**3GPP TSG-S4 Meeting #120-e *S4-220927***

**Online, , 17th–26th August 2022** revision of S4aI221351

|  |
| --- |
| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  |  | **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:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  |  |
| ***Reason for change:*** | Corrections to interface definitions not fully addressed in previous meeting cycle. |
|  |  |
| ***Summary of change:*** | Corrections in normative clauses:* Add array of Edge Resources Configurations to Provisioning Session resource.
* Correct camelcasing in Content Hosting Configuration resource subobject property names.
* Correct camelcasing in Policy Template resource subobject property names.
* Correct camelcasing of Service Access Information resource subobject property names.
* Move metrics reporting scheme property from the Dynamic Policy Invocation Configuration to the Client Metrics Reporting Configurations (fixing incorrect implementation of CR0014).
* Align Network Assistance boost with path element naming convention.
* Insert correct cross-references to TS 29.517.

OpenAPI corrections:* Bump all OpenAPI version numbers to 2.0.0 (convention to match v2 path element in endpoint URL template).
* Fix typo in *EdgeProcessingEligibilityCriteria* common data type.
* Add missing *ProvisioningSession.externalApplicationId* to *ProvisioningSession*.
* Add *edgeResourcesConfigurationIds* and *eventDataProcessing‌ConfigurationIds* to *ProvisioningSession*.
* Add missing createEdgeResourcesConfiguration operation in Edge Resources Provisioning API.
* Correct type of *M1EASRelocationRequirements.tolerance* to reference common *EASRelocationTolerance* type defintion.
* Fix indentation of *EASRequirements.easProviderIds* array type.
* Correct camelcasing of subobject property names in *Service‌Access‌Information‌Resource* definition.
* Fix indentation of eASRelocationRequirements and eASDiscoveryTemplate subobjects of *Service‌Access‌Information‌Resource*.
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|  |  |
| ***Consequences if not approved:*** | Inconsistent speification. |
| ***Q*** |  |
| ***Clauses affected:*** | 7.2.3.1, 7.6.3.1, 7.9.3.1, 11.2.3.1, 11.6.2, 18, C.2, C.3, C.4 |
|  |  |
|  | **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

#### 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: RR: RO | A unique identifier for this Provisioning Session. | All types. |
| provisioningSession‌Type | Provisioning‌Session‌Type | 1..1 | C: RWR: ROU: – | The type of Provisioning Session. | All types. |
| aspId | AspId | 0..1 | C: WR: 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. |
| externalApplicationId | ApplicationId | 1..1 | C: RWR: ROU: RO | The external application identifier (see TS 29.571 [12]), nominated by the 5GMS Application Provider, to which this Provisioning Session pertains. | 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 |
| edgeResources‌ConfigurationIds | Array(ResourceId) | 0..1 | C: –R: RO | A list of Edge Resources Configuration identifiers currently associated with this Provisioning Session. | downlink*,*uplink |
| eventDataProcessing‌ConfigurationIds | Array(ResourceId) | 0..1 | C: –R: RO | A list of Event Data Processing Configuration identifiers currently associated with this Provisioning Session. | downlink,uplink |

NEXT CHANGE

#### 7.6.3.1 ContentHostingConfiguration resource

The data model for the ContentHostingConfiguration resource is specified in table 7.6.3.1-1 below:

Table 7.6.3.1-1: Definition of ContentHostingConfiguration resource

| Property name | Data Type | Cardinality | Description |
| --- | --- | --- | --- |
| name | String | 1..1 | A name for this Content Hosting Configuration. |
| ingestConfiguration | Object | 1..1 | Describes the 5GMSd Application Provider's origin server from which media resources will be ingested via interface M2d. |
|  path | String | 1..1 | The relative path which will be used to address the media resources at interface M2d.This path is provided by the 5GMSd AF in the case of Push-based ingest. |
|  pull | Boolean | 1..1 | Indicates whether to the 5GMSd AS shall use Pull or Push for ingesting the content. |
|  protocol | Uri | 1..1 | A fully-qualified term identifier allocated in the name space urn:3gpp:5gms:content-protocol that identifies the content ingest protocol.The set of supported protocols is defined in clause 8. |
|  entryPoint | Url | 1..1 | An entry point to ingest the content. The semantics of the entry point are dependent on the selected ingest protocol.In the case of Push ingest (pull flag is set to False), this parameter is returned by the 5GMSd AF to the 5GMSd Application Provider and indicates the entry point for pushing the content.In case of Pull (pull flag is set to True), the entryPoint shall be provided to the 5GMSd AF to indicate the location from which content is to be pulled. In this case, the entryPoint shall be used as the base URL. A request received by the 5GMSd AS is mapped to a URL using the provided base URL to fetch the content from the origin server. |
| distributionConfigurations | Array(Object) | 1..1 | Specifies the distribution method and configuration for the ingested content.More than one distribution may be configured for the ingested content, e.g. to offer different distribution configurations such as DASH and HLS. |
|  contentPreparationTemplateId | ResourceId | 0..1 | Indicates that content preparation prior to distribution is requested by the 5GMSd Application Provider. It identifies the Content Preparation Template that shall be used as defined in clause 7.4 |
|  supplementary‌Distribution‌Networks | Array(Map(Distribution‌NetworkType -> DistributionMode) | 0..1 | Specifies that the content for this distribution configuration is to be distributed via one of more supplementary networks. Each member of the array maps a type of distribution network to a mode of distribution. |
|  canonicalDomainName | String | 1..1 | All resources of the current distribution shall be accessible through this default FQDN assigned by the 5GMSd AF. |
|  domainNameAlias | String | 1..1 | The 5GMSd Application Provider may assign another FQDN through which media resources are additionally accessible at M4d.This domain name is used by the 5GMSd AS to select an appropriate Server Certificate to present at M4d, and to set appropriate CORS HTTP response headers at M4d.If this property is present, the 5GMSd Application Provider is responsible for providing in the DNS a CNAME record that resolves domainNameAlias to canonicalDomainName. |
|  pathRewriteRules | Array(Object) | 0..1 | An ordered list of rules for rewriting the request URL paths of media resource requests handled by the 5GMSd AS.If multiple rules match a particular resource's path, only the first matching rule, in order of appearance in this array, shall be applied. |
|  requestPathPattern | String | 1..1 | A regular expression [5] against which the path part of each 5GMSd AS request URL, including the leading "/", and up to and including the final "/", shall be compared. (Any leaf path element following the final "/" shall be excluded from this comparison.)In the case of Pull-based ingest, the M4d download request path is used in the comparison.In the case of Push-based ingest, the M2d upload request path is used in the comparison.In either case, if the request path matches this pattern, the path mapping specified in the corresponding mappedPath shall be applied. |
|  mappedPath | String | 1..1 | A replacement for the portion of the 5GMSd AS request path that matches requestPathPattern.In the case of Pull-based ingest, ingestConfiguration.entryPoint is concatenated with the mapped path and any leaf path element from the original M4d download request to form the M2d origin request URL.In the case of Push-based ingest, canonicalDomainName (and, optionally, domainNameAlias) are concatenated with the mapped path and any leaf path element from the original M2d upload request to form the distribution URL(s) exposed over M4d. |
|  cachingConfigurations | Array(Object) | 0..1 | Defines a configuration of the 5GMSd AS cache for a matching subset of media resources ingested in relation to this Content Hosting Configuration. |
|  urlPatternFilter | String | 1..1 | A pattern that will be used to match media resource URLs to determine whether a given media resource is eligible for caching by the 5GMSd AS. The format of the pattern shall be a regular expression as specified in [5]. |
|  cachingDirectives | Object | 1..1 | If a urlPatternFilter applies to a resource, then the provided cachingDirectives shall be applied by the 5GMSd AS at M4d, potentially overwriting any origin caching directives ingested at M2d. |
|  statusCodeFilters | Array(Integer) | 0..1 | The set of HTTP origin response status codes to which these cachingDirectives apply. The filter shall be provided as a regular expression as specified in [5].If the list is empty, the cachingDirectives shall apply to all HTTP origin response status codes at M2d. |
|  noCache | Boolean | 1..1 | If set to True, this indicates that the media resources matching the filters shall not be cached by the 5GMSd AS and shall be marked as not to be cached when served by the 5GMSd AS at M4d. |
|  maxAge | Integer | 0..1 | The caching time-to-live period that shall be set on ingested media resources matching the filters. This determines the minimum period for which the 5GMSd AS shall cache matching media resources as well as the time-to-live period signalled by the 5GMSd AS at interface M4d when it serves such media resources.The time-to-live for a given media resource shall be calculated relative to the time it was ingested. |
|  geoFencing | Object | 0..N | Limit access to the content to the indicated geographic areas. |
|  locatorType | Uri | 1..1 | The type of the locators shall be indicated using a fully-qualified term identifier URI from the controlled vocabulary urn:3gpp:5gms:‌locator‑type, as specified in clause 7.6.4.6, or else from a vendor-specific vocabulary. |
|  locators | Array(String) | 1..1 | Array of locators from which access to the resources is to be allowed. The format of the locator strings shall be determined by the value of locatorType, as specified in clause 7.6.4.6. |
|  urlSignature | Object | 0..1 | Defines the URL signing scheme. Only correctly signed and valid URLs will be allowed to access the content resource at M4d. |
|  urlPattern | String | 1..1 | A pattern that shall be used to match M4d media resource URLs. The 5GMSd AS shall not serve a matching media resource at M4d unless it includes a valid authentication token. The format of the pattern shall be a regular expression as specified in [5]. |
|  tokenName | String | 1..1 | The name of the M4d request query parameter that the Media Player should use to present the authentication token when required to do so. |
|  passphraseName | String | 1..1 | The name of the query parameter that is used to refer to the passphrase when constructing the authentication token.Note that the token is not included in the cleartext part of the M4d URL query component. |
|  passphrase | String | 1..1 | The shared secret between the 5GMSd Application Provider and the 5GMSd AS for this distributionConfiguration.The passphrase is used in the computation and verification of the M4d authentication token but is never sent in-the-clear over that interface. |
|  tokenExpiryName | String | 1..1 | The name of the M4d request query parameter that the Media Player should use to present the token expiry field. |
|  useIPAddress | Boolean | 1..1 | If set to True, the IP address of the UE is included in the computation of the authentication token for resources that match urlPattern and access to matching media resources shall be allowed by the 5GMSd AF only when the M4d request is made from a UE with this IP address. |
|  ipAddressName | String | 0..1 | The name of the M4d request query parameter that is encoded as part of the authentication token if the useIPAddress flag is set to True.Note that the IP address is not passed in the cleartext part of the M4d URL query component. |
|  certificateId | ResourceId | 0..1 | When content is distributed using TLS [16], the X.509 [8] certificate for the origin domain is shared with the 5GMSd AF so that it can be presented by the 5GMSd AS in the TLS handshake at M4d. This attribute indicates the identifier of the certificate to use. |

