5 Questions Mobile Operators Must Answer to Monetize 5G and Cloud Gaming

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Gaming is the fastest-growing segment of entertainment with over 2.5 billion global participants. For platforms such as Netflix, video games such as Fortnite provide as much competition as Disney+ and other streaming services. Gaming is moving from console to cloud, fixed to mobile and in the near future gamers can expect to play their games on any device anywhere.

1. **What *is* driving the growth of cloud gaming?**

Technology advancements in smartphones, cloud computing, and wireless connectivity are fuelling the rise of mobile gaming. Goldman Sachs predicts in its "The World of Games: eSports: From Wild West to Mainstream" report, that there will be more than 270 million global esports players by 2022, explaining, "Put simply, the gaming industry has gone into overdrive, and it's a juggernaut headed straight for mobile." Smartphone hardware enhancements such as the Snapdragon 865 processor, coupled with advanced GPU and display capabilities, promise to offer a near equivalent gaming experience on mobiles as on consoles and PCs.

Mobile operators have the opportunity to capture this growth so long as they remain focused on cloud gaming player experience, specifically, their gamers' internet connection, gaming traffic, and overall network congestion. Cloud gaming platforms must deliver a seamless experience for users as even casual gamers will expect a Netflix-like experience: their videogame stream should match their video stream.

2. **What can thwart the growth of cloud gaming?**

Although mobile devices can handle simple racing games, most do not yet allow AAA multiplayer titles for cloud gaming. Latency, input lag, and jittering cause problems for gamers who expect less than a 5-millisecond delay between their actions and gameplay. Input lag is introduced when a game moves from console to the cloud - it is the amount of time between the user pushing a button on a controller and the game (in the cloud) recognizing and reacting.

In traditional gaming, that lag is 5-10 ms but when you combine network latency with input lag it can increase to 20-30 ms, enough for a gamer to miss a critical headshot or dodge an incoming shot.

Gaming is also no longer a solo act. Millions tune in to Twitch to watch their favorite gamers play and exchange comments simultaneously. Alongside download speeds, upload speeds are critical for those who wish to grow an audience through gaming and do not want their livestream to compete and interfere with the same traffic as the gameplay.

3. **Can operators solve these problems?**

These issues make an ideal use case for edge computing as mobile operators can locate the servers closer to the end-users. By combining the servers with 5G connectivity, the online gaming experience can be improved significantly. 5G also has the potential to expand gaming experience to new use cases such as extended reality (eg AR/VR) as well as offering cross-platform gaming at scale.

4. **How can mobile operators create partnership solutions for 5G and the edge?**

Mobile Edge Computing (MEC) partnerships have sprung up between mobile operators such as Verizon, Deutsche Telekom, and AT&T and public cloud providers including AWS, Microsoft, and Google. One such initiative announced recently is AWS Wavelength on Verizon's 5G network.

Such mobile edge cloud collaborations aim to combine the 5G network functions and edge data centers of mobile operators with the cloud computing benefits of hyper-scalers. By bringing well-known cloud architecture (compute, storage, APIs) to the network edge, developers can easily create and deploy ultra-low latency use cases such as game streaming.

5. What else should mobile operators be aware of when delivering cloud gaming services?

User Metrics: [Tom Cannon of AT&T recently shared](#) that AT&T has the ability to measure and build metrics on last-mile connectivity, something which can be leveraged to gauge performance across game service providers and device manufacturers like Apple or Android. Such information can also be shared via standards-based APIs with game service providers, allowing them to fine-tune the user experience to the best possible connectivity and build new products, plans, and services based on that information.

Mobile Player Identity: Another area of technology value is mobile identity. End users (gamers) consider mobile operators to be trusted connectivity providers and as such operators are given all they need to verify the identities of users. Cross operator initiatives like Zenkey supported by AT&T, T-Mobile, and Verizon, are providing a single sign-in capability for any mobile service including gaming to allow users to move with ease between platforms and devices without having to repeatedly sign in with their credentials.

Cloud Gaming Platforms: Mobile operators are the new mining equipment providers in this cloud gaming services gold rush

Mobile cloud gaming is one of the fastest-growing segments of entertainment and is set to challenge the dominance of traditional gaming channels in the coming decade. If mobile gaming is the new gold rush, then mobile operators are the new mining equipment providers. Mobile operators have a significant opportunity to leverage their investments in 5G and other network tools to position themselves as *value-added service providers* in the cloud gaming ecosystem. There's all to play for in the new gaming gold rush!

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