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The Battle Lines At E3 Are Cloudy For Mobile Operators

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The Electronic Entertainment Expo (also known as E3) yet again showcased the latest and greatest in gaming innovations. Thanks to new technologies like cloud gaming, the industry could be [worth \\$300 billion](#) by 2025. The gaming behemoths -- Google, Sony, Microsoft and many others -- are gearing up with new firepower for this cloud-based battle. Mobile operators could get caught in the crossfires and even 5G might prove futile.

Keanu Reeves said it best. His appearance at E3 in June for Cyberpunk 2077 really set the scene for the next level of gaming. From blisteringly fast speeds to immersive gameplay and the next generation of graphics, there is only one word for it. As Keanu Reeves said: breathtaking!

Along with the glitzy launches at E3, the event solidified the importance that the cloud and mobile networks will have on the future of gaming. Traditional console adversaries [Microsoft](#) and [Sony](#) decided to forego the rivalry and agreed instead to develop a partnership in cloud computing and artificial intelligence (AI). [Project xCloud](#), which will go live in October, will use Microsoft's Azure for video and content-streaming services. Sony, which already runs a cloud-gaming service, has agreed to employ Microsoft's Azure cloud platform.

The duo aims to provide an enhanced entertainment experience for their gamers and build better platforms for content creators. This announcement also serves another purpose. It faces a common foe: Google.

The Google In The Room

Google transformed search, email, videos and maps, and now it has turned its attention to games. Google's [Stadia](#) will bridge screens and devices and provide players instant access to games, while also integrating YouTube capture, streaming and sharing. The tech giant plans to stream games at launch in 4K at 60 frames per second (fps) for both playing games and sharing game streams, with the goal to eventually support 8K and 120-plus frames per second.

And more players are entering the fray. [Nintendo](#), [Snapchat](#) and even [Walmart](#) are just some of the companies exploring the cloud gaming arena. [Amazon](#) is also considering a similar approach with Amazon Web Services, leveraging its formidable cloud and data center arm. Think of data centers as the power-ups in the cloud ecosystem that drive the streaming and transfer of gaming traffic.

Next-Level Streaming

Gaming traffic requires data to flow both ways between the user and the data center and at ultra-fast speeds. It is vastly different from music or movie streaming, which are almost entirely one-directional. Buffering on a Netflix binge is not quite the same life-and-death situation for a player on Apex Legends if the game starts to lag by even a millisecond.

And that's where the battle on the cloud gaming front heats up for mobile operators. The seamless cloud dream envisioned by gaming aficionados is a cross-platform experience where a player can jump off at one point, hop on another screen and continue the action exactly where they left off with the same level of interactivity in real-time.

For devices that rely on fixed internet access, such as a laptop or PC, it is not a deal-breaker. Google's [Project Stream](#) in 2018 claims to have transmitted live gaming data from its data center to a PC screen faster than the speed an eye transmitted those images to the brain. Right now, telecom carriers can only dream of delivering this level of speed to their subscribers. Mobile operators will have the unenviable task of delivering cloud gaming data to their subscribers, and it is not going to look pretty.

The Blame Game

Surely, players will blame the gaming provider if they experience lag, right? Not quite. [Research](#) we conducted among mobile subscribers who experienced delays when watching services such as Netflix and YouTube revealed that they blame their operator rather than a content provider or the handset. Many would even abandon the video if it buffered for six seconds and consider ditching their operator.

Operators already face a formidable obstacle course when it comes to delivering a seamless quality of experience. Data packets from over the top (OTT) providers like Google and Facebook are layered with encryption, making it near-impossible to optimize with conventional technology. What's more, encryption protocols change without notice, worsening the situation. If that wasn't enough, the demand for mobile data is no longer predictable based on peak and off-peak times, which can play havoc for mobile network planning.

Put simply, the OTTs create the content that consumers crave and leave it to the operator to deliver it. This worrying trend is likely to repeat itself with gaming, especially with 5G. The problem could exacerbate with augmented reality, virtual reality and mixed reality gaming on 5G. Augmented reality alone can be [33 times more data intensive](#) than the equivalent 480p standard video.

Fail To Prepare Or Prepare To Fail

Research conducted among the world's largest operators by the Mobile Video Industry Council a few months ago showed that operators expect cloud gaming to represent [25% to 50% of 5G data traffic](#) by 2022. While that's worrying, the positive takeaway is that operators are expecting cloud gaming to be a formidable challenge, and they are preparing for the battle. Compare that to a few years ago when most operators revealed they were not prepared for the deluge of HD video content from YouTube and Netflix that overwhelmed wireless networks. That's the silver lining in the cloud.

Today's mobile operator arsenal includes an array of new technologies, and notably machine learning, to dynamically manage mobile data, new encryption protocols and optimize only the necessary traffic based on the device used by subscribers. It is evening out the battlefield.

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