LEVERAGING TECH AND INNOVATION TO FUTURE-PROOF A COMMUNITY BANK

Coastal Community Bank was founded in 1997 as a traditional brick-and-mortar bank. Over the years, they grew to 14 full-service branches in Washington state offering lending and deposit products to approximately 40,000 customers. In 2018, the bank's leadership broadened their vision and long-term growth objectives, including how to scale and serve customers outside their traditional physical footprint. Coastal leaders took an innovative step and launched a plan to offer BaaS through CCBX, enabling a broad network of virtual partners and allowing the bank to scale much faster and further than they could via their physical branches alone.

Coastal hired Barb MacLean, Senior Vice President and Head of Technology Operations and Implementation, to build the technical foundation required to help support the continued growth of the bank. "Most small community banks have little technology capability of their own and often outsource tech capabilities to a core banking vendor," says MacLean. "We knew that story had to be completely different for us to continue to be an attractive banking-as-a-service partner to outside organizations."

To accomplish their objectives, Coastal would be required to receive and send vast amounts of data in near real-time with their partners, third parties and the variety of systems used across that ecosystem. This proved to be a challenge as most banks and providers still relied on legacy technologies and antiquated processes like once-a-day batch processing. To scale their BaaS offering, Coastal needed a better way to manage and share data. They also required a solution that could scale while ensuring that the highest levels of security, privacy and strict compliance requirements were met. "The list of things we have to do to prove that we can safely and soundly operate as a regulated financial institution is ever-increasing," says MacLean. "As we added more customers and therefore more customer information, we needed to scale safely through automation."

Coastal also needed to accomplish all this with their existing small team. "As a community bank, we can't compete on a people basis, so we have to have technology tools in place that teams can learn easily and deploy quickly," adds MacLean.

TACKLING A COMPLEX DATA ENVIRONMENT WITH DELTA SHARING

With the goal of having a more collaborative approach to community banking and banking as a service, Coastal began their BaaS journey in January 2023 when they chose Cavallo Technologies to help them develop a modern, future-proof data platform to support their stringent customer data sharing and compliance requirements. This included tackling infrastructure challenges, such as data ingestion complexity, speed, data quality and scalability. "We wanted to use our small, nimble team to our advantage and find the right technology to help us move fast and do this right," says MacLean.

"We initially tested several vendors, however learned through those tests we needed a system that could scale for our needs going forward," says MacLean. Though very few members of the team had used Databricks before, Coastal decided to move from a previously known implementation pattern and a data lake–based platform to a lakehouse approach with Databricks. The lakehouse architecture addressed the pain points they experienced using a data lake–based platform, such as trying to sync batch and streaming data. The dynamic nature and changing environments of Coastal's partners required handling changes to data structure and content. The Databricks Data Intelligence Platform provided resiliency and tooling to deal with both data and schema drift cost-effectively at scale.

