elastic | WELLS FARGO

SUCCESS STORY

Wells Fargo accelerates digital innovation to put customers first with Elastic Observability

Region
United States

Industry
Financial Services

Solution
Elastic Observability

Tracking B2B and B2C financial transactions in near real time

- Wells Fargo monitors its applications and the backend services to effectively track business key performance indicators (KPIs), application availability, customer responsiveness, and mean time to recovery.

Accelerating financial services time to market

- With distributed tracing through Elastic Observability, Wells Fargo operations and development teams have improved insights and greater confidence when bringing new capabilities and applications to market as they continue the journey of cloud and microservices adoption.

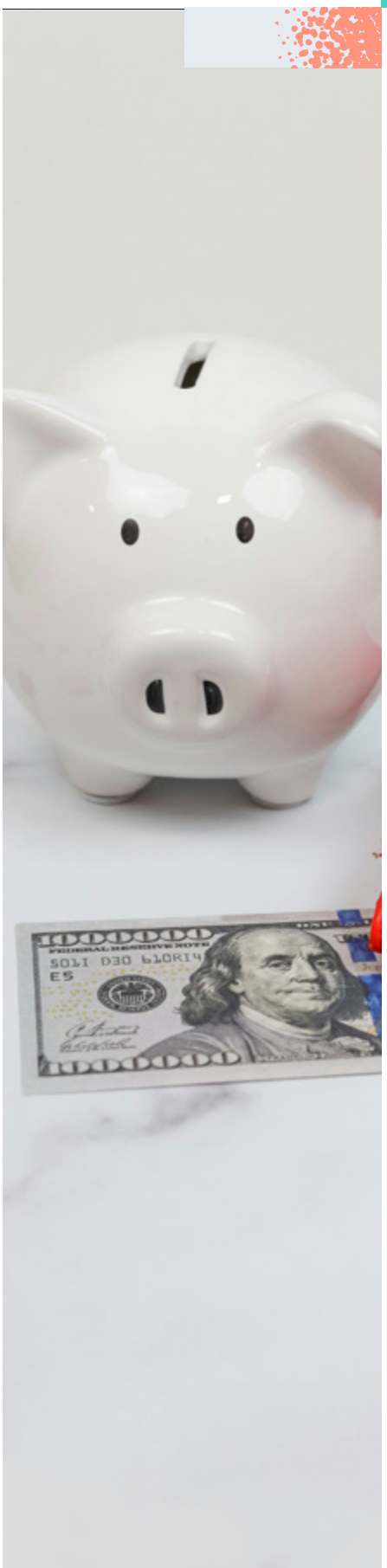
 |

Wells Fargo deploys Elastic Observability to monitor application health and performance across its complex technology infrastructure

One of the four largest banks in the U.S., Wells Fargo has approximately 4,900 branches, 12,000 ATMs, and 70M customers worldwide, including one in three U.S. households. Founded in 1852, its original mission was to help customers manage money and build businesses in a rapidly changing world, and its focus on service and innovation guides the bank to this day. In 1995 it was the first major bank to offer online services via its website and in 2017 the first to let customers use their phones to withdraw cash at ATMs.

The bank's Digital Technology & Innovation organization is responsible for the upkeep and evolution of all customer-facing applications. The team partners with other bank divisions including Consumer Technology, Lending, Mortgage, Investment Banking, and external third-party suppliers. "We're the central hub for customer-facing Wells Fargo applications," says Joe Korchmar, Distinguished Engineer, Wells Fargo. "We focus on building strong relationships with other teams that help put the customer first."

To achieve this goal, Korchmar and his team focus on the availability and performance of the bank's complex IT infrastructure and Technology portfolio while also ensuring risk compliance. This responsibility includes accelerating the adoption of microservices architecture with the ability to quickly scale within the datacenter or the cloud. Being able to quickly identify issues in a distributed microservices environment requires end-to-end visibility of all financial transactions along with the ability to report on risk in near real time.



elastic

Observing financial transactions through a single pane of glass for any money-moving application

As the bank's infrastructure evolves, so must the observability solutions that gather and monitor this information. Korchmar's team selected Elastic Observability for distributed tracing — the ability to follow a user request at every stage of its journey across complex and distributed services within an application and its dependent sub-systems.

During the selection process, Korchmar's team wanted a solution that conformed to open standards, would allow them to capture 100% of the traces, have an open and published schema, and provide the ability for Wells Fargo to own their data. Elastic's open and common schema, ECS (Elastic Common Schema), delivered Wells Fargo the unique ability to add extensions to the schema, such as customer number and payment information. Elastic also fully supported open standards such as W3C Trace Context. This open architecture, offered only by Elastic, let Wells Fargo focus on monitoring its business while letting Elastic innovate the best-of-breed APM and observability capabilities.

