Case Study

Open Jaw

Achieves Better Availability, Scalability, & Cost-efficiency with Amazon Aurora

This case study explores how Datavail helped Open Jaw, a global leader in travel retail e-commerce and loyalty programs optimize its database architecture to reduce AWS overhead costs and improve scalability.

The Challenge

This global leader is an existing Datavail customer whom requested support for optimizing a forklift MariaDB Galera Cluster on an Amazon EC2 environment for cloud computing. The company was running into problems with the affordability, scalability, and manageability of its systems. They wanted to decrease costs without compromising on performance, with a focus on improving availability and scalability.

The company's original straight forklift architecture design was for an on-premises deployment and had several issues, including:

- Failure to use cost-saving cloud features.
- Excessive use of oversized instances and disks.
- Complexity in operational management.
- Exorbitant overhead expenses.

On top of these challenges, the company's product is a SaaS solution. They needed any changes or migrations to have minimal to no downtime for their customers. The operational complexity in managing multi-node clusters for failover or fallback situations would be a struggle for their internal teams.

The Solution

Datavail's MySQL Team worked with the customer to review their existing architecture, which was over-provisioned and redundant. Open Jaw preferred to address the cost-saving and re-architecture needs with a migration to Amazon Aurora MySQL directly, bypassing any incremental steps. By making this change, they lowered their overall AWS costs, reduced management needs, and scaled the system more effectively.

Our migration plan:

- Focused on little to no cutover downtime, with no single point of failure.
- Ensured compatibility between MariaDB Galera and Amazon Aurora MySQL.
- Put contingency failback plans in place.
- Expanded the customer's migration and modernization experiences to help them migrate to Amazon Aurora MySQL.

We assisted and mentored the customer in leveraging the correct open-source database tooling with Amazon S3 and MySQL native replication to migrate from Amazon EC2. We also assisted with the correct setup of native replication with an intermediary MySQL server to convert MariaDB bin logs to Amazon Aurora supported binlog replication. The cutover option chosen for this project was red-blue deployment.

The Results

The proof-of-concept in Amazon Aurora MySQL was a success and required minimal downtime with the help of replication. Open Jaw could provision resources on-demand, with built-in high availability and scalability solutions on AWS with Datavail continuing to provide post-cloud support. The cloud database migration provided the following benefits:

- Lowered overall overhead through reduced operational complexity and improved manageability.
- No compromise on availability and performance.
- Significantly lowered AWS costs.
- Automated fail-over, faster storage options, and the ability to auto-scale.
- 10x reduction in backup and restore time through a parallelized, consistent, open-source database backup tool.