**3GPP TSG-S4 Meeting ad hoc post #129e*****S4aI240133r01***

**Electronic, , 26th September–24th October 2024**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **26.512** | **CR** | **0081** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** |  | | | | | | | | | |
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| ***Source to WG:*** | BBC | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_Pro\_Ph2 | | | | |  | ***Date:*** | | | 2024-10-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 26.501 Release 18 defines parameters in the 3GPP Service URL to satisfy the requirements of 5G Media Streaming:   * Preferred **MIME content type(s)** and **media profiles(s)** to optionally drive automatic selection by the Media Session Handler of a Media Entry Point from those advertised in the Service Access Information streaming access object. * **Service Operation Point reference** to drive automatic instantiation by the Media Session Handler of a corresponding Dynamic Policy in the media delivery session. * **Estimated data volume** to be transferred during the media delivery session to drive automatic instantiation by the Media Session Handler of a corresponding Dynamic Policy with an associated Background Data Transfer policy.   However, processing of these parameters is not yet specified in TS 26.512. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Specify processing of the URL query parameters under clause 4.8.3. * Specify the syntax of the *profile* parameter in clause 12.4. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage-3 is misaligned with stage-2 design intent. | | | | | | | | |
| ***Q*** | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.8.3.1, 4.8.3.2, 4.8.3.3 (new), 4.8.3.4 (new), 12.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | CR [S4aI240133]: Submitted for SWG *ad hoc* agreement. | | | | | | | | |

First change

### 4.8.3 3GPP Service URL handling procedures

#### 4.8.3.1 Launch of 5G Media Streaming session

The Media Session Handler shall play the role of 3GPP Service Handler for Service URLs as defined in clause 6 of TS 26.510 [56] by registering itself as the URL handler for the domain name launch.3gppservices.org and the initial path element /ms (e.g., by declaring an intent filter in the application manifest). Hence, the Media Session Handler is launched when a 5GMS-Aware Application requests a 5GMS Service URL (e.g., by means of an intent filter).

As a result of being invoked in this way, the Media Session Handler shall initiate a new media delivery session according to clause 5.4.2.2 of TS 26.510 [56].

#### 4.8.3.2 Retrieval of Service Access Information from 5GMS AF

If it needs to retrieve whole Service Access Information from the 5GMS AF (because a full set of Service Access Information has not been supplied as additional parameters of the 3GPP Service URL) the Media Session Handler shall decompose the 3GPP Service URL into the prefix and suffix, and shall form the M5 request URL for Service Access Information as specified in clause 9.2.2 of TS 26.510 [56].

1. If the 3GPP Service URL carries one or more af-host-address query parameters, the Media Session Handler shall choose one to substitute into {apiRoot} in the above request URL. If the port number is omitted from any af-host-address, port 80 (for HTTP) or 443 (for HTTPS) shall be assumed.

NOTE 1: This corresponds to collaboration scenarios where the 5GMS AF is deployed in the External DN.

The party operating the 5GMS AF is responsible for ensuring that the hostname(s) resolve to the correct IP address(es) in the External DN.

If more than one af-host-address query parameter is supplied in the 3GPP Service URL, the Media Session Handler may use an alternative host endpoint address at reference point M5 if the one it is using fails to respond after some implementation-specific number of retries.

2. If the af-host-address query parameter is omitted from the 3GPP Service URL, the default host name ms.af.3gppservices.org and port number 80 (HTTP) or 443 (HTTPS) shall be used instead.

NOTE 2 This corresponds to collaboration scenarios where the 5GMS AF is deployed in the Trusted DN.

The 5G System operator is responsible for supporting resolution of this well-known host name to the correct IP address(es) in the Trusted DN, e.g., by managing appropriate DNS records.

The 5G System operator is responsible for ensuring that a resilient service is available at this host endpoint address. If the hostname resolves to multiple IP addresses, the Media Session Handler may use a different one at reference point M5 if the one it is using fails to respond after some implementation-specific number of retries.

