

Creating AWS Cloud Infrastructure for Reliability, Security, and Future Growth



Executive Summary

Legion provides a workforce engagement platform that employs artificial intelligence and machine learning to accurately forecast labor needs. It then automatically matches employees by skills, preferences and performance to the work. Integrating with major traffic counters, point of sales, and HR solutions, it delivers a streamlined experience.

Due to the platform's overwhelming success, however, the infrastructure it was initially built on was becoming severely strained. To accommodate future growth and ensure both security and availability, the company needed to make changes.

"ClearScale team helped Legion improve the ops infrastructure allowing us to focus on delivering innovation to our customers. From initial requirements gathering until the final implementation and rollout of the project, the team was laser focus, moved quickly towards a defined goal resolving any obstacles on the way and was always available and ready to help."

Adalbert Wysocki, Director of Engineering

The Challenge

Simply tweaking Legion's infrastructure and system architecture would offer a short-term solution. But the company needed much more if it was going to serve a constantly growing customer base, continually evolve to meet the changing requirements of that customer base, and develop and deliver new capabilities to remain competitive.

There were also specific requirements that had to be considered. Among them were data security and privacy. The services delivered on Legion's platform involve the storage and processing of personally identifiable information (PII). Disclosing certain kinds of PII can result in harm to the individual whose privacy is breached — and the potential for compliance and legal issues for the company that failed to protect the information.

In addition, the system needed to incorporate redundancy to ensure its availability to both Legion and its customers, even in the event of a natural or manmade disaster. It also needed to enable much faster deployments.

The Solution

It was determined that moving to [AWS Cloud services](#) would provide the infrastructure reliability and security needed - and ClearScale was the right partner to help make it happen. As an [AWS Premier Consulting Partner](#), ClearScale has extensive experience in designing, deploying, automating, and managing complex AWS-based cloud solutions across a wide range of industries.

ClearScale immediately went to work gathering information, including business and technical requirements. Familiarity with both AWS and DevOps best practices enabled ClearScale to quickly architect a reliable, scalable, secure, and high-performing infrastructure to meet the specific needs of the Legion platform.

The new production-grade cloud environment uses a multi-tier architecture comprised of various AWS services. Primary components include Amazon Simple Storage Service (S3); CloudFront, a global content delivery network (CDN); Amazon Elastic Container Service (ECS), a scalable, fast container management service; Amazon Relational Database Service (Amazon RDS), for setting up, operating and scaling relational databases; and Amazon Elastic Compute Cloud (Amazon EC2), a web service that provides secure, resizable compute capacity in the cloud.

To help meet the system's security requirements, ClearScale incorporated a variety of technologies and tools into the solution, including the encryption of data in transit and at rest. The architecture also makes use of two AWS regions, which provide physically separated and isolated Availability Zones connected with low latency, high throughput, and highly redundant networking. This helps make the Legion platform more highly available, fault tolerant, and scalable than with a traditional single or multi-data center infrastructure.

In addition, the solution employs Infrastructure as Code (IaC) tools to automate deployments. The use of blue/green deployment reduces downtime and risk by running two identical production environments. Only one environment is live at a time and serves all production traffic. Deployment and the final testing take place in the idle environment.

ClearScale also delivered complete documentation of the solution architecture and processes to ensure a smooth handoff to Legion and support the company in its ongoing use of the new environment.

The Benefits

The new AWS infrastructure provides a flexible foundation upon which Legion can continue its growth. Configured for resilience and high availability, it's helping the company meet customer service-level agreements (SLAs).

Multi-layer security features better protect customer data. An automated deployment process increases the control and quality of code releases, enabling the delivery of new features while minimizing service disruptions.

Thanks to ClearScale's experience and expertise, time was saved during the development process. Perhaps most important, Legion gained greater peace of mind knowing that its new cloud infrastructure is purpose-built using best practices to meet its specific requirements.