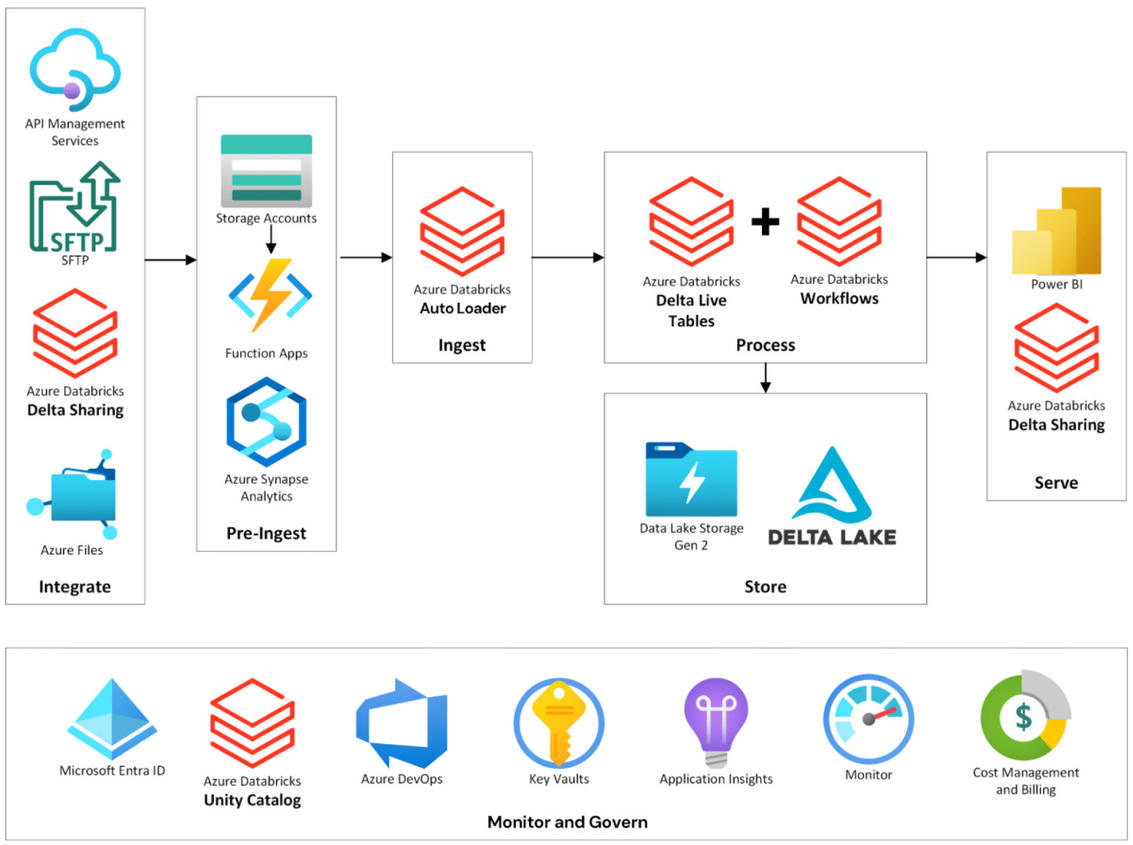
Coastal continued to evolve and extend their use of Databricks tools, including Auto Loader, Structured Streaming, Delta Live Tables, Unity Catalog and Databricks repos for CI/CD, as they created a robust software engineering practice for data at the bank. Applying software engineering principles to data can often be neglected or ignored by engineering teams, but Coastal knew that it was critical to managing the scale and complexity of the internal and external environment in which they were working. This included having segregated environments for development, testing and production, having technical leaders approve the promotion of code between environments, and include data privacy and security governance.

Coastal also liked that Databricks worked well with Azure out of the box. And because it offered a consolidated toolkit for data transformation and engineering, Databricks helped address any risk concerns. "When you have a highly complex technical environment with a myriad of tools, not only inside your own environment but in our partners' environments that we don't control, a consolidated toolkit reduces complexity and thereby reduces risk," says MacLean.

Initially, MacLean's team evaluated several cloud-native solutions, with the goal of moving away from a 24-hour batch world and into real-time data processing since any incident could have wider reverberations in a highly interconnected financial system. "We have all these places where data is moving in real time. What happens when someone else's system has an outage or goes down in the middle of the day? How do you understand customer and bank exposure as soon as it happens? How do we connect the batch world with the real-time world? We were trapped in a no-man's-land of legacy, batch-driven systems, and partners are too," explains MacLean.

"We wanted to be a part of a community of users, knowing that was the future, and wanted a vendor that was continually innovating," says MacLean. Similarly, MacLean's team evaluated the different platforms for ETL, BI, analytics and data science, including some already in use by the bank. "Engineers want to work with modern tools because it makes their lives easier … working within the century in which you live. We didn't want to Frankenstein things because of a wide toolset," says MacLean. "Reducing complexity in our environment is a key consideration, so using a single platform has a massive positive impact. Databricks is the hands-down winner in apples-to-apples comparisons to other tools like Snowflake and SAS in terms of performance, scalability, flexibility and cost."

