zensar

Complex AWS Migration for a Toll Solution Provider in Europe

Case study

An »RPG Company

Overview

Post-acquisition migration of AWS workloads to acquiring entity

Our client is one of the world's leading providers of integrated toll services for roads in Europe. Recently it got acquired by a leading British multinational oil and gas company. The client approached Zensar to migrate its AWS workloads to the acquiring entity's account, adopting their technology standards, policies, and governance.

Zensar conducted discovery, design, and analysis to perform the migration within four months.

The target system also included setting up the foundation for AWS Transit Gateway, firewall, and AWS Data Migration Service for migration of tolling systems. Zensar further set up VPN Tunnels to allow client partners to connect to their systems securely through an encrypted network.

# Challenges

Complex process, tight timelines

High Complexity:
Multiple stakeholder entities with different standards, policies, and procedures.
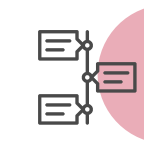
Sparse documentation:
There was little to no documentation on the target AWS ecosystems and workloads to be migrated. Migration was needed on four different AWS environments (development, staging, pre-production, and production).
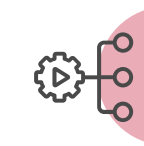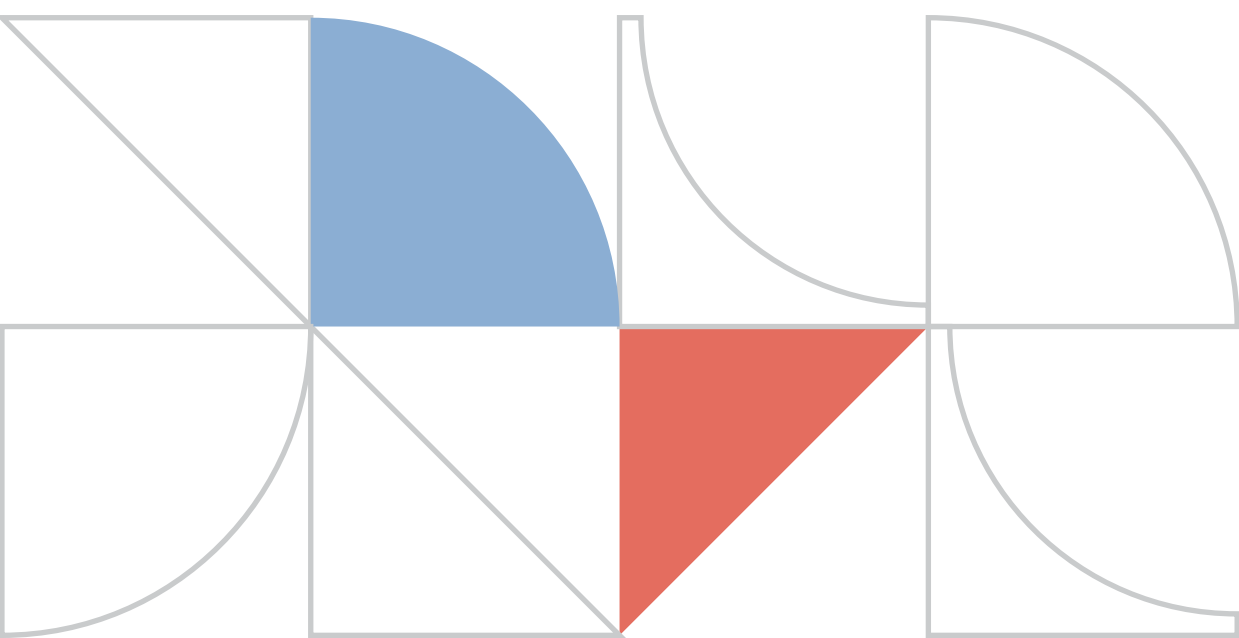
Minimal automation:
Due to security concerns, automated service bots could not operate in the source AWS environment.

Stringent Timelines:
Time was critical due to transition service agreement (TSA) exit costs being incurred.

Solution

Cloud migration for rapid deployment

Applications running in the existing AWS platform were assessed before designing and planning the migration to the target AWS environment. The workloads included VMs, databases, storage, and code built in to set up containers, including third-party systems and applications. Zensar supported in building core foundation services, including firewall, gateway, Simple Mail Transfer Protocol (SMTP) email service, and VPN connectivity before migration. Monitoring, auditing, and security services were deployed to support users and applications.

Our solution focused on the following:

◢ Design and migrate the client's existing workloads to the target AWS account, ensuring business continuity with minimum disruption for end users and partners

◢ Deploy all AWS services using terraform scripts

◢ Utilize Data Migration Service to migrate Oracle Relational Database Service (RDS) from source to destination

◢ Implement Palo Alto firewall to allow external ingress and egress traffic inspection and filtering through network appliances, routing, and multilayer network security

◢ Deploy transit gateway to route the traffic to and from virtual private clouds (VPCs) to manage and monitor the traffic acting as a cloud router

◢ Deploy AWS site-to-site VPN to allow connectivity from the client organization to the target organization for remote access and secure transfer of data using AWS Data Migration Service

◢ Migrate around 80 Docker containerized services using GitHub Actions through DevOps Continuous Integration/Continuous Deployment (CI/CD) pipeline and deploy them into Amazon Elastic Kubernetes Service (EKS) cluster

◢ Migrate S3, DynamoDB tables, and PostgreSQL files through snapshots copy from one storage account to another AWS account

Solution (Cont...)

▲ Install and configure third-party services such as Helm Charts, Cert Manager, Ingress Controller, Flux, Prometheus, SumoLogic, Falcon Sensor, and Amazon Elastic File System (EFS) Provisioner to support applications

▲ Build AWS virtual machines to host third-party Simple File Transfer Protocol (SFTP) and SMTP systems

▲ Set up AWS Simple Email Service (SES) and integrated SMTP systems

▲ Set up and configure AWS Simple Queue Service (SQS) and Lambda functions

▲ Design and implement automated guardrails across AWS multi-accounts using automatic deployment of config rules, service control policies, cloud trail, and cloud watch logs

▲ Help set up DevOps monitoring and security tools for scanning AMIs and docker containers

▲ Support the applications team in providing knowledge transfer on new target AWS systems

Impact
Minimized costs and secure revenue

The new AWS control tower delivered **40 percent cost reduction** and **30 percent more efficiency** to plan the roadmap for future migrations and development

The automated capabilities helped critical business applications with a robust and flexible architecture to **grow the customer base** and **meet compliance requirements** of clients
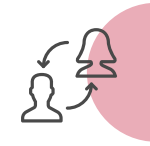
Zensar helped achieve **seamless scalability and flexibility,** eliminating operational downtime and increasing the availability and reliability of business applications with **zero interruption**

zensar

An ◆◆RPG Company

We conceptualize, build, and manage digital products through experience design, data engineering, and advanced analytics for over 145 leading companies. Our solutions leverage industry-leading platforms to help our clients be competitive, agile, and disruptive while moving with velocity through change and opportunity.

With headquarters in Pune, India, our 11,500+ associates work across 30+ locations, including Milpitas, Seattle, Princeton, Cape Town, London, Singapore, and Mexico City.

For more information please contact: velocity@zensar.com | www.zensar.com