**3GPP TSG- Meeting #**

**, Greece,** revision of S4-230229

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** | 0003 | **rev** | **1** | **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 |  |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | EVEX |  | ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | There are a few areas in TS 26.531 where corrections and additions are necessary, to more properly meet the assumptions and objectives of EVEX stage 2 with regards to UE data collection, reporting and exposure functionality. |
|  |  |
| ***Summary of change:*** | * Clauses 4.2 and 4.5.2:
	+ Control of event exposure control in the case of conflict between ASP-defined provisioning rules as conveyed in Data Access Profile and event subscription information should not always defer to the ASP provisioning rules when these are more restrictive than that requested by the subscribing event consumer. This especially applies to event exposure of UE data pertaining to 3GPP-defined reporting domains where the event consumer is the NWDAF.
* Clauses 4.3, 4.6.3 and 4.6.4:
	+ Beside indicating what data is to be collected (i.e., set of paramters) being conveyed in the provisioning information issued by the ASP at reference point R1, other information such as how that data should be collected (by format, time, location and possibly other criteria) or whether the collected data should be actually reported by the data collection client to the Data Collection AF (e.g., by sample percentage). Doing so would match the provisioning functionality, for example, as defined in TS 26.501 and TS 26.512 regarding 3GP-DASH QoE metrics collection and reporting rules to be followed by the 5GMSd Client in the logging reporting of QoE metrics to the 5GMSd AF.
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| ***Consequences if not approved:*** | Incorrect and incomplete specification. |
|  |  |
| ***Clauses affected:*** | 4.2, 4.3, 4.5.2, 4.6.3 and 4.6.4 |
|  |  |
|  | **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's revision history:*** |  |

FIRST CHANGE

## 4.2 Functional entities for data collection and reporting

Figure 4.2‑1 below shows the reference architecture for data collection and reporting using reference point notation.



NOTE: The Data Collection AF may be deployed outside the trusted domain, in which case the services it exposes to API invokers are mediated by the NEF. The logical relationships denoted by the reference points are unaffected by such deployment choices.

Figure 4.2‑1: Reference architecture for data collection and reporting in reference point notation

(SNIPPED)

The set of UE data to be collected and exposed by the Data Collection AF is determined by the intersection between its provisioning state provided at R1 and the current set of subscriptions as indicated in the following rules regarding UE data collection and exposure mechanisms applicable to ASP-specific and 3GPP-defined domains:

ASP-specific domains:

- The ASP-defined provisioning rules on event exposure shall take precedence over the NWDAF’s event subscription rules regarding permissible NWDAF access to event notification information provided by the Data Collection AF.

- The ASP-defined provisioning rules on UE data collection (from data collection clients) by the Data Collection AF shall take precedence over similar UE data collections rules contained in any nominal preconfiguration of the Data Collection AF by the mobile operator.

3GPP-defined domains:

- Should the ASP-defined provisioning rules be more restrictive than the NWDAF’s event subscription rules, i.e., the fomer would otherwise preclude NWDAF access to certain event notification information being sought, the NWDAF-specified rules shall take precedence in dictating the corresponding procedures on related UE data collection and event exposure by the Data Collection AF to the NWDAF.

- Should the ASP-defined provisioning rules be more lax than the nominal preconfiguration of the Data Collection AF by the mobile operator regarding UE data collection and event exposure to external business entities, the latter configuration data shall take precedence in dictating the corresponding procedures on related UE data collection and event exposure by the Data Collection AF to the ASP.

NOTE 3: It is expected that in typical operation of application service delivery and associated UE data collection, reporting and event exposure procedures, the above cited examples of conflict (and corresponding rules on conflict resolution), between operator- and ASP-defined provisioning and event subscription rules on UE data collection and event exposure by the Data Collection AF should not occur given presumed prior establishment of business agreement between the ASP and the mobile operator concerning the related collaboration scenarios. The establishment and details of such business agreements are outside the scope of 3GPP specifications.

The above is reflected in the data collection and reporting configuration exposed at reference points R2, R3 and R4, and the subscription-driven event notifications sent to consumer entities such as the NWDAF or Event Consumer AF of an Application Service Provider over reference points R5 and R6. The Data Collection AF is responsible for ensuring that access to UE data is controlled according to the rules indicated in its provisioning state.

NOTE 4: When the Data Collection AF is deployed outside the trusted domain, the NWDAF uses the procedure defined in clause 5.2.6.2 of TS 23.502 [3] and further elaborated by clause 6.2.2.3 of TS 23.288 [4] to collect data from the externally deployed Data Collection AF via the NEF.

NOTE 5: The Data Collection AF is intended to be instantiated inside another Application Function in order to satisfy the domain-specific data collection and reporting requirements corresponding to particular features in the 5G System. As such, there may be several reoprting domain-specific Data Collection AF instances operating simultaneously in a particular 5G System, each one performing a different role. The definitions of these instantiations are beyond the scope of the present document.

