**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* | | | | | | | | |
| **Pesudo CHANGE REQUEST** | | | | | | | | |
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|  |  | **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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Corrections on ANBR-based metrics reporting | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_Pro\_Ph2 | | | | |  | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | The descriptions on the ANBR-based metrics reporting are not correct as following:   1. Descriptions on the AT Command support of bit rate recommendation is not fully correct. 2. The ANBR-based method is mainly used for the network assistance while for metrics reporting, that’s only based on the RRC interaction between UE modem and the RAN node. 3. Missing SliceScope from stage 2 specs. | | | | | | | | |
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| ***Summary of change:*** | | * Correct the ANBR-based metrics reporting as the RRC-based metrics reporting. * Add details and references on the cross-layer interaction for the metrics reporting. * Editorial corrections for metrics reporting. * Add missing Slicescope to align with stage 2 specs. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incomplete and incorrect specs. | | | | | | | | |
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| ***Clauses affected:*** | | 5.6.3, 8.10.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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

5.6.3 RAN-based metrics reporting

These procedures shall be used by the Media Session Handler to control metrics reporting when such reporting is configured by the OAM via the 5G control plane signalling.

As described in clause L.1 of TS 26.247 [26247], the metrics configuration is delivered to the UE as a container from the OAM via RAN and the Media Session Handler should obtain its metrics configuration , e.g. using the AT Command +CAPPLEVMC or +CAPPLEVMCNR. This configuration may also include Virtual Reality metrics as specified in clause 9.3 of TS 26.118 [26118]. When a metrics configuration is received, the Media Session Handler shall store this configuration and use it for all subsequent media delivery sessions.

When a media delivery session is started the Media Session Handler shall determine whether metrics from this session shall be reported. The determination shall be based on the *sample percentage, slice scope* and *streaming source filter* specified in the stored metrics configuration, according to clause 10.5 of TS 26.247 [26247].

If metrics are to be reported for the session, the Media Session Handler shall request the Media Access Function to create a metrics collection job. The Media Access Function shall return a reference to the created job, which the Media Session Handler shall use in all subsequent actions related to this job.

The Media Session Handler shall configure the metrics collection job with the set of metrics to be collected during the media delivery session. The format of the configuration shall be according to clause L.2 of [26247], but only the *metrics* attribute in the configuration shall be used for this purpose.

The Media Session Handler shall regularly request the collected metrics from the Media Access Function according to the *reportingInterval* specified in the metrics configuration. The metrics returned by the Media Access Function shall use the format as described in clause 10.6.2 of [26247], and (for Virtual Reality media) in clause 9.4.3 of TS 26.118 [26118]. The Media Session Handler should forward these to the UE modem, e.g. using the AT command +CAPPLEVMR or +CAPPLEVMRNR. As a result, the UE modem sends metrics reports to the RAN which are then forwarded to the OAM according to clause L.1 of [26247].

When the media delivery session is finished the Media Session Handler shall destroy the metrics collection job.

Second CHANGE

#### 8.10.3.1 MetricsReportingConfiguration resource

Table 8.10.3‑1: Definition of MetricsReportingConfiguration resource

| Property name | Type | Cardinality | Description |
| --- | --- | --- | --- |
| metricsReportingConfigurationId | ResourceId | 1..1 | An identifier for this Metrics Reporting Configuration assigned by the Media AF that is unique within the scope of the enclosing Provisioning Session. |
| *sliceScope* | array(Snssai) | 0..1 | The set of network slice(s) for which metrics collection and reporting shall be executed in connection with this metrics reporting configuration (see NOTE).  If present, the array shall identify at least one network slice.  If absent, metrics shall be collected and reported for media delivery sessions within the scope of the parent Provisioning Session on any and all network slices. |
| scheme | Uri | 0..1 | The QoE metrics scheme associated with this Metrics Reporting Configuration.  Omitting this property signals to the Media AF that metrics reporting is currently disabled for the Provisioning Session in question. |
| dataNetworkName | Dnn | 0..1 | Identifies the Data Network which shall be used when sending metrics reports.  If not specified, the default Data Network shall be used. |
| reportingInterval | DurationSec | 0..1 | The time interval between successive metrics reports to be sent by the Media Session Handler. The value shall be greater than zero.  If not specified, a single final report shall be sent after the media delivery session has ended. |
| samplePercentage | Percentage | 0..1 | The proportion of media delivery sessions for which QoE metrics shall be reported, expressed as a floating-point value between 0.0 and 100.0.  If not specified, reports shall be sent for all media delivery sessions. |
| urlFilters | array(string) | 0..1 | If present, a non-empty list of Media Entry Point URL patterns for which QoE metrics shall be reported.  If not specified, reporting shall be done for all media delivery sessions initiated within the scope of the parent Provisioning Session. |
| samplingPeriod | DurationSec | 1..1 | The time interval the Media Client should wait between sampling the QoE metrics specified by this Metrics Reporting Configuration. |
| metrics | array(String) | 0..1 | If present, a non-empty list of QoE metrics which shall be collected and reported by the Media Client.  A controlled vocabulary of QoE metrics shall be specified by each metrics scheme for use with this property.  If omitted, the complete (or default, as applicable) set of metrics associated with the specified metrics scheme shall be collected and reported. |
| NOTE: The Snssai data type is specified in TS 29.571 [29571]. | | | |

