



# The Ongoing Disruption of Banking

The Shift to Shared, Real-Time Data



Perhaps no other industry has been upended by data as profoundly as financial services. Once, a lag in processing data was status quo. Most data was batch processed overnight to inform the next day's business decisions. Customers had little real-time insight into their accounts. Each month, they could review their statements or set up a time to come into a branch office and meet with an agent who acted as a gatekeeper of protected personal information. Financial services was considered a traditional organization; this is just how it was done. And since the market was dominated by a handful of long-standing organizations, there wasn't much incentive to evolve.

Now, of course, we have much higher collective expectations. Scores of financial services startups have disrupted our old notions, bringing increased competition with their highly specific tools and technology know-how. Today, customers expect instant, virtual insight into all of their accounts, from banking to investing to payment platforms. They've grown accustomed to increasingly accurate recommendations and personalized experiences, and they leverage technology to interact with their financial services institutions more often—almost always online, rarely at a branch.

To compete, modern financial services companies must be equipped to react faster and respond to real-time insights for planning, forecasting, and risk management. And as the future of financial services looms, that means finding better ways to use data.



# The inevitable upward trajectory of financial services

Every single customer interaction is an *event* that generates a digital footprint, creating a deluge of data from all directions. Building applications that can tap into that data and scale well is the challenge financial services companies contend with. And it's a moving target. By its very nature, data doesn't stand still, and as technology evolves, capturing the value of data in real time means building with agility and flexibility.

With a centralized data architecture that enables event streaming, it's possible for financial services companies

to create real-time applications that respond intelligently and automatically to data events as they happen. This capability can create new revenue opportunities by identifying the real-time triggers that serve as customer buying signs. It can also reduce risk as businesses are enabled to react in real time to market conditions as well as potential compliance or fraud risk. And—perhaps most valuable—it can serve as the foundation for far superior customer experiences, including new levels of automation.

In this ebook, we explore the “then and now” of three main areas of concern for financial services companies: reimagined customer engagement, increased operational efficiency with AI-powered automation, and real-time analytics for fraud detection. A glimpse at the future of event streaming will help you gauge where your own organization lies on the path to digital modernization.

*81% of banking CEOs are worried about the speed of technological change—more than in any other sector.*

— PWC



## Events

Every financial transaction creates data. Developers call it an event. This includes user transactions conducted on a website or app, financial trades, and data produced by IoT devices.



## Events streaming

Also known as event stream processing (ESP), real-time data streaming, and complex event processing (CEP), event streaming is the continuous processing of real-time data directly as it is produced or received—as opposed to the old paradigm of batch processing.



## Event-driven architecture

When an event streaming platform is at the core of an organization's architecture, it becomes possible to centralize all data and distribute it to every application or system within the organization.

# Re-Imagine Customer Engagement

*Although much of the discussion about personalization in banking focuses on marketing and next-best offers, its true potential lies in transforming all of an organization's customer interactions by using data and analytics to anticipate individual needs, target segments of one, and build deep relationships that stand the test of time.*

– Boston Consulting Group

We live in a world where instant gratification is taken for granted, and that includes the feedback we demand from any application we use. In the realm of financial transactions, customers expect an alert to automatically occur when a payment is made, a credit card purchase confirmed, a deposit cleared, a shared buy order filled, or a dividend payment reinvested. When something is awry—low account balance, or unusual activity on an account—customers expect to be notified immediately. Automated customer interactions with financial organizations have gotten much more frequent, and customers now simply expect personalization in their interactions with their financial institutions. As customer expectations and habits shift toward a digital-first relationship with their financial institutions, there's also an expectation that they'll be able to get not only unfettered access to their data, but a complete view of their accounts across multiple channels.

## How it was then

Financial institutions didn't used to contend with such a high frequency of electronic transactions. There were a limited number of devices that interacted with users, and a typical transaction might be one charge at a supermarket versus today's rampant e-commerce model with its elevated purchase pattern. Even day trading was the domain of the few.

