**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Exposure Data corrections | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | , Ericsson | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc19 | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | The NF service consumer of the Nudr\_DataManagement API for Exposure Data can subscribe to the different types of Exposure Data by using the "monitoredResourceUris" of the ExposureDataSubscription data type.  However, the URIs that are applicable in this case are currently unspecified, which can lead to UDRs rejecting subscriptions for reasons that are non-comprehensible to the NF service consumer.  It is reasonable that the NF service consumer be able to subscribe to the URIs of the Exposure Data resources specified in Table 7.2.2-1, excluding the Subscription resources themselves, while additionally allowing also subscriptions to the Collection of PDU Session Management Data, because otherwise the NF service consumer cannot be notified e.g. when a PduSessionManagementData resource is created in the UDR upon the Establishment of a new PDU Session, which is a valid case of data exposure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Added a clarification about the GET query parameters of the PDU Session Management Exposure data and Session Management Policy Data, because they include "filters" although the GET acts on an individual resource, which can be confusing for implementors and error-prone.  Specified the URIs to which an NF service consumer can subscribe for change notifications of the Exposure Data.  Added also a forgotten re-used data type to Table 6.4.1-1. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Unspecified behaviour upon Exposure Data Subscriptions and Session Management Policy Data retrieval. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.5.3.1, 6.4.1, 7.2.2, 7.2.4.3.2, 7.3.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact any OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 5.2.5.3.1 GET

This method shall support the URI query parameters specified in table 5.2.5.3.1-1.

Table 5.2.5.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |  |
| snssai | Snssai | O | 0..1 | Identifies a Single Network Slice Selection Assistance Information.  (NOTE) |  |
| multi-pdu-sess-info | array(PduSessionInfo) | O | 2..N | Identifies a list of S-NSSAI and DNN combination(s).  (NOTE) | MultiPduSessInfo |
| dnn | Dnn | O | 0..1 | Identifies a Data Network Name.  (NOTE) |  |
| fields | array(string) | C | 1..N | When the NF consumer only retrieves a subset of the resource, the "fields" query parameter shall be included. The "fields" query parameter contains the pointers of the attribute(s) to be retrieved. |  |
| supp-feat | SupportedFeatures | O | 0..1 | Identifies the features supported by the NF service consumer. |  |
| NOTE: When "MultiPduSessInfo" feature is supported and the "multi-pdu-sess-info" query parameter is present, then both the "snssai" and the "dnn" query parameters shall not be present. | | | | | |

NOTE: The URI query parameters of the GET method on this resource contain filters such as the SNSSAI and the DNN although the resource is an individual resource. This means that if the provided URI query parameters do not match the targetted resource, the UDR will return an error response as specified in 3GPP TS 29.504 [6].

When an optional query parameter is not included, the UDR shall return session management policy data per DNN matching the value of the included query parameter(s) for all the possible values of the omitted query parameter. E.g. if "snssai" is not included, and "dnn" is included, UDR shall return the session management policy data per DNN for the DNN identified by "dnn" for all network slices where such DNN is available.

This method shall support the request data structures specified in table 5.2.5.3.1-2 and the response data structures and response codes specified in table 5.2.5.3.1-3.

Table 5.2.5.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 5.2.5.3.1-3: Data structures supported by the GET Response Body on this resource

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

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

6.4.1 General

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

Table 6.4.1-1 specifies the data types defined for the Nudr\_DataRepository Service API for Application Data service-based interface protocol.

