**3GPP TSG-CT WG4 Meeting #105-eC4-214**

**E-Meeting, 17th – 27th August 2021 revision of C4-214279**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.503** | **CR** | **0678** | **rev** | 1 | **Current version:** | **17.3.0** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Shared Session Management Subscription Data |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | CT4 |
|  |  |
| ***Work item code:*** | SBIProtoc17 |  | ***Date:*** | 2021-08-24 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | Rel-17 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | When the SMF retrieves Session Management Subscription Data from the UDM, it gets a list of individual SessionManagementSubscriptionData objects. It is not possible as alternative or addition to convey identifiers of shared SessionManagementSubscription objects.  |
|  |  |
| ***Summary of change:*** | Add the possibility to convey identifiers of shared SessionManagementSubscriptionData to the SMF. |
|  |  |
| ***Consequences if not approved:*** | Session Management Subscription Data cannot be shared. |
|  |  |
| ***Clauses affected:*** | 5.2.2.2.5, 6.1.3.8.3.1, 6.1.6.1, 6.1.6.2.27, 6.1.6.2.xx (new), 6.1.6.2.yy (new), 6.1.8, 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 backwards-compatible new features with impacts on the following OpenAPI specifications:- TS29503\_Nudm\_SDM.yaml |
|  |  |
| ***This CR's revision history:*** |  |

**\*\*\*\*\*\*\***

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

##### 5.2.2.2.5 Session Management Subscription Data Retrieval

Figure 5.2.2.2.5-1 shows a scenario where the NF service consumer (e.g. SMF) sends a request to the UDM to receive the UE's session management subscription data (see also 3GPP TS 23.502 [3] figure 4.3.2.2.1-1 step 4a-4b). The request contains the UE's identity (/{supi}), the type of the requested information (/sm-data), and query parameters (single-nssai, dnn, supported-features, plmn-id).



Figure 5.2.2.2.5-1: Requesting a UE's Session Management Subscription Data

1. The NF service consumer (e.g. SMF) sends a GET request to the resource representing the UE's session management subscription data, with query parameters indicating the selected network slice and/or the DNN and/or supported-features and/or plmn-id.

2a. On success, the UDM responds with "200 OK", the message body containing the UE's session management subscription data (an array of SessionManagementSubscriptionData objects and/or SharedDataIds, one array element per S-NSSAI) as relevant for the requesting NF service consumer.

2b. If there is no valid subscription data for the UE, or if the UE subscription data exists, but the requested session management subscription is not available (e.g. query parameter contains network slice and/or DNN that does not belong to the UE subscription), HTTP status code "404 Not Found" 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 \* \* \* \*

###### 6.1.3.8.3.1 GET

This method shall support the URI query parameters specified in table 6.1.3.8.3.1-1.

Table 6.1.3.8.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| supported-features | SupportedFeatures | O | 0..1 | see 3GPP TS 29.500 [4] clause 6.6 |
| single-nssai | Snssai | O | 0..1 | When present without Slice Differentiator (sd), all slices identified by the given Slice/Service Type (sst) and any sd value (if any) shall be considered matching the query parameter. |
| dnn | Dnn | O | 0..1 | The DNN shall be the DNN Network Identifier only. |
| plmn-id | PlmnId | O | 0..1 | PLMN identity of the PLMN serving the UE |

JSON objects (such as Snssai, PlmnId…) shall be included directly as part of the URI query parameters by specifying in the OpenAPI file that the "Content-Type" of such parameters is "application/json".

If "singleNssai" is not included, and "dnn" is not included, UDM shall return all DNN configurations for all network slice(s).

If "singleNssai" is included, and "dnn" is not included, UDM shall return all DNN configurations for the requested network slice identified by "singleNssai".

If "singleNssai" is not included, and "dnn" is included, UDM shall return all DNN configurations identified by "dnn" for all network slices where such DNN is available.

If "singleNssai" is included, and "dnn" is included, UDM shall return the DNN configuration identified by "dnn", if such DNN is available in the network slice identified by "singleNssai".

