**Agenda item:** 10.6

**Source:** ZTE Corporation

**Title: [IBACS]** **Rendering provisioning and negotiation for AR communication**

**Document for** Discussion andAgreement

# Introduction

In IBACS PD6.0, we have supported split rendering for AR communication service, including split rendering confirmation procedure and split rendering procedure. In SR\_MSE specification, it specified that media processing resource in the edge should be provisioned and configured before starting split rendering procedure, and resource allocation for split-rendering may be client driven or network driven. We should consider different way of rendering resource provisioning and configuration in IBACS split rendering for meeting different situations. In addition, the RTP channel and application data channel for transmitting AR data to be rendered needs to be indicated, in order to distinguish with other channels and streams for AR data that doesn’t need to be rendered.

This paper proposes a call flow for elaborating split rendering provisioning and negotiation based on network driven.

# **Proposed call flow for Rendering resource provisioning and negotiation**

After establishing audio/video session and bootstrap data channel, MF/MRF in IMS network can provision media resource for split rendering triggered by AR Application server based on data channel application.

Figure x demonstrates a call flow for split-rendering provisioning and negotiation.



Figure X call flow for split-rendering provisioning and negotiation

1. AR Application server initiates AR media rendering provisioning. AR Application server sends a request to provision and configure media rendering source MF/MRF which transfer by DCSF and IMS AS. MF/MRF provisions rendering resource for AR Application server based on request.

Note 1: Mapping Split-Rendering Provisioning API into IMS network may be considered later.

Note 2: Network-driven provisioning may be triggered by IMS AS, or other Function (e.g. DCSF). It should be considered to refer to related exiting procedure in SA2 work.

Note 3: Step 1 is optional solution for rendering resource provisioning.

1. AR application server announces the provisioning to UE-A that network assisted rendering source has been allocated.

Note 4: How to inform the result of resource provisioning to UE-A need to be further study. Bootstrap data channel with HTTP may be considered.

1. UE-A and MF/MRF negotiate split rendering. UE-A may send information of UE’s capability and runtime configuration to MF/MRF, and MF/MRF responds to UE with a description of the split rendering output and the input it expects to receive from the UE-A .
2. UE-A and IMS network establish application data channel. If AR data (e.g.AR metadata) used for split rendering is transmitted via the application data channel, the data channel sub-protocol may be identified as “3gpp-sr-metadata” or “3gpp-sr”.

Note 2: The data channel sub-protocol refers to TS 26.565 SR\_MSE.

1. IMS AS requests re-negotiation between UE-A and IMS for anchoring UE-A’s audio/video stream to MF/MRF.

Note 5: When the RTP channel transmits AR data to be rendered, a split rendering indication in media level may be considered whether need or not.

1. IMS AS requests re-negotiation between UE-B and IMS for anchoring UE-B’s audio/video stream to MF/MRF.
2. UE-A starts split rendering and sends AR data to MF/MRF for split rendering. And then, the rendered AR media is sent to UE-B or returned to UE-A.

# 3 Proposal

We propose to include the proposed call flow in section 2 into the IBACS PD.

# 4 References

1. S4-231489, “IBACS Permanent Document “, v0.5.0, SA4#125, Augest 2023.
2. S4-231520, “Draft TS 26.565 “, v0.6.0, SA4#125, Augest 2023.