Revving up: Automobile manufacturer achieves

scalability and cost savings with AWS

CASE STUDY

About Client
Leading automobile manufacturer in Asia-Pacific

Industry
Automobile

Service
Cloud migration

Business **Need**

The client was hosting their CVP BS4 infrastructure at an on-premises data center and planned to deploy a new application version of the existing infrastructure on AWS. For this, the client wanted to leverage their existing CVP setup that would consume the feed from the already running AWS setup. The goal was to unlock immediate advantages in terms of instant scalability and elasticity, isolated processes, reduced operational effort,

on-demand provisioning, and automation offered by AWS.

The vision was to achieve a seamless transition with minimum downtime, data loss, and costs. This warranted an experienced and dynamic transition partner to orchestrate the shift and create a resilient and future-facing architecture.

Business **Challenge**

Orchestrating a cloud shift of existing processes and data is, at best, onerous. The process is often fraught with a litany of challenges in terms of security, efficiency, compatibility, and compliance, among others. The client's existing Bharat Stage IV (BS IV) infrastructure was hosted on their captive data center which had to be shifted to AWS to not only ensure synchronization with the connected car platform environment but also to optimize their IT infrastructure, improve performance, and streamline operations. Expectedly, the process had several challenges to cope with:

- Shifting business-critical applications from different on-premises seismic zones to the cloud while maintaining compliance

- Securely storing processed data with a high SLA and near-zero data loss

- Migrating the commercial RDBMS to EC2 + EBS

- Meeting strict recovery objectives and avoiding any data loss

- Scaling up and down as per business requirement

- Burning cost on idle servers and infrastructure during non-business hours

Owing to a rich experience and real-world expertise in orchestrating seamless cloud migration, cloudxchange.io was entrusted to foster a secure and successful transition.

Business **Solution**

As a trusted technology partner, cloudxchange.io helped the client with an in-depth landing zone assessment to eliminate potential hurdles and unlock operational efficiencies, power the delivery of future architecture, boost business growth, and ultimately create sustainable value.

cloudxchange.io conducted a dynamic landing-zone assessment to help the client analyze the CVP BS4 infrastructure and quickly gain 360-degree visibility of their cloud landscape.

cloudxchange.io flagged off the process by conducting an on-site analysis to understand the operational and functional dependencies of the client's BS4 services and applications. The analysis revealed that the client needed to rehost their BS4 infrastructure on AWS to leverage the existing CVP platform hosted in the AWS local region.

The cloudxchange.io team deployed the necessary AWS services within the Security Landing Zone, ensuring secure data transfer using Direct Connect. Data was replicated from various sources including on-premises and existing connected car platform clusters, to provide up-to-date data availability. The solution specifically considered the cost, with pricing based on the amount of data to be replicated or copied to AWS.

The migration process for BS4 setup involved the following steps:

- Configuration of network components on the AWS CVP account

- Setting up services for the BS4 infrastructure, including EC2, Load Balancers, ECR, IAM

- Replication of on-premises database tables to

the AWS RDS instance using native log shipping

▼ Transferring data from the existing CVP platform and on-premises sources to the BS4 EC2 clusters

▼ Validation of data and initiated required microservices

▼ Performance testing

▼ Verification of cutover on AWS clusters

▼ Completion of the final cutover and return to normal operations

To move the database to the AWS Cloud, cloudxchange.io created an RDS instance according to the client's recommendations and configured it as per the BoM. The client's CVP team employed a native log shipping strategy to facilitate the smooth transfer of the database to the AWS Cloud environment. cloudxchange.io also ensured the best performing managed service experience for BS4 CV with multiple steps, including:

▼ Smooth migration of BS4 CV workload from On-premises to AWS, following the required specifications

▼ Deployment based on AWS best practices

▼ Provision of comprehensive 24/7 end-to-end monitoring support and managed services

▼ Efficient management of network connectivity between the data center, other office locations, and the AWS cloud

▼ Database managed services for MSSQL, tailored to meet the commercial requirements

▼ AWS transit gateway management on AWS

▼ Backup management for the entire AWS landscape

Tech **Stack**

▼ EC2 Instances
▼ EBS Storage – GP3 SSD
▼ Elastic Container Registry (ECR)
▼ RDS Instance

▼ S3 Storage
▼ Transit Gateway
▼ Direct Connect
▼ VPC attachment
▼ Direct Connect

▼ Firewalls
▼ Subnets
▼ Security groups and virtual network
▼ Virtual machines

Business **Impact**

With the landing zone assessment and subsequent implementation, the customer was able to achieve the following domain objectives:

▼ Streamlined capacity planning with Amazon S3, enabling flexible and cost-efficient usage-based billing

▼ Increased operational efficiency by freeing up valuable IT resources

▼ Eliminated capital expenditures for enterprise backup software and hardware systems

▼ Seamless availability of data for restoration on the cloud, eliminating the need for physical server retrieval

▼ Rapid data restores within hours, ensuring business continuity during critical events with EC2 instances and Amazon S3

▼ Ability to scale up its business operations depending on the demand while maintaining its infrastructure

With this project, cloudxchange.io successfully boosted the client's vision to leverage AWS cloud without interrupting operations. The cloud infrastructure integration translates to multifold enhancement in data reporting which will help the client in generating more records per second. cloudxchange.io also ensured that the AWS move enhanced overall security and flexibility and reduced technological costs. The client also experienced several associated benefits:

Application server rehost migration for a seamless transition

Satisfactory security and compliance adherence

Increased productivity and growth opportunities

24x7 infrastructure monitoring and support

Uninterrupted connectivity through Direct Connect

Reduced costs and mitigated risks

Ease of management for streamlined operations

About **cloudxchange.io**

cloudxchange.io – An NSEIT Company, is an integrated managed services provider for multiple clouds like Amazon Web Services, Azure, Google, and Oracle Cloud. We deliver complete life cycle management services from cloud consulting, multi-cloud aggregation, cloud back-up, cloud security, and disaster recovery to DevSecOps as a service. We leverage the best technology and provide tailored, custom-built solutions to ensure a smooth cloud transformation.

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