**3GPP TSG SA WG4 Meeting #117-e S4-220179**

**14 – 23 February, 2022, Electronic Meeting**

**Source: Qualcomm Incorporated, AT&T**

**Title: New WID on 5G Real-time Transport Protocols**

**Document for: Agreement**

**Agenda Item: 11.7 - New Work / New Work Items and Study Items**

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: 5G Real-time Transport Protocols

Acronym: 5G\_RTP

Unique identifier: TBA

Potential target Release: Rel-18

# 1 Impacts

*{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | **UICC apps** | **ME** | **AN** | **CN** | **Others (specify)** |
| **Yes** |  | X |  |  |  |
| **No** | X |  | 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.

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| --- |
| **Parent Work / Study Items**  |
| **Acronym** | **Working Group** | **Unique ID** | **Title (as in 3GPP Work Plan)** |
|  | SA4 | N/A | 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 | Relevant XR use cases in the conversational space |
| 820003 | Support of Immersive Teleconferencing and Telepresence for Remote Terminals | Previous work in MTSI related to 360-degree immersive communication in IMS |
| 850042 | Study on evolution of IMS multimedia telephony service | Feasibility study on AR call |
| 880011 | Study on 5G Glass-type AR/MR Devices | Feasibility study on 5G support of AR/MR devices including AR conversational services |
| 920029 | Stage 1 of Evolution of IMS Multimedia Telephony Service | Requirements to support AR telephony communication as specified in TS 22.261 |
| 940066 | Study on system architecture for next generation real time communication services | Study on system architecture enhancement for next-generation real-time communication in IMS. |
| See Note | iRTCW1 | iRTCW is expected to reference a WebRTC profile of RTP developed in this work item |
| See Note | IBACS1 | IBACS is expected to reference an IMS profile of RTP developed in this work item |
| See Note | SR\_MSE1 | The Split Rendering Media Service Enabler spec is expected to reference an IMS profile of RTP developed in this work item |

Note 1: The marked WIDs/SIDs are currently in draft phase and will be finalized in the following meetings. Any relationship or dependency is based on the current status of the respective draft.

# 3 Justification

TR 26.998 (5G Glass-type AR/MR) identified multiple aspects of normative work to support “5G/AR Real-time Communication” (clause 8.4). TR 26.998 identified normative work needed to support delivery of immersive media via RTP for IMS-based and WebRTC-based conversational services.. To support XR split rendering as described in clause 8.6 of TR 26.998, RTP is also needed to transport immersive media and metadata information between the edge and device.

To improve support for the above XR services and enablers, it is necessary to profile RTP with specific configurations and features that enable immersive experiences. Further improvements in performance and QoE over the 5G system can be achieved by specifying RTP profiles that are integrated and optimized for the 5G system, and leverage cross-layer optimizations being developed in SA2 and RAN.

# 4 Objective

The objective of this work item is to create a new specification that profiles the use of RTP to improve support for traditional and immersive real-time services and enablers. The work item aims to:

1. Specify RTP profiles that support at least the following services or enablers:
	1. IMS-based conversational XR services
	2. WebRTC-based conversational XR services
	3. WebRTC-based conversational services using traditional media
	4. XR split-rendering, i.e., real-time transport of media between the UE and edge
2. In the RTP profiles, specify references and further descriptions of
	1. RTP configurations, e.g., uni-directional or bi-directional, use of multiple, simultaneous RTP streams in a single RTP session, use of multiple RTP sessions.
	2. RTP functions, e.g., use of RTP header extensions, FEC, RTP retransmission, SRTP
	3. RTCP feedback reporting procedures
3. In the RTP profiles, specify the usage of SDP attributes and parameters needed to configure RTP appropriately for the services and enablers.
4. In the RTP profiles, specify 5G optimizations and cross-layer optimizations based on SA2/RAN enhancements.

# 5 Expected Output and Time scale

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| --- |
| **New specifications** |
| **Type**  | **TS/TR number** | **Title** | **For info at TSG#**  | **For approval at TSG#** | **Spec Editor** |
| TS | 26.xxx | 5G Real-time Transport Protocol | TSG#xx (after SA4#125) | TSG#xx (after SA4#126) |  |

|  |
| --- |
| **Impacted existing TS/TR** |
| **TS/TR No.** | **Description of change**  | **Target completion plenary#** | **Remarks** |
|  |  |  |  |

# 6 Work item Rapporteur(s)

*{The first listed Rapporteur is the work item primary Rapporteur. The role of a Rapporteur is further described in* [*www.3gpp.org/specifications-groups/delegates-corner/writing-a-new-spec*](http://www.3gpp.org/specifications-groups/delegates-corner/writing-a-new-spec)*. By default, the primary Rapporteur shall ensure the production of the post-completion summary.
Secondary Rapporteur(s) are possible for specific secondary task(s), such as: “Write the post-completion summary”; “In charge of a specific aspect of the work item (specify which)”; “Rapporteur for a secondary responsible WG (specify which)”}*

# 7 Work item leadership

SA4

# 8 Aspects that involve other WGs

Coordination with SA2 and RAN groups may be necessary.

# 9 Supporting Individual Members

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| --- |
| **Supporting IM name** |
| Qualcomm Incorporated |
| AT&T |