

SOLUTIONS BRIEF

# YugabyteDB: The **Distributed SQL** Database for Financial Services





## Introduction

Every financial services organization is at a different stage of their digital transformation journey—from those hungry to move past mainframe systems and Oracle or DB2 databases to those accelerating their investment in microservices and cloud native applications. Common among them all is the need for systems of record that deliver resilience and scale without compromising performance.

While financial services is a broad term that encompasses retail banking, payments, insurance, commercial banking, investment services and more sub-segments—and often organizations have offerings across many of these areas—data is at the heart of the most important use cases. The right data architecture accelerates innovation across critical use cases, like mobile banking, digital payments, customer 360 initiatives, identity and access management, payment process, trade repositories, risk assessment and more.

YugabyteDB has become a critical platform for some of the world's most demanding financial services companies like Wells Fargo, Hudson River Trading, Fiserv and Temenos. These industry leaders chose YugabyteDB because it delivers an open source, cloud native, distributed database that uniquely combines enterprise-grade relational database capabilities with the horizontal scalability and resilience of cloud native architectures.

YugabyteDB is already helping top financial services enjoy a number of key benefits:

-  **Improve Digital Experiences:** Accelerate developer productivity and focus on new, innovative customer services
-  **Navigate Regulations & Compliance:** Create a unified data fabric across regions and control data access and location
-  **Develop New Revenue Streams:** Boost growth with new, personalized data-centric services while reducing operating costs
-  **Evolve Legacy Systems:** Power cloud native applications while effortlessly modernizing existing apps at your own pace

### Top Financial Services Challenges



**Improve customer experience**



**Compete with digital-first vendors**



**Migrate to public cloud**



**Modernize legacy systems**



**Reduce operational burdens**



**Increase revenue streams**

## Accelerate Modernization with Essential Database Features

YugabyteDB was built from the ground up for transactional applications that demand resilience, scalability, and consistently high performance. Avoid concentration risk by deploying YugabyteDB across any hybrid or public cloud, VMs, or containers with no lock-in.



### Built on PostgreSQL

YugabyteDB offers the most complete set of PostgreSQL compatible features available in a distributed SQL database. Being built directly on PostgreSQL allows developers to be immediately productive using familiar features, applications, drivers, and tools. They can also easily migrate commercial relational databases to YugabyteDB cost-effectively and with low risk.



### High Availability

Downtime is not an option for financial services organizations as unplanned and planned downtime can cost them millions in lost revenue and brand equity. With YugabyteDB, data remains available during node, zone, region, and data center failures and maintenance tasks. Automate rebalancing and self-healing features distribute data automatically for continuous availability.



### Horizontal Scalability

Rapid, horizontal scalability allows you to simplify database operations and instantly meet the needs of your customers and internal business partners. The built-in horizontal scaling means no designing and maintaining shards, read replicas or other app-level scaling features. The YugabyteDB database is proven to handle hundreds of thousands of transactions per second with hundreds of terabytes in production.



### Geo-Distribution

YugabyteDB offers the most flexible deployment options in geo-distributed environments - synchronous and asynchronous data replication as well as geo-partitioning to achieve desired resilience, performance, and compliance objectives. In financial services, geo-distributed applications and data enable organizations to deliver faster response times for real time interactions from locations nearest to your customer.



### Transactional Consistency

YugabyteDB supports full ACID compliance, even for geo-distributed transactions that are often a key requirement in financial services. Having transactional consistency in the data layer eliminates the burden of managing consistency in applications and having to develop and maintain complex code.



## Operational Efficiency

As we say about YugabyteDB Managed, “You bring the apps. We handle the database.” The rationale is that the user focuses on building business value and Yugabyte focuses on delivering data-layer services to simplify the entire process. For organizations that want to more closely control and manage their data, YugabyteDB Anywhere enables enterprises to easily deploy YugabyteDB in their own data center or in their cloud of choice. A built-in orchestration engine greatly simplifies day 2 operations.



## Security

YugabyteDB is built from the ground up with data security in mind. The database enables organizations to maintain a robust security posture with built-in controls such as LDAP authentication, role-based access control (RBAC), data encryption at rest and in transit (TLS), audit logging, and column-level permissions. YugabyteDB Anywhere simplifies security operations with automatic security key rotation, rolling software updates, and other capabilities.

## Financial Service Leaders Trust YugabyteDB



**TEMENOS**  
The Banking Software Company



## Case Studies in Financial Services:

### Fiserv

Fiserv has doubled-down on new innovations and invested to accelerate their application modernization journey; however, they continued to hit performance bottlenecks and scalability changes as a result of their expensive, legacy database solutions that used Oracle, SQL Server and Cassandra. To continue fueling their growth as a multi-billion organization, Fiserv turned their attention to modernizing their data layer with a new distributed SQL database, YugabyteDB.

Fiserv chose YugabyteDB because it met all their key requirements: high availability, cost-efficiency, security, scalability and multi-cloud flexibility. Based on real-world tests versus a leading public cloud database, YugabyteDB delivered up to 98% lower latency, enabling Fiserv to greatly enhance their customers' experiences.



## Xignite

Xignite is on a mission of “making market data easy.” It does this by offering a cloud-based Market Data Management Solution that aggregates and manages market data in the cloud, and distributes this data from the cloud. With a growing dataset and customer base, their legacy SQL Server environment became expensive and scaling it out proved to be very challenging. To overcome these challenges, the Xignite team implemented data sharding and distribution in the application layer; however the manual sharding led to unbalanced distribution and the application now had to be aware of which database the shard is located on to reduce latency—addition to the brittleness and complexity of their environment.

Xignite chose YugabyteDB as the solution for their time series data engine use case for several reasons: automatic sharding with a hash, application can use the same endpoint to access any shard (simplifying application coding), zero downtime upgrades, and high performance at scale. With YugabyteDB, Xignite achieved about 50% cost savings compared to their SQL Server implementation and they gained the flexibility to explore new cases and scale faster.

## Fortune 500 Financial Services Company

A large, global financial services company is pursuing digital transformation initiatives across the board, with one of its biggest priorities being application modernization. The bank wants to untether itself from the mainframe and its existing monolithic environment and migrate to a modern microservices-oriented, cloud native architecture. A second priority is to consolidate the numerous database technologies to simplify their environment and lower costs.

The company turned to YugabyteDB to deliver high availability, support for essential RDBMS features, deliver async replication, offer strong data consistency (ACID compliance), and package it all with a strong suite of security features. The company chose YugabyteDB as the distributed SQL database to power their customer accounts service, with plans to move even more microservices on top of YugabyteDB in the future.



## Next Steps To Get Started

If you have an existing YugabyteDB deployment or are considering one, find out more about the Yugabyte Center of Excellence Accelerator service by reaching out to the Yugabyte team at [www.yugabyte.com/contact](http://www.yugabyte.com/contact).

You can find more information at [www.yugabyte.com](http://www.yugabyte.com).

