**3GPP TSG-SA4 Meeting #127 *S4-240156***

**Sophia-Antipolis, France, 29th Jan – 2nd Feb 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.512** | **CR** | **0062** | **rev** | **-** | **Current version:** | **17.7.0** |  |
|  | | | | | | | | |
| *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:*** | Add Slice Scope for metrics configuration and reporting in stage 3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS3, TEI17 | | | | |  | ***Date:*** | | | 2024-01-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For support of per-slice metrics collection and reporting, the Slice scope is introduced in TS 26.501. However, the Slice scope is missing in stage 3 specs. | | | | | | | | |
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| ***Summary of change:*** | | Add missing SliceScope for metrics reporting in stage 3. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incomplete and misaligned stage 2 and stage 3 design. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.8.3.1, 15.3, C.3.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 7.8.3.1 MetricsReportingConfiguration resource

The data model for the MetricsReportingConfiguration resource is specified in table 7.8.3-1 below:

Table 7.8.3‑1: Definition of MetricsReportingConfiguration resource

| Property name | Type | Cardinality | Description |
| --- | --- | --- | --- |
| *metricsReportingConfigurationId* | ResourceId | 1..1 | An identifier for this Metrics Reporting Configuration assigned by the 5GMS 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 not specified, metrics shall be collected and reported for all network slices. |
| *scheme* | Uri | 0..1 | The scheme associated with this Metrics Reporting Configuration. A scheme may be associated with 3GPP or with a non-3GPP entity.  For downlink media streaming, if not specified, the 3GPP metrics scheme urn:‌3GPP:‌ns:‌PSS:‌DASH:‌QM10 from TS 26.247 shall apply.  For uplink media streaming, if not specified, the implication is that no associated uplink metrics reporting shall be performed. |
| *dataNetworkName* | Dnn | 0..1 | The Data Network Name (DNN) which shall be used when sending metrics reports.  If not specified, the default DNN shall be used. |
| *reportingInterval* | DurationSec | 0..1 | The time interval between successive metrics reports. The value shall be greater than zero.  If not specified, a single final report shall be sent after the media streaming session has ended. |
| *samplePercentage* | Percentage | 0..1 | The proportion of media streaming sessions for which 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 sessions. |
| *urlFilters* | array(String) | 0..1 | A non-empty list of Media Entry Point URL patterns for which metrics shall be reported.  If not specified, reporting shall be done for all media streaming sessions initiated within the scope of the parent Provisioning Session. |
| *samplingPeriod* | DurationSec | 1..1 | The time interval the 5GMS 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 metrics which shall be collected and reported.  In the case of downlink media streaming and for the 3GPP scheme urn:‌3GPP:‌ns:‌PSS:‌DASH:‌QM10 the listed metrics shall correspond to one or more of the metrics as specified in clauses 10.3 and 10.4 of TS 26.247 [7], and the quality reporting scheme and quality reporting protocol as defined in clauses 10.5 and 10.6, respectively, of [7] shall be used to produce and send metrics reports.  Metrics related to virtual reality media, as specified in TS 26.118 [42] clause 9.3, may also be listed in the metrics configuration, and shall be reported according to the quality reporting scheme defined in clause 9.4 of [42].  In the case of uplink streaming, no standardized metrics nor metrics reporting protocol are defined in the present document. It is assumed that those quality metrics and reporting protocol are defined by the metrics scheme.  If omitted, the complete (or default, as applicable) set of metrics associated with the specified scheme shall be collected and reported. |
| NOTE: The Snssai data type is specified in TS 29.571 [12]. | | | |

\* \* \* \* Second change \* \* \* \*

## 15.3 RAN-based Metrics Reporting API

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, i.e. by means of RRC signalling between the UE modem and the RAN.

As described in clause L.1 of TS 26.247 [4], the metrics configuration is delivered to the UE via RRC signalling as a container from the OAM via RAN and the Media Session Handler shall obtain its metrics configuration 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 [42]. When a metrics configuration is received, the Media Session Handler shall store this configuration and use it for all subsequent media streaming sessions.

When a streaming 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 [4].

If metrics are to be reported for the session, the Media Session Handler shall request the Media Player to create a metrics collection job. The Media Player 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 that shall be collected during the session. The format of the configuration shall be according to TS 26.247 [4] clause L.2, but note that 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 Player according to the reportingInterval specified in the metrics configuration. The metrics returned by the Media Player shall use the format specified in clause 10.6.2 of TS 26.247, and (for Virtual Reality media) in clause 9.4.3 of TS 26.118 [42], and the Media Session Handler shall forward these to the UE modem using the AT command +CAPPLEVMR or +CAPPLEVMRNR. As a result, the UE modem sends metrics reports to the RAN by means of RRC signalling which are then forwarded to the OAM according to clause L.1 of TS 26.247 [4].

