**3GPP TSG-SA4 Meeting # *S4-240373***

**Sophia-Antipolis, FR, 29 Jan - 02 Feb 2024 revision of S4-240130**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.510** | **CR** | pseudo | **rev** |  | **Current version:** | 1.0.2 |  |
|  | | | | | | | | |
| *For* [***HELP***](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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Content Publishing API, 8.9 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Tencent Cloud | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_Pro\_Ph2 | | | | |  | ***Date:*** | | | 2024-01-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Adding content publishing API to 8.9 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * + Entire content publishing API | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Uplink streaming won’t have procovisiong | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3.3.11 (new), 8.9.1 (new), 8.9.2 (new), 8.9.3 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **1st Change** |

#### 7.3.3.11 M1MediaEntryPoint type

Editor's Note: Move common data type into TS26510\_ConnonDataTypes.yaml now it is shared between ContentHostingConfiguration and ContentPublishingConfiguration.

Table 7.3.3.11-1: Definition of type M1MediaEntryPoint

|  |  |  |  |
| --- | --- | --- | --- |
| Property name | Data type | Cardinality | Description |
| relativePath | RelativePath | 1..1 | A relative path (i.e., without a scheme or any leading forward slash characters) to the Media Entry Point document resource.  The semantics are dependent on the value of the contentType property. |
| contentType | string | 0..1 | The MIME content type of this Media Entry Point. |
| profiles | array(Uri) | 0..1 | An optional list of conformance profile identifiers associated with this Media Entry Point, each one expressed as a URI. A profile URI may indicate an interoperability point, for example.  If present, the array shall contain at least one item. |

|  |
| --- |
| **2nd Change** |

## 8.9 Content Publishing provisioning API

### 8.9.1 Overview

This clause specifies the API that a Media Application Provider uses with a Media AF at reference point M1 to provision and manage Media AS Content Publishing Configurations for uplink media delivery. Each such configuration is represented by a ContentPublishingConfiguration, the data model for which is specified in clause 8.9.3 below. The RESTful resources for managing Content Publishing Configurations are specified in clause 8.9.2 and the operations on these resources are further elaborated in clause 5.2.9.

### 8.9.2 Resource structure

The Content Publishing Provisioning API is accessible through this URL base path:

{apiRoot}/3gpp-maf-provisioning/{apiVersion}/provisioning-sessions/{provisioningSessionId}/

Table 8.9.2-1 below specifies the operations and the corresponding HTTP methods that are supported by this API. In each case, the Provisioning Session identifier shall be substituted into {provisioningSessionId} in the above URL template and the sub-resource path specified in the second column shall be appended to the URL base path.

Table 8.9.2‑1: Operations supported by the Content Publishing Provisioning API

|  |  |  |  |
| --- | --- | --- | --- |
| Operation | Sub‑resource path | Allowed HTTP method(s) | Description |
| Create Content Publishing Configuration | content-publishing-configuration | POST | Create the Content Publishing Configuration resource within the context of a parent Provisioning Session. |
| Retrieve Content Publishing Configuration | GET | Retrieve an existing Content Publishing Configuration resource. |
| Update Content Publishing Configuration | PUT,  PATCH | Modify an existing Content Publishing Configuration resource. |
| Destroy Content Publishing Configuration | DELETE | Destroy an existing Content Publishing Configuration resource. |
| Purge Content Publishing Configuration cache | content-publishing-configuration/purge | POST | Invalidate some or all cached media resources associated with the specified Content Publishing Configuration. Applicable to pull-based content egest only. |

