**3GPP TSG-SA4 Meeting #117-e *S4aI220053***

**Electronic Meeting, Telco, February 14-23, 2022**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **TR 26.512** | **CR** | 0017 | **rev** | **01** | **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 | **X** | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Stage 2/3 on Data collection and reporting for 5G Media Streaming | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, BBC | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EVEX | | | | |  | ***Date:*** | | | 2022-02-07 |
|  |  | | | |  | |  | | |  |
| ***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). | | | | | | | |  | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Need to produce Rel-17 version of TS 26.512 to provide instantiation of generic data collection and reporting architecture for the 5G Media Streaming feature domain as specified in TS 26.531 and TS 26.532 for the EVEX Work Item. This includes stage 2.5-like text to assist CT3 in producing stage 3 text on 5GMS AF event exposure service APIs in TS 29.517 and TS 29.522.. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Addition to summary table of APIs relevant to downlink media streaming; * Updates to clause 7 on M1 Provisioning APIs by adding ProvisioningSession resources pertaining to data processing and access restriction rules on event exposure that can be exerted by the 5GMS Application Provider; * New clauses on R4, R5 and R6 APIs; * New clause on NEF-mediation for media access configuration and reporting and NEF-mediation for event exposure functionality. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The mapping of 5GMS to EVEX will be incomplete in Release 17. | | | | | | | | |
| ***Q*** | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2, 4.3.10, 4.3.11, 4.11, .4.12, 5.2, 7.2.3, 7.10, 7.11, (new) 14.A, 14.B | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

FIRST CHANGE

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

(SNIPPED)

[42] 3GPP TS 26.531: “Data Collection and Reporting; General Description and Architecture".

[43] 3GPP TS 26.532: “Data Collection and Reporting; Protocols and Formats".

NEXT CHANGE

## 4.2 APIs relevant to Downlink Media Streaming

Table 4.2‑1 summarises the APIs used to provision and use the various downlink media streaming features specified in TS 26.501 [2].

Table 4.2‑1: Summary of APIs relevant to downlink media streaming features

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5GMSd feature | Abstract | Relevant APIs | | |
| Interface | API name | Clause |
| Content protocols discovery | Used by the 5GMSd Application Provider to interrogate which content ingest protocols are supported by 5GMSd AS(s). | M1d | Content Protocols Discovery API | 7.5 |
| Content hosting | Content is ingested, hosted and distributed by the 5GMSd AS according to a Content Hosting Configuration associated with a Provisioning Session. | M1d | Provisioning Sessions API | 7.2 |
| Server Certificates Provisioning API | 7.3 |
| Content Preparation Templates Provisioning API | 7.4 |
| Content Hosting Provisioning API | 7.6 |
| M2d | HTTP-pull based content ingest protocol | 8.2 |
| DASH-IF push based content ingest protocol | 8.3 |
| M4d | DASH [4] or 3GP [37] | 10 |
| M5d | Service Access Information API | 11.2 |
| Metrics reporting | The 5GMSd Client uploads metrics reports to the 5GMSd AF according to a provisioned Metrics Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | M1d | Provisioning Sessions API | 7.2 |
| Metrics Reporting Provisioning API | 7.8 |
| M5d | Service Access Information API | 11.2 |
| Metrics Reporting API | 11.4 |
| Consumption reporting | The 5GMSd Client provides feedback reports on currently consumed content according to a provisioned Consumption Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | M1d | Provisioning Sessions API | 7.2 |
| Consumption Reporting Provisioning API | 7.7 |
| M5d | Service Access Information API | 11.2 |
| Consumption Reporting API | 11.3 |
| Dynamic Policy invocation | The 5GMSd Client activates different traffic treatment policies selected from a set of Policy Templates configured in its Provisioning Session. | M1d | Provisioning Sessions API | 7.2 |
| Policy Templates Provisioning API | 7.9 |
| M5d | Service Access Information API | 11.2 |
| Dynamic Policies API | 11.5 |
| Network Assistance | The 5GMSd Client requests bit rate recommendations and delivery boosts from the 5GMSd AF. | M5d | Service Access Information API | 11.2 |
| Network Assistance API | 11.6 |
| Data Processing for event exposure | Directives from the 5GMSd Application Provider for the 5GMSd AF to perform processing of collected UE data prior to event exposure. | M1d | Event Data Processing API | 7.10 |
| Data Restriction for event exposure | Directives from the 5GMSd Application Provider for the 5GMSd AF to restrict event exposure of collected UE data . | M1d | Event Data Restriction API | 7.11 |
| Media streaming access reporting | Configuration and reporting of downlink media streaming access logs by the 5GMSd AS. | R4 | Ndcaf\_DataReportingProvisioning service API | 14A |
| Ndcaf\_DataReporting service API |
| Event exposure | Event exposure service offered to consumer entities. | R5, R6 | Naf\_EventExposure service API | 14B |