MacLean explained that Databricks included everything, such as Auto Loader, repositories, monitoring and telemetry, and cost management. This enabled the bank to benefit from robust software engineering practices so they could scale to serving millions of customers, whether directly or via their partner network. MacLean explained, "We punch above our weight, and our team is extremely small relative to what we're doing, so we wanted to pick the tools that are applicable to any and all scenarios."



The Databricks Data Intelligence Platform has greatly simplified how Coastal and their vast ecosystem of financial service partners securely share data across data platforms, clouds or regions.

IMPROVING TIME TO VALUE AND GROWING THEIR PARTNER NETWORK

In the short time since Coastal launched CCBX, it has become the bank's primary customer acquisition and growth division, enabling them to grow BaaS program fee income by 32.3% year over year. Their use of Databricks has also helped them achieve unprecedented time to value. "We've done two years' worth of work here in nine months," says Curt Queyrouze, President at Coastal.

Almost immediately, Coastal saw exponential improvements in core business functions. "Activities within our risk and compliance team that we need to conduct every few months would take 48 hours to execute with legacy inputs," says MacLean. "Now we can run those in 30 minutes using near real-time data."

Despite managing myriad technology systems, Databricks helps Coastal remove barriers between teams, enabling them to share live data with each other safely and securely in a matter of minutes so the bank can continue to grow quickly through partner acquisition. "The financial services industry is still heavily reliant on legacy, batch-driven systems, and other data is moving in real time and needs to be understood in real time. How do we marry those up?" asks MacLean. "That was one of the fundamental reasons for choosing Databricks. We have not worked with any other tool or technology that allows us to do that well."

CCBX leverages the power and scale of a network of partners. Delta Sharing uses an open source approach to data sharing and enables users to share live data across platforms, clouds and regions with strong security and governance. Using Delta Sharing meant Coastal could manage data effectively even when working with partners and third parties using inflexible legacy technology systems. "The data we were ingesting is difficult to deal with," says MacLean. "How do we harness incoming data from about 20 partners with technology environments that we don't control? The data's never going to be clean. We decided to make dealing with that complexity our strength and take on that burden. That's where we saw the true power of Databricks' capabilities. We couldn't have done this without the tools their platform gives us."

Databricks also enabled Coastal to scale from 40,000 customers (consumers and small-medium businesses in the north Puget Sound region) to approximately 6 million customers served through their partner ecosystem and dramatically increase the speed at which they integrate data from those partners. In one notable case, Coastal was working with a new partner and faced the potential of having to load data on 80,000 customers manually. "We pointed Databricks at it and had 80,000 customers and the various data sources ingested, cleaned and prepared for our business teams to use in two days," says MacLean. "Previously, that would have taken one to two months at least. We could not have done that with any prior existing tool we tried."

With Delta Sharing on Databricks, Coastal now has a vastly simplified, faster and more secure platform for onboarding new partners and their data. "When we want to launch and grow a product with a partner, such as a point-of-sale consumer loan, the owner of the data would need to send massive datasets on tens of thousands of customers. Before, in the traditional data warehouse approach, this would typically take one to two months to ingest new data sources, as the schema of the sent data would need to be changed in order for our systems to read it. But now we point Databricks at it and it's just two days to value," shares MacLean.

While Coastal's data engineers and business users love this improvement in internal productivity, the larger transformation has been how Databricks has enabled Coastal's strategy to focus on building a rich partner network. They now have about 20 partners leveraging different aspects of Coastal's BaaS.

