**3GPP TSG-SA4 Meeting #115 S4-211098**

**Electronic Meeting, 18th – 27th Aug 2021**

**Source: Tencent**

**Title: New WID on 5GMS additional uplink streaming extensions (APEX)**

**Document for: Approval**

**Agenda Item: 9.10**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: Draft New WID on 5GMS additional uplink streaming extensions

## Acronym: APEX

## Unique identifier:

Potential target Release: Rel-17

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | X |  | X |  |
| **No** | X |  | X |  |  |
| **Don't know** |  |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

This work item is a …

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 820002 | 5GMSA 5G Media streaming architecture | Developed the initial architecture for 5G Media Streaming and documented in TS 26.501. |
| 840001 | 5GMS3 5G Media Streaming stage 3 | Addressed stage-3 in 5G Media Streaming by updating TS 26.247 as well as new specs in TS 26.511, TS 26.512, and TS 26.117. |
| 900029 | Study on 5G media streaming extensions | Studying exposure of 5GMS-related events to NWDAF and/or to the 5GMS Application Provider. |
| 800001 | [Enhancements to Framework for Live Uplink Streaming](https://www.3gpp.org/DynaReport/WiCr--800001.htm" \t "_blank) | Developed the uplink streaming for MSTI terminals. |

## 3 Justification

Uplink streaming is one of the two key use cases in the 5G Media Streaming architecture. However, while TS 26.501 and TS 26.512 extensively describe and define the functionalities and APIs for downlink streaming, the uplink streaming is severely underdefined in Release 16 and lacks the essential features needed to the mainstream deployments.

Recently, the FS\_5GMS-EXT study explored the uplink streaming features in the 5GMS architecture and compared them with uplink streaming as defined in defined in TS 26.238. This study explored five collaboration scenarios for uplink streaming in the 5GSM architecture. For each scenario, a high-level call flow was developed. Several gaps were identified during this process. Additionally, the uplink steaming features of TS 26.501 and TS 26.512 were compared with the downlink streaming features of TS 26.501 and TS 26.512, and the missing features and functionalities are identified.

The goal of this work item is to extend TS 26.501 and TS 26.512 to make uplink streaming deployable in a 5G System.

## 4 Objective

The work item will have the following objectives:

1. Include collaboration scenarios and their associated call flows in the 5GMS stage‑2 architecture specification.

2. Define protocol(s) for egesting uplink streaming to the Application Service Provider.

3. Specify a content publishing configuration API to enable the Application Service Provider to create, update, retrieve and delete a publishing template through M1.

4. Specify a Content Publishing Template that describes a publishing configuration from the 5GMSu AS to the 5GMS Application Provider, including content preparation prior to media egest.

5. Specify how the entry point for uplink streaming is signalled to the UE by the 5GMSu AF.

6. Specify a Contribution Reporting mechanism by which the UE’s activities during uplink streaming can be reported to the 5GMSu AF.

7. Develop QoE metrics for uplink streaming.

## 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| TS 26.501 | Document deployment scenarios and associated call flows. | 94 |  |
| TS 26.512 | Specify the set of supported media egest protocols.  Specify content publishing configuration APIs.  Specify Content Publishing Template.  Specify uplink media entry point.  Specify contribution reporting feature.  Specify QoE metrics for uplink streaming. | 95 |  |

## 6 Work item Rapporteur(s)

*Iraj Sodagar, Tencent, irajs@live.com.*

## 7 Work item leadership

*SA4*

## 8 Aspects that involve other WGs

None.

## 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Tencent |
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