For all the combinations about the inclusion of "dnn" and "singleNssai" as URI query parameters, if "plmn-id" is included, UDM shall return the configurations for the DNN and network slices associated to the PLMN identified by "plmn-id". Otherwise (i.e. if "plmn-id" is not included), UDM shall return the configurations for the DNN and network slices associated to the HPLMN.

This method shall support the request data structures specified in table 6.1.3.8.3.1-2 and the response data structures and response codes specified in table 6.1.3.8.3.1-3.

Table 6.1.3.8.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 6.1.3.8.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| SmSubsData | M | 1 | 200 OK | Upon success, a response body containing the Session Management Subscription data 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 |
| NOTE: In addition common data structures as listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] are supported. |

Table 6.1.3.8.3.1-4: Headers supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| If-None-Match | string | O | 0..1 | Validator for conditional requests, as described in IETF RFC 7232 [25], clause 3.2 |
| If-Modified-Since | string | O | 0..1 | Validator for conditional requests, as described in IETF RFC 7232 [25], clause 3.3 |

Table 6.1.3.8.3.1-5: Headers supported by the 200 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Cache-Control | string | O | 0..1 | Cache-Control containing max-age, as described in IETF RFC 7234 [26], clause 5.2 |
| ETag | string | O | 0..1 | Entity Tag, containing a strong validator, as described in IETF RFC 7232 [25], clause 2.3 |
| Last-Modified | string | O | 0..1 | Timestamp for last modification of the resource, as described in IETF RFC 7232 [25], clause 2.2 |

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

#### 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 |
| SmfRegistrationInfo | 6.1.6.2.53 |  |
| 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 |  |
| 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.xx |  |
| ExtendedSmSubsData | 6.1.6.2.yy |  |
| 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. |

Editor's Note: Aerial UE subscription data for the UUAA-SM procedure shall be added after the requirement from stage 2 is clear.

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] |  |
| 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] |  |
| SliceMbr | 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] |  |
| RfspIndex | 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] |  |
| 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 |  |
| 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] |  |
| NefId | 3GPP TS 29.510 [19] |  |
| Fqdn | 3GPP TS 29.510 [19] | Fully Qualified Domain Name |
| 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 |

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

##### 6.1.6.2.27 Type: SharedData

Table 6.1.6.2.27-1: Definition of type SharedData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| sharedDataId | SharedDataId | M | 1 | Identifier of the shared data |  |
| sharedAmData | AccessAndMobilitySubscriptionData | O | 0..1 | Shared Access and Mobility Subscription Data |  |
| sharedSmsSubsData | SmsSubscriptionData | O | 0..1 | Shared SMS Subscription Data |  |
| sharedSmsMngSubsData | SmsManagementSubscriptionData | O | 0..1 | Shared SMS Management Subscription Data |  |
| sharedDnnConfigurations | map(DnnConfiguration) | O | 1..N | A map of shared DNN configuration (list of key-value pairs where DNN, or optionally the Wildcard DNN, serves as key) |  |
| sharedTraceData | TraceData | O | 0..1 | Shared Trace Data |  |
| sharedSnssaiInfos | map(SnssaiInfo) | O | 1..N | A map of Shared Snssai Info (list of key-value pairs where singleNssai converted to string serves as key; see 3GPP TS 29.571 [7]) |  |
| sharedVnGroupDatas | map(VnGroupData) | O | 1..N | A map of shared 5G VN group data (list of key-value pairs where GroupId serves as key; see clause 6.1.6.1). |  |
| treatmentInstructions | map(SharedDataTreatmentInstruction) | O | 1..N | A map of SharedDataTreatmentInstructions (list of key-value pairs where a JSON pointer pointing to an attribute within the SharedData serves as key) | SharedDataTreatment |
| sharedSmSubsData | SessionManagementSubscriptionData | O | 0..1 | Shared Session Management Subscription Data | SharedSmSubsData |
| Note 1: Exactly one of sharedAmData, sharedSmsSubsData, sharedSmsMngSubsData sharedDnnConfigurations, sharedTraceData and sharedSnssaiInfos shall be present.Note 2: The attributes sharedAmData, sharedSmsSubsData and SharedSmsMngSubsData shall not contain sharedDataIdsNote 3: When shared data clash with individual data, individual data shall take precedence as default treatment unless the feature SharedDataTreatment is supported and the SharedData contains treatment instructions different from the default treatment. |