NEXT CHANGE

#### 7.9.3.1 PolicyTemplate resource

The data model for the PolicyTemplate resource is specified in table 7.9.3‑1 below:

Table 7.9.3-1: Definition of PolicyTemplate resource

| Property | Type | Cardinality | Usage | Visibility | Description |
| --- | --- | --- | --- | --- | --- |
| policyTemplateId | ResourceId | 1..1 | C: ROR: ROU: RO |  | Unique identifier of this Policy Template within the scope of the Provisioning Session. |
| state | Enumeration of Strings | 1..1 | C: ROR: ROU: RO |  | A Policy Template may be in the PENDING, INVALID, READY, or SUSPENDED state.Only a Policy Template in the READY state may be instantiated as a Dynamic Policy Instance and applied to media streaming sessions. |
| apiEndPoint | String | 1..1 | C: RWR: ROU: RW | MNO Admin | The API endpoint that should be invoked when activating a Dynamic Policy Instance based on this Policy Template. |
| apiType | Enumeration of Strings | 1..1 | C: RWR: ROU: RW | MNO Admin | N5: Npcf\_PolicyAuthorization Service.N33: AsSessionWithQoS or CHargableParty. |
| externalReference | String | 1..1 | C: RWR: ROU: RW |  | 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. |
| qoSSpecification | M1QoSSpecification | 0..1 | C: RWR: ROU: RW |  | Specifies the network quality of service to be applied to media streaming sessions at this Policy Template. |
| applicationSession‌Context | Object | 1..1 |  |  | Specifies information about the application session context to which this Policy Template can be applied. |
|  afAppId | AfAppId | 0..1 | C: RWR: RWU: RW  |  | As defined in clause 5.6.2.3 of TS 29.514 [34] and clause 5.3.2 of TS 29.571 [12]. |
|  sliceInfo | Snssai | 0..1 | C: RWR: RWU: RW |  |
|  dnn | Dnn | 0..1 | C: RWR: RWU: RW |  |
|  aspId | AspId | 1..1 | C: RWR: RWU: RW |  |
| chargingSpecification | ChargingSpecification | 0..1 | C: RWR: RWU: RW  |  | Provides information about the charging policy to be used for this Policy Template. |

NEXT 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 |  | downlink |
| mediaPlayerEntry | Url | 0..1 | RO | A document or a pointer to a document that defines a media presentation e.g. MPD for DASH content or URL to a video clip file. |
| eMBMS‌Service‌Announcement‌Locator | Url | 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 |  | 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(Url) | 1..1 | RO | A list of 5GMSd AF addresses (URLs) where the consumption reporting messages are sent by the Media Session Handler. See NOTE.(Opaque URL, following the 5GMS URL format.) |
| 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). |
| 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. |
| 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. |
| dynamicPolicyInvocation‌Configuration | Object | 0..1 | RO |  | downlink,uplink |
| serverAddresses | Array(Url) | 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.(Opaque URL, following the 5GMS URL format.) |
|  |  |  |  |  |
| validPolicyTemplateIds | Array(ResourceId) | 1..1 | RO | A list of Policy Template identifiers which the 5GMS Client is authorized to use. |
| 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. |
| externalReferences | Array(String) | 0..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". |
| clientMetricsReporting‌Configurations | Array(Object) | 0..1 | RO |  | downlink,uplink |
| serverAddresses | Array(Url) | 1..1 | RO | A list of 5GMS AF addresses to which metrics reports shall be sent. See NOTE.(Opaque URL, following the 5GMS URL format.) |
| scheme | Uri | 1..1 | RO | The metrics reporting scheme that metrics reports shall use (see clause 4.7.5). |
| dataNetworkName | Dnn | 0..1 | RO | The DNN which shall be used when sending metrics reports. If not specified, the name of 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 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 sessions. |
| metrics | Array(String) | 1..1 | RO | A list of metrics which shall be reported. |
| networkAssistanceConfiguration | Object | 0..1 | RO |  | downlink,uplink |
| serverAddress | Url | 1..1 | RO | Address of the 5GMS AF that offers the APIs for 5GMS AF-based Network Assistance, for access by the 5GMSd Media Session Handler. See NOTE.This address shall be an opaque URL, following the 5GMS URL format. |
| 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: 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 resolution) to direct requests to a suitable AF instance. |

NEXT CHANGE

### 11.6.2 Resource structure

The Network Assistance API is accessible via the following URL base path:

{apiRoot}/3gpp‑m5*/*{apiVersion}*/*network-assistance/

Table 11.6.2‑1 below specifies the operations and the corresponding HTTP methods that are supported by this API. In each case, the sub-resource path specified in the second column of the table shall be appended to the URL base path.