When the session is finished the Media Session Handler shall delete the metrics collection job.

\* \* \* \* Third change \* \* \* \*

## C.3.7 M1\_MetricsReportingProvisioning API

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| openapi: 3.0.0  info:    title: M1\_MetricsReportingProvisioning    version: 2.1.0    description: |      5GMS AF M1 Metrics Reporting Provisioning API  *© 2023*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).      All rights reserved.  tags:    - name: M1\_MetricsReportingProvisioning      description: '5G Media Streaming: Provisioning (M1) APIs: Metrics Reporting Provisioning'  externalDocs:    description: 'TS 26.512 V17.6.0; 5G Media Streaming (5GMS); Protocols'    url: 'https://www.3gpp.org/ftp/Specs/archive/26\_series/26.512/'  servers:    - url: '{apiRoot}/3gpp-m1/v2'      variables:        apiRoot:          default: https://example.com          description: See 3GPP TS 29.512 clause 6.1.  paths:    /provisioning-sessions/{provisioningSessionId}/metrics-reporting-configurations:      parameters:        - name: provisioningSessionId          in: path          required: true          schema:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          description: 'The resource identifier of an existing Provisioning Session.'      post:        operationId: activateMetricsReporting        summary: 'Activate the Metrics reporting procedure for the specified Provisioning Session by providing the Metrics Reporting Configuration'        requestBody:          description: 'A JSON representation of a Metrics Reporting Configuration'          required: true          content:            application/json:              schema:                $ref: '#/components/schemas/MetricsReportingConfiguration'        responses:          '201':            description: 'Metrics Reporting Configuration Created'            headers:              Location:                description: 'URL of the newly created Metrics Reporting Configuration (same as request URL).'                required: true                schema:                  $ref: 'TS26512\_CommonData.yaml#/components/schemas/AbsoluteUrl'    /provisioning-sessions/{provisioningSessionId}/metrics-reporting-configurations/{metricsReportingConfigurationId}:      parameters:        - name: provisioningSessionId          in: path          required: true          schema:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          description: 'The resource identifier of an existing Provisioning Session.'        - name: metricsReportingConfigurationId          in: path          required: true          schema:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          description: 'The resource identifier of a Metrics Reporting Configuration.'      get:        operationId: retrieveMetricsReportingConfiguration        summary: 'Retrieve the specified Metrics Reporting Configuration of the specified Provisioning Session'        responses:          '200':            description: 'Success'            content:              application/json:                schema:                  $ref: '#/components/schemas/MetricsReportingConfiguration'      put:        operationId: updateMetricsReportingConfiguration        summary: 'Update the specified Metrics Reporting Configuration for the specified Provisioning Session'        requestBody:          description: 'A JSON representation of a Metrics Reporting Configuration'          required: true          content:            application/json:              schema:                $ref: '#/components/schemas/MetricsReportingConfiguration'        responses:          '204':            description: 'Updated Metrics Reporting Configuration'          '404':            description: 'Not Found'      patch:        operationId: patchMetricsReportingConfiguration        summary: 'Patch the specified Metrics Reporting Configuration for the specified Provisioning Session'        requestBody:          description: 'A JSON representation of a Metrics Reporting Configuration'          required: true          content:            application/merge-patch+json:              schema:                $ref: '#/components/schemas/MetricsReportingConfiguration'            application/json-patch+json:              schema:                $ref: '#/components/schemas/MetricsReportingConfiguration'        responses:          '200':            description: 'Patched Metrics Reporting Configuration'            content:              application/json:                schema:                  $ref: '#/components/schemas/MetricsReportingConfiguration'          '404':            description: 'Not Found'      delete:        operationId: destroyMetricsReportingConfiguration        summary: 'Destroy the specified Metrics Reporting Configuration of the specified Provisioning Session'        responses:          '204':            description: 'Destroyed Metrics Reporting Configuration'          '404':            description: 'Not Found'  components:    schemas:      MetricsReportingConfiguration:        type: object        description: "A representation of a Metrics Reporting Configuration resource."        required:          - metricsReportingConfigurationId          - samplingPeriod        properties:          metricsReportingConfigurationId:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          sliceScope:            type: array            items:              $ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'            minItems: 1          scheme:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'          dataNetworkName:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'          reportingInterval:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'          samplePercentage:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/Percentage'          urlFilters:            type: array            items:              type: string            minItems: 1          samplingPeriod:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'          metrics:            type: array            items:              type: string            minItems: 1 |