## How it is now

Today's customers are constantly connected through multiple devices—phones, watches, smart home devices—each opening a door for companies to engage in real time with notifications and alerts. Financial services organizations are stretched to keep up with the speed of customer activity, and at the same time, customers seek more and more control of their finances. They want to be able to access information, education, and data protection in real time. They're also taking advantage of services such as robo-advising. Tapping into social media activity and partner data, businesses have an opportunity to leverage notifications to upsell and cross-sell to customers. This means notifications must not only be triggered instantly across a multitude of devices and apps, but be contextualized before delivery.

## The future, with event streaming

As data keeps growing and the number of applications keeps expanding, it will be possible to continuously enhance the level of personalization of notifications and the entire customer experience. Platforms will be able to handle billions of events a day, without performance degradation. Organizations will be able to integrate data from multiple user touch points and empower multiple services so they can simultaneously leverage those events to generate contextualized alerts that unify real-time and historic events. The future of financial services holds a vast array of opportunity in terms of connecting with customers, but only if companies make the switch to a scalable, event-driven data platform.



# Increase Efficiency with AI-Powered Automation

*For global banking, McKinsey estimates that AI technologies could potentially deliver up to \$1 trillion of additional value each year.*

– McKinsey

Artificial intelligence (AI) is infiltrating financial services in the form of advanced analytics, predictive models, robo advisors, and automation—in many cases, transforming the speed and accuracy of tedious manual tasks. Technology leaders and startups bringing their tech might to financial services force traditional companies to have to try even harder. Companies are pressured to drive operational efficiency through data, with the ability to process more applications, claims, and marketing offers automatically. Human-machine interaction is poised to disrupt financial services in the very near term. In some cases, it already has.

## How it was then

The financial services industry arose out of a paper-based paradigm, with everything offline and a limited number of digital experiences available for a very long time. Even once digital systems began to be incorporated into banking and finance, most things were still manual and involved multiple parties. As a result, data fragmentation across siloed business units was the unquestioned norm. There was no way for any team or leader to get a true 360° view of customers, because there was no centralized data backbone. Incumbent institutions provided the majority of financial services, and since the barriers to entry were high, competition was quite low.

## How it is now

When every company can be a financial institution and focus on making the best service within its category, incumbent institutions must provide new value propositions. Today, financial institutions interact more and more with third-party data and tap into automation via external technologies. Functions such as credit scoring and fraud detection are largely automated and much more accessible than ever before.

Financial institutions are also learning to automate processes and decisions around things like loan application and underwriting, as well as simple tasks like opening a new account. Things that used to take days or weeks suddenly take hours or even minutes, with far less likelihood of errors in the process. Always-on customer service, empowered by digital assistants using natural language processing (NLP) to create natural, organic interactions, keep hold times close to zero and reduce the pressure on customer service organizations.

## The future, with event streaming

AI-powered digital processes drive back-office efficiencies that reduce cost while at the same time providing value to customers with better experiences that make it easier to adopt more products and services. But all of these new possibilities and technologies are a burden on financial institutions that weren't architected for such complex data efforts. In the future, they'll compete by migrating to a centralized data platform that enables a 360° view of customers and exceptional value delivered in real time. AI-driven services will have access to multiple sources of customer data—internal, third party, and public—to leverage natural language processing experiences. The digital experience will get more and more natural, with more opportunities to grow, retain, and engage customers while reducing costs.



# 3

## Tap Into Real-Time Analytics for Fraud Detection and Risk Assessment

*Effective real-time payment fraud prevention requires solutions able to detect many possible types of fraud across all channels and payment origination mechanisms.*

– FinTech Magazine

For financial services companies, fighting fraud and assessing risk are constant priorities. In 2019, consumers in the US alone reported **more than 3.2 million instances of fraud to the FTC**. Fraud comes in many forms, it's extremely costly, and it's a shapeshifter. One of the most insidious aspects of fraud is that bad actors get smarter all the time, which is why fraud detection scrambles to keep pace with the growing sophistication of fraud incidents. As quickly as we clamp down on one type of fraud, another crops up. It's been nearly impossible to stay ahead of bad actors. Risk assessment, too, is costly and challenging to do well. Real-time analysis is essential to keep pace with the evolving market.

