**3GPP TSG-S4 Meeting #117-eS4-220100**

**Online, 14th – 23rd January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
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|  | **26.532** | **CR** |  | **rev** |  | **Current version:** | 0.2.0 |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Procedures for Access Restriction | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EVEX | | | | |  | ***Date:*** | | | 4th November 2021 |
|  |  | | | |  | |  | | |  |
| ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Stage 3 text on the provisioning of access profiles. | | | | | | | | |
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| ***Summary of change:*** | |  | | | | | | | | |
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| ***Consequences if not approved:*** | |  | | | | | | | | |
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| ***Clauses affected:*** | |  | | | | | | | | |
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|  | | **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's revision history:*** | |  | | | | | | | | |

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| **First Change** |

#### 4.2.3.3 Data Reporting Configuration procedures

##### 4.2.3.3.1 General

Upon the successful creation of a Provisioning Session, the Provisioning AF shall use the procedures defined in this clause to configure UE data collection and reporting functionality specific to an application in the Data Collection AF. This clause defines the basic procedures. Additional details, including definition of the Data Reporting *Provisioning Sessions API* are provided under clause 6.3.

##### 4.2.3.3.2 Data Reporting Configuration

A given instance of a Data Reporting Configuration resource is identified by the dataReportingConfigurationId property of the DataReportingConfiguration resource and applies to one type of data collection client. The properties of this resource, as defined in the following clauses, pertain to UE data collection and reporting by different data collection clients to the Data Collection AF, and control of access by different consumer entities to event data exposed by theData Collection AF.

The type of a Data Reporting Configuration resource is identified by the dataCollectionClientType property of the DataReportingConfiguration resource as specified in clause 6.2.3.

NOTE: The *dataCollectionClientType* property corresponds to the *Data collection client type* parameter in table 4.6.2-1 of TS 26.531 [7].

The Data Reporting Configuration resource may contain one or more sets of data exposure restrictions, expressed as Data Access Profiles (see clause 6.2.3.4), each one determining the level of access to the collected event data. A Data Access Profile defines the granularity of access to a particular subset of collected event data parameters for the Event ID in question. This granularity is expressed as a set of a set of data processing instructions in the form of *data aggregation functions* along the time, user, and location dimensions. An authorization procedure is in place to determine which Data Access Profile is granted to a particular event consumer entity.

NOTE: The process of matching event consumers to Data Access Profiles is implementation-specific and therefore beyond the scope of the present document.

##### 4.2.3.3.3 Create Data Reporting Configuration

This procedure is used by the Provisioning AF to create a Data Reporting Configuration resource within the scope of a particular Provisioning Session. The HTTP POST method shall be used for this purpose and the request message body may include a DataReportingConfiguration resource, as specified under clause 6.3.

Upon success, the Data Collection AF shall respond with a 201 (Created) response message and the resource URL for the newly-created Data Reporting Configuration resource shall be returned in the Location header field.

If the procedure is unsuccessful, the Data Collection AF shall provide a response code as defined in clause 5.3.

This procedure may be performed multiple times to provision different Data Reporting Configurations in the scope of a particular Provisioning Session.

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| **Second Change** |

## 5.4 Common API data types

### 5.4.1 Simple data types

### 5.4.2 Structured data types

### 5.4.3 Enumerated data types

#### 5.4.3.1 DataCollectionClientType enumeration

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| --- | --- |
| Enumeration value | Description |
| DIRECT | Direct Data Collection Client. |
| INDIRECT | Indirect Data Collection Client. |
| APPLICATION\_SERVER | Application Server performing the role of a data collection client. |

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| **Third Change** |

### 6.2.3 Data model

#### 6.2.3.1 DataReportingConfiguration resource type

The structure of the DataReportingConfiguration resource is defined in table 6.2.3.1-1.

Table 6.2.3.1-1: Definition of DataReportingConfiguration resource type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Property name | Data type | Cardinality | Usage | Description |
| dataReportingConfigurationId | ResourceId | 1..1 | C: R  U: – | A unique identifier for this Data Reporting Configuration. |
| dataCollectionClientType | DataCollection‌Client‌Type | 1..1 | C: RW  U: RW | The type of data collection client to which this Data Reporting Configuration pertains. |
| authorizationURL | Url | 0..1 | C: RW  U: RW | A URL that may be used to authorize the consumer entity prior to a data reporting subscription. |
| dataAccessProfiles | Array(Data‌Access‌Profile) | 1..1 | C: RW  U: RW | One or more Data Access Profile definitions, each describing a set of data processing instructions applied by the Data Collection AF when exposing events. |

#### 6.2.3.2 DataAccessProfile type

The DataAccessProfile type is defined in table 6.2.3.2-1.

