Source: Samsung Electronics Co., Ltd.

**Title: [FS\_5GSTAR] Proposed update on EDGAR architecture**

**Agenda Item: 10.9**

**Document for: Discussion and Agreement**

# **Introduction**

In Video SWG post 113-e telco, it was raised that the current streaming architecture for EDGAR in clause 6.2.3.2 of TR 26.998 is different from the work from FS\_EMSA, as some of the 5GMS functionalities are moved to the Edge, while FS\_EMSA still considers to put them in the UE side. In this contribution, it is proposed to add EMSA-compliant model for EDGAR UE as another variant.

# **Issues and Proposals**

Below is the conceptual diagram to illustrate the issue raised.



Variant A is the current architecture, addressed in TR26.998, where 5GMS functionalities (Media Session Hander (MSH), Media Stream Handler, and 5GMS Application) are located in 5G Edge, so that 1) the combination of 5G EDGAR UE and 5G Edge is working as a role of 5GMS client and 2) 5GMSd AS/EAS is the 5GMS server for the media distribution. The “smart” 5G edge can manage the immersive media streaming from 5GMSd AS/EAS (e.g., adaptation, decryption, etc), but there may need a new mechanism in Uu interface to inform 5G edge of the reporting metric (eventually to be reported to 5GMSd AF/EES).

Variant B is another option to make more compatible with the current FS\_EMSA and 5GMS architecture. 5G Edge (for processing) and 5GMSd AS/EAS (for distribution) are playing a role of 5GMS server. EDGAR UE should host MSH and 5GMS-aware application (as well as basic application function as addressed in 4.2.2.3) inside, which might be a burden than Variant A. M4d and M5d interface can be easily used (or extended at least) to this immersive media streaming of AR/MR scenario without substantial changes. 5G Edge and EES/EAS could be implemented in several ways (e.g., single equipment or separate)

Therefore, it makes sense to take into account both deployment scenario until either of them clearly becomes obsolete by further inputs.

# **Proposed text change**

\*\*\* Change 1 \*\*\*

6.2.3.2 EDGAR-based

Figure 6.2.3.2-1 and 6.2.3.2-2 provide a basic extension of 5G Media Streaming download for immersive media using an EDGAR UE. Depending on the location of 5GMS functionalities, it may be implemented in two ways



**Figure 6.2.3.2-1: Edge-centric EDGAR-based 5GMS Downlink Architecture**



**Figure 6.2.3.2-2: UE-centric EDGAR-based 5GMS Downlink Architecture**

In edge-centric 5GMS architecture, 5GMS functionalities of 5GMSd-aware application, media session handler, and media player are located in a 5G edge. 5GMSd AS distributes the immersive media contents to the appropriate 5G edge through M4d interface.

Editor’s Note: Interface between 5G Edge and 5GMSd AS is FFS.

In UE-centric 5GMS architecture, 5GMS functionalities of 5GMSd-aware application, media session handler, and media player are located in an UE. 5G Edge. 5GMSd AS which hosts 5G media functions can process the required immersive media processing and distribute to the appropriate 5G EDGAR UE through M4d interface.

\*\*\* End of Change 1 \*\*\*