


# Global Financial Services Company Modernizes Core Payment Apps


**YugabyteDB** delivers performance and resiliency while lowering costs




**Company**  
Multinational Financial Services Company

**Location**  
USA


### Main Use Cases




Database Modernization



Cloud Native Microservices



Geo-Distributed Apps



Edge / IoT

## Summary

A major multinational financial services company has invested heavily into their application modernization journey; however, they continued to hit performance bottlenecks and scalability changes as a result of their expensive, legacy database solutions based on Oracle, SQL Server and Cassandra. To continue fueling their growth as a multi-billion organization, the team turned their attention to modernizing their data layer with a new distributed SQL database, YugabyteDB, that delivers on high availability, cost-efficiency, security, scalability and multi-cloud flexibility. Based on real-world tests versus the leading competitor, Azure Cosmos DB, YugabyteDB delivered up to 98% lower latency, enabling the services company to greatly enhance their customers' experiences.

## About

As a global financial services leader, this multinational company is a member of the S&P 500 Index and delivers innovative, industry-leading solutions in areas that span from payments to account processing to digital banking to e-commerce. The multi-billion dollar company is a key member of the banking industry and is enjoying growing demand for their services. To continue expanding their data-centric offerings, they need a modern data layer that delivers high availability, resilience, flexibility and performance.



## 50x Faster

YugabyteDB delivered up to 50x lower response times versus Azure Cosmos DB.



## 50% Less HW

Better results delivered on half the hardware versus Azure Cosmos DB.

## Challenges

As the large financial services company continues to grow their existing services as well as launch new offerings, they have a strategic initiative focused on modernizing both their applications and development methodologies while embracing a multi-cloud strategy to minimize concentration risk with a single-vendor. Their legacy database environment, which included running Oracle, SQL Server and DB2 as well as mainframe systems, hindered developer productivity and agility. The company wanted to reduce dependency on these traditional and costly data platforms, and decouple data retrieval operations of key online transactional workloads to a cloud enabled microservices architecture (and away from legacy mainframes).

As part of the companies challenges to modernize their applications, they grouped their apps into one of three categories: applications they wanted to rewrite, applications they wanted to modernize a bit, and applications they just wanted to lift and shift. The team focused on finding a modern database platform that could support easy migration of existing applications as well as a cloud-native architecture to support their new and updated apps. A high priority application to modernize was one of their payments applications, which was already migrated from Cassandra to Postgres, but the team realized a new solution was needed again to meet their scaling and performance requirements.



## Solution

After an extensive evaluation of multiple options that included numerous proof of concept tests in their labs, the financial company chose YugabyteDB as their recommended database for some of their key transactional applications. The firm also evaluated CockroachDB and Azure Cosmos DB.

The primary reason YugabyteDB was selected was because of its ability to deliver high levels of performance at scale and for a significantly lower price than the other solutions. In their proof of concept evaluation, the team focused their final testing on YugabyteDB and Azure Cosmos DB. Both solutions were run in an Azure environment where they tested 1B and then 2B records with a focus on reads (90% reads and 10% writes). The Azure Cosmos DB solution required significantly more nodes (increasing the hardware costs) and delivered response times in the 100ms to 500ms range for the various tests. The YugabyteDB environment was smaller and consistently delivered <10ms latencies.

Along with demonstrated high performance and reduced hardware and license costs, YugabyteDB also delivered across other key areas of importance to the firm:



### High Availability and Resilience

Provides zero downtime during upgrades and failovers while also providing automatic rebalancing to maintain performance in the event of issues.



### Automation at Scale

Automatically shards the tables of the database, places the data across nodes, and replicates all writes synchronously to ensure strong consistency of all I/O and distributed transactions.



### Security

Includes key security features built into the product including encryption, RBAC, flexible authentication, audit logging and more.



### Multi-Cloud

Eliminates concentration risk of being locked into a single cloud with support for hybrid, multi and private clouds

“ The global 2000, large enterprise companies are going through the process of database modernization. They spent the last 10 years on a digital transformation journey, and they've been focused on application modernization, microservices and cloud. Now they realize they have database infrastructure that doesn't look like the rest of their infrastructure stack.

**Bill Cook**, Yugabyte, CEO

## Results & Benefits

With YugabyteDB, the financial services firm has been able to evolve to a modern data layer that aligns with their investments in both application modernization and multi-cloud infrastructure. The new solution allowed them to maintain high-levels of performance and security, while improving their ROI to accelerate developer productivity. The combination of these benefits has helped them innovate faster, improve their customer experience, and greatly reduce their overall costs.

As time goes on, the firm has a large portfolio of other applications that they believe can greatly benefit from the move to YugabyteDB. Examples include critical legacy applications currently deployed on Oracle and Cassandra, as well as applications already rewritten as microservices using Spring Boot and Kafka that are facing challenges with their legacy SQL Server database. In addition, the team is looking to embrace a multi-cloud strategy so deployments on Amazon Web Services (AWS) are strategically important as well.

## 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](http://www.yugabyte.com)



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