

VRCDN Eliminated Latency for VR Events

Virtual reality event streaming innovator overcame latency and outages to scale immersive experiences worldwide



Provisioned servers
99% faster



Scaled globally
with ease



Eliminated stream
instability

How VRCDN delivers real-time VR experiences at scale

Founded in 2020, VRCDN set out to make immersive virtual events feel truly live, with no lag or disconnect. But delivering subsecond streaming across continents required more than clever engineering. Faced with latency spikes, unreliable infrastructure, and costly scaling limits, the lean team turned to Akamai to build a globally distributed, resilient platform capable of powering real-time virtual reality (VR) experiences anywhere.

Overcoming low-latency obstacles in real-time VR streaming

Elliot Redshaw, project lead for VRCDN, recognized a problem upon seeing performers in early VR platforms forced to stream through voice chat. Video streaming had arrived, but with 20- to 30-second delays that broke immersion.

“Something had to change,” Redshaw explained. “That delay created a huge disconnect.”

Unlike traditional platforms, VR demanded immediacy. Interactions had to feel live, not buffered. But most VR platforms weren’t built for that level of responsiveness.

“Those platforms hadn’t implemented modern technologies like RTC. Our vision was to deliver a low-latency streaming CDN designed for virtual reality,” Redshaw continued.

Why traditional infrastructure fails real-time video workloads

Delivering near-zero latency globally introduced a different set of challenges: inconsistent ISP performance, long-distance routing limitations, and fragile infrastructure. According to Redshaw, at peak times, viewers experienced stuttering or full disconnections, which from their perspective were the equivalent of outages.

“A lot of providers just didn’t have the networking capabilities,” Redshaw said. “We’d see ping spikes that caused instabilities in video playback and made streams unwatchable.”



Location

London, United Kingdom
vrcdn.live

Industry

Media

Solution

Cloud Computing

Products

Block Storage
CPU



A fire at a French data center hosting VRCDN's servers exposed a deeper issue: insufficient redundancy and resiliency. "That was a wake-up call," Redshaw recalled. "We needed more locations and high availability."

Building a low-latency architecture with Akamai

With Akamai, VRCDN shifted to a distributed model, placing compute resources close to users and running its custom-built streaming software globally. Lukáš Jech, lead programmer, described it simply: "Akamai gives us compute and strong connectivity in many locations. We deploy our software, and it works."

The Akamai solutions powering VRCDN's global service include:

- **Block Storage:** Reliable, scalable storage for high-throughput streaming workloads
- **CPU:** High-performance compute that VRCDN could rapidly provision for real-time scaling globally

With Akamai, provisioning times dropped dramatically. "What used to take 10–20 minutes now takes 10–20 seconds, a nearly 99% drop," Redshaw said. "That's critical when traffic spikes."



With Akamai's global footprint, we reached underserved regions in APAC and South America cost-effectively.

Lukáš Jech

Lead Programmer, VRCDN

Scaling instantly to meet global demand

With VRCDN hosting events on any day and at any time, traffic surges are common. New Year's Eve alone can double or triple usage as midnight rolls across time zones.

Before Akamai, those spikes were tenfold above average traffic volumes and caused failures. Some providers even flagged legitimate traffic as attacks. "With Akamai, we don't have that worry anymore," Redshaw said.

The platform now supports 10,000–15,000 concurrent users at baseline, and scales far beyond that automatically. "With Akamai, we scale on demand to handle spikes and user growth," Jech explained.

Reaching new audiences cost-effectively

Akamai's global footprint unlocked new regions, especially underserved ones like Asia-Pacific and South America. "We can reach more users efficiently now that we don't have to route everyone through one location anymore," Jech said.

For a crowdfunded platform, cost control was critical. Through the [Akamai Cloud Rise start-up program](#), VRCDN gained the flexibility to grow without overextending. "The Rise program gave us the freedom to scale without worrying about budget," he added.



Akamai's global connectivity and reliability eliminated our biggest headaches.

Elliot Redshaw

Project Lead, VRCDN

Moving from instability to seamless immersive experiences

Today, VRCDN powers major virtual festivals and communities worldwide, delivering the kind of real-time interaction it set out to achieve.

Success is measured quietly. “If everything works, nobody notices our service,” Jech said. “That’s the goal.”

For Redshaw, the transformation is clear: “Without Akamai, we struggled to deploy globally — potentially threatening our business. With Akamai, we’ve built something reliable, scalable, and truly real time.”



VRCDN is a low-latency streaming service that is specialized and built in-house for pushing media into virtual reality or other virtual experiences.