**3GPP TSG-S4 Meeting #129e*****S4-241388***

**Electronic, , 19th–23rd August 2024** revsision of S4aI240079

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.501** | **CR** | **0095** | **rev** | **1** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** | BBC, Tencent | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_Ph2 | | | | |  | ***Date:*** | | | 2024-07-29 |
|  |  | | | |  | |  | | |  |
| ***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 26.510 V18.0.0 specifies a media delivery session identifier, but the stage-2 design, including the rules for assignment, are currently missing from TS 26.501. | | | | | | | | |
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| ***Summary of change:*** | | 1. Introduce the basic concepts of *media streaming session* and *media delivery session identifier* in clause 4.0.1. 2. Add a new clause to the general media streaming architecture specifying the assignment of media delivery session identifier values. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Media delivery session identifier is underspecified at stage‑2 in Rel-18. | | | | | | | | |
| ***Q*** | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.0.1, 4.1.3 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | CR0095 [S4aI240079]: Submitted for WG ad hoc agreement.  CR0095r1 [S4-241388]: Reubmitted for WG agreement with online edits from ad hoc meeting.   * Scoped media delivery session identifier to be unique only in a given 5GMS System. * Clarified that media delivery session identifier is associated with all M4 media accesses (more abstract), rather than cited in every media request (too specific). | | | | | | | | |

First change

### 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.

In the context of the present document, streaming is defined as the delivery of time-continuous media as the predominant application traffic. Streaming points to the fact that the media is predominantly sent only in a single direction and is consumed as it is received. Additionally, the media content may be streamed as it is produced, referred to as live streaming. If content is streamed that is already produced, it is referred to as on-demand streaming. Streaming content may also be delivered in non-real time and stored for later consumption on demand.

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. The term *Media Entry Point* is used to refer generically to an MPEG-DASH Media Presentation Description (MPD) but may be taken to apply equally to alternative media presentation description formats such as an HLS master playlist, unless 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 | Feature 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 | Not defined | Not defined |
| Network assistance | 4.0.5 | 5.9 | 6.5, 6.7 |
| Dynamic policies | 4.0.6 | 5.8, 5.7.6 | 6.9 |
| Remote control | 4.0.7 | Not applicable | 6.6 |
| Consumption reporting | 4.0.8 | 5.6 | Not applicable |
| QoE metrics reporting | 4.0.9 | 5.5 | Not applicable |
| Edge processing | 4.0.10 | 8 | |
| eMBMS delivery | 4.0.11 | 5.10 | Not applicable |
| Data collection, reporting and exposure | 4.0.12 | 5.11 | 6.8 |
| Service URL handling | 4.0.13 | 9, 5.10.7 | 9 |

The following clauses introduce these features in terms of network-side components ("5GMS network services") and a UE-side client component referred to variously as the *5GMSd Client* (for downlink media streaming), *5GMSu Client* (for uplink media streaming), or simply *5GMS Client* (in the case of features applicable to either downlink media streaming or uplink media streaming).

Media delivery occurs in the context of a time-bound *media streaming session* initiated by the 5GMS Client and supported by the media session handling features of the 5GMS System. Each media streaming session is uniquely identified in the 5GMS System by a *media delivery session identifier* for the purposes of logging and audit. A single media streaming session may involve the delivery of more than one item of media content, each one identified by a different Media Entry Point, and possibly a content identifier.

Before they can be used by 5GMS Clients, the required features of the 5GMS System are first provisioned by a *5GMS Application Provider* creating one or more *Provisioning Sessions* in a particular 5GMS System. Each such Provisioning Session is uniquely identified in the target 5GMS System by an *external service identifier* that is also made known to 5GMS Clients for the purpose of initiating media session handling in the context of a media streaming session. The external service identifier is intended to be system-independent and global in scope: a 5GMS Application Provider may create Provisioning Sessions in different 5GMS Systems that have the same external service identifier so that a common UE application can be deployed in all of them without system-specific knowledge.

Next change

### 4.1.3 Media delivery session identification

Every media streaming session shall be identified by a *media delivery session identifier*. The value of this identifier shall be different for every media streaming session within the scope of the 5GMS System.

All interactions between the Media Session Handler and the 5GMS AF at reference point M5 shall cite the relevant media delivery session identifier for logging and audit purposes.

All media accesses by the Media Stream Handler (Media Player or Media Streamer) on the 5GMS AS at reference point M4 shall be associated with the relevant media delivery session identifier for logging and audit purposes.

The media delivery session identifier shall be assigned by the Media Session Handler and shall be passed between the UE-side functions as follows:

1. If the media streaming session is initiated by the 5GMS-Aware Application invoking the Media Session Handler at reference point M6, the media delivery session identifier shall be assigned by the Media Session Handler and shall be included as a parameter when initialising the Media Stream Handler (Media Player or Media Streamer) at reference point M11. The assigned media delivery session identifier shall also be returned to the 5GMS-Aware Application at reference point M6 for use in subsequent interactions at this reference point.

2. If the media streaming session is initiated by a UE application (such as a web browser) requesting a 3GPP Service URL at reference point M6 (see clause 4.10), the media delivery session identifier shall be assigned by the Media Session Handler acting as the 3GPP Service URL handler for 5G Media Streaming, and shall be included as a parameter when initialising the Media Stream Handler (Media Player or Media Streamer) at reference point M11. The assigned media delivery session identifier should be returned to the UE application for reference, if technically feasible.

3. If the media streaming session is initiated by the 5GMS-Aware Application invoking the Media Stream Handler (Media Player or Media Streamer) at reference point M7 (which, consequently, invokes the Media Session Handler at reference point M11), the media delivery session identifier shall be assigned by the Media Session Handler and the assigned media delivery session identifier shall be returned to the Media Stream Handler at reference point M11 for use in subsequent interactions at this reference point.

End of changes