Table 11.6.2-1: Operations supported by the Network Assistance API

|  |  |  |  |
| --- | --- | --- | --- |
| Operation | Sub‑resource path | Allowed HTTP method(s) | Description |
| Create Network Assistance Session resource |  | POST | Provision a new Network Assistance Session.If the operation succeeds, the URL of the created Network Assistance Session resource shall be returned in the Location header of the response. |
| Fetch a Network Assistance Session resource | {naSessionId} | GET | Fetch the properties of an existing Network Assistance Session. |
| Update a Network Assistance Session resource | {naSessionId} | PUT,PATCH | Update the properties of an existing Network Assistance Session. |
| Request a bit rate recommendation | {naSessionId}/recommendation | GET | Obtain a bit rate recommendation for the next recommendation window. |
| Request a delivery boost | {naSessionId}/boost-request | POST | Request a delivery boost for the next recommendation window. |
| Terminate Network Assistance Session  | {naSessionId} | DELETE | Terminate a Network Assistance session. |

NEXT CHANGE

# 18 Event exposure at R5 and R6

The Naf\_EventExposure service specified in TS 29.517 [46] shall be used by event consumer to subscribe to the following types of 5G Media Streaming event notifications, identified by their respective Event IDs, from the Data Collection AF instantiated in the 5GMS AF, and subsequently to receive such notifications:

1. Media Streaming QoE Event, as specified in clause 5.6.2.23 of [46], comprising

a) 3GPP-defined QoE metrics information, and

b) non-3GPP-defined QoE metrics information.

2. Media Streaming Consumption Event, as specified in clause 5.6.2.24 of [46].

3. Media Streaming Network Assistance Invocation Event, as specified in clause 5.6.2.25 of [46].

4. Media Streaming Dynamic Policy Invocation Event, as specified in clause 5.6.2.26 of [46].

5. Media Streaming Access Event, as specified in clause 5.6.2.27 of [46].

In this release, eligible event consumer subscribers to the Naf\_EventExposure service as specified in [46] are the following:

- The NWDAF defined in TS 23.288 [47].

- The Event Consumer AF defined in TS 26.531 [46] when it is deployed in the Trusted DN.

- The NEF defined in TS 23.501 [2] when it is used to expose the Naf\_EventExposure service to functions outside the Trusted DN via the Nnef\_EventExposure service defined in TS 23.502 [45].

Implementations of the Data Collection AF instantiated the 5GMS AF shall support negotiation of the optional features relating to 5G Media Streaming specified in table 5.8‑1 of TS 29.517 [46]. Feature negotiation by event consumers is achieved as specified in clause 5.8 of [46].

NEXT CHANGE

# C.2 Data Types applicable to several APIs

For the purpose of referencing entities defined in this clause, it shall be assumed that the OpenAPI definitions below are contained in a physical file named "TS26512\_CommonData.yaml".

|  |
| --- |
| openapi: 3.0.0info:  title: 5GMS Common Data Types  version: 2.0.0  description: |    5GMS Common Data Types    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: 5GMS Common Data Types    description: '5G Media Streaming: Common Data Types'externalDocs:  description: 'TS 26.512 V17.2.0; 5G Media Streaming (5GMS); Protocols'  url: 'https://www.3gpp.org/ftp/Specs/archive/26\_series/26.512/'paths: {}components:  schemas:    #################################    # Clause 6.4.2: Simple data types    #################################    ResourceId:      type: string      description: String chosen by the 5GMS AF to serve as an identifier in a resource URI.    Percentage:      type: number      minimum: 0.0      maximum: 100.0    #DurationSec is defined in TS29571\_CommonData    #DateTime is defined in TS29571\_CommonData    #Uri is defined in TS29571\_CommonData    Url:      type: string      format: uri      description: Uniform Resource Locator, comforming with the URI Generic Syntax specified in IETF RFC 3986.     #####################################    # Clause 6.4.3: Structured data types    #####################################    IpPacketFilterSet:      type: object      required:        - direction      properties:        srcIp:          type: string        dstIp:          type: string        protocol:          type: integer        srcPort:          type: integer        dstPort:          type: integer        toSTc:          type: string        flowLabel:          type: integer        spi:          type: integer        direction:          type: string    ServiceDataFlowDescription:      type: object      properties:        flowDescription:          $ref: '#/components/schemas/IpPacketFilterSet'        domainName:          type: string    M5QoSSpecification:      type: object      required:        - marBwDlBitRate        - marBwUlBitRate        - mirBwDlBitRate        - mirBwUlBitRate      properties:        marBwDlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        marBwUlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        minDesBwDlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        minDesBwUlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        mirBwDlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        mirBwUlBitRate:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        desLatency:          type: integer          minimum: 0        desLoss:          type: integer          minimum: 0    M1QoSSpecification:      type: object      properties:        qosReference:          type: string        maxBtrUl:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        maxBtrDl:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        maxAuthBtrUl:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        maxAuthBtrDl:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'        defPacketLossRateDl:          type: integer          minimum: 0        defPacketLossRateUl:          type: integer          minimum: 0    ChargingSpecification:      type: object      properties:        sponId:          type: string        sponStatus:          $ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/SponsoringStatus'        gpsi:          type: array          items:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/Gpsi'    TypedLocation:      type: object      required:        - locationIdentifierType        - location      properties:        locationIdentifierType:          $ref: '#/components/schemas/CellIdentifierType'        location:          type: string    OperationSuccessResponse:      type: object      required:      - success      properties:        success:          type: boolean        reason:          type: string    CellIdentifierType:      anyOf:        - type: string          enum: [CGI, ECGI, NCGI]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API.    SdfMethod:      anyOf:        - type: string          enum: [5\_TUPLE, 2\_TUPLE, TYPE\_OF\_SERVICE\_MARKING, FLOW\_LABEL, DOMAIN\_NAME]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API.    ProvisioningSessionType:      anyOf:        - type: string          enum: [DOWNLINK, UPLINK]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API. EndpointAddress: type: object required: - portNumber properties: ipv4Addr: $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr' ipv6Addr: $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr' portNumber: $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint16' CacheStatus: anyOf: - type: string enum: [HIT, MISS, EXPIRED] - type: string description: > This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.    EdgeProcessingEligibilityCriteria:      type: object      required:        - serviceDataFlowDescriptions        - ueLocations        - timeWindows        - appRequest      properties:        serviceDataFlowDescriptions:          type: array          items:            $ref: '#/components/schemas/ServiceDataFlowDescription'        ueLocations:          type: array          items:            $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'        timeWindows:          type: array          items:            $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'        appRequest:          type: boolean    EASRelocationTolerance:      anyOf:        - type: string          enum: [RELOCATION\_UNAWARE, RELOCATION\_TOLERANT, RELOCATION\_INTOLERANT]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API. |