Third CHANGE

#### 9.2.3.1 ServiceAccessInformation resource type

The data model for the ServiceAccessInformation resource is specified in table 9.2.3.1-1 below. Different properties are present in the resource depending on the type of Provisioning Session from which the Service Access Information is derived (as indicated in the provisioningSessionType property) and this is specified in the *Applicability* column.

Table 9.2.3.1‑1: Definition of ServiceAccessInformation resource

| Property name | | | Type | Cardinality | Usage | Description | Applicability |
| --- | --- | --- | --- | --- | --- | --- | --- |
| provisioningSessionId | | | ResourceId | 1..1 | RO | Unique identification of the M1 Provisioning Session. | All types |
| provisioningSession‌Type | | | Provisioning‌Session‌Type | 1..1 | RO | The type of Provisioning Session. | All types. |
| streamingAccess | | | object | 0..1 | RO | Present if Content Hosting or Content Publishing is provisioned in the parent Provisioning Session. | DOWNLINK |
|  | entryPoints | | Array(M5‌Media‌Entry‌Point) | 0..1 | RO | A list of alternative Media Entry Points for the Media Client to choose between. |
|  |  | locator | AbsoluteUrl | 1..1 | RO | A pointer to a document at reference point M2 that defines a media presentation e.g. MPD for DASH content or URL to a video clip file. |
|  |  | contentType | string | 1..1 | RO | The MIME content type of resource at locator. |  |
|  |  | profiles | array(Uri) | 0..1 | RO | An optional list of conformance profile URIs with which this Media Entry Point is compliant.  If present, the array shall contain at least one item. |  |
|  | eMBMS‌Service‌Announcement‌Locator | | AbsoluteUrl | 0..1 | RO | A pointer to an eMBMS User Service Announcement document. | DOWNLINK |
| clientConsumptionReporting‌Configuration | | | object | 0..1 | RO | Present if consumption reporting is activated for this Provisioning Session. | DOWNLINK |
|  |  | reportingInterval | DurationSec | 0..1 | RO | The time interval, expressed in seconds, between consumption report messages being sent by the Media Session Handler. The value shall be greater than zero.  When this property is omitted, a single final report shall be sent immediately after the media streaming session has ended. |
|  |  | serverAddresses | array(AbsoluteUrl) | 1..1 | RO | A list of Media AF addresses (URLs) where the consumption reporting messages are sent by the Media Session Handler. See NOTE 1.  Each address shall be an opaque base URL, following the format specified in clause 7.1.3 up to and including the {apiVersion} path element. |
|  |  | locationReporting | boolean | 1..1 | RO | Indicates whether the Media Session Handler is required to provide location data in consumption reporting messages (in case of MNO or trusted third parties).  Shall be set false if the locationReporting parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 8.11.3.1‑1. |
|  |  | accessReporting | boolean | 1..1 | RO | Indicates whether the Media Session Handler is required to supply consumption reporting unitswhenever the access network changes during a media delivery session.  Shall be set false if the accessReporting parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 8.11.3.1‑1. |
|  |  | samplePercentage | Percentage | 1..1 | RO | The percentage of media delivery sessions that shall send consumption reports, expressed as a floating-point value between 0.0 and 100.0.  Shall be set to 100.0 if the samplePercentage parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 8.11.3.1‑1. |
| dynamicPolicyInvocation‌Configuration | | | object | 0..1 | RO | Present if Policy Templates have been provisioned in the parent Provisioning Session and at least one of them is in the READY state. | DOWNLINK, UPLINK |
|  | serverAddresses | | array(AbsoluteUrl) | 1..1 | RO | A list of Media AF addresses (URLs) which offer the APIs for dynamic policy invocation sent by the Media Session Handler. See NOTE 1.  Each address shall be an opaque base URL, following the format specified in clause 7.1.3 up to and including the {apiVersion} path element. |  |
|  | policyTemplateBindings | | array(object) | 1..1 | RO | A list of duples, each one binding an external reference to a Policy Template resource identifier. |  |
|  |  | externalReference | string | 1..1 | RO | Additional identifier for this Policy Template, unique within the scope of its Provisioning Session, that can be cross-referenced with external metadata about the media streaming session.  Example: "HD\_Premium". |  |
|  |  | policyTemplateId | ResourceId | 1..1 | RO | The resource identifier of a Policy Template tagged with externalReference that is in the READY state. |  |