(SNIPPED)

NEXT CHANGE

## 4.3 Reference points for data collection and reporting

The purposes of the reference points in the functional architecture defined in clause 4.2 above are as follows:

- **R1** supports the following interactions between a Provisioning AF in the Application Service Provider and the Data Collection AF:

- Used by the Application Service Provider to provision data collection and reporting in a Data Collection AF instance by means of the Ndcaf\_DataReportingProvisioning service defined in clause 4.4 of the present document (or else the equivalent service exposed by the NEF if the two functions are deployed in different trust domains). The provisioning information specifies what data is to be collected, and additionally may specify how that data should be reported (e.g., by format, time and location) and whether that data should be reported (e.g., by sample percentage) by data collection clients, how it is to be processed by the Data Collection AF and how it is to be exposed to event notification subscribers. A generic provisioning envelope for data collection and reporting is defined in clause 4.6 of the present document, but this is expected to be extended by individual reporting domains.

- **R2** supports the following interactions between the Direct Data Collection Client in the UE and the Data Collection AF:

- Used by a Direct Data Collection Client instance to obtain its data collection and reporting configuration from the corresponding Data Collection AF instance by means of the Ndcaf\_DataReporting service defined in clause 4.4 of the present document. A generic data collection and reporting configuration envelope is defined in clause 4.6.3 of the present document, but details of the configuration are specific to individual reporting domains and are specified elsewhere.

- Subsequently used by the Direct Data Collection Client to send reports to its Data Collection AF instance by means of the Ndcaf\_DataReporting service defined in clause 4.4 of the present document. A generic data reporting envelope is defined in clause 4.6.4 of the present document, but details of the reporting by format and other rules (e.g., by dimensions of time, location and sample percentage) are specific to individual reporting domains and are specified elsewhere.

NOTE 1: This method of reporting corresponds to the direct data collection procedure defined in clause 6.2.8 of TS 23.288 [4].

(SNIPPED)

NEXT CHANGE

### 4.5.2 Data exposure restriction model

The Provisioning AF restricts the exposure of UE data over reference points R5 and R6 by configuring a set of Data Access Profiles for each Event ID to be exposed. A Data Access Profile specifies a set of data processing operations that need to be performed by the Data Collection AF on the collected UE data in order to synthesize the event data that will be exposed to the NWDAF and/or Event Consumer AF.

NOTE: The handling of data processing rules specified in an instance of Data Access Profile by the Data Collection Client regarding permitted event data exposure to the NWDAF and/or Event Consumer AF shall be in accordance to the procedures described in clause 4.2, in case of conflicts (and corresponding resolution) between ASP-defined provisioning rules and NWDAF-specified event subscription rules with regards to event exposure to consumer entities.

When subscribing to event exposure notifications for a particular Event ID, an NWDAF or Event Consumer AF goes through an authorisation procedure (see clause 5.8) with an Authorisation AS that determines the level of access the event subscriber is allowed to have by selecting one of the provisioned Data Access Profiles for the Event ID in question. If successful, the Authorisation AS supplies an access token to the subscriber which is presented to and validated by the Data Collection AF as part of the event subscription procedure.

NOTE: The procedure for selecting an appropriate Data Access Profile is not specified in the present document.

Figure 4.5.2-1 depicts the static data model for the data collection provisioning with Data Access Profiles to restrict data exposure access.



Figure 4.5.2-1: Data exposure restriction domain model

(SNIPPED)

NEXT CHANGE

### 4.6.3 Configuration information for data collection clients

All clients of the Data Collection AF wishing to report data shall first obtain a data collection and reporting configuration from the Data Collection AF at reference point R2, R3 or R4 (as appropriate). For each Event ID, the data collection and reporting configuration shall include at least the parameters defined in table 4.6.3‑1 below:

Table 4.6.3‑1: Baseline information for data collection and reporting configuration

|  |  |  |
| --- | --- | --- |
| Parameter | Cardinality | Description |
| External Application Identifier | 1..1 | Identifies the UE Application to which this data collection and reporting configuration pertains.Quoted in reports sent by the data collection client to the Data Collection AF. |
| Parameters to be collected | 1..\* | The subset of domain-specific parameters associated with the specified Event ID to be collected by the data collection client (subject to user consent). |
| Parameter collection rules | 1..\* | One or more sets of instructions (e.g., by format, time, location, or other criteria) on how the domain-speciific parameters associated with the specified Event ID should be collected by the data collection client. |

### 4.6.4 Information included in data reports to the Data Collection AF

For each Event ID, the data report shall include at least the parameters as defined in table 4.6.4-1 below:

Table 4.6.4‑1: Baseline information for data reporting

|  |  |  |
| --- | --- | --- |
| Parameter | Cardinality | Description |
| External Application Identifier | 1..1 | Identifies the UE Application to which this data report pertains. |
| Parameters to be reported | 1..\* | The set of parameters collected by the data collection client to be reported to the Data Collection AF. |
| Parameter reporting rules | 1..\* | One or more sets of instructions (e.g., by format, time, location, or other criteria) on how the collected parameters by the data collection client should be should be reported to the Data Collection AF. |

(SNIPPED)

END OF CHANGES