### 8.9.3 Data model

#### 8.9.3.1 ContentPublishingConfiguration resource

Table 8.9.3.1-1: Definition of ContentPublishingConfiguration resource

| Property name | | | | Data type | Cardinality | Description |
| --- | --- | --- | --- | --- | --- | --- |
| name | | | | string | 1..1 | A name for this Content Publishing Configuration. |
| contribution‌Configurations | | | | array(object) | 1..1 | Specifies the Media Entry Point and content preparation required for the egested content.  More than one contribution may be configured. |
|  | edgeResources‌ConfigurationId | | | ResourceId | 0..1 | A reference to an Edge Resources Configuration resource (see clause 8.6.2).  When present, indicates that the Media AS supporting this content contribution shall be realised as a set of one or more EAS instances. |
|  | content‌Preparation‌TemplateId | | | ResourceId | 0..1 | A reference to a Content Preparation Template resource (see clause 8.5.2).  Indicates that content preparation prior to egest is required by the Media Application Provider. |
|  | certificateId | | | string | 0..1 | A reference to a Server Certificate resource (see clause 8.4.3.2).  When content is contributed using TLS [TLS13], the referenced X.509 [X509] certificate for the origin domain is presented by the Media AS in the TLS handshake at reference point M4. This attribute indicates the identifier of the certificate to use. |
|  | canonical‌Domain‌Name | | | string | 1..1 | All resources exposed at reference point M4 shall be accessible through this default Fully-Qualified Domain Name assigned by the Media AF. |
|  | domainNameAlias | | | string | 0..1 | The Media Application Provider may assign another Fully-Qualified Domain Name (FQDN) through which media resources within the scope of this contribution configuration are additionally accessible from the Media AS at reference point M4.  This domain name is used by the Media AS to set appropriate CORS HTTP response headers at reference point M4.  If this property is present, the Media Application Provider is responsible for providing in the DNS a CNAME record that resolves domainNameAlias to canonicalDomainName.  If the certificateId property is also present in this contribution configuration, the provided domain name alias shall match one of the subjectAltName extension fields in the referenced Server Certificate resource, allowing for wildcard matching. |
|  | baseURL | | | AbsoluteUrl | 0..1 | A base URL (i.e. one that includes a scheme, authority, and, optionally, path segments) to which content is contributed by Media Clients at reference point M4 for this contribution configuration.  Nominated by the Media AF when the Content Publishing Configuration is provisioned. It is an error for the Media Application Provider to set this. |
|  | entryPoint | | | M1‌Media‌Entry‌Point | 1..1 | The Media Entry Point nominated by the Media Application Provider for this contribution configuration. |
|  |  | relativePath | | Relative‌Url | 1..1 | A relative path (i.e., without a scheme or any leading forward slash characters) to the Media Entry Point document resource. The semantics are dependent on the value of the contentType property.  Nominated by the Media AF. |
|  |  | contentType | | string | 1..1 | The MIME content type of this Media Entry Point.  Used by the Media Client to select a contribution configuration.  Nominated by the Media Application Provider. |
|  |  | profiles | | array(Uri) | 0..1 | An optional list of conformance profile identifiers associated with this Media Entry Point, each one expressed as a URI. A profile URI may indicate an interoperability point, for example.  Used by the Media Client to select a contribution configuration.  Nominated by the Media Application Provider and, if present, the array shall contain at least one item. |
| egestConfiguration | | | | object | 1..1 | Parameters for egesting media content from the Media AS at reference point M2. |
|  | mode | | | Content‌Transfer‌Mode | 1..1 | Indicates whether content is pulled from the Media AS by the Media Application Provider or pushed to the Media Application Provider by the Media AS (see clause 7.3.4.5).  Nominated by the Media Application Provider. |
|  | protocol | | | Uri | 1..1 | A fully-qualified term identifier URI that identifies the content egest protocol.  Nominated by the Media Application Provider.  The controlled vocabulary of content egest protocols is not specified in the present document. |
|  | baseURL | | | Absolute‌URL | 0..1 | A base URL (i.e., one that includes a scheme, authority, and, optionally, path segments) to which content is published at reference point M2 for this publishing configuration.  In the case of Pull-based content egest (*method* is set to *PULL*), this property shall be populated by the Media AF to indicate the location on the Media AS from which content is to be pulled. An uplink media streaming request received at reference point M4 is mapped by the Media AS to a URL at reference point M2 whose base is the value of this property.  In the case of Push-based content egest (*method* is set to PUSH), this property shall be provided to the Media AF and indicates the base URL to which content for this Content Publishing Configuration is to be published. |
|  | entryPoint | | | M1‌Media‌Entry‌Point | 1..1 | The Media Entry Point for content egest used by the Media Application Provider at reference point M2.  The semantics of the entry point are dependent on the value of the contentType property. |
|  |  | relativePath | | Relative‌URL | 1..1 | A relative path (i.e., without a scheme or any leading forward slash characters) to the Media Entry Point document resource.  Nominated by the Media AF for Pull-based content egest.  Nominated by the Media Application Provider for Push-based content egest. |
|  |  | contentType | | string | 1..1 | The MIME content type of this Media Entry Point used by the Media Client to select a contribution configuration.  Nominated by the Media Application Provider. |
|  |  | profiles | | array(Uri) | 0..1 | An optional list of conformance profile identifiers associated with this Media Entry Point, each one expressed as a URI. A profile URI may indicate an interoperability point, for example.  Used by the Media Client to select a contribution configuration.  Nominated by the Media Application Provider and, if present, the array shall contain at least one item. |
|  | cachingConfigurations | | | array(object) | 0..1 | Defines a configuration of the Media AS cache for a matching subset of media resources intended for pull-based egest at reference point M2 in relation to this Content Publishing Configuration.  Applicable only for Pull-based content egest. For Push-based egest, this property shall not be present.  Nominated by the Media Application Provider. |
|  |  | urlPatternFilter | | string | 1..1 | A pattern used to match media resource URLs to determine whether a given media resource is eligible for caching by the Media AS. The format of the pattern shall be a regular expression as specified in [ECMA262]. |
|  |  | cachingDirectives | | object | 1..1 | If a urlPatternFilter applies to a resource, then the provided cachingDirectives shall be applied by the Media AS at reference point M2.  Any caching directives set by the Media Streamer on content contributed at reference point M4 which define a shorter lifetime for the content shall take precedence over these parameters. |
|  |  |  | noCache | boolean | 1..1 | If set to True, this indicates that the media resources matching the filters shall not be cached by the Media AS and shall be marked by the Media AS as not to be cached when it serves such media resources at reference point M2. |
|  |  |  | maxAge | Unit32 | 0..1 | The caching time-to-live period that shall be set on media resources matching the filters. This determines the minimum period for which the Media AS shall cache matching media resources as well as the time-to-live period signalled by the Media AS at reference point M2 when it serves such media resources.  The time-to-live for a given media resource shall be calculated relative to the time it was contributed. |