NEXT CHANGE

# C.3 OpenAPI representation of the M1 APIs

## C.3.1 M1\_ProvisioningSessions API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ProvisioningSessions  version: 2.0.0  description: |    5GMS AF M1 Provisioning Sessions API    © 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ProvisioningSessions    description: '5G Media Streaming: Provisioning (M1) APIs: Provisioning Sessions'externalDocs:  description: 'TS 26.512 V17.2.0; 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:    post:      operationId: createProvisioningSession      summary: 'Create a new Provisioning Session'      responses:        '201':          description: 'Provisioning Session Created'          headers:            Location:              description: 'URL including the resource identifier of the newly created Provisioning Session.'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'          content:            application/json:              schema:                $ref: '#/components/schemas/ProvisioningSession'  /provisioning-sessions/{provisioningSessionId}:    parameters:        - name: provisioningSessionId          in: path          required: true          schema:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          description: 'The resource identifier of an existing Provisioning Session.'    get:      operationId: getProvisioningSessionById      summary: 'Retrieve an existing Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/ProvisioningSession'    delete:      operationId: destroyProvisioningSession      summary: 'Destroy an existing Provisioning Session'      responses:        '204':          description: 'Provisioning Session Destroyed'          # No Contentcomponents:  schemas:    ProvisioningSession:      type: object      description: "A representation of a Provisioning Session."      required:        - provisioningSessionId        - provisioningSessionType        - externalApplicationId      properties:        provisioningSessionId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        provisioningSessionType:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ProvisioningSessionType'        aspId:          $ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AspId'        externalApplicationId:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/ApplicationId'        serverCertificateIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true        contentPreparationTemplateIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true        metricsReportingConfigurationIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true        policyTemplateIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true        edgeResourcesConfigurationIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true        eventDataProcessingConfigurationIds:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          minItems: 1          uniqueItems: true |

## C.3.2 M1\_ServerCertificatesProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ServerCertificatesProvisioning  version: 2.0.0  description: |    5GMS AF M1 Server Certificates Provisioning API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ServerCertificatesProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Server Certificates Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/certificates:    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: createOrReserveServerCertificate      summary: 'Create or reserve a Service Certificate resource'      description: 'Without the optional csr query parameter, an X.509 certificate is generated and this is returned. If the csr query parameter is present, a Certificate Signing Request is instead generated and returned, allowing the X.509 certificate to be generated by the invoker and later uploaded.'      parameters:        - in: query          name: csr          schema:             type: string          description: 'When present, return a Certificate Signing Request instead of generating an X.509 certificate'      responses:        '200':          description: 'Server Certificate Created'          headers:            Location:               description: 'URL of the newly created Server Certificate resource'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'          content:            'application/x-pem-file':              schema:                type: string    /provisioning-sessions/{provisioningSessionId}/certificates/{certificateId}:    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: certificateId        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'The resource identifier of an existing Server Certificate'    put:      operationId: uploadServerCertificate      summary: "Upload the X.509 certificate for a previously reserved Server Certificate resource"      requestBody:        required: true        content:          application/x-pem-file:            schema:              type: string      responses:        '204':          description: 'Server Certificate Updated'    get:      operationId: retrieveServerCertificate      summary: 'Retrieve the X.509 certificate representation of the specified Server Certificate resource'      responses:        '200':          description: 'Success'          content:            'application/x-pem-file':              schema:                type: string        '204':          description: 'Awaiting Upload'        '404':          description: 'Not Found'    delete:      operationId: destroyServerCertificate      summary: 'Destroy an existing Server Certificate resource'      responses:        '204':          description: 'Server Certificate Destroyed' |

## C.3.3 M1\_ContentPreparationTemplatesProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ContentPreparationTemplatesProvisioning  version: 2.0.0  description: |    5GMS AF M1 Content Preparation Templates Provisioning API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ContentPreparationTemplatesProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Content Preparation Templates Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/content-preparation-templates:    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: createContentPreparationTemplate      summary: 'Create (and optionally upload) a new Content Preparation Template for the specified Provisioning Session'      requestBody:        description: 'A Content Preparation Template of any type'        required: true        content:          '\*/\*':            schema:              type: string      responses:        '201':          description: 'Content Preparation Template Created'          headers:            Location:              description: 'URL of the newly created Content Preparation Template.'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'  /provisioning-sessions/{provisioningSessionId}/content-preparation-templates/{contentPreparationTemplateId}:    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: contentPreparationTemplateId        in: path        required: true        schema:           $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'The resource identifier of an existing Content Preparation Template.'    get:      operationId: retrieveContentPreparationTemplate      summary: 'Retrieve the specified Content Preparation Template of the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            '\*/\*':              schema:                type: string    put:      operationId: updateContentPreparationTemplate      summary: 'Update the specified Content Preparation Template for the specified Provisioning Session'      requestBody:        description: 'A Content Preparation Template of any type'        required: true        content:          '\*/\*':            schema:              type: string      responses:        '204':          description: 'Updated Content Preparation Template'        '404':          description: 'Not Found'    patch:      operationId: patchContentPreparationTemplate      summary: 'Patch the specified Content Preparation Template for the specified Provisioning Session'      requestBody:        description: 'A Content Preparation Template patch of any type'        required: true        content:          application/merge-patch+json:            schema:              type: string          application/json-patch+json:            schema:              type: string      responses:        '200':          description: 'Patched Content Preparation Templates'          content:            '\*/\*':              schema:                type: string        '404':          description: 'Not Found'    delete:      operationId: destroyContentPreparationTemplate      summary: 'Destroy the specified Content Preparation Template of the specified Provisioning Session'      responses:        '204':          description: 'Destroyed Content Preparation Template'        '404':          description: 'Not Found' |

## C.3.4 M1\_ContentProtocolsDiscovery API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ContentProtocolsDiscovery  version: 2.0.0  description: |    5GMS AF M1 Content Protocols Discovery API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ContentDiscovery    description: '5G Media Streaming: Provisioning (M1) APIs: Content Protocols Discovery'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/protocols:    parameters:      - name: provisioningSessionId        in: path        required: true        schema:           $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'The resource identifier of an existing Provisioning Session.'    get:      operationId: retrieveContentProtocols      summary: 'Retrieve the set of Content Protocols supported by the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/ContentProtocols'components:  schemas:    ContentProtocolDescriptor:      type: object      description: "A descriptor describing a content protocol."      required:        - termIdentifier      properties:        termIdentifier:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'        descriptionLocator:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'    ContentProtocols:      type: object      description: "A representation of the Content Protocols resource."      properties:        downlinkIngestProtocols:          type: array          items:            $ref: '#/components/schemas/ContentProtocolDescriptor'          minItems: 1        uplinkEgestProtocols:          type: array          items:            $ref: '#/components/schemas/ContentProtocolDescriptor'          minItems: 1        geoFencingLocatorTypes:          type: array          items:            $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'          minItems: 1 |