These capabilities of Elastic APM helped Korchmar and team analyze application flows in near real time while providing visibility to development and operations teams to quickly identify root cause, slow performing code, and resolve issues faster.

Elastic's flexible deployment model, data lifecycle management capabilities, and the ability to do federated search across clusters in the data center or cloud, delivers a solid long-term solution given the bank's plans to migrate to a multi-cloud environment over the next decade.

> We chose Elastic because of its open architecture and compliance with modern industry standards, including the W3C Trace Context. Elastic supports our goal to have observability in a single pane of glass, including metrics, events, logs, the ability to capture 100% of application traces, and extensions to the Elastic Common Schema, which minimizes the log fields ingested by 60%. We have direct log correlation to any log analysis tool used at the bank.

Joe Korchmar
Distinguished Engineer, Wells Fargo

elastic

Elastic Professional Services played a key role in pre-production and production implementation

The bank chose to partner with the Elastic Consulting team as the solution was deployed. “We value our ongoing relationship with Elastic Consulting and have an Elastic Architect embedded in our team who helped us adapt the solution to the needs of our business partners and internal stakeholders”, says Korchmar. “This was a complex project but working alongside Elastic Consulting made understanding the different aspects of Elastic easy, and this really helped to accelerate the deployment into successful production.”

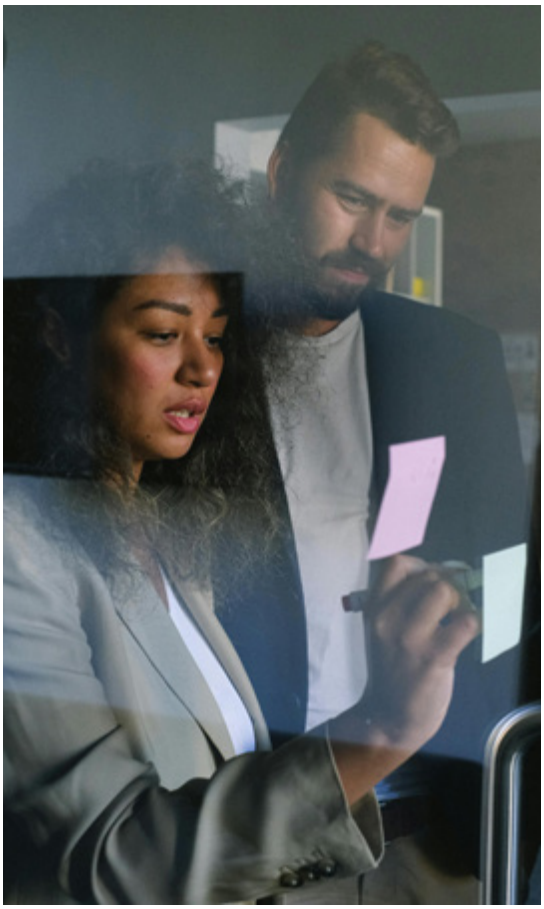
Building confidence, understanding risk

The ability to trace transactions in near real time enables Korchmar and his team to help accelerate digital solution delivery for customers and employees. “This is no easy task for a bank with many suppliers and a complex IT ecosystem, but Elastic makes it possible. Elastic gives us the confidence to build and deploy innovative solutions faster,” says Korchmar.

One of the first use cases involves the bank’s login and payments systems. With Elastic, Wells Fargo can analyze end-to-end application flows from the end user to the back end on a mainframe.

> As we extend the implementation of Elastic, we are getting closer to complete observability across the enterprise, which brings benefits to all our lines of business. This will allow us to continue to improve application availability, customer response, and mean time to recovery.

Joe Korchmar
Distinguished Engineer, Wells Fargo



Business impact analysis in near real time

In many cases it took time to determine which line of business or frontend application was affected and measure the extent of the incident. “With Elastic, we will be able to monitor and address events across all our systems in near real time and focus our attention on the areas that have the greatest impact on the bank’s operating costs and revenues,” he says.

Elastic’s open and flexible technology will also make business and application behavior monitoring easier and more cost effective across a range of vendors. As Wells Fargo expands its distributed tracing footprint, Elastic can provide additional value and better customer service. “In the future, by fully endorsing distributed tracing telemetry, we can quickly correlate infrastructure or network events with the actual customers impacted. If there is a cyber threat to our systems, we would have immediate insight into the transactions and customers impacted by the event,” he says.

Meanwhile, the bank continues to roll out exciting new applications including LifeSync® in the Wells Fargo Mobile® app, a personalized digital approach to aligning customers’ goals with their money, and Wells Fargo Vantage℠, a platform for commercial banking clients that delivers more personalized experiences. “With the Elastic distributed tracing platform, we are ideally equipped to help Wells Fargo monitor and meet its digital transformation goals and offer customers services that optimize their finances and business performance,” says Korchmar.