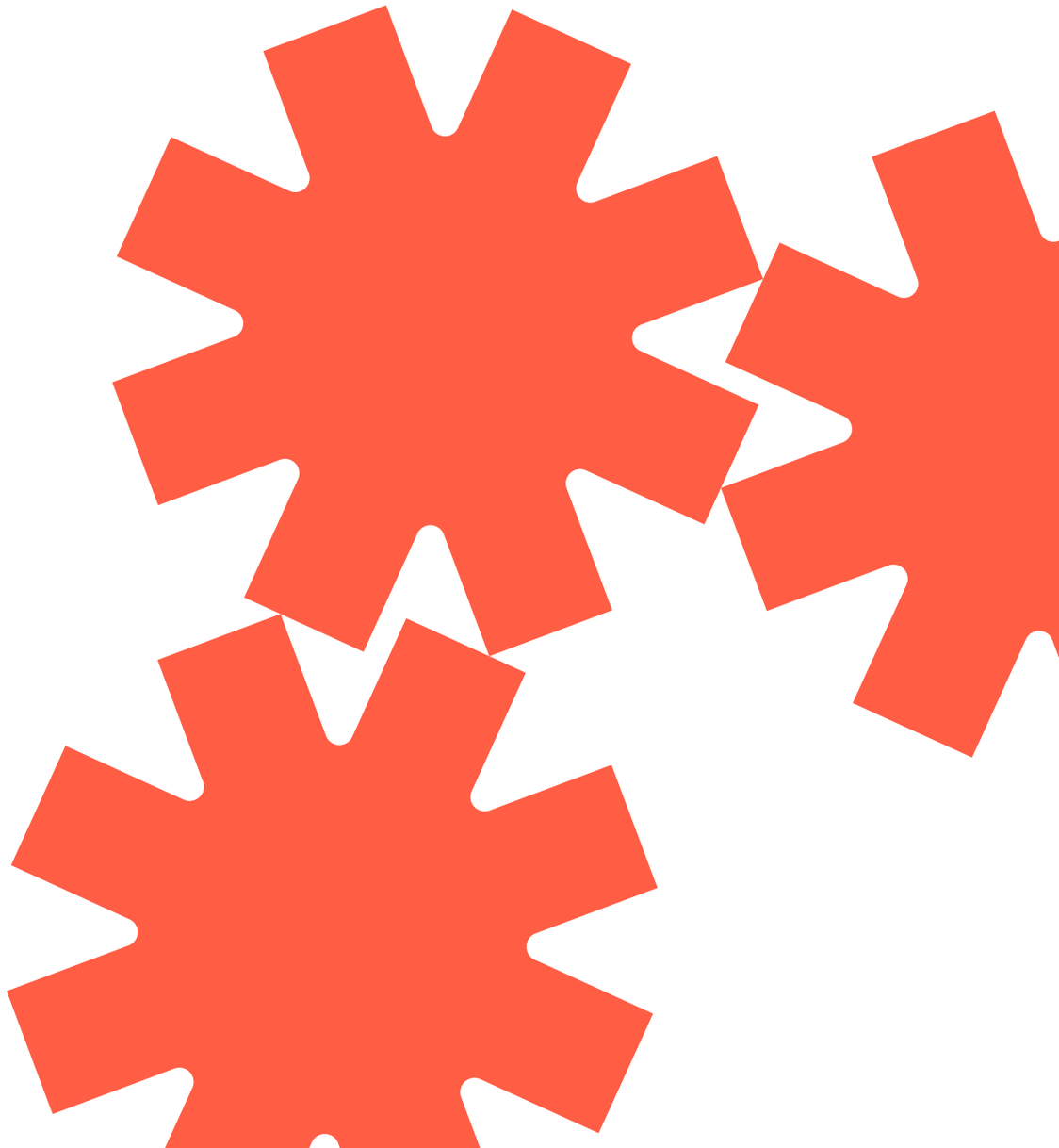
Recently, Coastal's CEO had an ask about a specific dataset. Based on experience from their previous data tools, they brought in a team of 10 data engineers to comb through the data, expecting this to be a multiday or even multi-week effort. But when they actually got into their Databricks Data Intelligence Platform, using data lineage on Unity Catalog, they were able to give a definitive answer that same afternoon. MacLean explains that this is not an anomaly. "Time and time again, we find that even for the most seemingly challenging questions, we can grab a data engineer with no context on the data, point them to a data pipeline and quickly get the answers we need."