**Table 6.4.1-1: Nudr\_DataRepository specific Data Types for Application Data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **Section defined** | **Description** | **Applicability** | |
| AfRequestedQosData | 6.4.2.18 | Represents an AF Requested QoS Data Set. | GMEC | |
| AfRequestedQosDataPatch | 6.4.2.19 | Represents the requested modifications to an AF Requested QoS Data Set. | GMEC | |
| AmInfluData | 6.4.2.16 | Contains AM influence data. | DCAMP | |
| AmInfluDataPatch | 6.4.2.17 | Contains AM influence data that can be updated. | DCAMP | |
| ApplicationDataSubs | 6.4.2.10 | Contains application data subscription data. |  | |
| ApplicationDataChangeNotif | 6.4.2.11 | Contains the new or updated application data or removed indication. |  | |
| BdtPolicyData | 6.4.2.7 | Contains applied BDT policy data. | EnhancedBackgroundDataTransfer | |
| BdtPolicyDataPatch | 6.4.2.8 | Contains modification instructions to be performed on the applied BDT policy data. | EnhancedBackgroundDataTransfer | |
| CorrelationType | 6.4.3.4 | Indicates that the EAS(es) corresponding to a common DNAI or common EAS should be selected | CommonEASDNAI | |
| DataInd | 6.4.3.3 | Indicates the type of data. |  | |
| DataFilter | 6.4.2.12 | Indicates an application data filter. |  | |
| DnaiEasInfo | 6.4.2.22 | Contains EAS information for a DNAI. | DnaiEasMappings | |
| DnaiEasMapping | 6.4.2.21 | Contains DNAI(s) to EAS mapping. | DnaiEasMappings | |
| EcsAddrData | 6.4.2.23 | Represents ECS Address Configuration Data. | HR-SBO | |
| EcsAddrDataPatch | 6.4.2.23A | Represents the requested modifications to ECS Address Configuration Data. | HR-SBO | |
| IptvConfigData | 6.4.2.9 | Represents IPTV configuration data information. |  | |
| Non3gppDevInfo | 6.4.2.26 | Represents the Non-3GPP Device Identifier Information. | Non3gppDevice | |
| Non3gppDevInfoPatch | 6.4.2.27 | Contains modification instructions to be performed on the Non-3GPP Device Identifier Information | Non3gppDevice | |
| PfdDataForAppExt | 6.4.2.6 | The PFDs and related data for the application |  | |
| QosRequirements | 6.4.6.24 | Represents QoS requirements. | GMEC | |
| QosRequirementsRm | 6.4.6.25 | Represents the same as the QosRequirements data type but:  - with the OpenAPI "nullable: true" property; and  - with the individual attributes defined with the corresponding nullable data types. | GMEC | |
| ServiceParameterData | 6.4.2.15 | Contains the service parameter data. |  | |
| SliceReplReqInfoRm | 6.4.2.28 | Represents the same as the SliceReplReqInfo data type defined in clause 5.6.2.12 of 3GPP TS 29.534 [22] but with the OpenAPI "nullable" property set to "true". | | AfNetSliceRepl | |
| TrafficCorrelationInfo | 6.4.2.18 | Contains the information for traffic correlation. | CommonEASDNAI | |
| ServiceParameterDataPatch | 6.4.2.15A | Contains the service parameter data that can be updated. |  | |
| TrafficInfluData | 6.4.2.2 | Contains traffic influence data. |  | |
| TrafficInfluDataPatch | 6.4.2.3 | Contains modification instructions to be performed on the traffic influence data. |  | |
| TrafficInfluDataNotif | 6.4.2.14 | Contains traffic influence data for notification. | EnhancedInfluDataNotification | |
| TrafficInfluSub | 6.4.2.4 | Contains traffic influence subscription data. |  | |

Table 6.4.1-2 specifies data types re-used by the Nudr\_DataRepository Service API for Application Data service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nudr\_DataRepository Service API for Application Data service based interface.

