



Build a Foundation for Tomorrow's Financial Services

With Google Cloud and Confluent event streaming, your financial services business can innovate faster, manage risk, and accelerate growth.

Digital transformation in the financial services industry is accelerating. A growing number of consumers and businesses are banking and investing online. At the same time, financial institutions are facing new competition from financial technology and even e-commerce service providers. Meanwhile, fraud of all kinds continues to become more prevalent and more advanced.

In this rapidly changing environment, financial services firms must find innovative ways to grow revenues, fight fraud, and deliver a great customer experience over digital channels. At the same time, they must meet continually evolving compliance standards around data residency, identity and access control, and risk management.

But none of this is easy—especially when data is scattered across multiple legacy platforms, which may even include mainframes. This is why a growing number of financial services firms are taking advantage of Google Cloud together with event streaming made possible by Apache Kafka® and Confluent. Together, these technologies can securely combine disparate data in real time to help you:

- Get a 360-degree view of every customer in real time
- Instantly and accurately detect fraud
- Rapidly generate a wide variety of analytic and compliance reports
- Build innovative new services

This e-book explains how financial institutions can use Google Cloud with Confluent event streaming to build a digital foundation for transforming the customer experience, increasing efficiency, and accelerating growth.



Why financial services firms are moving to the cloud

The vast majority of financial institutions believe that adopting cloud technology is critical to their future. A survey of banks conducted by Accenture found that just 3% of respondents didn't have a cloud strategy and had not started to think about it.¹ According to the Culture of Innovation Index, published by ACI Worldwide and Ovum, 92% of corporate banks are either already making significant use of the cloud, or planning to make further investments.²

A convergence of several trends, which we'll explore below, is informing financial services leaders' embrace of cloud technology.

Mobile finance

Nearly three-quarters of U.S. consumers (73%) most often access their bank accounts via online and mobile platforms.³ Today's consumers and merchants expect online banking and investment reporting on their mobile devices. However, developing and maintaining mobile apps for multiple mobile operating systems can be costly and time-consuming.

Financial institutions are beginning to look at Progressive Web Apps, web applications designed to run in the cloud and deliver an app-like experience on any browser, to deliver a great customer experience with less overhead.

New, novel competitors

Today's technology companies and digital payment providers are starting to look a lot like financial institutions. Examples include Amazon Payments, Apple Pay, Google Pay, Klarna, PayPal, and Square. To keep up with these competitors, financial institutions must offer innovative digital products. And that requires the ability to securely access and synthesize customer data in real time.

More multi-bank and fintech partnerships

To reach new markets and improve the customer experience, financial institutions are rapidly building new partnerships with each other and with financial technology (fintech) providers. Among banks and credit unions planning to partner with fintechs, 86% cited "improve the customer experience" as a top priority.⁴

If fintechs want to connect to banks that are not in the cloud, both parties have to go through a lengthy and complex process. In the cloud, banks can offer application program interfaces (APIs) that are much easier for fintechs to connect to.

Artificial intelligence-powered opportunities

In a PwC survey, 77% of bankers termed artificial intelligence (AI) to be the most innovative and disruptive technology in banking.⁵ AI can identify patterns and help financial institutions make better, faster decisions. It can efficiently detect and predict fraud. It can also predict customer behavior and power a wide variety of customer-facing services, such as chatbots, voice-responsive service tools, and intelligent wealth management.

But AI is only as good as the data you can feed it. For best results, AI must have access to both historical and real-time data.

¹ Accenture: https://www.accenture.com/_acnmedia/pdf-85/accenture-technology-advisory-cloud-readiness-banking.pdf

² ACI: <https://aciworldwide.outgrow.us/Innovation-Index>

³ ABA: <https://www.aba.com/about-us/press-room/press-releases/survey-bank-customers-preference-for-digital-channels-continues-to-grow>

⁴ Forbes: <https://www.forbes.com/sites/ronshevlin/2020/10/12/5-bank-and-fintech-partnership-ideas-to-generate-revenue/#1bfb21956e4c>

⁵ PwC: <https://www.pwc.com/gx/en/industries/financial-services/publications/financial-services-technology-2020-and-beyond-embracing-disruption.html>

Event streaming defined—and why financial institutions need it

A brief overview of event streaming



Events

Every financial transaction creates data, such as the amount of the transaction, the counterparties, etc. Developers call it an event. This includes all kinds of user transactions, such as ATM withdrawals, payments made through mobile banking apps, credit card swipes, equity trades, and much more.



Event 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.

An event is a collection of information at a given point in time. For example, it could be a loan, an invoice, or a trade. Event streaming is a new paradigm where data is seen as a continuous stream of events. These streams can be contextualized with historical data points to generate new events in real time such as a customer recommendation that can lead to increased engagement, revenue, or overall higher customer experience.

