MonitorBase Makes Every Contact Count in the Fast-Moving Mortgage Market with Real-Time Data from SingleStore

16X faster
From 60 to 1,000 requests/min

≅200X faster
Predictive algos from up to 48hrs to 15min

100/:01
Customers can now paginate 100 requests/second

> "Since switching to SingleStore, there have been no worries or headaches about downtime from the data source, APIs being down, or having to re-collect data. SingleStore solved all the pain points that kept me up at night."

Guy Warner
Chief Technology Officer, MonitorBase

Since day one, MonitorBase has found success making sense of extremely complicated circumstances. Founded in 2007, a time when the mortgage market was in turmoil, preceding the financial meltdown in 2008-09, the Salt Lake City-based fintech set out to provide a top-tier borrower retention system for mortgage lenders, credit unions, and banks. The forward-thinking founders at MonitorBase knew there would be an increasingly high demand for data management as AI, machine learning, and predictive analytics would inevitably grow to become commonplace in other parallel technologies. It prepared for this shift by building a product that would deliver the most accurate alert results in the industry while also providing supreme compliance protection and cost savings to their customers.

Navigating change with success sits at the core of MonitorBase's mission. Its solutions, which the company brands as The #1 Borrower Retention System For Mortgage Origination, combine to create experiences that prioritize uptime, security, and trust for professionals in the mortgage industry as well as bankers and credit union professionals. MonitorBase's predictive algorithm helps its 10,000+ users identify potential homebuyers and re-engage with post clients to assess and position them for new loans with Borrower Retention Alerts including Inquiry Alerts, Credit Migration Alerts, Pre-Mover Alerts, and Predictive Scenarios. It also helps its customers respond in real time to market corrections or rate changes from the federal government.

Challenges/Goals

Having the right information at the right time has always been MonitorBase's sustainable advantage, but as the US housing market changed drastically once again following the economic shifts in 2020, the team knew it was time to upgrade its tech stack. It needed to enhance its performance and provide customers with the information that would make them successful despite market volatility.

MonitorBase's challenges included slow recovery times: full restores took 8-12 hours, and table locks in MySQL created slow performance on joins. It took 24-48 hours to run monthly predictive algorithms, which resulted in slow performance and even downtime for customers. Keeping up with market corrections and rate changes in real time became increasingly challenging.

SingleStore

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Technology Requirements

MonitorBase's existing data architecture included AWS RDS (Aurora MySQL) and Redis.
For its new system, the team sought:

- Top-level security
- Ability to substantially increase speed
- Affordable cost for their small business
- Increased reliability/uptime
- Ability to build within the Laravel framework

Why SingleStore

Guy Warner, Chief Technology Officer, MonitorBase, wanted to implement a new solution within the Laravel framework. He came across a blog post by Jack Ellis, Co-Founder, Fathom Analytics, a SingleStoreDB customer who has detailed his experiences with this technology in a series of blog posts linked at the bottom of this Fathom Analytics customer impact story page. Warner discovered in that blog post the answer to his pain points including speed, security, cost, and uptime.

"Jack's pain points were exactly ours," said Warner. "I was looking at Snowflake and many others in this crowded field. Just knowing the work Jack did in Laravel, we decided to make the jump to SingleStore after speaking with him. He's a very straightforward guy. There's a whole community through Laravel that has built all the apps and all the database connections and there's article after article now. It's pretty easy for anyone in Laravel to just plug and play."

Warner's team tried other solutions before selecting SingleStore, including Algolia, Elasticsearch on AWS, MySQL, and Meilisearch. "We tested them, but then as soon as we realized the match we had found in SingleStore, there was no need to even look at any other solutions anymore beyond the trials," said Warner.

Solution

MonitorBase is now running on SingleStoreDB Cloud, integrating with Tableau to create a powerful dashboard for real-time data streaming. MonitorBase is innovating with SingleStore platform features including:

Code Engine with Wasm	Pipelines
Data API	Unlimited Storage (Bottomless)
dbt Connector	Vector Database

"The implementation team was great with any questions," said Warner. "Everyone was very helpful. There were a lot of teaching moments, and then we were able to expand and get the rest done ourselves."

"The utility and awesomeness of SingleStore Pipelines is phenomenal," said Warner. "We uploaded 100 million records, hit 'go,' and it was already there. That was the migration process."

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Outcomes

The collaboration between SingleStore and MonitorBase on this comprehensive solution continues to deliver advantages to MonitorBase and its customers. "One of the things I really like about SingleStore is the monthly touchpoints," said Rick Segeberg, Vice President of Infrastructure & Security Systems, MonitorBase. "We've never had any other client or a partner do that. It's been nice because we have candid conversations — and one of these conversations led to us speeding up our database 10X."

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Massive Performance Gains

In the past, table locks prevented MonitorBase from executing on more than 60 requests per minute. As soon as the team implemented SingleStoreDB Cloud and leveraged Columnstore, it was able to receive 1,000 requests per minute — which ended up creating a new "problem" the team never even dreamed was possible "Things started popping off after the move that I wouldn't have expected," said Warner. "Laravel has a queue system where we offload data, and then the API hits so users don't have to wait for the response from our systems. The 'problem' was that it was too fast! Our workers were grabbing the job from the database at the exact same millisecond and doubling the job. So then we had duplications, which we ended up fixing quickly. But that was not an issue I thought I was ever going to have."

MonitorBase has also gained up to 200X faster performance when running its predictive algorithms. "That was really big for us," said Warner. "We used to only be able to run predictive algorithms once a month, and it took us 24-48 hours. Now we can run it in 15 minutes," which also makes it a lighter lift for the team to run the algos more often as desired.

SingleStore is helping companies compete and win across every vertical. **Learn More >**

Refocusing Resources Away from Technical Debt and Toward Adding Strategic Value

SingleStoreDB was the affordable solution MonitorBase was looking for, and beyond capex considerations, post-implementation the team is also reaping opex benefits, since it no longer has to expend precious team hours on maintenance, infrastructure, and server updates. With a fully managed system, the team is able to dedicate far more time to adding strategic value to the business, ensuring that MonitorBase remains a leader in the mortgage industry.

Rapid Request Response Yield Optimized Customer Experiences

MonitorBase is helping its customers navigate the fast-paced mortgage industry faster and better since it partnered with SingleStore on its solution. "It was really rough for some of our customers to be able to load data into the old system," said Warner. "We're a special kind of app, and we don't want our customers to use the app, we want them to use our data in their own CRM; but in order to do that, we need to be able to handle thousands of requests. Now we can let them paginate 100 requests per second and get their data out of our system without being a bottleneck."

The ability of MonitorBase customers to load their dashboards and make searches in real time empowers them to make the best decisions for their business at the speed of the market.

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