

CASE STUDY

US Federal Agency Uses vFunction to Successfully Modernize Apps for Cloud Mandate

>10XIncrease in
Refactoring Speed**Mono to
Micro**From a monolith
to 10 new
microservices**100X
Scalability**Applying same
factory methodology
to 100+ Java apps

Executive Summary

This customer is a government agency headquartered in Washington, DC with over 75,000+ employees providing services to millions of US citizens. The agency was given a mandate to modernize over 100 Java applications and migrate them to the cloud, and after three years, had only modernized and migrated 2 applications.

They were severely challenged by the time and complexity it was taking to manually modernize each app, and were not hopeful about meeting the cloud mandate. They needed another way.

By partnering with Accenture and using vFunction's AI-based automation, they were able to successfully decompose one of their monolithic applications. When they compared using vFunction's app modernization platform against their previous manual efforts, they saw a 10X increase in the speed of their modernization project. Best of all, they now have a path forward to modernizing the remaining apps in their organization using the vFunction platform for a repeatable process, allowing them to meet the mandate.

The Challenges

Mandate for the Cloud

Seeking operational efficiencies and a goal of reducing their on-premise and data center footprint, this customer has a firm goal to transition over 100 Java applications to the cloud. This includes refactoring existing apps to become fully cloud-enabled and migrated to cloud.

Slow and Complicated Projects

Despite executive support to move to the cloud, the engineering team was unable to reach the velocity required to meet 2022 goals. In the last three years, only two applications had been successfully migrated to cloud infrastructure.

Manual Efforts with Lack of Tools

The challenge to their velocity lay in the team's lack of modern tooling. At a rate of 1.5 years per app, manual efforts have been unsatisfactory, encouraging the customer to look to automation and AI to speed up their modernization efforts.

The Solution with vFunction

Measure Acceleration (Manual vs Automated)

Prior to engaging with vFunction, the customer had established a baseline estimate for their manual efforts by assigning a senior developer to assess and refactor the target application. Then, using vFunction's automation and AI, they were able to compare the overall time needed, repeatability, and scalability of both the automated and manual processes.

Apply Automated Testing

The vFunction agent analyzed the application as the team ran automated test scripts run in a pre-production environment. The tests covered regression scenarios that exercised 90% of the application code, providing enough visibility to identify dependencies and recommend a new reference topology.

Identify Classes and Refactor into Microservices

During the analysis phase, the vFunction platform analyzed the dynamic and static results to identify specific domains, entry points, and boundaries. Using the vFunction Studio, they were able to visualize and manually refactor the monolith into a set of 10 individual services eligible for future extraction.



The Results

10X Time Savings

The entire analysis and refactoring effort combined took only 33 hours: 23 hours of automated dynamic analysis to attain 90% coverage by tests in pre-production, and a further 10 hours for refining the reference architecture provided by vFunction. They estimated that this was at least 10X faster than previous manual efforts.

Success Confirmed

From the 10 services identified by vFunction, the customer selected a single service for further extraction. Using vFunction, the modernization team successfully built, deployed, and tested this service outside of the monolith—significantly faster than they’d experienced with manual efforts.

Repeatable Modernization Process

Backed by the successful extraction and deployment of their first service, the team is applying the same methodology across 100+ Java applications slated for cloud modernization. Best of all, they report that “refactoring can be successful even with a team that is not familiar with the target application”.



“vFunction Modernization Hub significantly reduced the refactoring effort when compared with manual efforts — by at least 10X.”



“Refactoring can be successful even with a team that is not familiar with the target application.”



[Request a Demo](#)

About vFunction

vFunction is the first and only AI-driven platform for developers and architects that intelligently and automatically transforms complex monolithic Java applications into microservices, restoring engineering velocity and optimizing the benefits of the cloud. Designed to eliminate the time, risk and cost constraints of manually modernizing business applications, vFunction delivers a scalable, repeatable factory model purpose-built for cloud native modernization. With vFunction, leading companies around the world are accelerating the journey to cloud-native architecture and gaining a competitive edge. vFunction is headquartered in Palo Alto, CA, with offices in Israel. To learn more, visit vFunction.com.