**Table 6.4.1-2: Nudr\_DataRepository re-used Data Types for Application Data**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Reference** | **Comments** | **Applicability** |
| 5QiPriorityLevel | 3GPP TS 29.571 [7] | Represents the 5QI Priority Level | GMEC |
| 5QiPriorityLevelRm | 3GPP TS 29.571 [7] | Represents the 5QI Priority Level. This data type is defined in the same way as the "5QiPriorityLevel" data type, but with the OpenAPI "nullable: true" property. | GMEC |
| A2xParamsPc5 | 3GPP TS 29.522 [19] | Contains the A2X service parameters data provisioned over PC5 reference point. | A2X |
| A2xParamsPc5Rm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the A2xParamsPc5 data type, but with the OpenAPI nullable property set to true. | A2X |
| A2xParamsUu | 3GPP TS 29.522 [19] | Contains the A2X service parameters data provisioned over Uu reference point. | A2X |
| A2xParamsUuRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the A2xParamsUu data type, but with the OpenAPI nullable property set to true. | A2X |
| AfHeaderHandlingControlInfo | 3GPP TS 29.514 [52] | Represents the header handling control information. | HeaderHandling |
| AmInfluEvent | 3GPP TS 29.522 [19] | Identifies the type of AM related events of which the AF requests to be notified. |  |
| AlternativeServiceRequirementsData | 3GPP TS 29.514 [52] | Contains alternative QoS related parameters and a reference to them. | GMEC |
| ApplicationId | 3GPP TS 29.571 [7] | Indicates an application identifier. |  |
| ApplicationlayerId | 3GPP TS 29.571 [7] | Represents an application layer identifier. | Ranging\_SL |
| BdtReferenceId | 3GPP TS 29.122 [9] | Identifies a selected policy of background data transfer. | EnhancedBackgroundDataTransfer |
| BitRate | 3GPP TS 29.571 [7] | Represent a bitrate. | GMEC |
| BitRateRm | 3GPP TS 29.571 [7] | Represent a bitrate. This data type is defined in the same way as the "BitRate" data type, but with the OpenAPI nullable property set to true. | GMEC |
| DateTime | 3GPP TS 29.571 [7] | Indicates a date and time. |  |
| DateTimeRm | 3GPP TS 29.571 [7] | Indicates a date and time that can be updated. |  |
| Dnai | 3GPP TS 29.571 [7] | Represents a DNAI. | DnaiEasMappings |
| DnaiChangeType | 3GPP TS 29.571 [7] | Describes the types of DNAI change. |  |
| Dnn | 3GPP TS 29.571 [7] | Identifies a Data Network Name. (NOTE 2) |  |
| DnnSnssaiInformation | 3GPP TS 29.522 [19] | Represents a DNN, S-NSSAI combination. | DCAMP |
| DurationSec | 3GPP TS 29.571 [7] | Represents a duration in seconds. | DCAMP  CachingTimer |
| DurationSecRm | 3GPP TS 29.571 [7] | Represents a removable duration in seconds. | DCAMP |
| EcsAuthMethod | 3GPP TS 29.503 [30] | Represents the ECS Authentication Methods. | HR-SBO |
| EasDeployInfoData | 3GPP TS 29.591 [23] | Represnts the EAS Deployment Information. | EasDeployment |
| EcsServerAddr | 3GPP TS 29.571 [7] | Represents the Edge Configuration Server (ECS) address configuration information. | HR-SBO |
| EthFlowDescription | 3GPP TS 29.514 [16] | Contains the definition of the packet filter for an Ethernet data flow.(NOTE 1). |  |
| EthFlowInfo | 3GPP TS 29.122 [9] | Represents Ethernet service data flow information. | GMEC |
| Event | 3GPP TS 29.522 [19] | Contains the outcome of the UE Policy Delivery related to the invocation of AF provisioned service parameters. | DeliveryOutcome |
| EventsSubscReqData | 3GPP TS 29.514 [16] | Represents the events that the application subscribes to. | GMEC |
| EventsSubscReqDataRm | 3GPP TS 29.514 [16] | This data type is defined in the same way as the EventsSubsReqData data type, but with the OpenAPI "nullable: true" property. | GMEC |
| ExtMaxDataBurstVol | 3GPP TS 29.571 [7] | Represents the Maximum Data Burst Volume, expressed in Bytes.  Minimum = 4096. Maximum = 2000000. | GMEC |
| ExtMaxDataBurstVolRm | 3GPP TS 29.571 [7] | Represents the Maximum Data Burst Volume, expressed in Bytes.  Minimum = 4096. Maximum = 2000000.  This data type is defined in the same way as the "ExtMaxDataBurstVol" data type, but with the OpenAPI "nullable: true" property. | GMEC |
| FlowInfo | 3GPP TS 29.122 [9] | Contains the flow information. |  |
| FqdnPatternMatchingRule | 3GPP TS 29.571 [7] | Identifies an FQDN pattern matching rule. | DnaiEasMappings |
| GroupId | 3GPP TS 29.571 [7] | Identifies a group of users. | EasDeployment |
| IpAddr | 3GPP TS 29.571 [7] | IP address and/or prefix. | DnaiEasMappings |
| IptvConfigDataPatch | 3GPP TS 29.522 [19] | Contains the IPTV configuration data used for PATCH. |  |
| Ipv4Addr | 3GPP TS 29.571 [7] | Identifies an IPv4 address. |  |
