

KeyBank Fuels National Digital Bank Initiative with Data in Motion and Confluent



Headquarters

Cleveland, Ohio, United States

Industry

Financial Services

Challenge

Power a national digital bank initiative and enterprise-wide digital transformation by reducing the time and effort needed to integrate systems

Solution

Create a center of excellence to help teams harness data in motion with Confluent to make data available to systems throughout the bank

Results

- Time-to-market estimates halved.
- Mainframe and message queue cost estimates cut.
- De-risked adoption of a new technology paradigm.

Following the acquisition of Laurel Road, a digital consumer lending business, KeyBank launched an initiative to build a national digital bank focused on doctors, dentists, and other healthcare professionals looking to refinance student loans and buy homes. The initiative is viewed as a growth engine for KeyBank, which is already among the nation's largest bank-based financial services companies, with assets of approximately \$170.5 billion.

Confluent's platform for data in motion is helping to fuel the national digital bank initiative and the wider digital transformation underway at KeyBank. A major motivation for this transformation was reducing time to market for new products by democratizing data and decoupling systems across the IT landscape.

"Like any large bank or large enterprise, we have a variety of vendor applications, custom applications, and other systems that are tightly coupled to one another. In the past, new projects typically entailed developing specific point-to-point integrations for exchanging data but did little to address the needs of other downstream systems that would benefit from the same data," says Scott Tucker, Director of Open Bank Engineering at KeyBank. "With Confluent, we can put that data on a topic and have it

Continuous improvement is part of our culture at KeyBank, and the adoption of Confluent is a good example of our commitment to staying a technology leader within the banking industry.

— Michael Roseman, KeyBank

consumed by multiple systems. From a technical standpoint, democratizing the data in this way provides tremendous value both in terms of efficiency and project cost reductions. And from a business standpoint, projects that can make use of data that's already on a topic benefit from significantly shorter time to market."

The Open Banking Technology group at KeyBank is a newly formed center of excellence (COE), created to help application development teams make the most of technologies such as Confluent and Google Apigee to drive new products and improve customer experiences. "Continuous improvement is part of our culture at KeyBank, and the adoption of Confluent is a good

KeyBank has laid the groundwork for its national digital bank initiative by taking a strategic, holistic approach to event-driven infrastructure.

example of our commitment to staying a technology leader in the banking industry," says Michael Roseman, SVP and Chief Architect at KeyBank. "Our investment in a center of excellence enables us to build a comprehensive enterprise infrastructure for harnessing data in motion – not just one-off projects and siloed efforts – which will reduce costs and accelerate the delivery of modern banking solutions for our customers."

KeyBank continues to roll out Confluent in support of its ongoing digitization initiative and plans to use real-time events to push forward with several use cases in fraud detection, lead management, and microservice communication. The bank is also moving certain on-premises data warehouse operations to Google Cloud Platform. "We are currently in the process of moving our on-prem Teradata data marts to Google BigQuery, and we see a strong use case for Confluent Cloud with that move," says Roseman. "We'll soon be running Confluent Platform with Anthos on bare metal, which will also help us in the transition."

We are currently in the process of moving our on-prem Teradata data marts to Google BigQuery, and we see a strong use case for Confluent Cloud with that move.

– Michael Roseman, SVP and Chief Architect at KeyBank

Business Results

- **Time-to-market estimates halved.** "With Confluent Platform we're making data available via event streams, which means integration between systems is now a much lighter lift," says Tucker. "A project that would take three months if we were working on the integration from both sides, will take significantly less time and effort because we only need to develop and test the consumer side."
- **Mainframe and message queue cost estimates cut.** "As we implement more use cases on Confluent, we will reduce our mainframe and legacy message queue costs," says Roseman. "We expect to see a measurable reduction in mainframe MIPS, IBM MQ usage, and in our use of ETL process software."
- **De-risked adoption of a new technology paradigm.** "Open source products like Apache Kafka® can be a risk without enterprise support, and especially for a business-critical platform," says Tucker. "Confluent engineers helped guide us through not only the setup, but also through the use cases for data in motion that we wanted to implement. Their expertise and experience with other financial institutions and organizations like ours was a great help in building up our own expertise. They were always very open to working with our team to make sure we were on the right path for us."

Technical Solution

Traditionally, many KeyBank systems have been integrated with a top-down, project-oriented approach that limited flexibility. Once a project was complete, the systems involved would be tightly coupled, and if another system needed access to the same data, it often required another entire project to be approved and funded.

"Before Confluent, if we opened a new account for a customer and we knew that our online banking system needed to get that new account information, for example, we'd implement that hard integration between the two systems," says Tucker. "But in practice, many systems need to be tied to that account opening event, including marketing systems that send a welcome email or additional product offers, regulatory systems, and our customer master system. With Confluent's platform for data in motion, once we put that data out on a topic it's available to multiple downstream systems whenever they want to consume it."

Some development teams within the bank recognized the potential value that Confluent and an event-driven architecture would bring to their individual projects. Seeing this groundswell of need, KeyBank established the Open Banking Technology team as a center of excellence for data in motion with Confluent Platform, API management with the Apigee platform, and legacy message queues. "We didn't want to merely address individual use cases with isolated pockets of Kafka," says Roseman. "Creating the COE was a way to build an enterprise solution to meet the needs of our organization as a whole, while at the same time increasing efficiency and taking advantage of economies of scale." The COE is positioned to help teams employ the best technology for each specific use case. "Having Confluent, Apigee, and message queues under a common umbrella gives us the opportunity to help application teams use the option or combination of options that's going to work best for them in accessing and moving data," says Tucker.

As the team began ramping up, they worked with Confluent engineers to ensure their deployment strategy and architecture were well aligned with the organization's short-term use cases and longer-term objectives.

"We recognized that we were not yet experts in event-driven architectures, and while we ultimately own the decisions for what we're going to do, we counted on the experts from Confluent to help us guide our decision-making process," says Tucker.

The team will use Confluent Platform capabilities such as [Schema Registry](#) to manage and evolve schemas, [ksqlDB](#) to accelerate streaming app development, [Cluster Linking](#) to simplify replication and support disaster recovery strategies, and [connectors](#) to easily integrate data from legacy mainframes to modern systems. "These Confluent Platform capabilities are a big help to us, because instead of having to roll our own, we can simply take advantage of what Confluent has built on top of the open source Kafka platform," Tucker says.

KeyBank has laid the groundwork for its national digital bank initiative by taking a strategic, holistic approach to event-driven infrastructure.

"From a technology perspective at KeyBank, we want to continue to invest in new platforms that deliver new capabilities and improve our ability to deliver faster. When we saw the demand for harnessing data in motion growing, working with Confluent and investing in our center of excellence enabled us to implement a solution in a way that best benefits the enterprise by reducing complexity, costs, and time to market," says Mike Onders, EVP Chief Data Officer and Divisional CIO at Keybank.

Learn More About Keybank

www.keybank.com

From a technology perspective at KeyBank, we want to continue to invest in new platforms that deliver new capabilities and improve our ability to deliver faster. When we saw the demand for harnessing data in motion growing, working with Confluent and investing in our center of excellence enabled us to implement a solution in a way that best benefits the enterprise by reducing complexity, costs, and time to market.

– Mike Onders, EVP Chief Data Officer and Divisional CIO