### How it was then

Financial institutions have always had to worry about fraudulent account creation, money laundering, unauthorized intrusion into digital accounts, transactions made with stolen credit cards, and ATM and chargeback fraud types. Still, we used to be able to use simple data models to address fraud. There was a lower volume of transactions in general, fewer international transactions conducted digitally, and data access restricted to internal systems only—thus the need to go into a branch to get any information. Financial institutions inherently dealt with less data sources and less frequent data, as well as limited asset types. But it was also challenging to analyze and execute changes to portfolios in real time.

### How it is now

All over the globe, more people than ever conduct their financial business electronically, and often on mobile devices. There's a consumer expectation that business should be possible at any time and accounts should be easy to access from any device. As a result, the context we operate in today involves more systems accessing more data. There are often partners and third-party aggregators involved in transactions, and there has been an explosion of asset types and regulations, requiring financial institutions to have to do intraday adjustments based on real-time market information. Fraud models have gotten more and more complex to attempt to balance security with convenience. Yet, analysts report that the cost of fraud increases every year. In 2019, every dollar lost to fraud **cost financial services companies \$3.25 in liability**, with banks and credit lenders experiencing the worst repercussions.

### The future, with event streaming

For financial services companies, it's essential to be able to offer customers increasing convenience and capability without diminishing trust and security. With a single scalable, reliable data platform at the center of all your transactions, you'll be able to reduce risk and give internal teams the real-time platform they need to build models and applications that both prevent fraud and address the growth and speed of data.





# Confluent as the launching pad of the future of financial services

*Disruption in banking is a topic du jour. Not surprising perhaps, if one considers the prevailing belief among Silicon Valley start-ups and the banking industry cognoscenti alike—that 'fintech' firms are about to disrupt banking for the better.*

– Deloitte

With certain technology barriers torn down, it's become easier for a much wider range of companies to tap into fintech capability. The rise of infrastructure as a service (IaaS) enables even lean startups to build the infrastructure to shake up markets. Suddenly, incumbents have to provide new value propositions and distinctive customer experiences. They have to think "intelligent" and "omnichannel," building scalable, secure platforms that don't buckle under real-time requirements.

In this ebook, we presented three use cases common to financial institutions, but there are many more with enormous potential to create both enhanced customer experiences and cost-reduction opportunities. Before financial services organizations can take an active part in the "futrizing" of the industry, they have to make the shift to a real-time, scalable data platform. The event-

centric enterprise is a core strategy for digital superiority, and financial institutions can use it to tap into real-time intelligence and create seamless, superior customer experiences.

Based on Apache Kafka®, Confluent's event-driven architecture will integrate your existing systems and help you leverage your data as the central hub of all your legacy and modern services. It's a complete event streaming platform and a place for absolute integration, where you can effectively launch AI models and secure automation efforts—while still meeting stringent compliance requirements.

For more on why leading financial services organizations trust Confluent as an event streaming platform, [download an overview](#).



## ABOUT CONFLUENT

Confluent, founded by the original creators of Apache Kafka®, pioneered the enterprise-ready event streaming platform. With Confluent, organizations benefit from the first event streaming platform built for the enterprise with the ease of use, scalability, security, and flexibility required by the most discerning global companies to run their business in real time. Companies leading their respective industries have realized success with this new platform paradigm to transform their architectures to streaming from batch processing, spanning on-premises and multi-cloud environments. Confluent is headquartered in Mountain View and London, with offices globally.

To learn more, please visit [www.confluent.io](http://www.confluent.io)

Download Confluent Platform and Confluent Cloud at: [www.confluent.io/download](http://www.confluent.io/download)