NEXT CHANGE

### 4.3.10 Event Data Processing Provisioning procedures

#### 4.3.10.1 General

#### 4.3.10.2 Create Event Data Processing Configuration

#### 4.3.10.3 Retrieve Event Data Processing Configuration

#### 4.3.10.4 Update Event Data Processing Configuration

#### 4.3.10.5 Destroy Event Data Processing Configuration

### 4.3.11 Event Data Exposure Restriction Provisioning procedures

#### 4.3.11.1 General

#### 4.3.11.2 Create Event Data Exposure Restrictions

#### 4.3.11.3 Retrieve Event Data Exposure Restrictions

#### 4.3.11.4 Update Event Data Exposure Restrictions

#### 4.3.11.5 Destroy Event Data Exposure Restrictions

NEXT CHANGE

## 4.11 Data collection and reporting procedures at reference point R4

### 4.11.1 General

### 4.11.2 Data collection and reporting client configuration

#### 4.11.2.1 5GMS AS data collection and reporting client configuration

#### 4.11.2.2 5GMS AS data collection and reporting client configuration via NEF

### 4.11.3 Data reporting

#### 4.11.3.1 5GMS AS data reporting

#### 4.11.3.2 5GMS AS data reporting via NEF

NEXT CHANGE

## 4.12 Event exposure procedures at reference points R5 and R6

### 4.12.1 General

*Naf\_EventExposure* service operations as defined in TS 23.502 [3] apply for Event service consumer interactions at reference points R5 and R6 with the Data Collection AF in the 5GMS AF, as shown in Figure 4.X.1-1 of TS 26.501 [2], acting as the Event service provider:

* *Naf\_EventExposure\_Subscribe*,
* *Naf\_EventExposure\_Unsubscribe*, and
* *Naf\_EventExposure Notify*.

In this release, eligible Event service consumers of 5GMS Event services include NWDAF and NEF as NFs, and Event Consumer AF of the 5GMS Application Provider.

### 4.12.2 Naf\_EventExposure\_Subscribe service operation

The definition of input and output parameters of the Naf\_EventExposure\_Subscribe service operation is identical to that specified in clause 5.2.19.2.2 of TS 23.502 [3], except that "AF" is replaced by "Data Collection AF" and "consumer NF" is replaced by "Event service consumer".

### 4.12.3 Naf\_EventExposure\_Unsubscribe service operation

The definition of input and output parameters of the Naf\_EventExposure\_Unsubscribe service operation is identical to that specified in clause 5.2.19.2.3 of TS 23.502 [3], except that "AF" is replaced by "Data Collection AF" and "consumer NF" is replaced by "Event service consumer".

### 4.12.4 Naf\_EventExposure\_Notify service operation

The definition of input and output parameters of the Naf\_EventExposure\_Notify service operation is identical to that specified in clause 5.2.19.2.4 of TS 23.502 [3], except that "AF" is replaced by "Data Collection AF" and "consumer NF" is replaced by "Event service consumer".

NEXT CHANGE

## 5.2 APIs relevant to Uplink Media Streaming

Table 5.2‑1 summarises the APIs used to provision and use the various uplink media streaming features specified in TS 26.501 [2].