| Ipv4AddrRm | 3GPP TS 29.571 [7] | Identifies an IPv4 address. This data type is defined in the same way as the "Ipv4Addr" data type, but with the OpenAPI "nullable: true" property. | CommonEASDNAI |
| Ipv6Addr | 3GPP TS 29.571 [7] | Identifies an IPv6 address. |  |
| Ipv6AddrRm | 3GPP TS 29.571 [7] | Identifies an IPv6 address. This data type is defined in the same way as the "Ipv6Addr" data type, but with the OpenAPI "nullable: true" property. | CommonEASDNAI |
| Link | 3GPP TS 29.122 [9] | Identifies a referenced resource. | HR-SBO |
| MacAddr48 | 3GPP TS 29.571 [7] | MAC Address. |  |
| MaxDataBurstVol | 3GPP TS 29.571 [7] | Represents Maximum Data Burst Volume expressed in Bytes.  Minimum = 1. Maximum = 4095. | GMEC |
| MaxDataBurstVolRm | 3GPP TS 29.571 [7] | Represents Maximum Data Burst Volume expressed in Bytes.  Minimum = 1. Maximum = 4095.  This data type is defined in the same way as the "MaxDataBurstVol" data type, but with the OpenAPI "nullable: true" property. | GMEC |
| MulticastAccessControl | 3GPP TS 29.522 [19] | Represents the multicast access control information. |  |
| NetworkAreaInfo | 3GPP TS 29.554 [13] | Describes a network area information. |  |
| NetworkDescription | 3GPP TS 29.522 [19] | Represents the description of a PLMN in terms of the PLMN ID, the MCC (and optionally, applicable MNCs) or the indication of any PLMN | VPLMNSpecificURSP |
| Non3gppDeviceInformation | 3GPP TS 29.522 [19] | Represents the Non-3GPP device information. | Non3gppDevice |
| PacketDelBudget | 3GPP TS 29.571 [7] | Represents the Packet Delay Budget expressed in milliseconds.  Minimum = 1 | GMEC |
| PacketDelBudgetRm | 3GPP TS 29.571 [7] | Represents the Packet Delay Budget expressed in milliseconds. This data type is defined in the same way as the "PacketDelBudget" data type, but with the OpenAPI "nullable: true" property. | GMEC |
| PacketErrRate | 3GPP TS 29.571 [7] | Represents the Packet Error Rate ( | GMEC |
| PacketErrRateRm | 3GPP TS 29.571 [7] | Represents the Packet Error Rate. This data type is defined in the same way as the "PacketErrRate" data type, but with the OpenAPI "nullable: true" property. | GMEC |
| ParameterOverPc5 | 3GPP TS 29.522 [19] | Contains the V2X service parameters data provisioned over PC5. |  |
| ParameterOverPc5Rm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParameterOverPc5 data type, but with the OpenAPI nullable property set to true. |  |
| ParameterOverUu | 3GPP TS 29.522 [19] | Contains the V2X service parameters data provisioned over Uu. |  |
| ParameterOverUuRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParameterOverUu data type, but with the OpenAPI nullable property set to true. |  |
| ParamForProSeDc | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe direct communications. | ProSe |
| ParamForProSeDcRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeDc data type, but with the OpenAPI nullable property set to true. | ProSe |
| ParamForProSeDd | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe direct discovery. | ProSe |
| ParamForProSeDdRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeDd data type, but with the OpenAPI nullable property set to true. | ProSe |
| ParamForProSeEndUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe End UE supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| ParamForProSeEndUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeEndUe data type, but with the OpenAPI nullable property set to true. | ProSe\_Ph2 |
| ParamForProSeRemUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe remote UE supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay. | ProSe |
| ParamForProSeRemUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeRemUe data type, but with the OpenAPI nullable property set to true. | ProSe |
| ParamForProSeU2NRelUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe UE-to-network relay UE supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay. | ProSe |
| ParamForProSeU2NRelUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeU2NRelUe data type, but with the OpenAPI nullable property set to true. | ProSe |
| ParamForProSeU2URelUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe UE-to-UE Relay UE supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| ParamForProSeU2URelUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamForProSeU2URelUe data type, but with the OpenAPI nullable property set to true. | ProSe\_Ph2 |
| ParamProSeMultiHopEndUe | 3GPP TS 29.522 [19] | Represents the service parameters for 5G ProSe End UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| ParamProSeMultiHopEndUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamProSeMultiHopEndUe data type, but with the OpenAPI nullable property set to "true". | ProSe\_Ph3 |
