**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 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:*** | For support of per-slice metrics collection and reporting, the Slice scope is introduced in TS 26.501 triggered by the LS exchanges between RAN3 and SA4 in S4-221493/ R3-225227. 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.  |
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| ***Clauses affected:*** | 7.8.3.1, 11.2.3.1, 15.3, C.3.7, C.4.1 |
|  |  |
|  | **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 \* \* \* \*

#### 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 absent, metrics shall be collected and reported for media delivery sessions within the scope of the parent Provisioning Session regardless of 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 \* \* \* \*

#### 11.2.3.1 ServiceAccessInformation resource type

The data model for the ServiceAccessInformation resource is specified in table 11.2.3.1-1 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 11.2.3.1‑1: 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 is provisioned by the 5GMS Application Provider. | downlink |
| entryPoints | Array(M5‌Media‌Entry‌Point) | 0..1 | RO | A list of alternative Media Entry Points for the 5GMS 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 this Media Entry Point. |
|  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 a document that defines a User Service Announcement for eMBMS where the service announcement file is available. | downlink |
| clientConsumptionReporting‌Configuration | object | 0..1 | RO | Present if consumption reporting is provisioned by the 5GMS Application Provider. | 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 5GMSd AF addresses (URLs) where the consumption reporting messages are sent by the Media Session Handler. See NOTE.Each address shall be an opaque base URL, following the 5GMS URL format specified in clause 6.1 up to and including the {apiVersion} path element. |
| locationReporting | boolean | 1..1 | RO | Stipulates whether the Media Session Handler is required to provide location data to the 5GMSd AF in consumption reporting messages (in case of MNO or trusted third parties).Shall be set false if locationReporting parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 7.7.3‑1. |
| accessReporting | boolean | 1..1 | RO | Stipulates whether the Media Session Handler is required to provide consumption reporting messages to the 5GMSd AF when the access network changes during a media streaming session.Shall be set false if accessReporting parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 7.7.3‑1. |
| samplePercentage | Percentage | 1..1 | RO | The percentage of media streaming 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 samplePercentage parameter is omitted from the Consumption‌Reporting‌Configuration, as specified in table 7.7.3‑1. |
| dynamicPolicyInvocation‌Configuration | object | 0..1 | RO | Present if Policy Templates have been provisioned by the 5GMS Application Provider and at least one of them is in the READY state. | downlink,uplink |
| serverAddresses | array(AbsoluteUrl) | 1..1 | RO | A list of 5GMSd 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 5GMS URL format specified in clause 6.1 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 recommended service data flow description methods (descriptors), e.g. 5-tuple, ToS, 2-tuple, etc., which should be used by the Media Session Handler to describe the service data flows for the traffic to be policed. |
| clientMetricsReporting‌Configurations | array(object) | 0..1 | RO | Present if metrics reporting is provisioned by the 5GMS application Provider.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 provisioningSessionId.The value shall be the same as the corresponding identifier provisioned at reference point M1. |
| serverAddresses | array(AbsoluteUrl) | 1..1 | RO | A list of 5GMS AF addresses to which metrics reports shall be sent. See NOTE 1.Each address shall be an opaque base URL, following the 5GMS URL format specified in clause 6.1 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 regardless of network slices. |
| scheme | Uri | 1..1 | RO | A URI identifying the metrics reporting scheme that metrics reports shall use (see clause 4.7.5). |
| 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 streaming sessions that shall report 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 metrics reporting shall be done. The format of each pattern shall be a regular expression as specified in [5].If not specified, reporting shall be done for all media streaming sessions. |
| samplingPeriod | DurationSec | 1..1 | RO | The time interval the 5GMS Client should wait between sampling the QoE metrics specified by this metrics reporting configuration. |
| metrics | array(string) | 1..1 | RO | A list of 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 by the 5GMS System Operator. | downlink,uplink |
| serverAddresses | array(AbsoluteUrl) | 1..1 | RO | A list of 5GMS AF addresses (URLs) that offer the APIs for 5GMS AF-based Network Assistance, for access by the 5GMSd Media Session Handler. See NOTE 1.Each address shall be an opaque URL, following the 5GMS URL format specified in clause 6.1 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 streaming sessions in the scope of this Service Access Information. (See clause 6.4.3.8.) |
|  easDiscoveryTemplate | EAS‌Discovery‌Template | 1..1 | RO | A template for the EAS discovery filter that shall be used by the EEC to discover and select a 5GMS EAS instance to serve media streaming sessions in the scope of this Service Access Information. (See clause 11.2.3.2.) |
|  easRelocation‌Requirements | M5EAS‌Relocation‌Requirements | 0..1 | RO | EAS relocation tolerance and requirements.If absent, the EEC shall assume that relocation is tolerated by all 5GMS EAS instances in the scope of this Service Access Information. (See clause 11.2.3.3.) |
| NOTE 1: In deployments where multiple instances of the 5GMSd AF expose the Media Session Handling APIs at 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 AF instance.NOTE 2: The Snssai data type is specified in TS 29.571 [12]. |

\* \* \* \* Third 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 signalling.