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

##### 6.1.6.2.xx Type: SmSubsData

Table 6.1.6.2.xx-1: Definition of type SmSubsData as a list of alternatives

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Description | Applicability |
| array(SessionManagementSubscriptionData) | 1..N | Individual Session Management Subscription Data. |  |
| ExtendedSmSubsData | 1 | Extended Session Management Subscription Data. | SharedSmSubsData |

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

##### 6.1.6.2.yy Type: ExtendedSmSubsData

Table 6.1.6.2.yy-1: Definition of type ExtendedSmSubsData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| individualSmSubsData | array(SessionManagementSubscriptionData) | O | 1..N | individual Session Management Subscription Data(Note 1) | SharedSmSubsData |
| sharedSmSubsDataIds | array(SharedDataId) | M | 1..N | Identifier of shared data  | SharedSmSubsData |
| NOTE 1: A given UE-individual SessionManagementSubscriptionData (within individualSmSubsData) may clash with a shared SessionManagementSubscriptionData (i.e. both have the same singleNssai value). In this case the clashing attributes of the UE-individual SessionManagementSubscriptionData take precedence unless treatment instructions indicate otherwise. |

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

### 6.1.8 Feature Negotiation

The optional features in table 6.1.8-1 are defined for the Nudm\_SDM API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

Table 6.1.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | SharedData | When receiving a Nudm\_SDM\_Get service operation request to retrieve a UE's individual subscription data, and the request does not contain a supported-features query parameter indicating support of this feature, the UDM shall not include Shared Data Ids in the response. Instead the UDM may – based on operator policy – take no further action (i.e. allow the UE to get services based on only the UE's individual subscription data), or send the shared data as individual data (this may result in notifications of individual subscription data change – if so subscribed – when shared data, which are sent as individual data, are modified, and/or when the UE's Shared Data IDs are modified). |
| 2 | ImmediateReport | When a NF consumer detects the UDM support ImmediateReport feature, it can indicate an immediateReport flag when invoking Nudm\_SDM\_Subscribe service operation. If UDM supports ImmediateReport received Nudm\_SDM\_Subscribe service operation request, it shall return the resource representation(s) of the monitored resource(s) in the service operation response body. |
| 3 | PatchReport | If some of the modifications included in the PATCH request are not successfully implemented, the UDM reports the result of PATCH request execution to the consumer. See clause 5.2.7.2 of 3GPP TS 29.500 [4]. |
| 4 | Nssaa | If the NF consumer does not support this feature, the UDM shall not include information of S-NSSAI(s) subject to Network Slice-Specific Authentication and Authorization in the message body with "200 OK" response (See clause 5.2.2.2.2).  |
| 5 | CAGFeature | If the NF consumer does not support this feature, the UDM shall not include CAG information list in the message body with "200 OK" response (clause 5.2.2.2.3). The UDM performs action as executes step 2c of clause 5.3.2.2.2 and 5.3.2.2.3 if UE is allowed to access 5GS via CAG cell(s) only. |
| 6 | SharedDataTreatment | This feature is an extension to the SharedData feature, i.e. support of SharedDataTreatment requires support of SharedData.When receiving a Nudm\_SDM\_Get service operation request to retrieve a UE's individual subscription data, and the request does not contain a supported-features query parameter indicating support of this feature, the UDM shall not include SharedDataTreatments in the SharedData returned in the response. Instead the UDM may – based on operator policy – take no further action (i.e. allow the UE to get services based on default treatment (i.e. individual data take precedence), or send the shared data which have non-default treatment as individual data. |
| 7 | sorTransparentSupport | This flag indicates NF Consumer (e.g. AMF) support of receiving SoR Transparent Container instead of individual IEs from NF Producer (e.g. UDM). If the NF consumer does not support this feature, the NF Producer shall not include sorTransparentContainer, as defined in clause 6.1.6.2.26.Corresponding flag is also used by UDM to register (in NRF) its support of receiving SoR Transparent Container instead of individual IEs from the NF Consumer (e.g. AMF). If the UDM does not support this feature, the NF Consumer shall not include sorTransparentContainer, as defined in clause 6.1.6.2.25. |
| 8 | Nsac | If the NF consumer does not support this feature, the UDM shall not include network slice admission control related information for S-NSSAI(s) in the message body with "200 OK" response (See clause 5.2.2.2.3). |
| x | SharedSmSubsData | If the NF consumer does not support this feature, the UDM shall not take the alternative to include extendedSmSubsData in SmSubsData (clause 6.1.6.2.xx). |