NOTE 3 It is recognised that correct resolution of the hostname may be hampered if the end user configures an alternative DNS resolution service. Unless the Media Session Handler is able to override this and use the 5G System DNS resolution service, this is considered a failure case for 5G Media Streaming session initiation that is reportable to the end user.

#### 4.8.3.3 Processing of 5GMS-specific parameters in 3GPP Service URL

Once the Media Session Handler is in possession of whole Service Access Information, it shall process the 5GMS-specific parameters present in the 3GPP Service URL as follows. URL query parameters not specified in clause 12.4 may be ignored by the Media Session Handler.

1. If the 3GPP Service URL includes the optional media-entry-point query parameter, the Media Session Handler shall invoke the Media Stream Handler with the URL of the Media Entry Point conveyed in the value of this parameter.

2. Otherwise, if the 3GPP Service URL omits the optional media-entry-point query parameter, the Media Session Handler shall instead select one of the Media Entry Points listed in the streamingAccess.‌entryPoints array of the Service Access Information (see clause 9.2.3.1 of TS 26.510 [56]). In making its selection, the Media Session Handler can take into account the capabilities of available Media Stream Handler(s) as well as the requesting application’s preferences for particular content type(s) and/or media profile(s) expressed respectively in (possibly multiple instances of) the content-type and profile query parameters if they are present in the 3GPP Service URL.

3. If the 3GPP Service URL includes the optional service-operation-point query parameter, the Media Session Handler shall, before instantiating a Media Stream Handler, attempt to instantiate a Dynamic Policy for the Policy Template binding listed in the whole Service Access Information that carries an external‌Reference with the same value as this query parameter (see policy‌Template‌Bindings property in clause 9.2.3.1 of TS 26.510 [56]) using the procedures specified in clause 4.7.3. If no matching Policy Template binding can be identified by the Media Session Handler, no Media Stream Handler shall be instantiated.

3. If the 3GPP Service URL includes the optional estimated-volume query parameter, the service-operation-point query parameter shall also be present. The Media Session Handler shall, before instantiating a Media Stream Handler, attempt to instantiate a Dynamic Policy for the Policy Template binding listed in the whole Service Access Information that carries an external‌Reference with the same value as the service-operation-point query parameter (see policy‌Template‌Bindings property in clause 9.2.3.1 of TS 26.510 [56]) using the procedures specified in clause 4.7.3. If no matching Policy Template binding can be identified by the Media Session Handler, or if the matching Policy Template binding does not advertise any upcoming Background Data Transfer windows in its bdtWindows array, no Media Stream Handler shall be instantiated.

#### 4.8.3.4 Responding to the requesting application

Depending on the success (or otherwise) of retrieving the Service Access Information (and optionally chaining the Media Stream Handler with the Media Entry Point), the Media Session Handler should return an appropriate HTTP status code to the application that requested the 3GPP Service URL.

Next Change

## 12.4 3GPP Service URL for 5G Media Streaming

The 3GPP Service URL for 5G Media Streaming is based on the generic 3GPP Service URL defined in clause 6 of TS 26.510 [56].

If the service type discriminator service in the URL indicates ms, then the target service is a 5G Media Streaming service.

The parameters of the 3GPP Service URL for 5G Media Streaming are defined in table 12.4-1.

