DevOps Approach to Modernize a Global FinTech Platform

Executive Summary

At the heart of WEX's business are enterprise payment processing and information systems running on AWS. This platform offers payment solutions for vehicle fleet operators, travel payments, , employee health savings accounts, and others. The platform began showing signs of age and growing technical debt as the company expanded and broadened its global footprint and business offerings.

Deployments of new releases were challenging and high-risk, a lack of automatic fail-over capabilities put their global customer experience at risk, and legacy, outdated capabilities and technical debt were hampering cost-optimization efforts. WEX decided to get ahead of these issues.

Client's Key Challenges

- Monolithic architecture that used multiple EC2 instances for both Web and backend services.
- Scaling platform resources was a manual process.
- Inability to scale front-end Web and backend services independently.
- A fresh infrastructure deployment required multiple non-automated steps involving AMIs, rpms, Ansible, bash scripts, etc.
- The Ops, Dev, QA, and performance testing needs of the platform were often siloed, manual processes.

VividCloud was asked to architect and implement a better solution.

WEX is a global leader in financial technology solutions.

They simplify the complexities of payment systems across continents and industries, with specialized solutions for Fleet, Corporate Payments, and Travel and Health Benefits Technology.

Their products modernize fleet mobility, streamline business-to-business payments, andsimplify employee benefits administration.

Industry: FinTech

Location: Portland, ME

Service: Modernization

Website: www.wexinc.com

VividCloud's Solution

VividCloud took on those challenges by modernizing key elements of WEX's infrastructure and architecture. Our solution included:

✔ Modern Pipelines

Develop a build pipeline to automatically containerize the application in two components, one front end, one back end. Develop a deployment pipeline for applications within the platform, with the ability to repurpose the pipeline framework for other applications due to IAC component interchangeability.

✔ Restructured Deployment Ecosystem

Allow developers to deploy their own short-lived infrastructure in development accounts for fast feedback and improved pipeline-based PR testing.
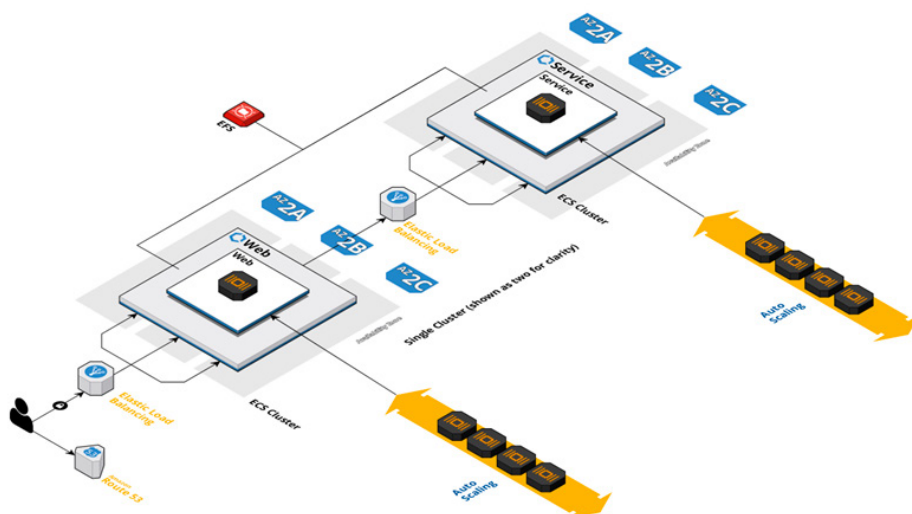
✔ Automated QA

Enable developers to find issues early by building an infrastructure for automated QA and performance testing on branch deployments.

✔ Autoscaling

Implement infrastructure that allows the front-end and back-end to scale automatically and independently, based on load.

✔ Blue/Green deployments

Implement a Blue/Green deployment infrastructure that significantly reduces risk by allowing developer-driven, smaller, and more frequent deployments of features and fixes into production.

VIVIDCLOUD'S MODERNIZED ARCHITECTURE

Results and Benefits

WEX realized significant benefits from an entirely modernized pipeline and reductions of risk during deployments.

- Builds and deployments are automated and use the same process from Dev, through Staging, and into Production environments.
- Frontend and backend components independently scale up and down automatically, based on demand.
- Developers can quickly deploy new builds to production, test them in the production environment, and then roll forward or back using a Blue/Green system.
- New deployments are no longer large, high-risk, late-night events. Instead, they are frequent, smaller, normal business-hour events.
- Client realized significant cost savings by optimizing through automatic scaling.

AWS Services

aws
PARTNER
Advanced Tier
Services

The following services and capabilities of AWS are used in this solution:

- CloudWatch
- ElastiCache
- VPC
- ECS
- EC2-ELB
- CodeDeploy
- ELB
- Route53
- S3
- Lambda
- Kinesis Datastream
- Kinesis Firehose
- EFS

About VividCloud

VividCloud is a software development company focused on cloud and IoT. AWS is our cloud platform of choice, and we are an Advanced Tier APN Services Partner. We bring fully managed teams that free our client s from day to day oversight responsibilities.

VividCloud is based in Brunswick Maine, with 100% of our people onshore in the US.

Contact Us

VIVID
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