|  | sdfMethods | | array(SdfMethod) | 1..1 | RO | A list of Service Data Flow description methods, e.g. 5-tuple, ToS, 2-tuple, etc., which should be used by the Media Session Handler to describe the Service Data flows at reference point M2 for media delivery sessions. |  |
| clientMetricsReporting‌Configurations | | | array(object) | 0..1 | RO | Present if QoE metrics reporting is provisioned in the parent Provisioning Session.  If present, contains one or more client metrics reporting configurations. | DOWNLINK, UPLINK |
|  | metricsReporting‌ConfigurationId | | ResourceId | 1..1 | RO | The identifier of this metrics reporting configuration, unique within the scope of the parent Provisioning Session.  The value shall be the same as the corresponding identifier provisioned at reference point M1 (see clause 8.10.3.1). |
|  | serverAddresses | | array(AbsoluteUrl) | 1..1 | RO | A list of Media AF addresses to which metrics reports shall be sent. See NOTE 1.  Each address shall be an opaque base URL, following the format specified in clause 7.1.3 up to and including the {apiVersion} path element. |
|  | *sliceScope* | | array(Snssai) | 0..1 | RO | The set of network slice(s) for which metrics collection and reporting shall be executed in connection with this metrics reporting configuration (see NOTE 2).  If present, the array shall identify at least one network slice.  If absent, metrics shall be collected and reported for media delivery sessions within the scope of the parent Provisioning Session on any and all network slices. |
|  | scheme | | Uri | 1..1 | RO | A URI identifying the metrics scheme that metrics reports shall use (see clause 5.2.10). |
|  | dataNetworkName | | Dnn | 0..1 | RO | The name of the Data Network which shall be used to send metrics reports.  If not specified, the default DN shall be used. |
|  | reportingInterval | | DurationSec | 0..1 | RO | The time interval, expressed in seconds, between metrics reports being sent by the Media Session Handler. The value shall be greater than zero.  When this property is omitted, a single final report shall be sent immediately after the media streaming session has ended. |
|  | samplePercentage | | Percentage | 1..1 | RO | The percentage of media delivery sessions that shall report QoE metrics, expressed as a floating point value between 0.0 and 100.0. |
|  | urlFilters | | array(string) | 0..1 | RO | A non-empty list of Media Entry Point URL patterns for which QoE metrics shall be reported. The format of each pattern shall be a regular expression as specified in [ECMA262].  If not specified, reporting shall be done for all media delivery sessions. |
|  | samplingPeriod | | DurationSec | 1..1 | RO | The time interval the Media Client should wait between sampling the QoE metrics specified by this metrics reporting configuration. |
|  | metrics | | array(string) | 1..1 | RO | A list of QoE metrics which shall be reported.  If empty, the complete (or default if applicable) set of metrics associated with the specified scheme shall be collected and reported. |
| networkAssistance‌Configuration | | | object | 0..1 | RO | Present if Network Assistance is provisioned in the parent Provisioning Session. | DOWNLINK, UPLINK |
|  | serverAddresses | | array(AbsoluteUrl) | 1..1 | RO | A list of Media AF addresses (URLs) that offer the APIs for AF-based Network Assistance at reference point M5. See NOTE 1.  Each address shall be an opaque URL, following the format specified in clause 7.1.3 up to and including the {apiVersion} path element. |
| client‌EdgeResources‌Configuration | | | object | 0..1 | RO | Present only for Provisioning Sessions with client-driven edge computing management mode provisioned. | DOWNLINK, UPLINK |
|  | eligibilityCriteria | | Edge‌Processing‌Eligibility‌Criteria | 0..1 | RO | Conditions for activating edge resources for media delivery sessions in the scope of the parent Provisioning Session. (See clause 7.3.3.8.) |
|  | easDiscoveryTemplate | | EAS‌Discovery‌Template | 1..1 | RO | A template for the EAS discovery filter that shall be used by the EEC to discover and select a Media EAS instance to serve media delivery sessions at reference point M4 in the scope of the parent Provisioning Session. (See clause 9.2.3.2.) |
|  | easRelocation‌Requirements | | M5EAS‌Relocation‌Requirements | 0..1 | RO | EAS relocation tolerance and requirements.  If absent, the EEC shall assume that relocation is tolerated by all Media EAS instances in the scope of the parent Provisioning Session. (See clause 9.2.3.3.) |
| NOTE 1: In deployments where multiple instances of the Media AF expose the Media Session Handling APIs at reference point M5, the 5G System may use a suitable mechanism (e.g., HTTP load balancing or DNS-based host name resolution) to direct requests to a suitable Media AF instance.  NOTE 2: The Snssai data type is specified in TS 29.571 [29571]. | | | | | | | |