

Powering digital banking success with real-time data

SOLUTION BRIEF

Overview

Digital banking is growing rapidly as going digital provides tremendous convenience with 24/7 services and an opportunity to reach more of the world's population and demographics (i.e. the previously unbanked).

This growth is being fueled by open banking regulations, the ease of opening an account online, and simple market demand to go digital and avoid branch banking. As a result, there now is no shortage of options to choose from as these digital banks (a.k.a. challenger banks or neobanks) have quickly become widely accepted.

Unlike online banking, which only digitizes the core aspects of banking, digital banking looks to digitize every program and activity undertaken by legacy financial institutions.

This agility is enabled by their non-legacy infrastructures. They are built to offer modern, mobile-only banking services with fully digitized and personalized experience - often powered with artificial intelligence.

Challenges

- **Differentiated services:** Digital banks need to differentiate themselves by offering customers compelling alternative banking services from incumbent banks as well as other challenger banks. Some examples include higher yields, lower mortgage rates and compelling/addictive UI.
- **Leveraging data for personalization:** Being digital offers the ability to collect data at every step of every interaction, often across silos in real-time. To personalize offers, digital banks should be applying machine learning and artificial intelligence to as much data as possible so that they can offer the right service at the right time, automatically.
- **Fraud prevention:** Being digital attracts fraud - everywhere - so keeping fraud in check across their platform is key as they look to build trust, onboard new customers rapidly, authenticate them frequently as they access digital services, and execute payments and transfers.
- **Keep costs of service down:** One aspect keeping people away from traditional banking are fees, so keeping the cost of service down is paramount to offering no-fee banking and lower interest rates.
- **Omni-channel presence:** Being fully digital means maintaining an omni-channel presence across platforms as users connect via mobile, web, and even phone.

Key Benefits of Aerospike for Digital Banking

MINIMIZE FRAUD

Improved detection with more data faster.

PROTECT DIGITAL IDENTITIES

False positive reduction and identity theft prevention.

PROVIDE GREATER PERSONALIZATION

Deliver an immersive, personalized digital experience to optimize customer value.

DELIVER INSTANT PAYMENTS

Secure, fast, funds settlement at a fraction of a cent.

ENJOY STRONG CONSISTENCY

Data is kept up-to-date across different systems and data centers at millisecond speeds.

Aerospike at the core of digital banking

The Aerospike Real-time Data Platform supplies and analyzes more data, faster to digital banking applications including payments, customer 360, fraud prevention, and recommendation engines enabling more differentiation, control, flexibility, ease of use, and reduced friction.

Aerospike enables digital banks to act instantly across billions of transactions while keeping server footprints small, across clouds, with predictable sub-millisecond performance from terabytes up to petabytes of data with five-nines uptime with globally distributed, strongly consistent data.

AEROSPIKE ADDRESSES THE FOLLOWING KEY AREAS TO SUCCESS

Deliver an immersive, personalized digital experience to optimize customer value

Build a connected 360-degree profile of customers based on AI/ML datasets to deliver immersive, personalized experiences to tens of millions of users globally.

In today's highly competitive market, both legacy and digital banks must differentiate their brand the moment consumers come to their site or risk losing their business. With Aerospike's modern data architecture powered by AI and machine learning, digital banks can build a connected 360-degree profile of each customer and deliver immersive, personalized experiences to tens of millions of users globally

Aerospike helps you:

- **Create hyper-targeted digital content:** Create next-best offers, tailored pricing and rates, upsell and cross-sell opportunities, smarter chatbots, better credit scoring, and investment portfolios optimized for performance.
- **Speed processes:** Accelerate customer onboarding and transaction and response times to drive faster and deeper online services adoption, and grow customer lifetime value.
- **Predict customer churn:** Avoid losing a customer before it happens and take immediate, automated action.
- **Connect data in real-time:** Whether across disparate silos, third-party sources, or transactional data at the edge, you can aggregate customer data in real time to build an instant, accurate profile of each consumer.
- **Power your omnichannel business:** Because Aerospike has strongly consistent, highly available data across silos and data centers, consumers can have the same interconnected digital experience spanning web, mobile, call center, and even in-branch activity.

"From the very inception, we needed very resilient persistence to prevent data loss and realize 99.999 percent reliability...Aerospike made some bespoke enhancements into the core product to allow that to happen."

