yugabyteDB

Fortune 500 Company Accelerates Microservices and Mainframe Migration Initiatives

YugabyteDB helps major financial services company modernize mission-critical applications

Financial Services

Company
Fortune 500 Financial Services Company

Location
New York, USA

Main Use Cases

Database Modernization

Cloud Native Microservices

Geo-Distributed Apps

Edge / IoT

Executive Summary

A large, global financial services company is pursuing digital transformation initiatives across the board, with application modernization one of its biggest priorities. The organization wants to untether itself from the mainframe and its existing monolithic environment. Its goal is to migrate to a modern microservices-oriented, cloud native architecture to better serve its customers and drive exponential growth in volume.

A second priority is to consolidate its numerous database technologies to simplify the environment and lower costs. The company selected YugabyteDB as a key strategic data platform because it combines essential RDBMS features for instant productivity and high availability with a modern architecture that runs on any infrastructure and distributes data anywhere in the world.

About

As a Fortune 500 company, this financial services leader is headquartered in the New York City area and operates as a multinational company with services available around the world. Its core offerings include extensive banking services, and it operates as a major stockbroker with its own electronic trading platform. Providing reliable and rapid access to data is critical to its business. While existing mainframe solutions have served the business well, it's focused on major digital transformation initiatives aimed to help reduce operational costs and deliver enhanced agility as it expands services with new applications and capabilities.

Key Results:

10x
performance gains, latency decreased from 80ms to 10ms

100%
availability delivers an always-on business

Challenges

At the start of its digital transformation journey, the company pinpointed several major challenges for improvement, including:

- **Slow Innovation**
  Operational complexities limited responsiveness and ability to keep up with developer needs.

- **Performance Bottlenecks**
  Legacy software and systems were pushed to their limits and couldn't match modern app demands.

- **Expensive Replication**
  High availability required complex replication technology while failing to deliver consistent data across data centers.

- **Limited Cloud Support**
  Legacy DB2 on mainframes offered little to no path to leverage public cloud.

This financial services leader needed to innovate at a quicker pace, while still providing global customers with the always-available financial products and services. The company began this process by identifying a critical online customer data and accounts application experiencing performance bottlenecks.

Additionally, provisioning and maintaining the existing DB2 data infrastructure on the mainframe was operationally complex and slowing down the innovation of new features. Making DB2 highly available on the mainframe involved very expensive replication technology and wasn't able to provide strongly consistent data across data centers.

Finally, the company wanted to leverage the public cloud in the future, something they could not do with DB2 on the mainframe. This financial institution needed to take a fresh look at its underlying data tier. As a result, it turned to distributed SQL database vendors for help.

Solution

Due to the challenges and limitations of its existing data layer, the organization researched a number of different databases. It needed a solution that could deliver essential RDBMS features, including strong data consistency with ACID compliance. It also wanted a distributed architecture with powerful resilience and security features for mission-critical workloads.

The company recognizes that its developers and service owners are some of its greatest strengths. By evolving to a modern data stack, these core stakeholders are free to focus more on innovation and supporting real customer needs. The company chose YugabyteDB as their distributed SQL database to help accelerate its transformation and align to the progress made on its application modernization efforts.

YugabyteDB was first deployed to power its customer accounts service. Now, plans are underway to move even more microservices away from slow, legacy databases and onto YugabyteDB.

One of its chief technology leaders explained, "We don't need all of these databases, we just need to have a few cloud native databases that do the things we need them to do." YugabyteDB was a perfect choice thanks to its versatility, which includes support for both SQL and NoSQL; its horizontal scalability; and the flexible deployment configurations that can run on any cloud.

Key YugabyteDB features that addressed the company's major challenges included:

- **Operational Simplicity**
  Effortlessly enable strong data consistency and geo-distribution without the cost and complexities of legacy databases.

- **Multi-Cloud**
  Unlock innovations by effortlessly spanning the data layer across any public, private or hybrid cloud.

- **High Availability**
  Ensure resilient, always-on services with native replication that can survive any single failure

Results & Benefits

While running key financial applications on mainframes is still normal practice, forward-looking organizations like this company recognize the negative impact that choice has on its team's productivity, operating costs and ability to address future application requirements. By shifting to a distributed data layer powered by YugabyteDB, the company addressed a long list of key challenges. For starters, it saw immediate performance benefits, with the latency times on its first application decreasing by 10x, dropping from 80ms to below 10ms.

By combining a distributed data layer with its microservices and application modernization initiatives, this multinational financial institute delivered greater agility and responsiveness to its teams while ensuring critical services enjoyed high availability.

The company has now set its sights on a long list of additional application migrations. It's keen to enjoy the immediate performance and availability benefits YugabyteDB offers while having the long-term ability to more easily upgrade or replace applications in the future.

> " There are no other existing database platforms that are active/active, can provide low latency, and lower costs than we saw with YugabyteDB.
>
> **Chief Technology Leader**

About Yugabyte

Yugabyte is the company behind YugabyteDB, the open source, high-performance distributed SQL database for building global, cloud-native applications. YugabyteDB serves business-critical applications with SQL query flexibility, high performance and cloud-native agility, thus allowing enterprises to focus on business growth instead of complex data infrastructure management. It is trusted by companies in cybersecurity, financial markets, IoT, retail, e-commerce, and other verticals. Founded in 2016 by former Facebook and Oracle engineers, Yugabyte is backed by Lightspeed Venture Partners, 8VC, Dell Technologies Capital, Sapphire Ventures, and others. **www.yugabyte.com**

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