## C.3.5 M1\_ContentHostingProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ContentHostingProvisioning  version: 2.0.0  description: |    5GMS AF M1 Content Hosting Provisioning API    *©* 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ContentHostingProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Content Hosting Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/content-hosting-configuration:    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: createContentHostingConfiguration      summary: 'Create (and optionally upload) the Content Hosting Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Content Hosting Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/ContentHostingConfiguration'      responses:        '201':          description: 'Content Hosting Configuration Created'          headers:            Location:              description: 'URL of the newly created Content Hosting Configuration (same as request URL).'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'    get:      operationId: retrieveContentHostingConfiguration      summary: 'Retrieve the Content Hosting Configuration of the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/ContentHostingConfiguration'        '404':          description: 'Not Found'    put:      operationId: updateContentHostingConfiguration      summary: 'Update the Content Hosting Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Content Hosting Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/ContentHostingConfiguration'      responses:        '204':          description: 'Updated Content Hosting Configuration'        '404':          description: 'Not Found'    patch:      operationId: patchContentHostingConfiguration      summary: 'Patch the Content Hosting Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Content Hosting Configuration'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/ContentHostingConfiguration'          application/json-patch+json:            schema:              $ref: '#/components/schemas/ContentHostingConfiguration'      responses:        '200':          description: 'Patched Content Hosting Configuration'          content:            application/json:              schema:                $ref: '#/components/schemas/ContentHostingConfiguration'        '404':          description: 'Not Found'    delete:      operationId: destroyContentHostingConfiguration      summary: 'Destroy the current Content Hosting Configuration of the specified Provisioning Session'      responses:        '204':          description: 'Destroyed Content Hosting Configuration'        '404':          description: 'Not Found'            /provisioning-sessions/{provisioningSessionId}/content-hosting-configuration/purge:    parameters:        - name: provisioningSessionId          in: path          required: true          schema:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'          description: A unique identifier of the Provisioning    post:      operationId: purgeContentHostingCache      summary: 'Purge the content of the cache for the Content Hosting Configuration of the specified Provisioning Session'      requestBody:        description: 'The regular expression pattern for resources to purge from the cache'        required: true        content:          application/x-www-form-urlencoded:            schema:              properties:                pattern:                   description: 'Keyword'                  type: string                value:                  description: 'The regular expression'                  type: string      responses:        '200':          description: 'Content Purged'components:  schemas:    IngestConfiguration:      type: object      description: 'A configuration for content ingest.'      properties:        path:          type: string        pull:          type: boolean        protocol:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'        entryPoint:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'    PathRewriteRule:      type: object      description: 'A rule to manipulate URL paths.'      required:        - requestPattern        - mappedPath      properties:        requestPattern:          type: string        mappedPath:          type: string    CachingConfiguration:      type: object      description: 'A content caching configuration.'      required:        - urlPatternFilter      properties:        urlPatternFilter:          type: string        cachingDirectives:          type: object          required:            - noCache          properties:            statusCodeFilters:              type: array              items:                type: integer            noCache:              type: boolean            maxAge:              type: integer              format: int32    DistributionConfiguration:      type: object      description: 'A content distribution configuration.'      required:        - canonicalDomainName        - domainNameAlias      properties:        contentPreparationTemplateId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        canonicalDomainName:          type: string        domainNameAlias:          type: string        pathRewriteRules:          type: array          items:            $ref: '#/components/schemas/PathRewriteRule'        cachingConfigurations:          type: array          items:            $ref: '#/components/schemas/CachingConfiguration'        geoFencing:          type: object          required:            - locatorType            - locators          properties:            locatorType:              $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'            locators:              type: array              items:                 type: string                description: 'Format of individual locators depends on the locatorType.'              minItems: 1        urlSignature:          type: object          required:            - urlPattern            - tokenName            - passphraseName            - passphrase            - tokenExpiryName            - useIPAddress          properties:            urlPattern:              type: string            tokenName:              type: string            passphraseName:              type: string            passphrase:              type: string            tokenExpiryName:              type: string            useIPAddress:              type: boolean            ipAddressName:              type: string        certificateId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        supplementaryDistributionNetworks:          type: object          properties:            default:              $ref: '#/components/schemas/DistributionNetworkType'          required:            - default          additionalProperties:            $ref: '#/components/schemas/DistributionMode'    # Schema for the resource itself    ContentHostingConfiguration:      type: object      description: "A representation of a Content Hosting Configuration resource."      required:        - name        - ingestConfiguration        - distributionConfigurations      properties:        name:          type: string        ingestConfiguration:          $ref: '#/components/schemas/IngestConfiguration'        distributionConfigurations:          type: array          items:            $ref: '#/components/schemas/DistributionConfiguration'    DistributionNetworkType:      description: "Type of distribution network."      anyOf:        - type: string          enum: [NETWORK\_EMBMS]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API.    DistributionMode:      description: "Mode of content distribution."      anyOf:        - type: string          enum: [MODE\_EXCLUSIVE, MODE\_HYBRID, MODE\_DYNAMIC]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API. |

## C.3.6 M1\_ConsumptionReportingProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_ConsumptionReportingProvisioning  version: 2.0.0  description: |    5GMS AF M1 Consumption Reporting Provisioning API    © 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_ConsumptionReportingProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Consumption Reporting Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/consumption-reporting-configuration:    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: activateConsumptionReporting      summary: 'Activate the consumption reporting procedure for the specified Provisioning Session by providing the Consumption Reporting Configuration'      requestBody:        description: 'A JSON representation of a Consumption Reporting Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/ConsumptionReportingConfiguration'      responses:        '201':          description: 'Consumption Reporting Configuration Created'          headers:            Location:              description: 'URL of the newly created Consumption Reporting Configuration (same as request URL).'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'    get:      operationId: retrieveConsumptionReportingConfiguration      summary: 'Retrieve the Consumption Reporting Configuration of the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/ConsumptionReportingConfiguration'    put:      operationId: updateConsumptionReportingConfiguration      summary: 'Update the Consumption Reporting Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Consumption Reporting Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/ConsumptionReportingConfiguration'      responses:        '204':          description: 'Updated Consumption Reporting Configuration'        '404':          description: 'Not Found'    patch:      operationId: patchConsumptionReportingConfiguration      summary: 'Patch the Consumption Reporting Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Consumption Reporting Configuration'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/ConsumptionReportingConfiguration'          application/json-patch+json:            schema:              $ref: '#/components/schemas/ConsumptionReportingConfiguration'      responses:        '200':          description: 'Patched Consumption Reporting Configuration'          content:            application/json:              schema:                $ref: '#/components/schemas/ConsumptionReportingConfiguration'        '404':          description: 'Not Found'    delete:      operationId: destroyConsumptionReportingConfiguration      summary: 'Destroy the current Consumption Reporting Configuration of the specified Provisioning Session'      responses:        '204':          description: 'Destroyed Consumption Reporting Configuration'        '404':          description: 'Not Found'    components:  schemas:    ConsumptionReportingConfiguration:      type: object      description: "A representation of a Consumption Reporting Configuration resource."      properties:        reportingInterval:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'        samplePercentage:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/Percentage'        locationReporting:          type: boolean        accessReporting:          type: boolean |