[Harmeen Mehta, former global CIO and head of digital at Airtel/Airtel Payments Bank](#)

Fast, secure, targeted banking experience

Ensure secure online user authentication, friction-free transactions, and targeted recommendations with real-time data and AI-powered analytics.

The financial services industry is in the midst of a dramatic shift to digital banking. Companies now face a highly discerning customer base that expects a secure and convenient digital experience with every interaction without friction. Aerospike's advanced data architecture enables digital banking companies to capitalize on real-time data and AI-powered analytics to ensure secure online user authentication, friction-free transactions, and targeted recommendations.

Aerospike helps you:

- **Surface fraud patterns quickly:** Matching past behavior against fraud patterns and risk scoring for AI-driven anomaly detection to power online feature stores and challenger/champion model testing.
- **Create hyper-personalized digital offers:** Based on a 360-degree customer profile, such as next-best offers, credit scoring, interest rates, loyalty programs, and tailored pricing
- **Ensure data privacy and regulatory compliance:** Aerospike not only has a secure data architecture, but it enables fine-grained control of data movement and locality across geos and datacenters.
- **Deliver reliable instant transactions:** Transfer money instantly and securely with our strongly consistent, high-performance architecture for a secure, hassle-free digital experience.

“The main problem we were looking to solve with Aerospike (was) to have a consistent key value store that could be used across the organization, one that could scale and grow with us on our journey as we are on a hockey stick growth ourselves.”

[Koushik Ramachandra, software architect at PhonePe](#)

Perform faster and deeper AI/ML-powered data analysis

AI/ML inference engines at the edge power fraud prevention, customer 360, risk mitigation, and compliance with more data from a wider array of datasets.

AI and machine learning are critical enablers of the digital banking systems that ensure fraud prevention, customer 360, risk management, and compliance. As digital banks expand their infrastructure to accommodate more users and more datasets, Aerospike is architected to seamlessly scale with you, from terabyte-to-petabyte range and beyond. Perform faster and deeper AI and machine learning data ingestion at consistently low latency. Aerospike optimizes the frequency of model training, preparation, tuning, enrichment, and validation to build a high-performance pipeline to feed data-hungry AI and ML applications.

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“PayPal is innovating deep analytics with Aerospike and Intel Persistent Memory to rapidly respond to emerging fraud patterns.”

[Mikhail Kourjanski, PayPal's principal architect](#)

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Aerospike helps you:

- **Create low latency inference pipeline at the edge:** Connect the Aerospike real-time data platform with pre-built integrations for Spark, Kafka, and PrestoSQL/Trino.
- **Cut Spark job execution time by 80%:** Aerospike processes Spark jobs with massive parallelism to reduce training time, increase the frequency of retraining, and maximize ROI.
- **Conduct in-place data exploration:** Eliminate compliance challenges by removing the need to copy data into multiple systems.
- **Build an ML library:** Support 1,000's of adaptive machine learning models simultaneously
- **Lower risk:** De-risk your challenger/champion testing with proven 30-day playback
- **Slash infrastructure:** Leverage hyper-scale speed and performance with up to 80% reduced server or instance infrastructure for your AI/ML-powered solutions powered by the Aerospike Hybrid Memory Architecture™.

“At PhonePe, we use Aerospike to power a humongous amount of platform components with incredible sophistication to power a variety of use cases, such as dynamic code push, growth, recommendation engines, chatbots, and security analyzers.”

[Koushik Ramachandra, software architect at PhonePe](#)

AEROSPIKE

The Aerospike Real-time Data Platform enables organizations to act instantly across billions of transactions while reducing server footprint by up to 80 percent. The Aerospike multi-cloud platform powers real-time applications with predictable sub-millisecond performance up to petabyte scale with five-nines uptime and globally distributed, strongly consistent data. Applications built on the Aerospike Real-time Data Platform fight fraud, provide recommendations that dramatically increase shopping cart size, enable global digital payments, and deliver hyper-personalized user experiences to tens of millions of customers. Customers such as Airtel, Experian, Nielsen, PayPal, Snap, Wayfair and Yahoo rely on Aerospike as their data foundation for the future. Headquartered in Mountain View, California, the company also has offices in London, Bangalore and Tel Aviv.

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