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

## A.2 Nudm\_SDM API

openapi: 3.0.0

\*\*\*\*\*\*\*\*\*\*\*text not shown for clarity\*\*\*\*\*\*\*\*\*\*\*

 /{supi}/sm-data:

 get:

 summary: retrieve a UE's Session Management Subscription Data

 operationId: GetSmData

 tags:

 - Session Management Subscription Data Retrieval

 parameters:

 - name: supi

 in: path

 description: Identifier of the UE

 required: true

 schema:

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

 - name: supported-features

 in: query

 description: Supported Features

 schema:

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

 - name: single-nssai

 in: query

 content:

 application/json:

 schema:

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

 - name: dnn

 in: query

 schema:

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

 - name: plmn-id

 in: query

 content:

 application/json:

 schema:

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

 - name: If-None-Match

 in: header

 description: Validator for conditional requests, as described in RFC 7232, 3.2

 schema:

 type: string

 - name: If-Modified-Since

 in: header

 description: Validator for conditional requests, as described in RFC 7232, 3.3

 schema:

 type: string

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

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

 headers:

 Cache-Control:

 description: Cache-Control containing max-age, as described in RFC 7234, 5.2

 schema:

 type: string

 ETag:

 description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

 schema:

 type: string

 Last-Modified:

 description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

 schema:

 type: string

 '400':

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

 '404':

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

 '500':

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

 '503':

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

 default:

 description: Unexpected error

\*\*\*\*\*\*\*\*\*\*\*text not shown for clarity\*\*\*\*\*\*\*\*\*\*\*

 SharedData:

 type: object

 required:

 - sharedDataId

 properties:

 sharedDataId:

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

 sharedAmData:

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

 sharedSmsSubsData:

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

 sharedSmsMngSubsData:

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

 sharedDnnConfigurations:

 description: A map(list of key-value pairs) where Dnn, or optionally the Wildcard DNN, serves as key of DnnConfiguration

 type: object

 additionalProperties:

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

 minProperties: 1

 sharedTraceData:

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

 sharedSnssaiInfos:

 description: A map(list of key-value pairs) where singleNssai serves as key of SnssaiInfo

 type: object

 additionalProperties:

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

 minProperties: 1

 sharedVnGroupDatas:

 description: A map(list of key-value pairs) where GroupId serves as key of VnGroupData

 type: object

 additionalProperties:

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

 minProperties: 1

 treatmentInstructions:

 description: A map(list of key-value pairs) where JSON pointer pointing to an attribute within the SharedData serves as key of SharedDataTreatmentInstruction

 type: object

 additionalProperties:

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

 minProperties: 1

 sharedSmSubsData:

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

\*\*\*\*\*\*\*\*\*\*\*text not shown for clarity\*\*\*\*\*\*\*\*\*\*\*

 AerialUeSubscriptionInfo:

 description: Contains the Aerial UE Subscription Information, it at least contains the Aerial UE Indication.

 type: object

 required:

 - aerialUeInd

 properties:

 aerialUeInd:

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

 3gppUavId:

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

 SmSubsData:

 oneOf:

 - type: array

 items:

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

 minItems: 1

 - $ref: '#/components/schemas/ExtendedSmSubsData'

 ExtendedSmSubsData:

 description: Contains identifiers of shared Session Management Subscription Data and optionally individual Session Management Subscription Data.

 type: object

 required:

 - sharedSmSubsDataIds

 properties:

 sharedSmSubsDataIds:

 type: array

 items:

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

 minItems: 1

 individualSmSubsData:

 type: array

 items:

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

# SIMPLE TYPES:

\*\*\*\*\*\*\*\*\*\*\*text not shown for clarity\*\*\*\*\*\*\*\*\*\*\*

\* \* \* End Of Change \* \* \* \*