## C.3.7 M1\_MetricsReportingProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_MetricsReportingProvisioning  version: 2.0.0  description: |    5GMS AF M1 Metrics Reporting Provisioning API    *© 2022*, 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 V17.2.0; 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/Url'  /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        - scheme      properties:        metricsReportingConfigurationId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        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        metrics:          type: array          items:            type: string          minItems: 1 |

## C.3.8 M1\_PolicyTemplatesProvisioning API

|  |
| --- |
| openapi: 3.0.0info:  title: M1\_PolicyTemplatesProvisioning  version: 2.0.0  description: |    5GMS AF M1 Policy Templates Provisioning API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_PolicyTemplatesProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Policy Templates Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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}/policy-templates:    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: createPolicyTemplate      summary: 'Create (and optionally upload) a new Policy Template'      requestBody:        description: 'A JSON representation of a Policy Template'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/PolicyTemplate'      responses:        '201':          description: 'Policy Template Created'          headers:            Location:              description: 'URL of the newly created Policy Template resource.'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'   /provisioning-sessions/{provisioningSessionId}/policy-templates/{policyTemplateId}:    parameters:      - name: provisioningSessionId        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'A unique identifier of the Provisioning Session.'      - name: policyTemplateId        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'A resource identifier of a Policy Template.'    get:      operationId: retrievePolicyTemplate      summary: 'Retrieve a representation of an existing Policy Template in the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/PolicyTemplate'        '404':          description: 'Not Found'    put:      operationId: updatePolicyTemplate      summary: 'Update a Policy Template for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Policy Template'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/PolicyTemplate'      responses:        '204':          description: 'Updated Policy Template'        '404':          description: 'Not Found'    patch:      operationId: patchPolicyTemplate      summary: 'Patch the Policy Template for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Policy Template'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/PolicyTemplate'          application/json-patch+json:            schema:              $ref: '#/components/schemas/PolicyTemplate'      responses:        '200':          description: 'Patched Content Hosting Configuration'          content:            application/json:              schema:                $ref: '#/components/schemas/PolicyTemplate'        '404':          description: 'Not Found'    delete:       operationId: destroyPolicyTemplate      responses:        '204':          description: 'Destroyed Policy Template'        '404':          description: 'Not Found'components:  schemas:    PolicyTemplate:      type: object      description: "A representation of a Policy Template resource."      required:        - policyTemplateId        - state        - apiEndPoint        - apiType        - externalReference        - applicationSessionContext      properties:        policyTemplateId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        state:          anyOf:          - type: string            enum: [PENDING, INVALID, READY, SUSPENDED]          - type: string            description: >              This string provides forward-compatibility with future              extensions to the enumeration but is not used to encode              content defined in the present version of this API.        apiEndPoint:          type: string        apiType:          anyOf:          - type: string            enum: [N5, N33]          - type: string            description: >              This string provides forward-compatibility with future              extensions to the enumeration but is not used to encode              content defined in the present version of this API.        externalReference:          type: string        qoSSpecification:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/M1QoSSpecification'        applicationSessionContext:          type: object          properties:            afAppId:              $ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AfAppId'            sliceInfo:              $ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'            dnn:              $ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'            aspId:              $ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AspId'        chargingSpecification:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ChargingSpecification' 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## C.3.9 M1\_EdgeResourcesProvisioning API

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| openapi: 3.0.0info:  title: M1\_EdgeResourcesProvisioning  version: 2.1.0  description: |    5GMS AF M1 Edge Resources Provisioning API    © 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M1\_EdgeResourcesProvisioning    description: '5G Media Streaming: Provisioning (M1) APIs: Edge Resources Provisioning'externalDocs:  description: 'TS 26.512 V17.2.0; 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 7.10.paths:  /provisioning-sessions/{provisioningSessionId}/edge-resources-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: createEdgeResourcesConfiguration      summary: 'Create an Edge Resources Configuration within the scope of the specified Provisioning Session'      requestBody:        description: 'A JSON representation of an Edge Resources Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/EdgeResourcesConfiguration'      responses:        '201':          description: 'Edge Resources Configuration Created'          headers:            Location:              description: 'URL of the newly created Edge Resources Configuration.'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'  /provisioning-sessions/{provisioningSessionId}/edge-resources-configurations/{edgeResourcesConfigurationId}:    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: edgeResourcesConfigurationId        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        description: 'The resource identifier of an existing Edge Resources Configuration.'    get:      operationId: retrieveEdgeResourcesConfiguration      summary: 'Retrieve the Edge Resources Configuration of the specified Provisioning Session'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/EdgeResourcesConfiguration'    put:      operationId: updateEdgeResourcesConfiguration      summary: 'Update an Edge Resources Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of an Edge Resources Configuration'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/EdgeResourcesConfiguration'      responses:        '204':          description: 'Updated Edge Resources Configuration'        '404':          description: 'Not Found'    patch:      operationId: patchEdgeResourcesConfiguration      summary: 'Patch the Edge Resources Configuration for the specified Provisioning Session'      requestBody:        description: 'A JSON representation of a Edge Resources Configuration'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/EdgeResourcesConfiguration'          application/json-patch+json:            schema:              $ref: '#/components/schemas/EdgeResourcesConfiguration'      responses:        '200':          description: 'Patched Edge Resources Configuration'          content:            application/json:              schema:                $ref: '#/components/schemas/EdgeResourcesConfiguration'        '404':          description: 'Not Found'    delete:       operationId: destroyEdgeResourcesConfiguration      responses:        '204':          description: 'Destroyed Edge Resources Configuration'        '404':          description: 'Not Found'components:  schemas:        EdgeResourcesConfiguration:      type: object      description: 'A representation of an Edge Resources Configuration resource.'      required:        - edgeResourcesConfigurationId        - edgeManagementMode        - easRequirements      properties: edgeResourcesConfigurationId: $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        edgeManagementMode:          $ref: '#/components/schemas/EdgeManagementMode'        eligibilityCriteria:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/EdgeProcessingEligibilityCriteria'        easRequirements:          $ref: '#/components/schemas/EASRequirements'        easRelocationRequirements:          $ref: '#/components/schemas/M1EASRelocationRequirements'    M1EASRelocationRequirements:      type: object      description: 'Relocation requirements of an EAS.'      required:        - tolerance      properties:        tolerance:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/EASRelocationTolerance'        maxInterruptionDuration:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'        maxResponseTimeDifference:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'    EASRequirements:        type: object        description: 'Requirements of an EAS.'        required:          - easProviderIds          - easType          - easFeatures          - serviceAvailabilitySchedule          - serviceContinuityScenarios        properties:          easProviderIds:            type: array              items:                type: string          easType:            type: string          easFeatures:            type: array            items:              type: string          serviceKpi:            $ref: 'TS29558\_Eees\_EASRegistration.yaml#/components/schemas/EASServiceKPI'          serviceArea:            $ref: 'TS29558\_Eecs\_EESRegistration.yaml#/components/schemas/GeographicalServiceArea'          serviceAvailabilitySchedule:            type: array            items:              $ref: 'TS29122\_CpProvisioning.yaml#/components/schemas/ScheduledCommunicationTime'          serviceContinuityScenarios:            type: array            items:              $ref: 'TS29558\_Eecs\_EESRegistration.yaml#/components/schemas/ACRScenario'          serviceContinuitySupport:            type: array            items:              $ref: 'TS29558\_Eecs\_EESRegistration.yaml#/components/schemas/ACRScenario'    EdgeManagementMode:      description: 'The management mode of an EAS.'      anyOf:        - type: string          enum: [EM\_AF\_DRIVEN, EM\_APP\_DRIVEN]        - type: string          description: >            This string provides forward-compatibility with future            extensions to the enumeration but is not used to encode            content defined in the present version of this API. |

