

Riot Games is Powering the Next Decade of Esports with Cisco Server and Network Technologies

Riot Games · Industry: Gaming and entertainment · Size: 2500 employees · Location: Los Angeles, California

Riot Games was founded in 2006 to develop, publish, and support the most player-focused games in the world. In 2009, Riot released its debut title, *League of Legends*, to worldwide acclaim. *League* has gone on to be the most-played PC game in the world and a key driver of the explosive growth of esports. For more information, visit www.riotgames.com.



Challenges

- Supercharge game experiences for players and fans
- Standardize global IT infrastructure
- Centralize IT orchestration

Results

- Accelerated game server performance by 200 percent
- Broke industry records for event viewership at 2020 World Championship
- Streamlined global IT operations

Solutions

- Cisco UCS® B-Series blade servers
- Cisco UCS C-Series rack servers
- Cisco Nexus® 9000 Series switches
- Cisco Intersight™ Infrastructure Service

For more information

- [Cisco UCS servers](#)
- [Cisco Nexus 9000 Series switches](#)
- [Cisco Intersight](#)

Challenge: Fuel the next decade of esports

It wasn't long ago that esports competitions like the *League of Legends* World Championship were played with "Frankenservers" and broadcast out of a basement. Today, *League* is at the top of a \$1 billion esports industry. And the viewership for its three global competitions – the Mid-Season Invitational, the World Championship, and the All-Star Event – now rivals some of the most popular sporting events in the world.

As Riot Games approached the tenth World Championship in *League* competitive history in 2020, it had already reached an inflection point. One where reconstituted servers and disparate IT infrastructure spread around the globe could no longer support its commitment to delivering the best possible gaming and viewing experiences for a massive and continually growing fanbase.

"This is a global sport that is completely reliant on technology," says Scott Adametz, senior manager of infrastructure engineering at Riot Games. "We got by with a fair amount of ingenuity and scrappiness over the past ten or so years, but it was time for us to lay the foundations for the next decade of esports."

After an exhaustive two-year search, Riot selected Cisco as its Official Enterprise Networking Partner. Using a combination of Cisco UCS servers, Cisco Nexus 9000 Series switches, and Cisco Intersight, the gaming pioneer has standardized and supercharged its global esports technology infrastructure. It has restructured the

way it produces and broadcasts esports events. And it has brought groundbreaking, never-before-seen innovations to the esports viewing audience.

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Supercharging game and fan experiences

When it comes to competitive gaming, every microsecond counts. Even the most miniscule amount of latency – what gamers refer to as “ping” – can negatively impact the experience for competitors and fans. That’s why Cisco UCS servers now power The Realm, the mission-critical game servers that move from city to city in support of Riot’s global competitions.

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“We already had extremely low latency, but now it’s a quantum leap faster,” Adametz adds. “While other game publishers are still worried about microseconds, we’ve moved on to nanoseconds.”

Cisco Nexus 9000 Series switches provide the onsite network for each event – which are like small cities – and connect the event feeds to Riot’s 12 regional broadcast studios.

“We send petabytes of data across multiple oceans simultaneously, so we need a powerful and robust backbone with very stable connectivity,” Liu explains. “The Cisco network allows us to stream in 4K, and we’ll be able to stream in 8K when it’s broadly available.”

Simplifying, centralizing global IT operations

In addition to improving front-end gaming and viewing experiences, Riot has also streamlined its back-end esports technology operations. Gone are the 200-plus “Frankenservers” that had to be configured individually and managed locally. Today, the company’s global collection of esports game servers is orchestrated centrally using Cisco Intersight.

“Cisco Intersight is a game changer for us. In the past, each server was its own island. Now we treat them as a pool of resources and administer them collectively,” says Adametz, who frequently uses the Intersight app on his phone to monitor and manage infrastructure resources on the other side of the globe. “A single pane of glass to manage all of our esports game servers around the world is our dream state. It has an enormous impact on efficiency and time savings.”

Riot is using HashiCorp Terraform libraries within the Cisco Intersight dashboard to configure and automate server settings, images, drivers, security policies, and updates. And Cisco Intersight provides proactive alerts when state drifts or errors are detected, well before they have a chance to affect gameplay or viewership.

“The level of technical skill and quality of connectivity are different in each region, and Cisco Intersight helps us bridge those gaps,” Liu says. “We’re able to see and resolve issues from Los Angeles before the local esports team is even aware of a potential problem.”

Standardizing the technology infrastructure across Riot’s esports studios and satellite offices has also been a boon, increasing operational efficiency, facilitating the global expansion of the company’s object storage system, and improving gameplay performance for professional players around the world.

“Cisco technologies are easy to understand, operate, and scale,” says Liu. “We used to have a lot of trouble getting gear configured in Los Angeles and then deployed to our esports studios. Now it just takes a couple clicks to get a server sent to Brazil or Shanghai, and we use policies to automate the configuration and ensure consistency. It’s fast and doesn’t require onsite engineering.”

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Breaking production molds and event records

While the global pandemic precluded a customary multi-city tour for the 2020 *Legends World* Championship, Riot was determined to produce an unforgettable broadcast that belied the event's physical confines. The company wanted the ability to change the look and feel of the stage throughout the event, making it appear bigger than a singular venue and more immersive for the viewing audience.

To do so, Riot created one of the most elaborate and computationally-intensive stage events ever. Using Cisco infrastructure solutions and groundbreaking computing and compositing technology from ILM – which was developed for “The Mandalorian” television series – the company showcased the world's first mixed-reality stage with a massive canvas that renders in real-time at 32K.

According to Adametz and Liu, the event was a resounding success. The Finals were broadcast in 16 languages across 21 platforms, reaching 45.95 million peak concurrent users. The event also broke industry records with a 23.04 million Average Minute Audience (AMA) for the Finals and more than one billion hours watched total.

“We pushed 3.2 petabytes of mission-critical data to our studios without losing a single packet, and those feeds were amplified further with our regional broadcasts,” Adametz says. “We couldn't have produced that show without our new Cisco server and network environment, and this foundation will support world-class gaming and fan experiences for the next decade.”

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