3GPP TSG|WG-SA4 Meeting #117-e S4-220079

Online, 14-23 February 2022 (revision of xx-yyxxxx)

**Source: Qualcomm Incorporated**

**Title: Draft WID on Split Rendering Media Service Enabler**

**Document for: Approval**

**Agenda Item:**

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: Split Rendering Media Service Enabler

Acronym: SR\_MSE

Unique identifier:

Potential target Release: Rel-18

# 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 …

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | 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) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
|  | Study Item on 5G Media Service Enablers | Outlines concept of MSEs |
| [770024](https://www.3gpp.org/DynaReport/WiVsSpec--770024.htm%22%20%5Ct%20%22_blank) | EVS Codec Extension for Immersive Voice and Audio Services | Codec for spatial audio in conversational services |

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

# 3 Justification

Advances in computer graphics and machine learning have enabled a wide range of new experiences and applications for users. From remote gaming to autonomous driving, complex and power-hungry processing is required to achieve the desired user experience. As an example, recent games are reverting to ray tracing and global illumination to offer a physically based rendering solution that will mimic the physical world accurately and immerse the user in the game scene.

The 5G system offers several capabilities that would pave the way for making these demanding media services available to all users, independently of their end device capabilities. For example, access to edge computing would allow the rendering of complex 3D scenes in powerful edge servers and then displaying them on the user’s end devices. This functionality is denoted as Split Rendering. It is also supported by QoS allocation to ensure that the operation takes place smoothly.

In parallel, 3GPP SA4 is working on the development of the EVS Codec Extension for Immersive Voice and Audio Services (IVAS) codec. It targets encoding/decoding/rendering of speech, music and generic sound, with low latency operation and support of high error robustness under various transmission conditions, The IVAS codec is expected to provide support for a range of service capabilities, e.g., from mono to stereo to fully immersive audio, implementable on a wide range of UEs.

This work item will develop a Media Service Enabler that packages all the required enablers and defines the required formats and protocols to make split rendering accessible to media service and application providers. The package is aligned with the philosophy of Media Service Enablers and envisions deployments as an SDK that is offered

# 4 Objective

The work item will have the following objectives:

* reference and specify the necessary profiles for edge, QoS allocation, and network assistance functionality for the split rendering Media Service Enabler (based on 5G\_AREA, and iRTCW work items)
* reference and specify the necessary profiles for real-time media transport (based on 5G\_RTP)
* specify the control protocols for establishing and managing split rendering sessions
* select and profile the media formats and the corresponding media transport protocols for split rendering (based on MeCAR)
* define edge requirements, such as the EAS profiles, as well as edge discovery and relocation configurations appropriate for split rendering
* develop any necessary APIs to access the split rendering Media Service Enabler
* support immersive media including 3D video and spatial audio, taking into account IVAS requirements

# 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 |
| TS | 26.XXX | Split Rendering Media Service Enabler |  |  | Bouazizi, Imed, Qualcomm Incorporated, bouazizi@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)

Bouazizi, Imed, Qualcomm Incorporated, bouazizi@qti.qualcomm.com

# 7 Work item leadership

SA4

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Qualcomm Incorporated |
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