**3GPP TSG|WG4 Meeting #116 S4-211373**

**November 10 – 19, 2021, Electronic Meeting**

**Source: Qualcomm Incorporated, Dolby Laboratories Inc., Orange, Tencent, Facebook,** Samsung Electronics Co., LTD, Xiaomi

**Title: Draft Feasibility Study on 5G Media Service Enablers**

**Document for: Agreement**

**Agenda Item: 10.10**

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: Feasibility Study on 5G Media Service Enablers

Acronym: FS\_5G\_MSE

Unique identifier:

Potential target Release: Rel-18

# 1 Impacts

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

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

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

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

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

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| **Other related Work /Study Items (if any)** |
| **Unique ID** | **Title** | **Nature of relationship** |
| 810006 | Extended Reality (XR) in 5G | Initial study on AR/MR and key use cases. |
| 880011 | Study on 5G Glass-type AR/MR Devices | Study on the support of AR/MR with 5G glass-type devices. TR 26.998 concludes 5G Real-time Communication as an area for potential standardisation. |
| 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. |

**Dependency on non-3GPP (draft) specification:**

N/A

# 3 Justification

In recent studies and specification work, it was identified that 5G Media functions and 5G System functions need to be made attractive for third-party applications, in particular those that include media delivery. For this purpose, it is important that these functions are accessible to third-party applications independent of a 3GPP service. For this purpose it is proposed to introduce normative specifications in 3GPP SA4 that are

- more than just a core functionality, e.g. a codec, without any connection to a service or application

- less than a full service that includes all aspects of delivery, codecs, rendering and a full user experience

These specifications are referred to “Media Service Enablers”.

In implementations and deployments, this is once in a while referred to as Software development kit (SDK) that are accessible by applications through well-defined APIs. Other organizations such as MPEG define application formats in order to collect multiple technologies to provide a set of functions to be used by third party applications. However, the set of collected technologies is typically restricted to MPEG defined technologies and does typically also not include protocols, QoS or 5G System functionalities.

A few potential properties of media service enablers are provided:

* Set of functions that may be used to develop applications on top of 5G Systems.
* Set of robust features and functionalities which reduce the complexity of developing applications
* Functions to leverage system and radio optimizations as well as features defined in 5G System (5G Core Network and 5G NR)
* Provision and documentation of APIs to enable or at least simplify access to these functionalities
* Provision of network interfaces to connect to the 5G System
* A testable set of functions. Testing and conformance may be addressed outside 3GPP by an appropriate MRP or Industry forum.
* Guidelines and examples to make use of the functionalities

A general initial idea on how to define media service enablers are documented below:

* bundle functions that may be defined in 3GPP (for example a codec) and/or may reference technologies defined outside of 3GPP, for example in MPEG or Khronos, and may provide relevant subsets and profiles of those
* include mandatory and recommended functions. Define capability negotiation for optional functions
* include other 3GPP-defined Media Service Enablers, and may provide relevant subsets and profiles of those
* provide requirements for client and network functions, as needed
* may include relevant functions such as QoE metrics and KPIs

In order to establish the above concept in 3GPP, a clear set of guidelines and requirements for Media Service Enablers is needed.

# 4 Objective

This study item defines Media Service Enablers, and provides guidelines and references defining common specification aspects

* Define the principal properties of Media Service Enablers
* Define minimum and typical functionalities of Media Service Enablers
* Define a specification template for Media Service Enablers
* Identify possibly relevant stage-2 and stage-3 work for Media Service Enablers
* Collect a set of initially relevant Media Service Enablers for normative work

# 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** |
| *TR* | *26.8xx* | *Media Service Enablers* | *SA#96 (Jun. 2022)* | *SA#97 (Sep. 2022)* | *Thomas Stockhammer (tsto@qti.qualcomm.com)* |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR {One line per specification. Create/delete lines as needed}** |
| **TS/TR No.** | **Description of change**  | **Target completion plenary#** | **Remarks** |
|  |  |  |  |
|  |  |  |  |

# 6 Work item Rapporteur(s)

*Thomas Stockhammer, Qualcomm Incorporated, tsto@qti.qualcomm.com*

# 7 Work item leadership

SA4

# 8 Aspects that involve other WGs

*none*

# 9 Supporting Individual Members

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| --- |
| **Supporting IM name** |
| Qualcomm Incorporated |
| Dolby Laboratories Inc. |
| Orange |
| Tencent |
| Facebook |
| Samsung Electronics Co., LTD |
| Xiaomi |