Table 5.2‑1: Summary of APIs relevant to uplink media streaming features

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5GMSu feature | Abstract | Relevant APIs | | |
| Interface | API name | Clause |
| Content protocols discovery | Used by the 5GMSu Application Provider to query which content egest protocols are supported by 5GMSu AS(s). | M1u | Content Protocols Discovery API | 7.5 |
| Content preparation | Supports manipulation by the 5GMSu AS of streaming media content uploaded by 5GMSu Client over M4u, prior to egest of the manipulated content over M2u. | M1u | Content Preparation Templates Provisioning API | 7.4 |
| Metrics reporting | The 5GMSu Client uploads metrics reports to the 5GMSu AF according to a provisioned Metrics Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | M1u | Provisioning Sessions API | 7.2 |
| Metrics Reporting Provisioning API | 7.8 |
| M5u | Service Access Information API | 11.2 |
| Metrics Reporting API | 11.4 |
| Dynamic Policy invocation | The 5GMSu Client activates different traffic treatment policies selected from a set of Policy Templates configured in its Provisioning Session. | M1u | Provisioning Sessions API | 7.2 |
| Policy Templates Provisioning API | 7.9 |
| M5u | Service Access Information API | 11.2 |
| Dynamic Policies API | 11.5 |
| Network Assistance | The 5GMSu Client requests bit rate recommendations and delivery boosts from the 5GMSu AF. | M5u | Service Access Information API | 11.2 |
| Network Assistance API | 11.6 |
| Data Processing for event exposure | Directives from the 5GMSu Application Provider for the 5GMS AF to perform processing of collected UE data prior to event exposure. | M1u | Event Data Processing API | 7.10 |
| Data Restriction for event exposure | Directives from the 5GMSu Application Provider for the 5GMSu AF to restrict event exposure of collected UE data. | M1u | Event Data Restriction API | 7.11 |
| Media streaming access reporting | Configuration and reporting of uplink media streaming access logs by the 5GMSd AS. | R4 | Ndcaf\_DataReportingProvisioning service API | 14A |
| Ndcaf\_DataReporting service API |
| Event exposure | Event exposure service offered to consumer entities. | R5, R6 | Naf\_EventExposure service API | 14B |

NEXT CHANGE

### 7.2.3 Data model

#### 7.2.3.1 ProvisioningSession resource

The data model for the ProvisioningSession resource is specified in Table 7.2.3.1-1 below. Different properties are present in the resource depending on the type of Provisioning Session indicated in the provisioningSessionType property, and this is specified in the *Applicability* column.

Table 7.2.3.1‑1: Definition of ProvisioningSession resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Property name | Type | Cardinality | Usage | Description | Applicability |
| provisioningSessionId | ResourceId | 1..1 | C: R  R: RO | A unique identifier for this Provisioning Session. | All types. |
| provisioningSession‌Type | Provisioning‌Session‌Type | 1..1 | C: RW R: RO  U: – | The type of Provisioning Session. | All types. |
| aspId | AspId | 0..1 | C: W  R: RO | The identity of the Application Service Provider responsible for this Provisioning Session, as specified in clause 5.6.2.3 of TS 29.514 [34]. | All types. |
| serverCertificateIds | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Server Certificate identifiers currently associated with this Provisioning Session. | downlink |
| contentPreparation‌TemplateIds | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Content Preparation Template identifiers currently associated with this Provisioning Session. | downlink,  uplink |
| metricsReporting‌ConfigurationIds | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Metrics Reporting Configuration identifiers currently associated with this Provisioning Session. | downlink,  uplink |
| policyTemplateIds | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Policy Template identifiers currently associated with this Provisioning Session. | downlink,  uplink |
| dataProcessing‌ConfigurationIds | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Data Processing Configuration identifiers currently associated with this Provisioning Session. | downlink,  uplink |
| dataExposure‌Restriction‌Ids | Array(ResourceId) | 0..1 | C: –  R: RO | A list of Data Exposure Restriction identifiers currently associated with this Provisioning Session. | downlink,  uplink |

NEXT CHANGE

## 7.10 Event Data Processing Provisioning API

### 7.10.1 Overview

### 7.10.2 Resource structure

### 7.10.3 Data model

#### 7.10.3.1 EventDataProcessingConfiguration resource type

## 7.11 Event Data Exposure Restriction API

### 7.11.1 Overview

### 7.11.2 Resource structure

### 7.11.3 Data model

#### 7.11.3.1 EventDataExposureRestriction resource type

NEXT CHANGE

## 14A Usage of Ndcaf\_DataReporting (R4) API

### 14A.1 Overview

### 14A.2 MediaStreamingDownlinkAccessRecord type

### 14A.3 MediaStreamingUplinkAccessRecord type

## 14B Usage of Naf\_EventExposure (R5 and R6) APIs

Editor’s note: Likely to include error handling, feature negotiation and security.

Editor’s note: Likely to primarily reference TS 29.517.

NEXT CHANGE

## C.3.8 M1\_EventDataProcessingProvisioning API

## C.3.9 M1\_EventDataExposureRestriction API

END OF CHANGES