The bank's use of Delta Sharing has also allowed Coastal to achieve success with One, an emerging fintech startup. One wanted to sunset its use of Google BigQuery, which Coastal was using to ingest One's data. The two organizations needed to work together to find a solution. Fortunately, One was also using Databricks. "We used Delta Sharing, and after we gave them a workspace ID, we had tables of data showing up in our Databricks workspace in under 10 minutes," says MacLean. (To read more about how Coastal is working with One, read the blog.) MacLean says Coastal is a leader in skills, technology and modern tools for fintech partners.

DATA AND AI FOR GOOD

With a strong data foundation set, MacLean has a larger vision for her team. "Technologies like generative AI open up self-serve capabilities to so many business groups. For example, as we explore how to reduce financial crimes, if you are taking a day to do an investigation, that doesn't scale to thousands of transactions that might need to be investigated," says MacLean. "How do we move beyond the minimum regulatory requirements on paper around something like anti-money laundering and truly reduce the impact of bad actors in the financial system?"

For MacLean this is about aligning her organization with Coastal's larger mission to use finance to do better for all people. Said MacLean, "Where are we doing good in terms of the application of technology and financial services? It's not just about optimizing the speed of transactions. We care about doing better on behalf of our fellow humans with the work that we do."



Powys Teaching Health Board — improving decision-making to save lives faster

< 1 year
To modernize data infrastructure

40%
Decrease in time to insight

65%
More productive with Databricks Assistant

"The adoption of Databricks has ensured that we can future-proof our data capabilities. It has transformed and modernized the way we work, and that has a direct impact on the quality of care delivered to our community."

— Jake Hammer, Chief Data Officer, Powys Teaching Health Board (PTHB)

INDUSTRY
Healthcare and Life Sciences

SOLUTION
Forward-Looking Intelligence

PLATFORM
Data Intelligence Platform, Unity Catalog

CLOUD
Azure

The inability to access complete and high-quality data can have a direct impact on a healthcare system's ability to deliver optimal patient outcomes. Powys Teaching Health Board (PTHB), serving the largest county in Wales, is responsible for planning and providing national health services for approximately a quarter of the country. However, roughly 50% of the data they need to help inform patient-centric decisions doesn't occur within Powys and is provided by neighboring organizations in varying formats, slowing their ability to connect data with the quality of patient care. Converting all this data — from patient activity (e.g., appointments) and workforce data (e.g., schedules) — to actionable insights is difficult when it comes in from so many disparate sources. PTHB needed to break down these silos and make it easier for nontechnical teams to access the data. With the Databricks Data Intelligence Platform, PTHB now has a unified view of all their various data streams, empowering healthcare systems to make better decisions that enhance patient care.

SILOS AND SYSTEM STRAIN HINDER DATA-DRIVEN INSIGHTS

The demand for PTHB's services has increased significantly over the years as they've dealt with evolving healthcare needs and population growth. As new patients enter the national healthcare system, so does the rise in data captured about the patient, hospital operations and more. With this rapid influx of data coming from various hospitals and healthcare systems around the country, PTHB's legacy system began to reach its performance and scalability limits, quickly developing data access and ingestion bottlenecks that not only wasted time, but directly impacted patient care. And as the diversity of data rose, their legacy system buckled under the load.

"Our data sat in so many places that it caused major frustrations. Our on-premises SQL warehouse couldn't cope with the scale of our growing data estate," explained Jake Hammer, Chief Data Officer at PTHB. "We needed to move away from manually copying data between places. Finding a platform that would allow us to take advantage of the cloud and was flexible enough to safeguard our data within a single view for all to easily access was critical."

