

Redis Labs Helps Stance Define the Modern Retail Experience



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- Andrew Spencer
Director of Technology

Executive Summary

Stance, a pioneer of the modern retail shopping experience, architected a modern, high performance, highly responsive website showcasing the originality and creativity of exciting and diverse sock designs. To meet the surging demand from ardent fans of its celebrity-endorsed apparel, Stance used the high performance Redis Cloud platform to scale automatically when needed and deliver thousands of responses at sub-millisecond latencies, even at peak loads.

Stance.com: Addressing Contemporary Shopping Needs with a Fresh and Original Approach to Technology

Stance's founders have animated a previously overlooked apparel category, igniting a movement of art and self-expression that has drawn athletes, performers and iconic cultural influencers to the brand – a group called the Punks & Poets. By underpinning its creative roots with a relentless focus on technical innovation, Stance is now found in over 40 countries on the feet of those who dare to be different. Stance celebrities are followed by millions of people around the world and the ardent fervor of fans for products endorsed by Stance's Punks & Poets requires fast and automatic scaling of the underlying infrastructure.

Andrew Spencer, Stance's Director of Technology, was charged with delivering a retail website that was engaging, refreshing and massively responsive. In addition, celebrity events and endorsements could result in huge bursts of traffic, during which the site had to retain every bit of its responsiveness. These performance directives needed to be achieved with a very small team and limited resources.

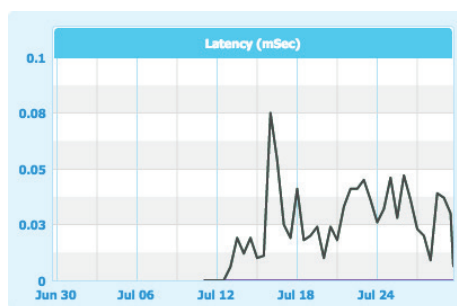
As an example, when Rihanna, one of Stance's creative directors tweeted about her limited edition product on Stance.com to her 60+ million followers, the site had to not only withstand huge bursts of traffic but also maintain an extremely fast checkout process for the limited edition products.

Redis Cloud Benefits

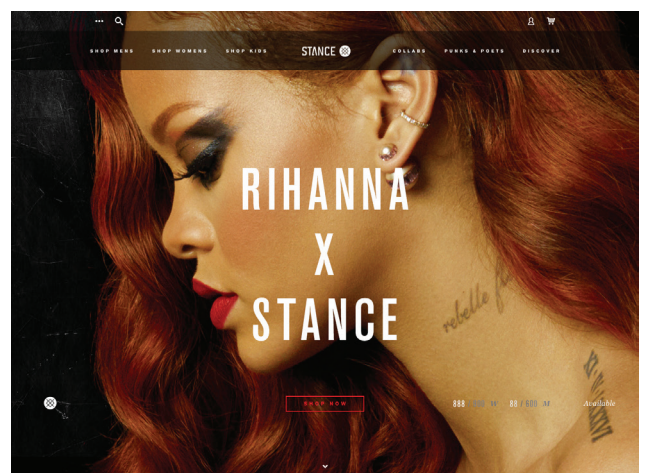
- Seamless, automatic scaling with consistent high performance and no downtime
- Cost-effective as it eliminates need for operational expertise and maintenance
- Works across multiple clouds



Traffic spike from Rihanna tweet



Redis latency during spike



Solving for High Scale and Low Complexity

The Stance.com team wanted a forward-looking architecture that could deliver the most innovative shopping experience. Right off the bat, Andrew knew Redis would have to be part of the solution. He already had experience using Redis to cache pages on Stance.com. He knew he would need to handle thousands of simultaneous connections. Only something that ran in-memory would do. "Redis is just that fast", says Andrew, "Our stock notifier system has to simultaneously inform thousands of clients about inventory availability with sub-millisecond latencies. Only Redis can do this."

The stock notification system uses Redis to fetch inventory information from the system of record and transmit it to requesting clients. The requesting clients can range from hundreds to thousands, Redis' latency stayed consistently below 0.07 ms even as it was handling over 1000 requests/second. "Redis barely broke a sweat", grins Andrew.

Stance also uses Redis to store snapshots of their 3000 SKUs in memory, making the shopping for their users zero-friction. With product filtering achieved in sub-second response times, users find anything they want nearly instantaneously.

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Andrew Spencer, Director of IT

Results with RedisCloud

The Stance.com team had previously built and managed its own Redis deployment, but wanted to reduce operational costs. The biggest factor in choosing Redis Cloud, Redis Labs' fully managed service was that it provided auto-scaling with zero downtime. Stance.com was also moving services from AWS to Google Cloud and Redis Cloud's position as the only provider that serves Redis from all public clouds was another huge advantage.

With a very lean team, Stance has pioneered a new retail experience through technological innovation such as single-page app development, using Magento as an API and the incorporation of Redis in its MEAN (MongoDB, ExpressJS, AngularJS, NodeJS) stack, now affectionately called MEANR by the development team. Stance.com is one of the first large e-commerce websites that is wholly a single page application, and Redis is a key to the performance and scalability of the platform. "Auto-scaling is great to have, and Redis Cloud handles all our scaling needs without any downtime", says Andrew. "Other options did not provide automatic scaling, and managing this is actually not trivial."

Building the operations expertise in-house to manage auto-scaling is expensive in terms of people and time, and not as cost-effective as Redis Labs. Setting up a Redis Cluster requires some expertise as does ongoing operations and maintenance – Redis Cloud relieves the Stance team from having to worry about the operations side of Redis entirely.

"We have architected things to be very efficient," Andrew states, "but Redis Cloud surprised us with how effortlessly efficient it can be."