For financial institutions, event streaming means more agile sophisticated analysis, decision-making, and customer interactions, even as market conditions change. Apache Kafka is an open source distributed streaming platform that is today's de facto standard for event streaming. Founded by the original creators of Apache Kafka, Confluent offers enterprise-scale solutions that make Apache Kafka easier and more cost-effective to secure, operate, and integrate seamlessly with Google Cloud.

Business benefits of financial services event streaming

Nine of the 10 largest U.S. banks use event streaming from Confluent with Apache Kafka. Here are just some of the ways they use it to grow and protect their business:⁶

Financial Services Event Stream Processing Top Benefits



Source: Ventana Research IoT and Operational Intelligence
Benchmark Research
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⁶ Ventana Research

How Google Cloud with Confluent event streaming can position financial institutions for the future

Google Cloud has embraced automation to make the cloud easy to use and help financial institutions accelerate their digital transformations. This emphasis on automation extends to their partnership with Confluent. When financial services combine the power of Google Cloud with event streaming from Confluent, they can more rapidly achieve business goals like transforming the customer experience and introducing innovative new products and services while improving compliance and security.

Rich customer experiences

Surveys suggest that nearly 80% of consumers view their relationships with financial institutions as purely transactional.⁷ In this environment, providing a responsive and easy-to-use customer experience is a great way for all kinds of financial institutions to stand out and build mindshare. Google Cloud and Confluent event streaming support the rapid creation of unique and innovative experiences by allowing financial institutions to capture and synthesize a wide variety of customer data in real time.

Transform and differentiate your customer experience

With event streaming, you can get a 360-degree view of your retail and institutional customers in real time. You can look at a wide spectrum of customer behavioral data, including data from mobile apps, ATMs, your call center, your website, and even your physical branches. And you can combine behavioral data with banking data like payments, wealth management, retail events, wholesale events, and trade and market data.

When you have all this data easily available, the possibilities are nearly endless. Examples include:

- “Robo-advisors” that advise clients based on their assets, financial goals, and risk tolerance and even execute transactions based on evolving market conditions
- Virtual customer service reps that use natural language processing (NLP) to respond to customers’ emotional cues
- Predictive loan scoring for applicants who don’t yet have a lengthy credit history

Offer innovative new products and services

Growing competition between traditional financial institutions and hybrid financial technology firms is accelerating innovation in financial services. Banks and other institutions have made it easier to set up new client relationships online and dramatically expanded the use of mobile payment apps and other contactless payment methods.⁸

As emerging technologies continue to evolve, financial institutions will continue to innovate, providing new services that give customers new options and generate new revenue streams. Many are researching new types of transactions and value-added services, such as bill negotiation, that they can offer in exchange for a fee.

Event streaming supports powerful analytics that can help you forecast how quickly customers will adopt new financial products and services and model their revenue potential. This dramatically increases the likelihood that the new solutions you bring to market will enrich your customer experience and your bottom line.

⁷ Accenture: https://www.accenture.com/t20160609T222453__w__/us-en/_acnmedia/PDF-22/Accenture-2016-North-America-Consumer-Digital-Banking-Survey.pdf

⁸ World Economic Forum: <https://www.weforum.org/agenda/2020/08/how-digital-innovations-helped-banks-adapt-during-covid-19/>

Operational improvement

Operating costs for financial services firms have been rising faster than their revenues for years.⁹ This is due to a variety of factors, including regulations such as Basel III and Dodd-Frank, which require banks to hold larger amounts of capital and dedicate more resources to compliance, as well as aging mainframe-based IT systems and the effort-intensive processes that rely on them.

With Google Cloud and Confluent event streaming, financial institutions can modernize the old technologies underpinning their operations and make it easier for applications to access data stored in multiple warehouses. They can also simultaneously process new events and store them securely in data centers. All of this can lead to greater operational efficiencies with no added risk of losing critical data.

Reduce operating costs with automation

Delays and errors associated with moving data from one part of your financial institution to another can be costly. For example, some transactions must wait for manual approvals, and customer statements may rely on time-consuming batch processes. And, when customer statements are late or transactions are held up in “processing,” your customer service reps may be bombarded with inquiries. Even worse, those service reps probably won’t be able to tell customers what is actually going on.

By instantly delivering data to everyone who needs it, cloud-based event streaming can accelerate most routing processes—even those that involve multiple departmental siloes. This will dramatically reduce customer service inquiries and related costs while increasing customer retention.

Gain efficiencies with AI

But automation is just the beginning for improving efficiency across your financial services organization. AI powered by event streaming can make financial decisions in real time with little to no human intervention. For example, AI can review and approve large volumes of transactions and execute trading strategies on behalf of a bank or its clients. Also, AI can answer basic customer questions on the fly, so your human service reps can focus on more complex issues.