Table 6.2.3.2-1 Definition of DataAccessProfile type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Property name | Data type | Cardinality | Usage | Description |
| parameters | Array(String) | 1..1 | C:RW  U:RW | The set of collected UE data parameters for which these restrictions apply.  Each Event ID shall define a controlled vocabulary to uniquely identify its UE data parameters.  If the set is empty, the restrictions apply to all parameters for the Event ID of the parent Data Reporting Configuration. |
| timeAccessRestrictions | Object | 0..1 | C:RW  U:RW | Configuration for access restrictions along the time dimension. |
| duration | DurationSec | 1..1 | C:RW  U:RW | The period of time over which access is to be aggregated. |
| aggregationFunctions | Array(Data‌Aggregation‌Function‌Type) | 1..1 | C:RW  U:RW | An ordered, non-empty list of aggregation functions applied to the event data prior to exposure to event consumers. |
| userAccessRestrictions | Object | 0..1 | C:RW  U:RW | Configuration for access restrictions along the user dimension. |
| groupIds | Array(GroupId) | 1..1 | C:RW  U:RW | Identifiers of the UE groups over which access is to be aggregated. |
| userIds | Array(Gpsi) or Array(Supi) | 1..1 | C:RW  U:RW | Identifiers of the UEs comprising a group over which access is to be aggregated. |
| aggregationFunctions | Array(Data‌Aggregation‌Function‌Type) | 1..1 | C:RW  U:RW | An ordered, non-empty list of aggregation functions applied to the event data prior to exposure to event consumers. |
| locationAccessRestrictions | Object | 0..1 | C:RW  U:RW | Configuration for access restrictions along the location dimension |
| locationAreas | Array(Location‌Area‌5G) | 1..1 | C:RW  U:RW | Identifiers of geographical areas over which access is to be aggregated. Event data is grouped by the location of the UE during the data collection. |
| aggregationFunctions | Array(Data‌Aggregation‌Function‌Type) | 1..1 | C:RW  U:RW | An ordered, non-empty list of aggregation functions applied to the event data prior to exposure to event consumers. |
| NOTE: Data types DurationSec, GroupId, Gpsi, Supi and LocationArea5G are defined in TS29.571[13]. | | | | |

#### 6.2.3.3 DataAggregationFunctionType enumeration

|  |  |
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| Enumeration value | Description |
| NULL | No aggregation is applied: all values of the UE data parameter(s) are exposed to event consumers. |
| COUNT | The number of observed events over the indicated time period or the indicated set of users is exposed to event consumers. |
| MEAN | The mean average of the values of the UE data parameter(s) over the indicated time period or the indicated set of users is exposed to event consumers. |
| MAXIMUM | The maximum observed value of the UE data parameter(s) over the indicated time period or the indicated set of users is exposed to event consumers. |
| MINIMUM | The minimum observed value of the UE data parameter(s) over the indicated time period or the indicated set of users is exposed to event consumers. |
| SUM | The sum of the values of the UE data parameter(s) over the indicated time period or the indicated set of users is exposed to event consumers. |

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| **Third Change** |

Annex B (normative):  
OpenAPI representation of REST APIs for data collection and reporting

# A.1 General

This annex is based on the OpenAPI 3.0.0 specification [17] and provides corresponding representations of all APIs defined in the present document.

NOTE 1: An OpenAPIs representation embeds JSON Schema representations of HTTP message bodies.

This Annex shall take precedence when being discrepant to other parts of the present document with respect to the encoding of information elements and methods within the API(s).

NOTE 2: The semantics and procedures, as well as conditions, e.g. for the applicability and allowed combinations of attributes or values, not expressed in the OpenAPI definitions but defined in other parts of the specification also apply.

# A.2 Data Types applicable to several APIs

# A.3 Ndcaf\_DataReportingProvisioning API