The evolution of delivering immersive media over 5G/Cloud

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This blog post introduces a white paper from Ericsson, an AREA Member. The full paper can be read here.

Introduction

With the availability of more Augmented Reality (AR) and Virtual Reality (VR) headsets, people are starting to experience more realistic and interactive immersive services. Thanks to the advanced technology embedded into the headset we are getting more powerful devices, able to compute and render images of increasing resolution and quality. Yet the development of longer and more realistic experiences is progressing slowly, limited by battery consumption, device form factor, and heat dissipation constraints. Many service providers have started to deploy services in the cloud to address these issues. However, running the application in the cloud imposes additional challenges: latency, bandwidth, reliability, and availability of the service. 5G cloud architecture can overcome those issues with solutions that can be applied incrementally, each differently affecting the complexity of the application, but each improving the ultimate experience for the user. Additionally, the ultimate vision for 5G architecture as applies to immersive experiences calls for new relationships among the ecosystem members – the consumer, communications service provider, hyperscale cloud provider, and developer/service provider.

This paper examines key aspects to launch an immersive service using 5G cloud infrastructure. First, reviewing recent offerings and developments, then walking through a set of use cases each exploiting more and more offload to the cloud. We follow with a description of 5G technologies that satisfy the use cases, and finally, reflect on the evolution of the stakeholders' ecosystem in relation to their technical and commercial relationships to establish an immersive service using 5G.