⁹ BCG; <https://www.bcg.com/en-us/publications/2018/four-ways-banks-can-radically-reduce-costs>

Risk and compliance management

Risk and compliance management are non-negotiable for financial institutions. In addition to meeting increasingly complex reporting requirements and hedging against future market swings, financial services firms must also guard against increasingly sophisticated fraud. Google Cloud with Confluent event streaming allows organizations to synthesize data in real time to accelerate compliance reporting, risk mitigation, and fraud detection.

Improve compliance

Complying with regional and national financial regulations can be extremely time-consuming for financial institutions of all sizes. Automation enabled by event streaming can help financial services spend less time generating compliance reports and improve their accuracy. Also, AI combined with event streaming can allow financial institutions to check transactions, contracts, and other regulated activities for adherence to key rules—and flag potential non-compliant activities before they are executed.

Prevent fraud-related losses

As a growing number of customers bank online, preventing and detecting fraud have become even more challenging. Some banks have responded with aggressive approaches that are likely to flag non-fraudulent transactions as problematic—which can adversely impact the customer experience.

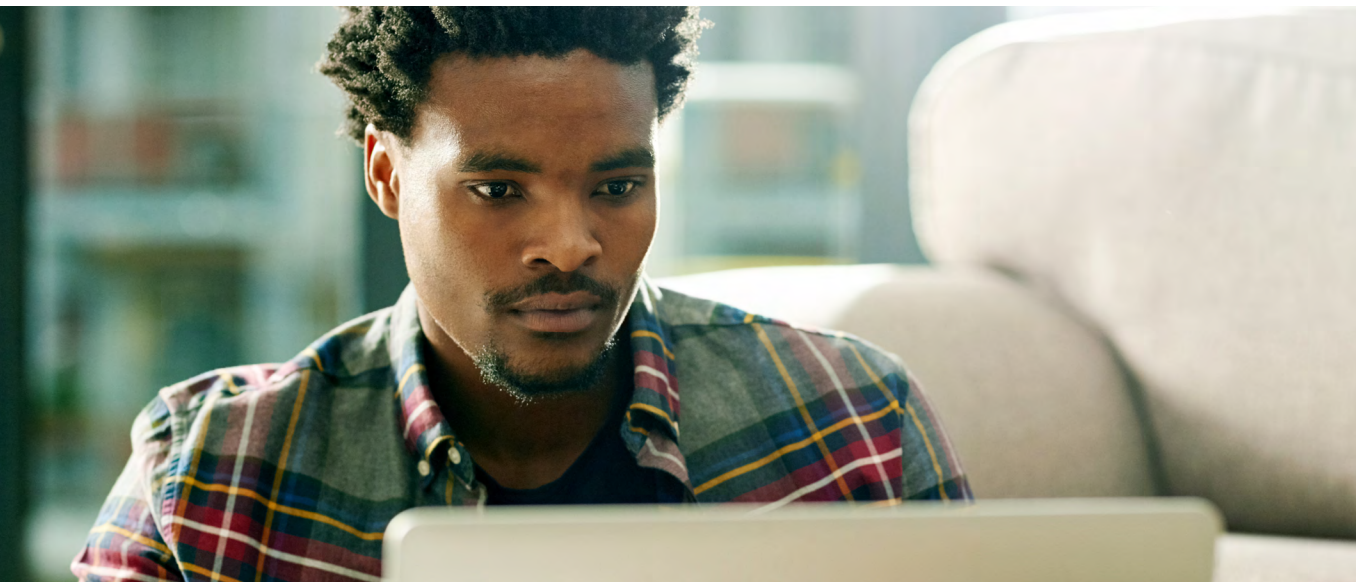
Event streaming lets you analyze possible fraud attempts in real time and use AI to continually make your initial fraud assessments more accurate. Some common use cases for event streaming in fraud detection include anti-money laundering (AML), payments fraud detection, internal theft detection, and identity theft protection.

Manage and mitigate risk

Risk management is a critical challenge for financial institutions of all sizes. It's essential for all aspects of your business, from deciding which businesses and individuals can pay back loans to managing your in-house trading books.

Event streaming can ensure that all of your risk management reporting and analysis are informed by real-time customer and market data. Increasingly common applications made possible by event streaming include:

- AI-powered underwriting solutions that identify the lowest-risk customers and flag customers likely to miss payments
- Market risk solutions that allow firms to see value at risk in real time across asset classes and global operations
- NLP solutions that evaluate social media content in order to uncover possible shifts in market sentiment



Take the next step

Five of the world's top 10 financial institutions use Google Cloud. Google Cloud and Confluent together provide a strong foundation that allows financial services firms to accelerate their digital transformations, adopt AI, and rapidly roll out innovative new solutions. With Google Cloud and Confluent, you can help your financial institution get ready for any and all possible futures.

Learn more about Confluent Cloud on Google Cloud Platform:

www.confluent.io/partner/google-cloud-platform

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

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