**3GPP TSG-S4 Meeting #126*****S4-231834***

**Chicago, United States of America, 13th–17th November 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.510** | **CR** | **—** | **rev** | **—** | **Current version:** | **0.2.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Tencent | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_Pro\_Ph2 | | | | |  | ***Date:*** | | | 2023-11-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **—** |  | | | | | ***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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | |  | | | | | | | | |
| ***Q*** | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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

## 5.1 Introduction

Table 5.1‑1 summarises the APIs used to provision and use the various Media Delivery features specified in TS 26.501 [26501] and TS 26.506 [26506].

Table 5.1‑1: Summary of APIs relevant to downlink media streaming features

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Media delivery feature | Abstract | Reference point | Operations clause | Relevant APIs | |
| API name | API clause |
| Content protocols discovery | Used by the Media Application Provider to interrogate which content ingest protocols are supported by the Media Delivery Systerm. | M1 | 5.2.2 | Content Protocols Discovery API | 8.2 |
| Content hosting | Content is ingested, hosted and distributed by the Media AS according to a Content Hosting Configuration associated with a Provisioning Session.  The Media AS may be instantiated in an Edge Data Network.  Ingested content may additionally be distributed via eMBMS and/or MBS. | M1 | 5.2.3 | Provisioning Sessions API | 8.3 |
| 5.2.4 | Server Certificates provisioning API | 8.4 |
| 5.2.5 | Content Preparation Templates provisioning API | 8.5 |
| 5.2.6 | Edge Resources provisioning API | 8.6 |
| 5.2.7 | Policy Templates provisioning API | 8.7 |
| 5.2.8 | Content Hosting provisioning API | 8.8 |
| M5 | 5.4.2 | Service Access Information API | 9.2 |
| Content publishing | Content is contributed to and egested from the Media AS according to a Content Hosting Publishing associated with a Provisioning Session.  The Media AS may be instantiated in an Edge Data Network. | M1 | 5.2.3 | Provisioning Sessions API | 8.3 |
| 5.2.4 | Server Certificates provisioning API | 8.4 |
| 5.2.5 | Content Preparation Templates provisioning API | 8.5 |
| 5.2.6 | Edge Resources provisioning API | 8.6 |
| 5.2.7 | Policy Templates provisioning API | 8.7 |
| 5.2.9 | Content Publishing provisioning API | 8.9 |
| M5 | 5.4.2 | Service Access Information API | 9.2 |
| Dynamic Policy instantiation | The Media Client activates different traffic treatment and charging policies, including Background Data Transfer, selected from a set of Policy Templates provisioned in its Provisioning Session. | M1 | 5.2.3 | Provisioning Sessions API | 8.3 |
| 5.2.7 | Policy Templates provisioning API | 8.7 |
| M5 | 5.4.2 | Service Access Information API | 9.2 |
| 5.4.3 | Dynamic Policies API | 9.3 |
| Network Assistance | The Media Client requests bit rate recommendations and delivery boosts from the Media AF. | M5 | 5.4.2 | Service Access Information API | 9.2 |
| 5.4.4 | Network Assistance API | 9.4 |
| Metrics reporting | The Media Client submits metrics reports to the Media AF according to a provisioned Metrics Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | M1 | 5.2.3 | Provisioning Sessions API | 8.3 |
| 5.2.10 | Metrics Reporting provisioning API | 8.10 |
| M5 | 5.4.2 | Service Access Information API | 9.2 |
| 5.4.5 | Metrics Reporting API | 9.5 |
| Consumption reporting | The Media Client submits consumption reports to the Media AF about content consumed from downlink media delivery sessions according to a provisioned Consumption Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | M1 | 5.2.3 | Provisioning Sessions API | 8.3 |
| 5.2.11 | Consumption Reporting provisioning API | 8.11 |
| M5 | 5.4.2 | Service Access Information API | 9.2 |
| 5.4.6 | Consumption Reporting API | 9.6 |
| UE data collection, reporting and exposure | UE data related to media delivery is reported to the Data Collection AF instantiated in the Media AF for exposure to Event consumers. | M1 | 5.2.12 | Event Data Processing provisioning API | 8.12 |
| R2, R4 | 5.6 | Ndcaf\_DataReporting service | 12 |
| R5, R6 | 5.7 | Naf\_EventExposure service | 13 |

Next change

### 5.2.1 General

A Media Application Provider may use the operations in this clause to provision the different features offered by the Media Delivery System in the Media AF. The Provisioning API exposed by the Media AF to the Media Application Provider at reference point M1 offers the following sets of operations:

(No further changes to this clause)

(Comment only)

### 5.2.5 Content Preparation Template provisioning operations

#### 5.2.5.1 General

For downlink media delivery, the Media AS may be required to process content ingested at reference point M2 before distributing it at reference point M4. For uplink media delivery, the Media AS may be required to process content contributed by Media Clients before publishing it to the Media Application Provider at reference point M2. These content processing operations are described by a Content Preparation Template resource provisioned in the Media AF by the Media Application Provider at reference point M1, as specified in clause 8.5, and subsequently configured in the Media AS by the Media AF at reference point M3 using an API outside the scope of the present document.

