Vetr Delivers Financial Advice in Real-time with Redis Cloud

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- Zoheb Sait, CTO

Redis Cloud Benefits

- **High Performance:** Persists and serves rapidly changing data with sub-millisecond latency
- **Seamlessly scalable:** Scales up or down with no downtime or operational hassle
- **Highly Available:** No downtime or data loss in years of using Redis Cloud
- **Cost-effective:** No need to maintain in-house Redis expertise or worry about infrastructure

Executive Summary

Crowdsourced investment research platform, Vetr, currently has over 30,000+ market-to-market investment ratings, covering over 1000+ US-listed equities daily for its ever expanding user base. The company architected a hybrid database strategy to meet the unique business requirements of real-time crowdsourced stock ratings. Redis Cloud from Redis Labs provides a robust, high performance and highly available data platform to persist the company's rapidly changing data and helps it deliver instant stock ratings to increasing numbers of users, by scaling seamlessly and without downtime.

Vetr: An Innovative Business Faces Interesting Architecture Challenges

Based out of New York City, Vetr is a modern research startup that has been taking the FinTech industry by storm since it was founded in 2013. Through simplified crowdsourced star-ratings for the stock market, Vetr delivers personalized insights and alerts about the people, stocks and funds its users follow.

Vetr was born out of the frustration experienced by its founders when researching their own personal investment ventures. Message boards and online forums no longer provided quality information, putting them at a loss. Following the lead of popular online review platforms like Yelp, ZocDoc and Angie's List, they decided to channel the new crowdsourcing frenzy into a new and valuable FinTech startup called Vetr.

Building the technology stack for this pioneering business was no small feat for Zoheb Sait, CTO of Vetr. Many years of software development and architecture experience helped him size up his architecture needs using a user and data centric approach. Sait designed a modern, flexible and scalable application that incorporated many types of data, all of which changed, but at different rates.

Building a modern day Yelp for financial stocks required not just a great user experience, but extreme focus on accuracy. Delivering the most accurate and recent counts of users who voted, their ratings and rating summaries was critical because users were building investment strategies based on this information. Vetr also needed to retain data such as stock ticker symbols, user identities, user posts and followers.

This translated into a set of needs around speed, scale and operational simplicity. Processing the rapidly changing data required rapid access and sub-millisecond speeds of updates. The business model was predicated on increasing numbers of users, followers, and constant updates reflecting real time activity. The technology platform underpinning this had to be easy to scale, easy to operate and have no downtime or data loss.

Redis Labs Delivers High Performance and High Availability At Scale

Vetr implemented a hybrid database strategy, choosing Redis as its persistent, in-memory database for rapidly changing data and supplementing it with PostgreSQL to store static, structured data. Redis was chosen because of its blazing fast performance and in-built data structures. Vetr needed functionality that could process a variety of data, maintain atomic counters, sets of followers and followed, ratings aggregates and more, with extremely low latencies. They had some data they wanted cached, but other data that needed to be distributed and persisted. Redis, simple yet sophisticated was an obvious choice because of the data structures it offers. Today, Vetr uses almost every data structure offered by Redis.

To save on operational costs, Zoheb chose going to the cloud. However, finding cloud services that could scale Redis infinitely and seamlessly as needed, without downtime was impossible – until he found Redis Lab's Redis Cloud.

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Redis Cloud had the advantage that upgrades or downgrades required no downtime or dataset movement. It also offered two different plans: one for caching and the other for persistence, which fit Vetr's data and pricing needs perfectly. Not only did the two plans offer competitively priced Redis, but also the additional advantages that Zoheb did not have to worry about managing and operating the infrastructure needed to run it. Redis Cloud scaled seamlessly, shielding Vetr from any operational hassles related to managing this very important persistent data layer, which is crucial to their service.

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>
> **Zoheb Sait, CTO**

Results with RedisCloud

Vetr has used Redis Cloud for three years with no instances of downtime or data loss. Their technology stack comprises Java 8, Node.js and Angular JS in addition to Redis and runs on a variety of cloud services and platforms like Heroku and CloudFlare, each of which has been impacted over the years, with the exception of Redis Cloud. Given the robustness of Redis Cloud, they are now evaluating moving additional data into Redis.

Using Redis Labs enables Vetr to avoid costs related to hiring systems administrators. With the operations completely invisible to them, they can focus on development and this is extremely cost-effective. "Even running a single medium tier EC2 instance with Redis would be more expensive than using Redis Cloud ", says Zoheb Sait. "My advice to emerging companies – spend the time thinking about the rapidly changing data in your system and at what performance you need to access it. Don't run your own Redis servers; Redis Cloud is pretty much a no-brainer".

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