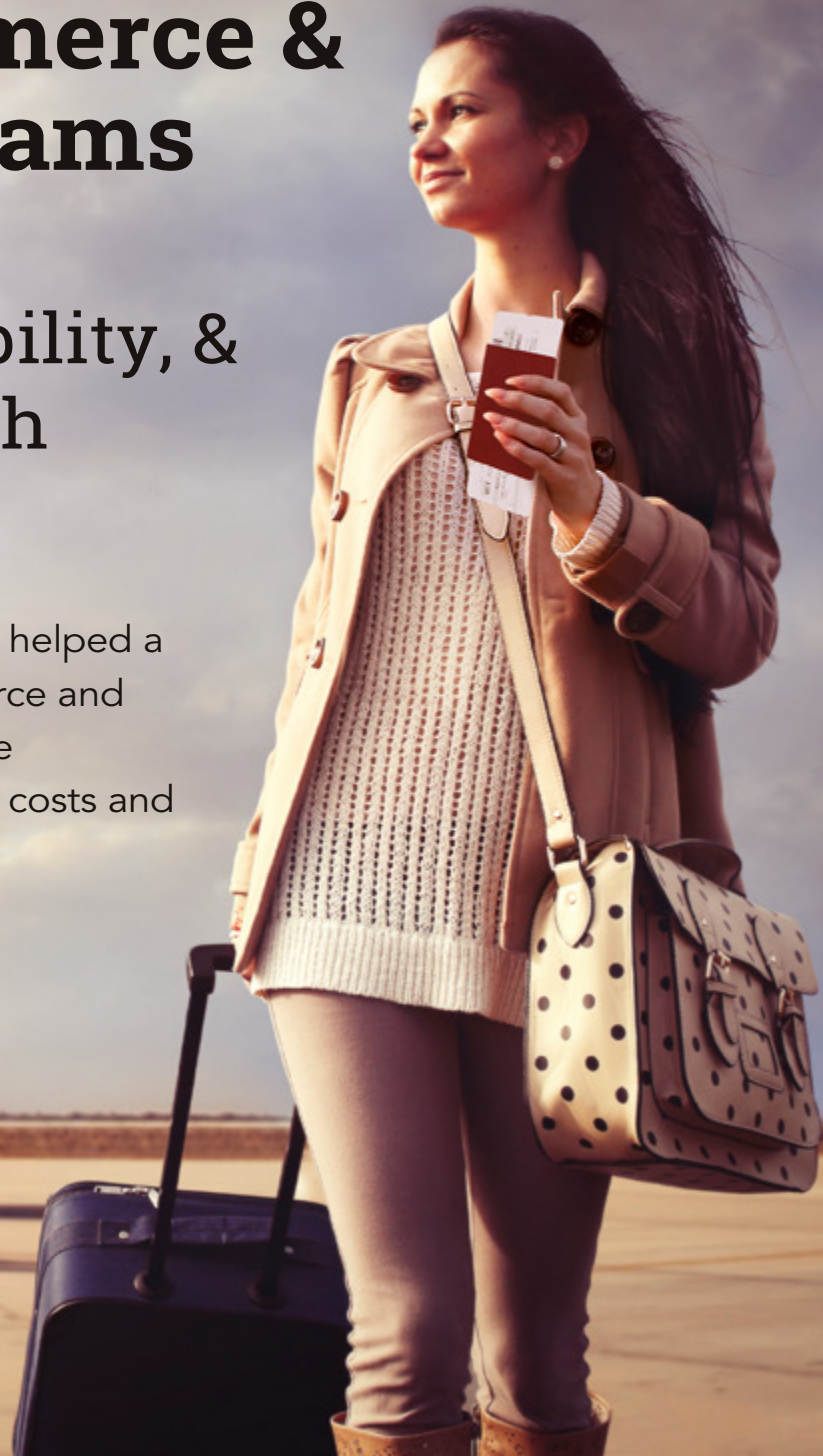


Case Study

Global Leader in Travel Retail E-Commerce & Loyalty Programs

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

This case study explores how Datavail helped 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 and requested help 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 performance, with a focus on improving availability and scalability.

The company's original straight forklift architecture design was for on-premise 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 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 Results

The proof-of-concept in Aurora MySQL was a success and required minimal downtime with the help of replication. The customer 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 overheads 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.

The Solution

Datavail's MySQL Team worked with the customer to review their existing architecture, which was over-provisioned and redundant. Instead of employing incremental cost-savings steps and rearchitecting their database servers, the customer preferred to address all these needs with a migration to Aurora MySQL. 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 cutover downtime, with no single point of failure.
- Ensured compatibility between MariaDB Galera and Aurora MySQL.
- Put contingency fallback plans in place.
- Expanded the customer's migration and modernization experiences to help them migrate to Amazon Aurora.

We leveraged open-source database tooling with Amazon S3 and MySQL native replication to migrate from Amazon EC2. We implemented the native replication with an intermediary MySQL server to convert MariaDB binlogs to Aurora supported binlog replication. The cutover option we used for this project was red-blue deployment.