| ParamProSeMultiHopU2NRelUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe UE-to-Network Relay UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| ParamProSeMultiHopU2NRelUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamProSeMultiHopU2NRelUe data type, but with the OpenAPI nullable property set to "true". | ProSe\_Ph3 |
| ParamProSeMultiHopU2URelUe | 3GPP TS 29.522 [19] | Represents the service parameters for 5G ProSe UE-to-UE Relay UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| ParamProSeMultiHopU2URelUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamProSeMultiHopU2URelUe data type, but with the OpenAPI nullable property set to "true". | ProSe\_Ph3 |
| ParamProSeMultiHopRemUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe Remote UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| ParamProSeMultiHopRemUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamProSeMultiHopRemUe data type, but with the OpenAPI nullable property set to "true". | ProSe\_Ph3 |
| ParamProSeMultiHopIntermUe | 3GPP TS 29.522 [19] | Contains the service parameters for 5G ProSe Intermediate UE-to-Network Relay supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| ParamProSeMultiHopIntermUeRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the ParamProSeMultiHopIntermUe data type, but with the OpenAPI nullable property set to "true". | ProSe\_Ph3 |
| ParamForRangingSlPos | 3GPP TS 29.522 [19] | Contains the service parameters for ranging and sidelink positioning. | Ranging\_SL |
| ParamForRangingSlPosRm | 3GPP TS 29.522 [19] | This data type is defined in the same way as the "ParamForRangingSlPos" data type, but with the OpenAPI "nullable: true" property. | Ranging\_SL |
| PfdChangeNotification | 3GPP TS 29.551 [8] | Describes the PFD change. |  |
| PfdContent | 3GPP TS 29.551 [8] | Represents the content of a PFD for an application identifier. |  |
| PlmnId | 3GPP TS 29.571 [7] | Identifies a PLMN. | DCAMP\_Roaming\_LBO  HR-SBO |
| RouteToLocation | 3GPP TS 29.571 [7] | Identifies the N6 traffic routing requirement. |  |
| SliceReplReqInfo | 3GPP TS 29.534 [22] | Represents the requested Network Slice Replacement requirements. | AfNetSliceRepl |
| Snssai | 3GPP TS 29.571 [7] | Identifies a Single Network Slice Selection Assistance Information. |  |
| SpatialValidityCond | 3GPP TS 29.571 [7] | Indicates the spatial validity condition. | HR-SBO |
| SubscribedEvent | 3GPP TS 29.522 [19] | Identified the type of UP path management events of which the AF requests to be notified. |  |
| Supi | 3GPP TS 29.571 [7] | Identifies a SUPI that shall contain either an IMSI or an NAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [7] | Used to negotiate the applicability of the optional features. |  |
| TemporalInValidity | 3GPP TS 29.565 [27] | Represents the temporal invalidity conditions. | GMEC |
| TemporalValidity | 3GPP TS 29.514 [16] | Indicates the time interval during which the AF request is to be applied. | MultiTemporalCondition |
| TnapId | 3GPP TS 29.571 [7] | Trusted Network Access Point identifier. | AfGuideTNAPs |
| TrafficDataSet | 3GPP TS 29.522 [19] | Represents a set of traffic filters and the corresponding N6 traffic routing requirements. | MultiTrafficInflu\_Ext1 |
| TrafficDataSetRm | 3GPP TS 29.522 [19] | Represents the same as TrafficDataSet data type, but with the OpenAPI "nullable: true" property. | MultiTrafficInflu\_Ext1 |
| TscaiInputContainer | 3GPP TS 29.514 [16] | Represents the TSCAI Input information container. | GMEC |
| UeIdMappingInfo | 3GPP TS 29.522 [19] | Contains the UE ID mapping information. | Ranging\_SL |
| Uinteger | 3GPP TS 29.571 [7] | Unsigned Integer, i.e. only value 0 and integers greater than 0 are allowed. |  |
| UintegerRm | 3GPP TS 29.571 [7] | This data type is defined in the same way as the "Uinteger" data type, but with the OpenAPI "nullable: true" property. |  |
| Uri | 3GPP TS 29.571 [7] | Identifies a URI. |  |
| UriRm | 3GPP TS 29.571 [7] | Identifies a removable URI. | DCAMP |
| UrspRuleRequest | 3GPP TS 29.522 [19] | Contains service parameter data used to guide the URSP. | AfGuideURSP |
| NOTE 1: In order to support a set of MAC addresses with a specific range in the traffic filter, feature MacAddressRange as specified in clause 6.1.8 of TS 29.504 [6] shall be supported.  NOTE 2: The UDR uses the DNN as received from the NF service consumer without applying any transformation. To successfully perform DNN matching, in a specific deployment a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only. | | | |