## C.3.10 M1\_EventDataProcessingProvisioning API

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| openapi: 3.0.0info: title: M1\_EventDataProcessingProvisioning version: 2.0.0 description: | 5GMS AF M1 Event Data Processing Provisioning API © 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC). All rights reserved.tags: - name: M1\_EventDataProcessingProvisioning description: '5G Media Streaming: Provisioning (M1) APIs: Event Data Processing Provisioning'externalDocs: description: 'TS 26.512 V17.2.0; 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}/event-data-processing-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: createEventDataProcessingConfiguration summary: 'Supply an Event Data Processing Configuration for the specified Provisioning Session' requestBody: description: 'A JSON representation of a Event Data Processing Configuration' required: true content: application/json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' responses: '201': description: 'Event Data Processing Configuration Created' headers: Location: description: 'URL of the newly created Event Data Processing Configuration (same as request URL).' required: true schema: $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url' /provisioning-sessions/{provisioningSessionId}/event-data-processing-configurations/{eventDataProcessingConfigurationId}: 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: eventDataProcessingConfigurationId in: path required: true schema:  $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId' description: 'The resource identifier of an Event Data Processing Configuration.' get: operationId: retrieveEventDataProcessingConfiguration summary: 'Retrieve the specified Event Data Processing Configuration of the specified Provisioning Session' responses: '200': description: 'Success' content: application/json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' put: operationId: updateEventDataProcessingConfiguration summary: 'Update the specified Event Data Processing Configuration for the specified Provisioning Session' requestBody: description: 'A JSON representation of a Event Data Processing Configuration' required: true content: application/json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' responses: '204': description: 'Updated Event Data Processing Configuration' '404': description: 'Not Found' patch: operationId: patchEventDataProcessingConfiguration summary: 'Patch the specified Event Data Processing Configuration for the specified Provisioning Session' requestBody: description: 'A JSON representation of a Event Data Processing Configuration' required: true content: application/merge-patch+json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' application/json-patch+json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' responses: '200': description: 'Patched Event Data Processing Configuration' content: application/json: schema: $ref: '#/components/schemas/EventDataProcessingConfiguration' '404': description: 'Not Found' delete: operationId: destroyEventDataProcessingConfiguration summary: 'Destroy the specified Event Data Processing Configuration of the specified Provisioning Session' responses: '204': description: 'Destroyed Event Data Processing Configuration' '404': description: 'Not Found'components: schemas: EventDataProcessingConfiguration: description: 'A representation of an Event Data Processing Configuration resource.' type: object required: - eventDataProcessingConfigurationId - eventId - dataAccessProfiles properties: eventDataProcessingConfigurationId: $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId' eventId: $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/AfEvent' authorizationUrl: $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url' dataAccessProfiles: type: array items: $ref: 'TS26532\_Ndcaf\_DataReportingProvisioning.yaml#/components/schemas/DataAccessProfile' |

NEXT CHANGE

# C.4 OpenAPI representation of the M5 APIs

## C.4.1 M5\_ServiceAccessInformation API

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| openapi: 3.0.0info:  title: M5\_ServiceAccessInformation  version: 2.1.0  description: |    5GMS AF M5 Service Access Information API    *©* 2022, 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 V17.2.0; 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:    ServerAddresses:      description: "A set of application endpoint addresses."      type: array      items:        $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'      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:            mediaPlayerEntry:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'            eMBMSServiceAnnouncementLocator:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'        clientConsumptionReportingConfiguration:          type: object          required:            - serverAddresses            - locationReporting            - 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            - validPolicyTemplateIds            - sdfMethods          properties:             serverAddresses:              $ref: '#/components/schemas/ServerAddresses'            validPolicyTemplateIds:              type: array              items:                 $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'              minItems: 0            sdfMethods:              type: array              items:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/SdfMethod'              minItems: 0            externalReferences:              type: array              items:                type: string              minItems: 1        clientMetricsReportingConfiguration:          type: array          items:            type: object            required:            - serverAddresses            - scheme            - samplePercentage            - urlFilters            - metrics            properties:              serverAddresses:                $ref: '#/components/schemas/ServerAddresses'              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              metrics:                type: array                items:                  type: string        networkAssistanceConfiguration:          type: object          required:             - serverAddress          properties:            serverAddress:              $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url' 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      required:        - easType        - easProviderIds        - serviceFeatures      properties:        easType:          type: string        easProviderIds:          type: array          items:            type: string        serviceFeatures:          type: array          items:            type: string |

## C.4.2 M5\_ConsumptionReporting API

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| openapi: 3.0.0info:  title: M5\_ConsumptionReporting  version: 2.0.0  description: |    5GMS AF M5 Consumption Reporting API    *©* 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M5\_ConsumptionReporting    description: '5G Media Streaming: Media Session Handling (M5) APIs: Consumption Reporting'externalDocs:  description: 'TS 26.512 V17.1.0; 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:  /consumption-reporting/{aspId}:    parameters:      - name: aspId        in: path        required: true        schema:          $ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AspId'        description: 'See 3GPP TS 26.512 clause 11.3.2.'    post:      operationId: submitConsumptionReport      summary: 'Submit a Consumption Report'      requestBody:        description: 'A Consumption Report'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/ConsumptionReport'      responses:        '204':          description: 'Consumption Report Accepted'        '400':          description: 'Bad Request'        '415':          description: 'Unsupported Media Type'components:  schemas:    ConsumptionReport:      description: "A representation of a Consumption Report."      type: object      required:        - mediaPlayerEntry        - reportingClientId        - consumptionReportingUnits      properties:        mediaPlayerEntry:          type: string        reportingClientId:          type: string        consumptionReportingUnits:          type: array          items:             $ref: '#/components/schemas/ConsumptionReportingUnit'    ConsumptionReportingUnit:      description: "A Consumption Reporting Unit."      type: object      required:        - mediaConsumed        - startTime        - duration      properties:        mediaConsumed:          type: string        mediaEndpointAddress:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/EndpointAddress'        startTime:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'        duration:          $ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'        locations:          type: array          items:            $ref: 'TS26512\_CommonData.yaml#/components/schemas/TypedLocation'          minItems: 1 |

## C.4.3 M5\_MetricsReporting API

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| --- |
| openapi: 3.0.0info:  title: M5\_MetricsReporting  version: 2.0.0  description: |    5GMS AF M5 Metrics Reporting API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M5\_ConsumptionReporting    description: '5G Media Streaming: Media Session Handling (M5) APIs: Metrics Reporting'externalDocs:  description: 'TS 26.512 V17.2.0; 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:  /metrics-reporting/{provisioningSessionId}/{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 Configuration in the specified Provisioning Session.'    post:      operationId: submitMetricsReport      summary: 'Submit a Metrics Report'      requestBody:        description: 'A Metrics Report'        required: true        content:          application/3gpdash-qoe-report+xml:            schema:              type: string              format: xml          application/\*:            schema:              type: string      responses:        '204':          description: 'Metrics Report Accepted'        '400':          description: 'Bad Request'        '415':          description: 'Unsupported Media Type' |