Table 12.4-1: 3GPP Service URL parameters for 5G Media Streaming

|  |  |  |
| --- | --- | --- |
| Path element | Cardinality | Description |
| service\_id | 1 | An External Service Identifier that resolves to a Provisioning Session in the 5GMS System. |
| Query parameter | Cardinality | Description |
| af-host-address | 0..\* | The Fully Qualified Domain Name and optional port number of a 5GMS AF endpoint to be used by the Media Session Handler at reference point M5 with the format hostname[:port].  More than one occurrence of this parameter may be present in the Service URL to indicate alternative host endpoint addresses. Any of these may be used by the Media Session Handler at reference point M5.  Supplied by the invoking 5GMS-Aware Application when the 5GMS AF is deployed in an External DN. The endpoint address(es) may, for example, have been passed to the 5GMS-Aware Application via reference point M8.  If omitted, the Media Session Handler assumes the default 5GMS AF host endpoint address ms.af.3gppservices.org:443 is to be used at reference point M5. |
| access-token | 0..1 | A token that is presented by the Media Session Handler to the 5GMS AF at reference point M5 that asserts its right to invoke the media session handling operations exposed by the 5GMS AF. |
| service-operation-point | 0..1 | A reference to the target Service Operation Point of the 5G Media Streaming session.  Overrides any default Service Operation Point signalled in the resource pointed to by media-entry-point. |
| estimated-volume | 0..1 | An estimate of the volume of media data to be transferred between the 5GMS Client and the 5GMS AS at reference point M4 during the 5G Media Streaming session.  Required if service-operation-point or media-entry-point refers to a Policy Template with an associated Background Data Transfer policy. |
| media-entry-point | 0..1 | A Media Entry Point reference expressed as a fully qualified URL per RFC 3986 [41], suitable for presentation to a Media AS at reference point M4.  If supplied, used by the Media Session Handler to launch the Media Stream Handler (Media Player or Media Streamer) after successfully initiating media session handling. |
| content-type | 0..\* | A MIME content type string conforming to section 5 of RFC 2045 [57] identifying a type of Media Entry Point that is acceptable to the Media Stream Handler (Media Player or Media Streamer).  More than one occurrence of this parameter may be present in the Service URL to indicate that more than one type of Media Entry Point is acceptable.  Used by the Media Session Handler to eliminate unacceptable Media Entry Points from those listed in the Service Access Information.  It is an error to supply this parameter if an explicit Media Entry Point is specified using media-entry-point. |
| profile | 0..\* | A fully-qualified term identifier from a controlled vocabulary specified outside the scope of the present document identifying a type of Media Entry Point that is acceptable to the Media Stream Handler (Media Player or Media Streamer). The term identifier shall be formatted as a URI according to RFC 3986 [41].  More than one occurrence of this parameter may be present in the Service URL to indicate that more than one type of Media Entry Point is acceptable.  This is used by the Media Session Handler to eliminate unacceptable Media Entry Points from those listed in the Service Access Information.  It is an error to supply this parameter if an explicit Media Entry Point is specified using media-entry-point. |

The service\_id path element, and the af-host-address and access-token query parameters correspond to the baseline Service Access Information for downlink media streaming specified in clause 4.2.3 of TS 26.501 [2] and the baseline parameters of the 3GPP Service URL for 5G Media Streaming defined in clause 4.10.2 of [2]. Together, they enable a full set of Service Access Information to be retrieved by the Media Session Handler from the 5GMS AF using the Service Access Information API at reference point M5 specified in clause 11.2 of the present document.

The service-operation-point parameter is used to support the procedure where the desired Service Operation Point is known *a priori* to the invoker and/or is not encoded in the Media Entry Point.

The estimated-volume parameter is used to support the procedure where the invoker intends the launched 5G Media Streaming session to be used for the purpose of Background Data Transfer.

The media-entry-point query parameter is used to support the procedure where the Media Session Handler launches media playback in the Media Stream Handler (Media Player or Media Streamer) after successfully retrieving a full set of Service Access Information via reference point M5 (if needed) and after successfully initiating media session handling.

The remaining query parameters are used for client-side filtering of Media Entry Point information provided in the Service Access Information and selection of one Media Entry Point by the Media Session Handler. (They are mutually exclusive with the media-entry-point parameter.) In this case, media playback by the Media Stream Handler (Media Player or Media Streamer) is launched by the Media Session Handler with its chosen Media Entry Point.

If the 5GMS-Aware Application prefers to launch media streaming itself (rather than have the Media Session Handler launch media streaming on its behalf), the media-entry-point query parameter and all client-side filtering parameters shall be omitted from the 3GPP Service URL. In this case, the Media Session Handler initiates only media session handling for the 5GMS Provisioning Session identified by the External Service Identifier.

End of changes