Making a Complex AWS Migration Look Easy for a European Toll Service Leader

Case Study

Overview
Pulling off a complex cloud migration

A British oil and gas giant acquired one of the world's leading providers of integrated toll services, for roads in Europe, with an annual revenue of $5.4 million. The acquired company needed to migrate its AWS workloads to the acquiring entity's account.

Zensar's brief:
- Perform the migration within four months across four different AWS environments: development, staging, pre-production, and production.
- Enable a PAN-EU rollout with a subscription-based pricing model.

Beyond the brief:
We transformed the client's legacy system, leveraging a payment-device-agnostic architecture, a secure partner ecosystem, and application modernization solutions.

Challenges
Differing standards, policies, and procedures

The acquired company needed to flawlessly migrate its AWS workloads to the acquiring entity's account while standardizing the various standards, policies, and governance of multiple stakeholders.

Solution
Enabling seamless integration

Phase 1: Preparation

In the first phase, we focused on the discovery and design workshop, governance alignment, and cloud migration roadmap. And these were the key complexities that we encountered and managed:

- Differing sets of standards, policies, and procedures
- Sparse documentation on the target AWS ecosystems and workloads
- Security concerns preventing the use of automated service bots in the source AWS environment

Phase 2: Migration

In the second phase, we focused on migration to a secure cloud foundation, risk assessment and timely mitigation, and the creation of a robust CI/CD pipeline. And these were the key complexities that we encountered and managed:

- Stringent timelines due to transition service agreement (TSA) exit costs
- Need to enable uninterrupted business operations during the migration

Phase 3: Optimization

In the final phase, we deployed these solutions to monitor and audit the environment for optimal functioning:

- Serverless cloud computing
- Big data and advanced analytics
- Microservices and containers
- DevOps and intelligent automation

We enabled repeatable success in future transformations/migrations/acquisitions by delivering these templates, methodologies, and accelerators:

- Landing zone setup
- Cloud foundation patterns
- Curated cloud services catalog
- Hybrid network setup standards
- Sandbox creation process
- Automation code/runbooks

Solution enablers

Tech stack:
JDK, Sprint Boot, Bootstrap, Custom Framework, Java,
Perl NodeJS, JS, YUIJS, Ruby & Rails, VUEJS, Opsgenie, and NGINX

Database services:
Postgres, DynamoDB, and Oracle

AWS services:
- **DynamoDB** helped handle high-traffic, extreme-scaled events seamlessly with nearly unlimited throughput.
- **Transit Gateway** helped connect the different parts of the cloud system in a simplified manner.
- **Data Migration Service (DMS)** helped move all the data securely and efficiently.
- **Site-to-Site VPN** was used as a secure tunnel connection to link the old system to the new one.
- **Simple Email Service (SES)** was used to send and receive emails programmatically.
- **Simple Queue Service (SQS)** was used as a reliable waiting area for messages moving between different parts of the system.
- **Elastic Kubernetes Service (EKS)** made it simpler to run and manage applications built from containers.
- **Elastic File System (EFS)** helped provision and manage data storage within the containerized applications.

Impact
Optimized migration efficiency

- 40 percent cost reduction in the migration effort
- 30 percent greater efficiency in transaction throughput
- Automation of critical business functions

Business outcomes:

The solution delivered reusable frameworks and templates to speed up future migrations and upgrades. It enabled zero interruption to business applications. More importantly, it helped the business build confidence in being able to scale flexibly while meeting compliance requirements.

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