How could PTHB employees make data-driven decisions if the data was hard to find and difficult to understand? Hammer realized that they needed to first modernize their data infrastructure in the cloud and migrate to a platform capable of unifying their data and making it readily available for downstream analytics use cases: from optimizing staff schedules to providing actionable insights for clinicians so they can provide timely and targeted care. Hammer's team estimated that it would take five to 10 years to modernize their tech stack in this way if they were to follow their own processes and tech stack. But they needed a solution now. Enter Databricks.

IMPROVING DATA DEMOCRATIZATION WITH A UNIFIED PLATFORM

PTHB chose the Databricks Data Intelligence Platform to house all new incoming data, from any source. This includes the data for a large number of low-code apps (e.g., Power Apps) so that Hammer's team can now work with data that was historically kept on paper — making it significantly easier for people to access and analyze the data at scale.

Data governance is also critical, but creating standard processes was difficult before transitioning to Databricks as their core platform. With Unity Catalog, PTHB has a model where all of their security and governance is done only once at the Databricks layer. "The level of auditing in Databricks gives us a high level of assurance. We need to provide different levels of access to many different individuals and systems," added Hammer. "Having a tool that enables us to confidently manage this complex security gives both ourselves and our stakeholders assurance. We can more easily and securely share data with partners."

Deriving actionable insights on data through numerous Power BI dashboards with ease is something PTHB could not do before. "Now HR has the data they need to improve operational efficiency while protecting the bottom line," said Hammer. "They can self-serve any necessary data, and they can see where there are gaps in rosters or inefficiencies in on-the-ground processes. Being able to access the right data at the right time means they can be smarter with rostering, resource management and scheduling."

FEDERATED LAKEHOUSE IMPROVES TEAM EFFICIENCY AND REAL-TIME DATA ENHANCES PATIENT CARE

With the Databricks Data Intelligence Platform, PTHB has taken their first step toward modernization by moving to the cloud in less than a year — a much quicker timeline than their 10-year estimate — and providing a federated lakehouse to unify all their data. Through the lakehouse, they are able to seamlessly connect to their on-premises SQL warehouse and remote BigQuery environment at NHS Wales to create a single view of their data estate. "With the Databricks Platform, and by leveraging features such as Lakehouse Federation to integrate remote data, PTHB data practitioners now work from a single source of truth to improve decision-making and patient outcomes," explained Hammer.

From an operational standpoint, the impact of a modern platform has been significant, with efficiencies skyrocketing to an estimated 40% time savings in building data pipelines for analytics. They also estimate spending 65% less time answering questions from business data users with the help of Databricks Assistant. This AI-powered tool accelerated training for PTHB, helping traditional SQL staff embrace new programming languages and empowering them to be more productive without overreliance on the data engineering team.

A modern stack and newfound efficiencies throughout the data workflow has fueled Hammer's ability to expand into more advanced use cases. "Data science was an area we simply hadn't thought about," explained Hammer. "Now we have the means to explore predictive use cases like forecasting feature utilization."

Most importantly, PTHB has a solution that's future-proof and can tackle any data challenge, which is critical given how they are seeing a rapidly growing environment of APIs, adoption of open standards and new sources of real-time data. "I can trust our platform is future-proof, and I'm probably the only health board to be able to say that in Wales at the moment," said Hammer. "Just like with the data science world, the prediction world was something we never thought was possible. But now we have the technology to do anything we put our minds and data to."

Tens of millions of production workloads run daily on Databricks

Easily ingest and transform batch and streaming data on the Databricks Data Intelligence Platform. Orchestrate reliable production workflows while Databricks automatically manages your infrastructure at scale. Increase the productivity of your teams with built-in data quality testing and support for software development best practices.

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About Databricks

Databricks is the data and AI company. More than 10,000 organizations worldwide — including Block, Comcast, Condé Nast, Rivian, Shell and over 60% of the Fortune 500 — rely on the Databricks Data Intelligence Platform to take control of their data and put it to work with AI. Databricks is headquartered in San Francisco, with offices around the globe, and was founded by the original creators of Lakehouse, Apache Spark™, Delta Lake and MLflow. To learn more, follow Databricks on LinkedIn, X and Facebook.

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