 29.571 [7] | Tracking Area Identity |
| TemporalValidity | 3GPP TS 29.514 [68] | Temporal Validity contains start time and stop time |
| LMFIdentification | 3GPP TS 29.572 [34] | LMF Identification |
| LpHapType | 3GPP TS 29.518 [36] | Low Power and High Accuracy Positioning type |
| RangingSlPosAuth | 3GPP TS 29.571 [7] |  |
| ApplicationId | 3GPP TS 29.571 [7] | Application ID |
| ClockQualityAcceptanceCriterion | 3GPP TS 29.571 [7] | Clock Quality Acceptance Criterion | |
| ClockQualityDetailLevel | 3GPP TS 29.571 [7] | Clock Quality Detail Level | |
| QmcConfigInfo | 3GPP TS 29.571 [7] | Configuration information for signaling-based activation of QMC (Quality of Experience Measurements Collection) | |
| NrA2xAuth | 3GPP TS 29.571 [7] |  | |
| LteA2xAuth | 3GPP TS 29.571 [7] |  | |
| Accuracy | 3GPP TS 29.572 [34] | Indicates value of accuracy | |
| ResponseTime | 3GPP TS 29.572 [34] | Indicates acceptable delay of location request | |
| MinorLocationQoS | 3GPP TS 29.572 [34] | Minor Location QoS | |
| LcsQosClass | 3GPP TS 29.572 [34] | Specifies LCS QoS class | |
| FlowInfo | 3GPP TS 29.122 [45] | Contains the flow information. | |
| UeLevelMeasurementsConfiguration | 3GPP TS 29.571 [7] | 5GC UE level measurements configuration | |
| MtcProviderInformation | 3GPP TS 29.571 [7] | MTC Provider Information | |

\* \* \* Next Change \* \* \* \*

##### 6.1.6.2.87 Type: UeIdentifiers

Table 6.1.6.2.87-1: Definition of type UeIdentifiers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| ueIdList | map(SupiInfo) | C | 1..N | A map (list of key-value pairs where Gpsi serves as key; see 3GPP TS 29.571 [7]) of arrays of Supi. |
| ueIdGpsiList | map(GpsiInfo) | C | 1..N | A map (list of key-value pairs where Supi serves as key; see 3GPP TS 29.571[7]) of arrays of Gpsi.  The element in the attribute contains only the GPSIs determined based on the query parameters. (NOTE) |
| NOTE: For each SUPI in the supi-list of the request, when the UDM receives an af-id as AF specific query parameter, the UDM authorizes the identity translation request based on the list of allowed AFs received from the UDR.  When the UDM receives a supi-list and AF specific query parameters (e.g. af-id, app-port-id or mtc-provider-info), the UDM shall take the provided AF specific information into account to determine the GPSI to be returned for each supi in the supi-list.  For each SUPI in the supi-list of the request, when the UDM receives an array of more than one GPSIs from the UDR, the first element in the array of GPSIs is the determined GPSI with the AF specific parameters and the UDM may include the other GPSIs in the array, to convey the other GPSIs received from UDR.  When the UDM receives from the UDR an AF specific GPSI corresponding to the AF specific query parameter(s) the first element of the gpsi-list shall convey the AF specific GPSI. The AF specific GPSI received from the UDR may take the form of a MSISDN or an external identifier. If the GPSI takes the form of a MSISDN this shall be in accordance to operator policy, local regulation and user consent.  In the absence of an AF specific GPSI, the first GPSI in the list of GPSIs associated to the SUPI received from the UDR can be used by any authorized AF and when the first GPSI takes the form of a MSISDN this shall be in accordance to operator policy, local regulation and user consent. | | | | |

\* \* \* Next Change \* \* \* \*

#### 6.1.7.3 Application Errors

The common application errors defined in the Table 5.2.7.2-1 in 3GPP TS 29.500 [4] may also be used for the Nudm\_ SubscriberDataManagement service. The following application errors listed in Table 6.1.7.3-1 are specific for the Nudm\_ SubscriberDataManagement service.

Table 6.1.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
| NF\_CONSUMER\_REDIRECT\_ONE\_TXN | 307 Temporary Redirect | The request has been asked to be redirected to a specified target for one transaction. |
| CONTEXT\_NOT\_FOUND | 308 Permanent Redirect | The request has been asked to be redirected to a specified target. |
| REAUTHENTICATION\_REQUIRED | 403 Forbidden | Reauthentication is required based on the operator's policy, e.g.if the last authentication is considered obsolete or there is no AUSF instance id stored in the UDM during EPS to 5GS mobility. |
| DATA\_NOT\_FOUND | 404 Not Found | The requested UE subscription data is not found/does not exist.  This error is applicable to all Nudm\_SDM GET operations. |
| USER\_NOT\_FOUND | 404 Not Found | The user does not exist  This error is applicable to all Nudm\_SDM GET operations. |
| CONTEXT\_NOT\_FOUND | 404 Not Found | It is used during the modification of an existing subscription when no corresponding context exists. |
| GROUP\_IDENTIFIER\_NOT\_FOUND | 404 Not Found | The requested Group Identifier does not exist. |
| SUBSCRIPTION\_NOT\_FOUND | 404 Not Found | The subscription does not exist. |
| UNSUPPORTED\_RESOURCE\_URI | 501 Not Implemented | The SDM Subscription contains unsupported resource URI to be monitored. |
| AF\_NOT\_ALLOWED | 403 Forbidden | This AF is not allowed to perform the operations. |
| MTC\_PROVIDER\_NOT\_ALLOWED | 403 Forbidden | MTC Provider not authorized to perform the operations. |

\* \* \* Next Change \* \* \* \*

# A.2 Nudm\_SDM API

openapi: 3.0.0

info:

version: '2.3.0'

title: 'Nudm\_SDM'

description: |

Nudm Subscriber Data Management Service.

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…………….

/multiple-identifiers:

get:

summary: Mapping of UE Identifiers

operationId: GetMultipleIdentifiers

tags:

- Multiple Identifiers

security:

- {}

- oAuth2ClientCredentials:

- nudm-sdm

- oAuth2ClientCredentials:

- nudm-sdm

- nudm-sdm:multiple-identifiers:read

parameters:

- name: supported-features

in: query

description: Supported Features

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- name: gpsi-list

in: query

description: list of the GPSIs

required: false

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'

minItems: 1

style: form

explode: false

- name: supi-list

in: query

description: list of the SUPIs

required: false

schema:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Supi'

minItems: 1

- name: af-id

in: query

description: AF identifier

schema:

type: string

- name: app-port-id

in: query

description: Application port identifier

content:

application/json:

schema:

$ref: '#/components/schemas/AppPortId'

- name: af-service-id

in: query

description: AF Service Identifier

schema:

type: string

- name: mtc-provider-info

in: query

description: MTC Provider Information

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MtcProviderInformation'

- name: requested-gpsi-type

in: query

description: Requested GPSI Type

schema:

$ref: '#/components/schemas/GpsiType'

style: form

explode: false

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

$ref: '#/components/schemas/UeIdentifiers'

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 9111, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 9110, 8.8.3

schema:

type: string

Last-Modified:

description: >

Timestamp for last modification of the resource, as described in RFC 9110, 8.8.2

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'502':

$ref: 'TS29571\_CommonData.yaml#/components/responses/502'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

description: Unexpected error

\* \* \* End of Changes \* \* \* \*