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

7.2.2 Resource Structure

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 7.2.2-1 depicts the resource URIs structure for the Nudr\_DataRepository API for exposure data data.

****

**Figure 7.2.2-1: Resource URI structure of the Nudr\_DataRepository API for exposure data**

Table 7.2.2-1 provides an overview of the resources and applicable HTTP methods.

**Table 7.2.2-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method** | **Description** |
| AccessAndMobilityData | /exposure-data/{ueId}/ access-and-mobility-data | PUT | Create and update the access and mobility exposure data for a UE |
| PATCH | Update the access and mobility exposure data for a UE. |
| GET | Retrieve the access and mobility exposure data for a UE |
| DELETE | Delete the access and mobility exposure data for a UE |
| PduSessionManagementData | /exposure-data/{ueId}/ session-management-data/ {pduSessionId} | PUT | Create and update the session management data for a UE and for an individual PDU session |
| GET | Retrieve the session management data for a UE and for an individual PDU session |
| DELETE | Delete the session management data for a UE and for an individual PDU session |
| PduSessionManagementData collection | /exposure-data/{ueId}/ session-management-data/ | N/A | Represents the collection of PDU Session Management data resources. |
| ExposureDataSubscriptions | /exposure-data/subs-to-notify | POST | Create a subscription to receive notifications on exposure data changes. |
| IndividuaExposureDataSubscription | /exposure-data/subs-to-notify/ {subId} | PUT | Modify a subscription to receive notifications on exposure data changes. |
| DELETE | Delete a subscription identified by {subId}. |

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

7.2.4.3.2 GET

This method shall support the URI query parameters specified in table 7.2.4.3.2-1.