HTTP responses for successful and operation-specific failure cases are specified in the following clauses. For all other failure cases, an HTTP response indicating a response code in accordance with clause 7.2.5 shall be returned to the API client. In all failure cases a message body in accordance with clause 7.2.6 shall be included in the response message.

Next change

#### 5.2.8.3 Retrieve Content Hosting Configuration resource operation

This operation is used by the Media Application Provider to retrieve the current state of an existing Content Hosting Configuration resource from the Media AF. The HTTP GET method shall be used for this purpose.

If the operation is successful, the Media AF shall return a 200 (OK) response message that includes a representation of the target Content Hosting Configuration resource (see clause 8.8.3.1) in the response message body.

Next change

### 5.2.9 Content Publishing provisioning operations

#### 5.2.9.1 General

These operations are used by the Media Application Provider at reference point M1 to provision the Content Publishing feature for uplink media delivery.

HTTP responses for successful and operation-specific failure cases are specified in the following clauses. For all other failure cases, an HTTP response indicating a response code in accordance with clause 7.2.5 shall be returned to the API client. In all failure cases a message body in accordance with clause 7.2.6 shall be included in the response message.

#### 5.2.9.2 Create Content Publishing Configuration resource operation

This operation is used by the Media Application Provider at reference point M1 to activate the Content Publishing feature for a particular Provisioning Session. The Media Application Provider shall use the HTTP POST method for this purpose. The request URL shall be a well-known subresource of the Provisioning Session resource and the request message body shall be a Content Publishing Configuration resource representation, as specified in clause 8.9.3.1. There is at most one Content Publishing Configuration at a time for a given Provisioning Session.

- If the Content Publishing Configuration uses the push-based content egest method, i.e., the pull attribute is set to false, then the egestConfiguration.baseURL property shall be nominated by the Media Application Provider in the request message body. The Media AF shall return the egestConfiguration.baseURL property value unchanged in its response message body.

- If the Content Publishing Configuration uses the pull-based content egest method, i.e., the pull attribute is set to true, then the egestConfiguration.baseURL property shall be nominated by the Media AF and returned in the response message body. It shall not be set by the Media Application Provider in the request message body.

If the operation is successful, the Media AF shall return a 201 (Created) HTTP response message and the request URL shall be returned as the value of the Location HTTP header field. The response message body shall be a representation of the current state of the Content Publishing Configuration resource (see clause 8.9.3.1), including any properties assigned by the Media AF.

#### 5.2.9.3 Retrieve Content Publishing Configuration resource operation

This operation is used by the Media Application Provider to retrieve the current state of an existing Content Publishing Configuration resource from the Media AF. The HTTP GET method shall be used for this purpose.

If the operation is successful, the Media AF shall return a 200 (OK) response message that includes a representation of the target Content Publishing Configuration resource (see clause 8.9.3.1) in the response message body.

#### 5.2.9.4 Update Content Publishing Configuration resource operation

This operation is invoked by the Media Application Provider to modify the properties of an existing Content Publishing Configuration resource. All writeable properties may be updated. The HTTP PATCH or HTTP PUT methods shall be used for this purpose.

If the operation is successful, the Media AF shall return a 200 (OK) HTTP response message and shall provide a representation of the current state of the target resource in the message body to confirm successful update.

#### 5.2.9.5 Destroy Content Publishing Configuration resource operation

This operation is used by the Media Application Provider to destroy a Content Publishing Configuration resource and to terminate the related egest of content. The HTTP DELETE method shall be used for this purpose. As a result, the Media AF will release any associated network resources, purge any cached content, and delete any corresponding configurations.

If the procedure is successful, the Media AF shall return a 200 (OK) HTTP response message with an empty message body.

#### 5.2.9.6 Purge Content Publishing cache operation

When pull-based content egest is provisioned in the Content Publishing Configuration, this operation is used by the Media Application Provider to purge content from the Media AS Content Publishing cache. The HTTP POST method shall be used for this purpose with a regular expression describing the media resource URLs to be purged provided in the body of the request. The message request body shall be encoded using the application/x-www-form-urlencoded MIME content type as a key–value pair, with the key being the string pattern and the value being the regular expression.

On receiving a purge request, the Media AF shall immediately invalidate all media resources in the Media AS cache matching the regular expression by declaring them as stale. Requests at reference point M2 for purged media resources should be responded to with a 410 (Gone) HTTP response or else a 404 (Not Found) response.

If the procedure is successful, the Media AF shall return one of the following response messages:

- 204 (No Content) if no cache entries were purged, for example because no current cache entries matched the regular expression supplied in the original request. The response message body shall be empty in this case.

- 200 (OK) if some cache entries were purged. The body of the response message shall indicate the total number of cache entries purged in all Media AS instances egesting the content.

The HTTP response 400 (Bad Request) shall be returned in the case where the request message body – or the regular expression contained in it – are found by the Media AF to be syntactically malformed.

END OF CHANGES