

A top-10 North American bank partners with OpenLegacy Serverless to reduce time to market, cut TCO, and improve performance

With more than 12 million customers and over \$600 billion in managed assets, this bank is one of the largest ten banks in North America. But it's still considered a mid-size financial institution globally – and in recent years, the bank has set its sights on accelerating growth.

At the heart of its growth strategy is a sweeping digital transformation initiative. Announced in 2017, the initiative aims to leverage data and analytics capabilities to modernize the way the bank does business – from customer interactions to back-office operations. Specific goals of the initiative include:

- Improve customer experience
- Support productivity
- Enhance risk management; and
- Fulfill regulatory requirements



The Challenge

In order to kickstart its digital transformation, the bank needed to open up 60 functions that powered their consumer banking applications and make them accessible in the cloud. These functions resided on an IBM Mainframe CICS environment and accessed through Tibco Substation, a heavyweight integration middleware / ESB. The bank's initial approach was to use Tibco to access the CICS transactions and expose them in a cloud environment through APIs.

The early results were disheartening. The development team had to manually code each and every function, with no standard templates or tools. Coding was slow and error-prone, and included custom Java development. Development and deployment took 6-8 weeks for each API – resulting in release cycles that were too long to even think of using DevOps. Between manual coding and

lengthy development, **the bank had only deployed two services within a year of the project kickoff.**

The bank realized it was behind the curve with its digital transformation efforts and looked for a way to accelerate development. It found it in the form of serverless and agile development.



The Solution

Serverless represented an appealing option to the bank's technical leadership. Like many organizations, the bank had struggled with a shortage of specialized engineering talent, specifically the high-availability and scalability expertise to manage cloud deployment. The option of dynamically “outsourcing” the complexities of capacity planning and server provisioning meant more engineering time could be focused on the specifics of the bank's core business challenges.

However, even with the serverless setup, the bank still faced two major challenges:

1. Development and deployment were still manual and too slow – the bank was working towards NoOps, but needed help
2. The functions' response time was unacceptable at 2-4 seconds (even after optimizing them with AWS experts), due to the “cold start” problem that's common in serverless implementations. This problem arises from the lengthy initialization time associated with Java and Java libraries, which are used extensively by middleware and ESB vendors.

Ultimately, the bank turned to OpenLegacy Serverless to address these challenges. OpenLegacy Serverless' technology provided several innovations that offered the promise of accelerating digital transformation:

- A lightweight integration with the mainframe environment, bypassing the Tibco middleware to directly access digital representations of legacy assets
- A Node.js-based environment that offered the promise of overcoming “cold start” challenges associated with Java and Java libraries
- Auto-code generation capabilities and standard code templates to reduce manual, error-prone coding

Sure enough, the bank began seeing rapid speed to value immediately. With OpenLegacy Serverless, the team was able to create a Node.js function in AWS encapsulating a CICS transaction in 15 minutes, compared to 6-8 weeks in the old setup.



The Result

Now using OpenLegacy Serverless, the bank is experiencing significant acceleration of its digital transformation initiative across a variety of dimensions:

Fast development and significantly shorter time to market. OpenLegacy Serverless eliminates redundant middleware components and teams, accesses core legacy applications directly, and uses REST APIs for deployment. OpenLegacy Serverless makes API development much faster than manual coding, and creates simple and standardized code, with no technical debt. This results in development time of 15 minutes per function and a short deployment time, measured in days - compared to months before OpenLegacy Serverless.

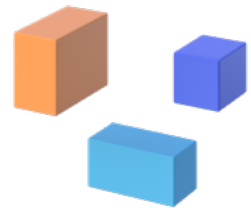
20x performance improvement. OpenLegacy Serverless's unique architecture and patented technology solves the “Cold Start” problem and also features a modern, simplified architecture that accesses CICS directly, instead of going through ESB and middleware. It generates consistent and more efficient code, using Node.js and not Java. The result is superior performance: response time of 100-150 milliseconds, compared to the previous 2-4 seconds — 20 times faster on average.

Lower TCO: The bank was spending tens of millions of dollars a year on governance, provisioning, and middleware costs. With OpenLegacy Serverless, the bank estimated saving over a million dollars annually across a variety of areas:

- Redeployment of software engineering teams from server operations to core business challenges
- Savings on middleware costs
- Reduction in millions of instructions per second (MIPS) – a key driver of processing and compute cost (which is how cloud vendors charge for serverless usage).

Streamlined DevOps and deployment. Mainframe modernization projects are now well aligned with DevOps / NoOps for velocity and scale, including specialized tests and quality control indicators.

Re-use. Mainframe application data can be reused and integrated with digital applications over a unified platform, thus simplifying maintenance.



“Wow. This sums up my impression of OpenLegacy Serverless. Our digital transformation project involves hundreds of serverless functions, and it was taking us weeks to create a single function. OpenLegacy Serverless created the whole API and function in just 15 minutes! We’re also looking at annual cost savings of millions of dollars in middleware costs thanks to the OpenLegacy Serverless architecture. And just as important, their function executed in 100 milliseconds, vs ours that took 2 seconds.”

Technology leader, top-10 North American bank