



## Enabling 2M + Concurrent Users at Twitch with Scale, Simplicity and High Availability

### Executive Summary

*Twitch's next generation social video and community platform is architected for incredible scale with over 100M+ users per month, and 2M+ concurrent viewers on the site. Redis extensively powers the chat application, handling several hundreds of thousands of users in a single chatroom with extremely low latencies. Redis Labs Enterprise Cluster delivers high performance, highly available Redis with exceptional operational simplicity that helps Twitch focus on presenting the best possible experience to their users.*

### Twitch Defines the Next Generation High Scale User Experience

Twitch, the world's leading social video platform and community for gamers, brings over 100 million community members together with up to 2+ million concurrent visitors watching and talking about video games from 1.7 million + broadcasters. The top notch engineering team that handles Twitch's web application has architected their website for extremely fast response times as well as high availability and reliability.

### Twitch Challenges

- Need extremely high throughput, low latency persistent data store for high volume website-wide chat application
- Need operational simplicity, high availability and high reliability

### RLEC Benefits

- Zero operational hassle, no maintenance worries
- True high availability – no outages, no latency issues
- Low overhead enables easy extension of Redis uses

Twitch uses several open source technologies to handle their data backend including Redis, Cassandra, Elasticsearch, DynamoDB and others. Redis is critical to their application as a first responder database, handling their website-wide chat functionality. Chat rooms often scale up to 400,000 + users in a single chat room, and low latency, highly available chat is key to their user's social experience.

Redis was chosen initially as a cache because of its blazing fast performance, operational simplicity and data structures that are optimized for rapid, high scale data processing with minimal hardware. In a complex infrastructure stack comprising a variety of technologies, Redis stands out for its ease of use. As their infrastructure becomes more complex, in a push towards greater simplicity of operations, Twitch is moving additional functionality such as token caching and view counting from Cassandra to Redis.

As the infrastructure grows and scales, the Twitch engineering team plans to extend its use of Redis even more. Redis's simplicity and versatility even makes it easy to transition use cases from other data stores. As an example, the team was initially using Cassandra as a key value store but found it to be too complex operationally, imposing too much overhead. With Redis Labs making much of Redis operations a breeze, they are transitioning additional use cases to Redis.



## High Availability and Seamless Scaling

As an engineering team focused on high scale and high volume, Twitch wanted to spend minimal time on operations but really required high availability and reliability for their Redis layer. Redis Labs eliminated the need for Twitch to build operational expertise around managing the nuances of running Redis in production. Redis Labs Enterprise Cluster runs as a managed service with VPC peering to Twitch's infrastructure which runs extensively in Amazon Web Services.

Redis Labs provides a zero operational hassle solution for Twitch, delivering the enterprise grade high availability and reliability they deem critical. Redis databases are spun up instantaneously with Redis Labs, inside their VPC. Redis Labs Enterprise Cluster eliminates the engineering work they would have had to do around client side sharding, clustering and scaling. Twitch gains truly highly available Redis with minimal overhead.

### Results with RLEC

Redis Labs' Redis delivers the stable high performance, high availability and ease of operation needed for Twitch's massively scalable infrastructure. The engineering team at Twitch has built tremendous confidence in their infrastructure's ability to handle scale, thanks to Redis Labs.