## C.4.4 M5\_DynamicPolicies API

|  |
| --- |
| openapi: 3.0.0info:  title: M5\_DynamicPolicies  version: 2.0.0  description: |    5GMS AF M5 Dynamic Policy API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M5\_DynamicPolicies    description: '5G Media Streaming: Media Session Handling (M5) APIs: Dynamic Policies'externalDocs:  description: 'TS 26.512 V17.2.0; 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:  /dynamic-policies:    post:      operationId: createDynamicPolicy      summary: 'Create (and optionally upload) a new Dynamic Policy resource'      requestBody:        description: 'An optional JSON representation of a Dynamic Policy resource'        content:          application/json:            schema:              $ref: '#/components/schemas/DynamicPolicy'      responses:        '201':          description: 'Created Dynamic Policy Resource'          content:            application/json:              schema:                $ref: '#/components/schemas/DynamicPolicy'          headers:            Location:              description: 'The URL of the newly created Dynamic Policy resource'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'   /dynamic-policies/{dynamicPolicyId}:    parameters:      - name: dynamicPolicyId        description: 'The resource identifier of a Dynamic Policy resource'        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'    get:      operationId: retrieveDynamicPolicy      summary: 'Retrieve an existing Dynamic Policy resource'      responses:        '200':          description: 'Success'          content:            application/json:              schema:                $ref: '#/components/schemas/DynamicPolicy'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'    put:      operationId: updateDynamicPolicy      summary: 'Update an existing Dynamic Policy resource'      requestBody:        description: 'A replacement JSON representation of a Dynamic Policy resource'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/DynamicPolicy'      responses:        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not found'    patch:      operationId: patchDynamicPolicy      summary: 'Patch an existing Dynamic Policy resource'      requestBody:        description: 'A JSON patch to a Dynamic Policy resource'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/DynamicPolicy'          application/json-patch+json:            schema:              $ref: '#/components/schemas/DynamicPolicy'      responses:        '200':          description: 'Patched Dynamic Policy'          content:            application/json:              schema:                $ref: '#/components/schemas/DynamicPolicy'        '204':          description: 'Patched Dynamic Policy'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not found'    delete:      operationId: destroyDynamicPolicy      summary: 'Destroy an existing Dynamic Policy resource'      responses:        '204':          description: 'Destroyed Dynamic Policy'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'components:  schemas:    DynamicPolicy:      description: "A representation of a Dynamic Policy resource."      type: object      required:        - dynamicPolicyId        - policyTemplateId        - serviceDataFlowDescriptions        - provisioningSessionId      properties:        dynamicPolicyId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        policyTemplateId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        serviceDataFlowDescriptions:          type: array          items:             $ref: 'TS26512\_CommonData.yaml#/components/schemas/ServiceDataFlowDescription'        provisioningSessionId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        qosSpecification:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/M5QoSSpecification'        enforcementMethod:          type: string        enforcementBitRate:          type: integer |

## C.4.5 M5\_NetworkAssistance API

|  |
| --- |
| openapi: 3.0.0info:  title: M5\_NetworkAssistance  version: 2.0.0  description: |    5GMS AF M5 Network Assistance API    *© 2022*, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).    All rights reserved.tags:  - name: M5\_NetworkAssistance    description: '5G Media Streaming: Media Session Handling (M5) APIs: Network Assistance'externalDocs:  description: 3GPP TS 26.512 V17.2.0; 5G Media Streaming (5GMS); Protocols.  url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/26.512/'servers:  - url: '{apiRoot}/3gpp-m5/v2'    variables:      apiRoot:        default: https://example.com        description: apiRoot as defined in subclause 4.4.1 of 3GPP TS 29.501.paths:  /network-assistance/:    post:      operationId: createNetworkAssistanceSession      summary: 'Create a new Network Assistance Session.'      responses:        '201':          description: 'Created Network Assistance Session'          content:            application/json:              schema:                $ref: '#/components/schemas/NetworkAssistanceSession'          headers:            Location:              description: 'The URL of the nely created Network Assistance Session resource'              required: true              schema:                $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'  /network-assistance/{naSessionId}:    parameters:      - name: naSessionId        description: 'The resource identifier of an existing Network Assistance Session resource'        in: path        required: true        schema:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'    get:      operationId: retrieveNetworkAssistanceSession      summary: 'Retrieve an existing Network Assistance Session resource'      responses:        '200':          description: 'A JSON representation of a Network Assistance Session resource'          content:            application/json:              schema:                  $ref: '#/components/schemas/NetworkAssistanceSession'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'    put:      operationId: updateNetworkAssistanceSession      summary: 'Update an existing Network Assistance Session resource'      requestBody:        description: 'A replacement JSON representation of a Network Assistance Session resource'        required: true        content:          application/json:            schema:              $ref: '#/components/schemas/NetworkAssistanceSession'      responses:        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not found'    patch:      operationId: patchNetworkAssistanceSession      summary: 'Patch an existing Network Assistance Session resource'      requestBody:        description: 'A JSON patch to a Network Assistance Session resource'        required: true        content:          application/merge-patch+json:            schema:              $ref: '#/components/schemas/NetworkAssistanceSession'          application/json-patch+json:            schema:              $ref: '#/components/schemas/NetworkAssistanceSession'      responses:        '200':          description: 'Patched Network Assistance Session'          content:            application/json:              schema:                  $ref: '#/components/schemas/NetworkAssistanceSession'        '204':          description: 'Patched Network Assistance Session'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'    delete:      operationId: destroyNetworkAssistanceSession      summary: 'Destroy an existing Network Assistance Session resource'      responses:        '204':          description: 'Destroyed Network Assistance Session'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'  /network-assistance/{naSessionId}/recommendation:    get:      operationId: requestBitRateRecommendation      summary: 'Obtain a bit rate recommendation for the next recommendation window'      parameters:        - name: naSessionId          description: 'The resource identifier of an existing Network Assistance Session resource'          in: path          required: true          schema:            type: string      responses:        '200':          description: 'Success'          content:            application/json:              schema:                  $ref: 'TS26512\_CommonData.yaml#/components/schemas/M5QoSSpecification'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'  /network-assistance/{naSessionId}/boost-request:    post:      operationId: requestDeliveryBoost      summary: 'Request a delivery boost'      parameters:        - name: naSessionId          description: 'The resource identifier of an existing Network Assistance Session resource'          in: path          required: true          schema:            type: string      responses:        '200':          description: 'Delivery Boost Request Processed'          content:            application/json:              schema:                  $ref: 'TS26512\_CommonData.yaml#/components/schemas/OperationSuccessResponse'        '400':          description: 'Bad Request'        '401':          description: 'Unauthorized'        '404':          description: 'Not Found'components:  schemas:    NetworkAssistanceSession:      description: "A representation of a Network Assistance Session resource."      type: object      required:         - naSessionId      properties:        naSessionId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        serviceDataFlowDescription:          type: array          items:             $ref: 'TS26512\_CommonData.yaml#/components/schemas/ServiceDataFlowDescription'          minItems: 1        policyTemplateId:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/ResourceId'        requestedQoS:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/M5QoSSpecification'        recommendedQoS:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/M5QoSSpecification'        notficationURL:          $ref: 'TS26512\_CommonData.yaml#/components/schemas/Url' |

END OF CHANGES