**Table 7.2.4.3.2-1: URI query parameters supported by the GET method on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| ipv4-addr | Ipv4Addr | O | 0..1 | UE IPv4 address. |
| ipv6-prefix | Ipv6Prefix | O | 0..1 | UE IPv6 prefix. |
| dnn | Dnn | O | 0..1 | Identifies a DNN. |
| fields | array(string) | C | 1..N | When the NF consumer only retrieves a subset of the resource, the "fields" query parameter shall be included. The "fields" query parameter contains the pointers of the attribute(s) to be retrieved. |
| supp-feat | SupportedFeatures | O | 0..1 | The features supported by the NF service consumer.  See 3GPP TS 29.500 [4] clause 6.6.2 and 3GPP TS 29.571 [7]. |

NOTE: The URI query parameters of the GET method on this resource contain filters such as the IP address and the DNN although the resource is an individual resource (identified by the PDU Session id). This means that if the provided URI query parameters do not match the targetted resource, the UDR will return an error response as specified in 3GPP TS 29.504 [6].

This method shall support the request data structures specified in table 7.2.4.3.2-2 and the response data structures and response codes specified in table 7.2.4.3.2-3.

**Table 7.2.4.3.2-2: Data structures supported by the GET Request Body on this resource**

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

**Table 7.2.4.3.2-3: Data structures supported by the GET Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response**  **Codes** | **Description** |
| PduSessionManagementData | M | 1 | 200 OK | The response body contains the session management data. |
| NOTE: The HTTP status code for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

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

7.3.2.4 Type ExposureDataSubscription

**Table 7.3.2.4-1: Definition of type ExposureDataSubscription**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| notificationUri | Uri | M | 1 | URI provided by the NF service consumer indicating where to receive to subscribed notifications from the UDR. |  |
| monitoredResourceUris | array(Uri) | M | 1..N | A set of URIs that identify the resources (as specified in Table 7.2.2-1) for which a modification triggers a notification.  (NOTE) |  |
| expiry | DateTime | C | 0..1 | This attribute indicates the expiry time of the subscription.  In Subscribe request messages this attribute may be included to suggest a time after which the subscription becomes invalid. Absence of this attribute from subscribe request messages indicates that the requested subscription is suggested to be unlimited in time until explicitly terminated by the service consumer.  In Subscribe response messages this attribute may be included to confirm a time after which the subscription becomes invalid.  The confirmed expiry time should be less than or equal to the suggested expiry time. If the suggested expiry time is present in the request, the confirmed expiry time should not be absent from the response. |  |
| supportedFeatures | SupportedFeatures | C | 0..1 | Used to negotiate the applicability of the optional features.  This attribute shall be provided in the POST request and in the response of successful resource creation. |  |
| resetIds | array(string) | O | 1..N | This IE uniquely identifies a part of temporary data in UDR that contains the created resource.  This attribute may be provided in the response of successful resource creation. |  |
| immRep | boolean | O | 0..1 | If provided and set to "true", it indicates that existing entries that match this subscription shall be immediately reported within the "immReports" attribute in the response. The default value is false. | ImmediateReportPcc |
| immReports | array(ExposureDataChangeNotification) | O | 1..N | Contains entries stored in the UDR that match this subscription.  It may be included only in the POST (or PUT) response body of a subscription creation (or modification), and only if the request included the "immRep" attribute set to true. | ImmediateReportPcc |
| NOTE: Within this attribute, the URIs of the "ExposureDataSubscriptions" and "IndividualExposureDataSubscription" resources are not applicable and shall not be monitored. | | | | | |

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