

# Propel payments into the next phase faster and more securely

## SOLUTION BRIEF

The global online payments market size is expected to reach \$6.6 trillion in 2021, a 40 percent uptick in two years, with projections of reaching more than \$17 billion in 2027. This surge is also being felt in the instant payments arena, which although a much smaller market share, is expected to grow at a compound annual growth rate of about 43 percent until 2025.

At the heart of all this growth is a highly discerning customer base that expects a secure, fast and reliable digital experience with every interaction. Data surrounding each payment transaction is also rapidly expanding, as are new regulations and requirements (ISO 20022, GDPR, and PSD2, etc.), with vendors looking to monetize this wealth of information with surrounding recommendations and offers.

### Key Benefits

#### 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

#### Comprehensive digital payment platform

Digital wallet, online payment systems and more

## Aerospike at the core of modern payments ecosystems

The Aerospike real-time data platform enables payments organizations to act in real time across billions of database transactions while reducing server footprint. Aerospike ingests and acts on streaming data where transactions occur. Plus, Aerospike simultaneously can augment this edge data in real-time with data from systems of record, third party sources, or data lakes for operational, transactional, and analytical workloads.

As a result, Aerospike's real-time data platform enables payments companies to:

- Ensure secure online user authentication
- Deliver friction-free payment processing and settlement
- Battle fraud
- Control data movement and locality at a granular level
- Profitably leverage their troves of data for additional insights and offers in real-time

# Fraud prevention

## Improved detection with more data, faster

It's critical that payment companies today are able to immediately verify online identities and stop fraud transactions – such as identity theft or stolen credit cards – in their tracks. At the same time, they must be able to prevent false positives and reduce any customer inconvenience. Such fraud prevention strategies require machine learning at the edge. Aerospike can not only analyze millions of events, but billion of data points and petabytes of historical information in milliseconds. Millions of dollars can be saved every day when fraud is reduced, while also giving companies a chance to provide more personalized customer services, strengthen customer trust and boost brand loyalty.

At [PayPal](#), for example, using Aerospike has given the world's largest online payment system the ability to process and analyze data to identify emerging fraud patterns in under 200 milliseconds even at volumes over 150TB's and meet fraud calculations service level agreements over 99 percent of the time all while providing a 30x reduction in false positives. (allowing Paypal to reimagine how they address fraud)

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

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

When [Barclays](#), the multinational bank, decided that its fraud detection solution across various business units was becoming too difficult to maintain and evolve, it turned to Aerospike. Its fraud detection system allowed Barclays' dataset to go from 3TB to 30TB+ over the course of just three years. It also allowed them to share fraud rules across platforms, and facilitate machine learning consistently to achieve a maximum of two digit (<100) millisecond response time for 99.99 percent of transactions.

## Aerospike helps you

- Leverage hyperscale speed and performance with up to 80% lower TCO for your fraud prevention solutions
- Reduce false positive and anti-money laundering (AML) exposure by up to 30x with tighter adherence to fraud calculation SLA time windows
- Improve fraud detection machine learning algorithms by enabling 10x the number of attributes to be analyzed without increasing customer friction
- Move quickly down the technical runway along your AI journey, replacing rule-based processes with powerful neural net and deep learning analysis

## Protect Digital Identities

### False positive reduction and identity theft protection

ThreatMetrix, a LexisNexis Risk Solutions company, provides authentication and fraud prevention services for online transactions. Their customers are financial services and e-commerce companies that need to make decisions about transactions in milliseconds to prevent fraud. ThreatMetrix handles over 130 million transactions across 40,000 websites and delivers hundreds of attributes to their financial service customers in less than 100 milliseconds.

ThreatMetrix has been able to secure digital identities at scale using Aerospike, growing from 450 terabytes to 1.3 petabytes and saving \$3.3 million over three years. More importantly, ThreatMetrix can now return data on thousands of user attributes instead of hundreds - all in the same time SLA window.

***“Aerospike on a technology basis allows us to do more complex risk calculations in less time. A more thorough risk calculation allows better accuracy for our customers, to avoid friction in their transactions and ultimately avoid losing money in fraud.”***

*[Nick Blievers, Senior Director Engineering, ThreatMetrix](#)*

***“We are simply in a latency game and they (Aerospike) are the best in the latency game.”***

*Matthias Baumhof, CTO at LexisNexis*

## Customer 360 and Hyper-Personalization

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

A [Chase study](#) finds that a majority of consumers require personalized experiences in any digital interaction, and that includes payments. More people are embracing peer-to-peer payments systems (P2P) like Venmo and PayPal, not only because it allows them to send money to a relative or friend, but because it makes it easier to track expenditures.

At the same time, customer personalization is often key for debit or credit cards, with companies offering users loyalty points on everything from travel to groceries. Such payment methods also offer some consumer protection in the form of reverse payments and error resolutions, which are currently not available with instant payments, although there is some exploration in that area.

Bharti Airtel Limited, also known as Airtel, is the world’s fourth largest mobile network operator and

is also a successful bank. [Airtel](#) launched a Customer 360 initiative that provides a holistic set of historical data and real-time triggers from their current siloed data from different business units. Aerospike played a critical role in helping Airtel meet these goals, providing the ability to take data from 350 million customers across all customer data channels and bring that into one database. This was done at a rate of more than 40,000 transactions per second with sub-millisecond performance, which significantly improved their reads and writes.

***“From the very inception, we need a 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](#)*

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## Modern, bank-to-bank instant-payment system

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

A major European bank uses the Aerospike Real-time Data Platform to deliver a fast, reliable and cost efficient way for customers to make payments from any euro-area bank while maintaining privacy and security. The goal was to bring euro-area banks up to par with instant payment services from the likes of PayPal, Google, Facebook, Amazon and Alibaba. It also laid the groundwork for offering other services like person-to-person mobile payments.

With the Aerospike Real-time Data Platform this major European bank is capable of handling 43 million transactions per day with uninterrupted availability and costing 0.20 euro cents (€0.0020) per payment.

***“Aerospike was able to provide the 24/7 availability that is required with a high availability built-in; ensure 10,000 writes per second with the lowest possible latency; offer top-notch customer support; and provide cross-center data replication possibilities.”***

*[Technical Officer of IT Innovation and Development at a Major European Bank](#)*

## Comprehensive digital payment platform

### Digital wallet, online payment systems and more

PhonePe, the leading Indian digital payment platform with 300 million users accepted by 20 million merchants in India, relies on Aerospike to power its services which include online and mobile point-of-sale (mPOS) payments, in-app bill payments and sending money, on-the-go solutions (taxi, metro, bus, toll), and cashless payments at your doorstep (newspaper, home services).

***“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](#)*

***“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](#)*

***“The choices, where Aerospike outshone its competitors, was the ease of maintenance, literally it takes zero maintenance to keep Aerospike going, and in terms of growth adding or removing nodes (it) is relatively very straightforward.”***

*[Burzin Engineer, Founder and Chief Reliability Officer, PhonePe](#)*

***“[Aerospike] has been a valued partner that has grown with us. If I don’t have to wake up at night to fix a scaling issue on Aerospike, which I consistently seemed to have to do, at this growth you cannot have pain. Aerospike hasn’t given me pain, so I don’t think about it.”***

*[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 from terabytes to petabytes of data with five nines uptime with 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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