EnParadigm Case Study

Executive Summary

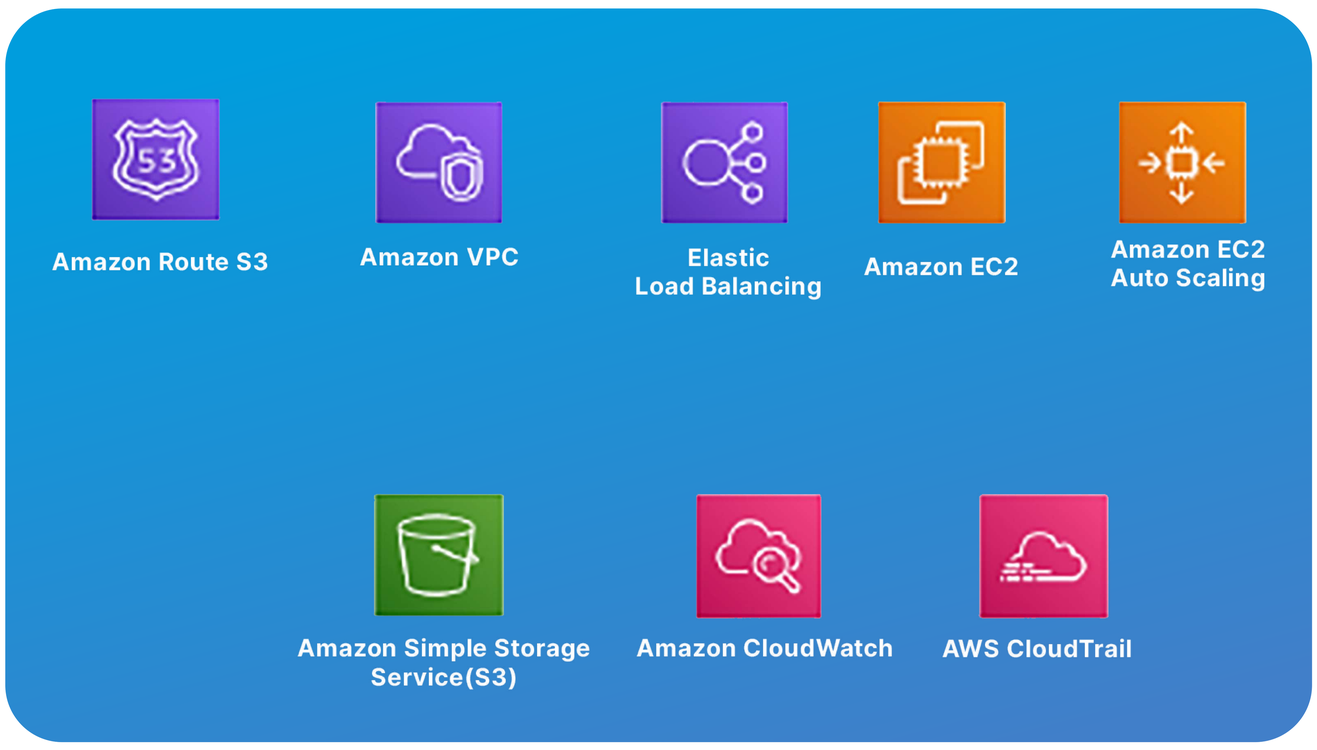
Due to the limitations of its infrastructure and architecture, the client's environment did not have the essential elements such as fault tolerance, robustness in the platform and security. We have migrated 5 Servers.

The Challenge

The major challenge was Creating a highly available, robust and secure platform that can host any type of event regardless of its size. Another challenge was automating the infrastructure in the cloud along with automate pipeline for deployments are essential factors for the platform we used codebuild and also included security, maintenance, monitoring, regular backup recovery policy, and high availability of the servers and VPNs as part of the solution.

Why AWS

AWS is a cloud platform that has all the necessary services to create a robust, multi-tenant, highly available, highly scalable, and secure infrastructure.



About EnParadigm

EnParadigm is a tech-driven learning solutions company transforming performance. Their solutions help people get better at the hidden details of their jobs, the nuances that usually take years to learn. They develop proprietary algorithms and leverage AI to build advanced digital simulations, SMART micro-learning platforms, and sales enablement apps. The mobile solutions adapt to the workflow of employees with personalized learning paths; and focus on specific people initiatives such as onboarding, large-scale development initiatives, and learning retention.

The Solution

Axiom IO began the engagement with the client with an assessment phase. Later, we suggested an automated process of deploying the applications and sharing network resources using Resource Access Manager (RAM) and recommended migrating their application data from on-premises to AWS Cloud by using AWS Server Migration Service. The relational database files (binary and transaction logs) were also moved to Amazon RDS instances using the standard "mysqlimport" utility. Load balancing, security, and all such other best practices were also taken into consideration.

Technology Used

- **Migration**:
  AWS Server Migration Service
- **AWS**:
  AWS Resource Access Manager
  AWS Assume Role
  AWS Service Control Policies
  AWS Backup
  AWS CloudTrail and VPC Flow Logs for logs
  AWS Config to capture resource compliance timeline
  Peering Connection
  AWS CloudWatch to monitor logs and Notifications.
  AWS Code Build for Automation
  AWS KMS
  AWS Code Commit
  AWS Load Balancer
  Parameter Store to store variables.
- **VPN**:
  AWS Client VPN

Security components

- **AWS**
  Alerts were configured to trigger any changes in the environment.
  AWS CloudWatch
  Amazon Simple Notification Service (SNS) is implemented to push alerts, regularly.
- **AWS Security Hardening**
  Security hardening (CIS Benchmark) is implemented in the environment.

Start and End date

- The project is started on December 1st week (03/12/2021) and ended on March 1st Week (02/03/2022)

The following components were used as part of the Migration solution:

- AWS Server Migration Service
- Amazon Web Services Simple Monthly Calculator
- Migration Evaluator
- AWS Cloud Adoption Readiness Tool (CART)
- AWS Organizational Model
- Network infrastructure as per the architecture
- Resource Access Manager
- AWS Code Build
- AWS Load Balancer
- AWS CloudWatch, AWS Lambda, VPC Flow Logs, AWS CloudTrail, AWS Config, and AWS IAM
- Configuration of Environment Security, Monitoring, Maintenance, and High Availability in AWS

Value Adds

- **Superior Performance**
  This infrastructure provides a fast, resilient and high availability environment for the application.
- **Monitoring**
  Enhanced monitoring and alerting capabilities by configuring AWS CloudWatch.
- **LOW TCO**
  Saved costs by replacing physical hardware with expensive license fees. With AWS you pay for what you use.
- **Fully Managed**
  With fully managed resource provisioning, maintenance and backup, the client no longer has to worry.
- **Security**
  Improved security posture by following CIS benchmarks and AWS Security Best practices.

Architecture