ORNL Federal Credit Union Uses Arkatechture and AWS to Unify Data, Accelerate Reporting, and Improve the Member Experience

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About ORNL Federal Credit Union

ORNL Federal Credit Union (FCU), based in Oak Ridge, Tennessee, is a financial cooperative owned by members since 1948. The organization provides a range of lending and account services for more than 185,000 members across East Tennessee.

Executive Summary

ORNL Federal Credit Union (FCU) worked with AWS Partner Arkatechture to implement a data analytics platform built on AWS to break down data silos, give employees self-service business intelligence and predictive capabilities, save 300 hours of annual programming time, and improve the member experience. ORNL FCU uses Arkalytics, a data analytics platform built on AWS, to integrate data from different banking systems and see it in a single dashboard view.

Seeking More Accurate Data and Better Reporting

Since 1948, ORNL Federal Credit Union (FCU) has helped thousands of Tennessee residents create healthy relationships with their money. The nonprofit, member-owned financial cooperative serves 19 counties in East Tennessee and is the state's fourth-largest credit union.

Recently, ORNL FCU sought to support new data-driven initiatives that would enhance the member experience. For example, the organization wanted to use its member data to improve internal reporting. However, the credit union's disparate data systems made it challenging to create accurate reports. "We didn't have a single system of record for reporting. The reports came from multiple systems in different departments, and that led to different information, depending on which report you looked at," says Becky Curry, senior vice president of data intelligence at ORNL Federal Credit Union.

The organization also struggled to analyze data quickly to build timely reports because the existing technology was aging and often slow to respond. "We ultimately wanted to find a better-performing solution that gave us that single source of truth for data analysis and reporting," Curry says. "We also wanted to give each department self-service reporting capabilities so they wouldn't rely on IT as much." Because its data intelligence team consists of just three employees, ORNL FCU realized it needed the assistance of a technology partner to create a new data solution.

Unifying Data in the Cloud with Arkalytics

ORNL FCU wanted a solution that scaled as it grew and eliminated the need to buy and maintain hardware. The organization decided to implement a cloud-based data warehouse solution, and then chose to expand its use of Amazon Web Services (AWS). "We were already growing our AWS footprint and expanding our existing AWS services to host the cloud-based data warehouse solution helped us gain agility and quickly adjust as our business needs change," Curry says.

AWS introduced ORNL FCU to Arkatechture, an AWS partner dedicated to empowering organizations with a better understanding of their business through data. Arkatechture helped ORNL FCU implement Arkalytics, data analytics platform built on AWS that integrates data from different source systems and presents it in a single view through a conformed and proprietary data model, dashboards and analytical models. ORNL FCU reduced its expected implementation time by 50 percent by working closely with Arkatechture.

Arkalytics is a fully managed data lake and data warehouse running on AWS and using services such as, but not limited to, Amazon Elastic Compute Cloud (Amazon EC2), Amazon Simple Storage Service (Amazon S3), and AWS Lambda, with a conformed proprietary data model built on Snowflake and pre-built financial services dashboards and analytical models (descriptive and predictive). The Arkalytics data pipeline is built on AWS Fargate, a serverless, pay-as-you-go compute engine. Arkalytics also relies on Amazon SageMaker to help developers build, train, and score models on AWS. In addition, Arkalytics provides a customizable data studio that the credit union's designers and builders can use to create new data applications and run POCs.

Once the solution was implemented, ORNL FCU had immediate access to 30 executive dashboards and multiple BI analytical models, along with connections to multiple source systems. "With these pre-built and fully managed capabilities at its disposal, ORNL FCU cannot only leverage the existing dashboards and models built by Arkatechture, but is also empowered to build its own dashboards and models with the power of the member data it brings in from different sources," says Susmi Sengupta, chief technology officer at Arkatechture. "We also process and pool data

from more than 20 credit unions to offer a more robust and scalable solution for our customers." Arkatechture's managed services delivery model also enables ORNL FCU to focus on data analysis instead of data loading and maintenance tasks.

Breaking Down Data Silos and Giving Employees Self-Service BI Capabilities

With Arkalytics, ORNL FCU now has an integrated, automated, end-to-end data analysis and reporting solution that eliminates data silos and unifies data from five separate reporting systems. As a result, multiple departments have self-service BI and reporting capabilities and can quickly process data and create analytical reports. "Instead of just relying on our three-person team to create reports, our operations, lending, and financials departments can quickly create their own BI reports," says Curry. "Arkalytics provides a simple drop-down menu that makes the reporting process easier."

Saving 300 Hours of Programming Time Annually

By automating reporting with Arkalytics, ORNL FCU no longer needs to spend time processing and integrating data on its own. "We have eliminated at least 300 hours of programming time yearly by using Arkalytics on AWS," says Curry. "Previously, we had to spend time manually processing everything and integrating the different data sources. With Arkalytics, everything flows through one standard dashboard."

The automated Arkalytics data pipeline processes and refreshes member data every night, so ORNL FCU has access to the latest data each morning. "Arkalytics processes more than 300 data files overnight, so we don't have to constantly make sure the data is uploaded and processed correctly," says Curry. "When we're in a morning meeting, we know we're looking at the latest information."

Prior to deploying Arkalytics, the credit union had to start running a new dataset several weeks in advance of a meeting. "Now, we're confident everything is going to run in just a few hours in terms of data processing," says Craig Alexander, senior data and systems analyst at ORNL Federal Credit Union.

Improving the Member Experience

Taking advantage of the Arkalytics data studio, ORNL FCU quickly developed a new transaction heat map dashboard, which displays a detailed transaction analysis by day of the week, time of day, and branch location to optimize staffing levels across 28 physical branches. "With the transaction heat map, we can right-size staff within each branch because we can see exactly how many employees we need at each location," says Curry. "This positively impacts member service because we have the right number of staff, particularly at branches with higher traffic."

ORNL FCU has also reduced the latency of its core system by identifying efficiency improvement opportunities through advanced analytics of core system data. "We had members waiting in branches because of system latency." Alexander says. "Having Arkalytics on AWS allowed us to analyze large data sets quickly, which assisted with decision making that resulted in improved system performance and reduced wait times in branches. The changes focused on clean data allows our employees to respond faster and be more focused on our members."

Next, ORNL FCU plans to work with Arkatechture to expand the use of Arkalytics to incorporate more data. "Our solution is limitless in terms of the data we can ingest and process, whether it's operational, financial, marketing or any other type of data," Sengupta concludes. "This is all possible because of our micro-services architecture and the vast number of AWS services we have at our disposal, combined with the scalability and availability of AWS."

About Arkatechture

Arkatechture is an AWS Partner and data consulting company that provides B2B services around data management, business intelligence, and analytics. The company's Arkalytics solution serves as an automated analytics and reporting platform. Arkalytics combines a fully managed data lake and warehouse with a suite of business intelligence dashboards and models built for financial institutions.

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