As described in clause L.1 of TS 26.247 [4], the metrics configuration is delivered to the UE modem 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 [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 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 TS 26.247 [4].

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

\* \* \* \* Forth change \* \* \* \*

## C.3.7 M1\_MetricsReportingProvisioning API

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| --- |
| openapi: 3.0.0info:  title: M1\_MetricsReportingProvisioning  version: 2.1.1  description: |    5GMS AF M1 Metrics Reporting Provisioning API    *© 2024*, 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 V17.8.0; 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 |

\* \* \* \* Fifth change \* \* \* \*

## C.4.1 M5\_ServiceAccessInformation API

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| --- |
| openapi: 3.0.0info:  title: M5\_ServiceAccessInformation  version: 2.4.1  description: |    5GMS AF M5 Service Access Information API    *©* 2024, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M5\_ServiceAccessInformation    description: '5G Media Streaming: Media Session Handling (M5) APIs: Service Access Information'externalDocs:  description: 'TS 26.512 V17.8.0; 5G Media Streaming (5GMS); Protocols'  url: 'https://www.3gpp.org/ftp/Specs/archive/26\_series/26.512/'servers:  - url: '{apiRoot}/3gpp-m5/v2'    variables:      apiRoot:        default: https://example.com        description: See 3GPP TS 29.512 clause 6.1.paths:  /service-access-information/{provisioningSessionId}:    parameters:      - name: provisioningSessionId        description: 'The resource identifier of an existing Provisioning Session.'        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'    get:      operationId: retrieveServiceAccessInformation      summary: 'Retrieve the Service Access Information resource'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                  $ref: '#/components/schemas/ServiceAccessInformationResource'        '404':          description: 'Not Found'components:  schemas:    M5MediaEntryPoint:      description: "A typed entry point for downlink or uplink media streaming."      type: object      required:        - locator        - contentType      properties:        locator:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/AbsoluteUrl'        contentType:          type: string        profiles:          type: array          items:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'          minItems: 1    ServerAddresses:      description: "A set of application endpoint addresses."      type: array      items:        $ref: 'TS26512\_CommonData.yaml#/components/schemas/AbsoluteUrl'      minItems: 1    ServiceAccessInformationResource:      description: "A representation of a Service Access Information resource."      type: object      required:      - provisioningSessionId      - provisioningSessionType      properties:        provisioningSessionId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        provisioningSessionType:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ProvisioningSessionType'        streamingAccess:          type: object          properties:            entryPoints:              type: array              items:                $ref: '#/components/schemas/M5MediaEntryPoint'            eMBMSServiceAnnouncementLocator:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/AbsoluteUrl'        clientConsumptionReportingConfiguration:          type: object          required:            - serverAddresses            - locationReporting            - accessReporting            - samplePercentage          properties:            reportingInterval:              $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'            serverAddresses:              $ref: '#/components/schemas/ServerAddresses'            locationReporting:              type: boolean            accessReporting:              type: boolean            samplePercentage:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/Percentage'        dynamicPolicyInvocationConfiguration:          type: object          required:            - serverAddresses            - policyTemplateBindings            - sdfMethods          properties:             serverAddresses:              $ref: '#/components/schemas/ServerAddresses'            policyTemplateBindings:              type: array              minItems: 1              items:                 type: object                required:                  - externalReference                  - policyTemplateId                properties:                   externalReference:                    type: string                  policyTemplateId:                    $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'            sdfMethods:              type: array              items:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/SdfMethod'              minItems: 0        clientMetricsReportingConfigurations:          type: array          minItems: 1          items:            type: object            required:            - serverAddresses            - scheme            - samplePercentage            - urlFilters            - samplingPeriod            - metrics            properties:              serverAddresses:                $ref: '#/components/schemas/ServerAddresses'              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: 0              samplingPeriod:                $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'              metrics:                type: array                items:                  type: string        networkAssistanceConfiguration:          type: object          required:             - serverAddresses          properties:            serverAddresses:              $ref: '#/components/schemas/ServerAddresses' clientEdgeResourcesConfiguration:          type: object          required:            - easDiscoveryTemplate          properties:            eligibilityCriteria:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/EdgeProcessingEligibilityCriteria'            easDiscoveryTemplate:              $ref: '#/components/schemas/EASDiscoveryTemplate'            easRelocationRequirements:              $ref: '#/components/schemas/M5EASRelocationRequirements'    M5EASRelocationRequirements:      description: 'Relocation requirements of an EAS.'      type: object      required:        - tolerance      properties:        tolerance:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/EASRelocationTolerance'        maxInterruptionDuration:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'    EASDiscoveryTemplate:      description: 'A template for discovering an EAS instance .'      type: object      properties:        easId:          type: string        easType:          type: string        easProviderIds:          type: array          items:            type: string          minItems: 1        serviceFeatures:          type: array          items:            type: string          minItems: 1 |