**3GPP TSG-S4 Meeting #123-e *S4-23xxxx***

**Online, , 17th–21st April 2023**

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| *CR-Form-v12.1* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.501** | **CR** |  | **rev** |  | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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:*** | BBC | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMSA, TEI18 | | | | |  | ***Date:*** | | | 2023-04-XX |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Description of 5G Media Streaming features. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * New introductory clause describing 5GMS functionality. * NOTE about applicability of HLS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Poor understanding of specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.0 (new), 4.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System architecture for the 5G System (5GS)".

[3] 3GPP TS 23.502: "Procedures for the 5G System (5GS)".

(SNIP)

[26] 3GPP TS 26.511: "5G Media Streaming (5GMS); Profiles, Codecs and Formats".

[27] ISO/IEC 23000-19: "Information Technology Multimedia Application Format (MPEG-A) – Part 19: Common Media Application Format (CMAF) for segmented media".

[28] IETF RFC 8216: "HTTP Live Streaming".

[29] ISO/IEC 23009-1: "Information Technology – Dynamic Adaptive Streaming Over HTTP (DASH) – Part 1: Media Presentation Description and Segment Formats".

[26512] 3GPP TS 26.512: "5G Media Streaming (5GMS); Protocols".

NEXT CHANGE

# 4 Media Streaming architecture

## 4.0 Media Streaming features

### 4.0.1 Introduction

This clause defines a set of high-level features for supporting enhanced media streaming in the 5G System. The functional architecture of this 5G Media Streaming (5GMS) System is defined in clause 4.1 and is further specialised for downlink media streaming (clause 4.2) and uplink media streaming (clause 4.3). Procedures for downlink media streaming are defined in clause 5 and those for uplink media streaming in clause 6. Detailed procedures, protocols and APIs for 5G Media Streaming are specified in TS 26.512 [26512]. Codecs and formats for 5G Media Streaming and profiles thereof are specified in TS 26.511 [26].

In the context of the present document, s

NOTE: References to Dynamic Adaptive Streaming over HTTP (MPEG‑DASH) [29] in the present document apply equally to HTTP Live Streaming (HLS) [28] except where noted otherwise.

Table 4.0.1‑1 lists the principal features of the 5GMS architecture along with cross-references to relevant clauses defining its functions and procedures.

Table 4.0.1‑1: 5G Media Streaming feature index

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Functional description clause | Procedure definition clause(s) | |
| Downlink media streaming | Uplink media streaming |
| Content hosting | 4.0.2 | 5.4 | Not applicable |
| Content publishing | 4.0.3 | Not applicable | 6.2.3 |
| Content preparation | 4.0.4 | For future study | For future study |
| Network assistance | 4.0.5 | 5.9 | 6.5, 6.7 |
| Dynamic policies | 4.0.6 | 5.8 | For future study |
| Remote control | 4.0.7 | Not applicable | 6.6 |
| Consumption reporting | 4.0.8 | 5.6 | For future study |
| QoE metrics reporting | 4.0.9 | 5.5 | For future study |

## 4.0.2 Content hosting

Editor's Note: To do.

## 4.0.3 Content publishing

Editor's Note: To do.

## 4.0.4 Content preparation

Editor's Note: To do.

## 4.0.5 Network assistance

Editor's Note: To do.

## 4.0.6 Dynamic policies

Editor's Note: To do.



Figure 4.0.6‑1: Domain model for dynamic policies

Dynamic polices work as follows:

1. A conceptual *Service Operation Point* is defined in terms of a set of *Network QoS parameters* that support media streaming. It is identified by an *External reference*.

2. The Service Operation Point is realised by a *Policy Template* which is provisioned at reference point M1 by the 5GMS Application Provider within the scope of an umbrella Provisioning Session. The Policy Template carries the same External reference and Network QoS parameters as the Service Operation Point. Any number of Policy Templates provisioned for different Data Networks or Network Slices may reference the same Service Operation Point.

3. The 5GMS Application Provider makes a *Media Entry Point* document (e.g. DASH MPD) available for use by the 5GMS Client. This document may include one or more Service Descriptions, each identifying the streaming requirements of a presentation that correspond to a single Service Operation Point (e.g. SD, HD, UHD), identified by means of an External reference.

4. When the Media Entry Point is selected by the 5GMS Client at the start of a media streaming session, the Media Session Handler may retrieve Service Access Information from the 5GMS AF at reference point M5 to support media session handling. This includes the set of Policy Templates provisioned in step 2.

4. When the Media Entry Point is selected by the 5GMS Client at the start of a media streaming session, the Media Stream Handler (Media Player or Media Streamer) selects one of the Service Operation Points listed in the Media Entry Point and informs the Media Session Handler of its choice by passing the External reference to it.

5. If there is a Policy Template available for the current media streaming session with the indicated External reference, the Media Session Handler instantiates this Policy Template by interacting with the 5GMS AF at reference point M5 in order to realise the Service Operation Point described by the Policy Template.

## 4.0.7 Remote control

Editor's Note: To do.

## 4.0.8 Consumption reporting

Editor's Note: To do.

## 4.0.9 QoE metrics reporting

Editor's Note: To do.

NEXT CHANGE

## 4.1 General service architecture

(No further changes to clause 4.1)

END OF CHANGES