The impact of eSport on the data center

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Consider this, since COVID-19 reared its ugly head, for nearly five months there were no sports to watch. No basketball, no hockey, no baseball—nothing. Nothing except virtual competition, or eSport, that is. Recently, some sports are attempting to restart but it appears it will be long road before anything gets back to "normal."

Even before the pandemic began, eSport, short for electronic sports, had earned wide-spread acceptance and popularity from both competitors and viewers. The livestream video game competitions attract professional gamers who face off for prize money while tens of thousands of spectators watch in person and hundreds of millions watch online.

To ensure a fair, uninterrupted competitive platform and viewing experience, these events require dependable service and tremendous capacity—especially as viewership increases and the games deliver higher density graphics. Those of us in the data center industry have an opportunity to support this growing market by evolving our infrastructures to support its intense location, space, connectivity and latency requirements.

My experience with online gaming dates back nearly 25 years to before eSport even existed. I used a classroom in my office building to "game" with a group of friends. NASCAR racing, using simulation software and racing wheels connected to our computers, was a favorite. The excitement of virtual racing was unmatched, and I recognized the potential to grow our friendly games into something more. "More" turned into a local, weekly racing league which eventually grew into traveling tournaments that attracted hundreds of competitors and spectators from around the country.

The popularity of the league and tournaments was staggering. Not only were people interested in racing, but they were interested in watching others race. Perhaps even more surprisingly, many of these people were not gamers. In fact, many didn't even own a computer.

One tournament attracted a young Dale Earnhardt, Jr. and an NBC television crew. Although Earnhardt was only a teenager at the time, he was already an experienced racer, and also ran his own online racing league with some of his NASCAR contemporaries including Martin Truex, Jr. and Denny Hamlin. After a hard-fought virtual win, he told

me that the exhilaration, emotion and overall experience of simulated racing mirrored live racing.

While the racing simulation software we used was ultimately bought by John Henry of Red Sox ownership fame and developed into iRacing, the lessons and potential of online gaming have remained with me. As the popularity of eSport continues to tick upward, the infrastructure required to support it must become more robust. This provides a tremendous opportunity for data centers.

The rise of eSport

ESport has evolved into big business, with a lot of money to be made by participants and organizers. In 2018, the total prize pool was $1.5 billion with the average player earning approximately $8,800. The games offer something for everyone, spanning diverse genres including old-school games like Counter-Strike and StarCraft, real-time strategy games like Forge of Empires and Total Battle, modern games like Overwatch and FortNite, and sports-related games such as iRacing and Madden Football.

These gaming competitions continue to gain global fandom. The 2018 League of Legends World Championship Finals was broadcast to 99.6 million viewers in 19 different languages across 30 platforms, and overall eSport viewership is predicted to grow from 454 million to 646 million between 2019 and 2023. Its widespread acceptance has even caught the eyes of colleges as some are including them in their varsity sports programs and the NCAA is considering sanctioning them.

The data center's place in the surging eSport market

As the number of participants and viewers continues to climb, and the games themselves become more data-intense, bandwidth will be increasingly strained. The unrelenting availability of the internet—free of interruptions that can impact the competition, viewership and overall results—is critical, especially with so much money on the line. Those involved in the competitive gaming industry will seek out connectivity-rich data centers that can house their infrastructure, data and partners while flawlessly and securely delivering the best online experience for competitors and viewers.

To achieve this, the data center industry needs to get to a point where we can offer a consistent online experience across all competitors that fosters and supports equitable and continuous gaming and viewing experiences. However, the internet is not robust enough to ensure this consistency today. The advent of 5G will certainly help get us there, but until then, we need to adopt other ways to move toward a better gaming experience. This will require a resilient environment with diverse connectivity options.

Providing 100% uptime

Gaming companies that host eSport events must rely on data centers capable of providing unfaltering availability. Even the briefest interruption can impact a gamer's ability to effectively and consistently compete, and can give another competitor an unfair advantage. This can also impact a remote audience's ability to watch the games, and the tournament organizer's reputation and profitability. To achieve an uncompromising level of resilience, data centers must have the redundant infrastructure and business continuity strategies in place to guarantee 100% uptime.

Supporting greater bandwidth and latency requirements

Data centers that provide reliable, high-performance services to gaming organizers will attract other providers connected to the tournaments such as the content delivery networks (CDNs) that stream the events. These providers will want to reside in close proximity to tournament organizers to minimize latency. By their nature, CDNs will demand greater bandwidth and lower latency and will require more diverse, sophisticated connectivity. To keep pace with these needs and deliver steady streaming, we need to continue to develop our connectivity options, expand capacity and reengineer networks to address latency to deliver an improved, high-performance online experience.

We also need to increase the number of exchanges in a metropolitan area. Relying on a single provider with an exchange in a major city will no longer be sufficient. The eSport industry will need more exchanges in more locations to meet its needs. Data centers must continue to grow and enhance their connectivity options by increasing the number of carriers, introducing more exchanges within metro areas and becoming network access points (NAPs) themselves—not just for gaming, but to protect the overall health of the internet.

Increasing the number of exchanges comes with financial benefits as well. Today's carrier hotels charge high tariffs and cross connect fees, all in the name of being the first to market. Introducing competition with equally rich and diverse connectivity options will introduce more reasonable price points.

This enriched environment will also satisfy bandwidth demands beyond the gaming community. The new remote work environment, courtesy of COVID-19; popularity of streaming media platforms such Netflix, Prime and Hulu; and increase of 4K content, add to internet use. This abundance of traffic will also offer an entry point for more CDNs, including many boutique providers.

Enabling geo-diversity

ESport is also going to drive some geographic diversity to manage latency issues. Edge data centers can provide small- to medium-sized data center infrastructure in a mesh network close to the tournament venue. By moving streaming content closer to the edge of the network, organizers can minimize latency and improve the user experience. Some data centers may even solely cater to this market.

Let's not forget data security

As uptime, connectivity and latency continue to improve, security will

become a focus to protect the integrity of the competition. A third-party data center provides an inherent level of security from the simple fact that it is difficult to cheat when it is not your network or applications being used.

To further strengthen the integrity of the competition, tournament organizers will also employ security organizations to monitor and control the gaming environment. Like CDNs, these organizations will want to reside in the hosting data center for direct access and insight into the network streaming the content so they can quickly react to security threats and manage cheat code in real time. Data center providers will need to partner with these organizations to promote the online security and mitigate denial of service attacks, cheating and various performance enhancements or detraction strategies to ensure an unbiased competition field.

Game on for the data center industry

ESport and other forms of content streaming are poised to continue to grow exponentially, and those of us in the data center world need to be prepared to meet their evolving requirements. Now is the time to build the robust infrastructure with the right locations, connectivity, security and business model to attract the companies that organize, stream and support these events. We need to make it easy for these businesses to execute seamless, uninterrupted competitions. ESport provides another example of how data centers are uniquely positioned to thrive in the digital age of tomorrow. It's game on for data centers.
