# Financial SaaS Company Migrates to Google AlloyDB for PostgreSQL

**By migrating to Google Cloud's fully managed PostgreSQL-compatible database service for demanding enterprise workloads, Pythian helped the company improve database performance by a factor of three while lowering costs by 60%.**

## Overview

A financial software-as-a-service (SaaS) company provides near real-time data aggregation and analytics, portfolio modeling, and management for hundreds of thousands of decentralized financial digital assets. The company's cloud-based SaaS platform is built for professional investors and financial institutions to simplify the complicated digital asset management landscape, enabling clients to analyze and manage digital asset portfolios from a single dashboard.

## The challenge

The company was running their blockchain consumption platform on Amazon's Aurora PostgreSQL, which generated a block of data every 1.5 seconds. Each blockchain source has its own database, and each of those is unique. As a result, the company began experiencing data ingestion performance and scalability issues with their production cluster; the insert speed was limiting the cluster, and team members were unsure if it was due to indexes or structures.

The company needed to optimize speed and improve scalability—with no time to waste. The company wanted Pythian's help evaluating whether to continue on Amazon Aurora PostgreSQL or migrate to Google's AlloyDB. Google's fully managed PostgreSQL-compatible database service is designed for the most demanding enterprise workloads.

Pythian was recommended as a top Google Cloud Partner with Data Management Specialization and AlloyDB launch partner to help them evaluate the solution for their business. Pythian's database experts had intimate AlloyDB knowledge and experience having assisted with testing and evaluating Google AlloyDB for PostgreSQL's readiness for the market. After discussing the company's needs, Pythian's database experts got to work.

### Industry

Financial / IT

### Location(s)

Montreal, Canada

### Technologies

- Amazon Aurora PostgreSQL
- Google AlloyDB for PostgreSQL
- Google Cloud

### Overview

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### Business need:

The blockchain source the company uses had its own database, and each of those was unique. As a result, the company began experiencing data ingestion performance and scalability issues with their production cluster. The company wanted Pythian's help evaluating whether to continue on Amazon Aurora PostgreSQL or migrate to Google's AlloyDB.

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## The solution

Pythian worked with the company to build a migration plan and then conduct a comparative test to evaluate the current database environment on Amazon Aurora PostgreSQL against Google AlloyDB.

Pythian focused on data ingestion into Amazon Aurora PostgreSQL and Google AlloyDB concurrently, ensuring the platforms were configured as similarly as possible where appropriate—meaning that common denominators match—for pure comparison purposes.

Pythian identified the benefits and limitations of migrating to Google AlloyDB as compared to continuing with Amazon Aurora. The evaluation identified the ability to leverage horizontal scalability via read-only replicas as well as backup and recovery abilities, and then suggested requirements for client connectivity and scalability.

Pythian provisioned Google AlloyDB, carefully reviewing and adjusting the configuration to achieve settings as similar as possible to the source AWS database to ensure the comparison wouldn't face bottlenecks caused by the configuration.

Pythian also helped optimize the AlloyDB environment by providing repeatable deployment steps and documented best practices to make the environment more performant and cost-effective.

What we did:

- Prepared the Google AlloyDB infrastructure for testing

- Migrated the data from Amazon Aurora PostgreSQL to Google AlloyDB

- Reviewed the existing Amazon Aurora PostgreSQL production cluster/database to capture and document the overall configuration and performance characteristics, including top SQL queries and DML statements

- Monitored the database performance in Amazon Aurora PostgreSQL and Google AlloyDB during the ingestion tests, reporting the overall resource consumption and contention

- Optimized vacuum processes, adjusted database parameters and client connection settings, and reviewed automated jobs

- Documented the implementation steps, commands, and configuration for reliability and future use

- Presented comparative testing to key stakeholders to identify the benefits and limitations of continuing with Amazon Aurora PostgreSQL versus migrating to Google AlloyDB

**Solution/What Pythian did:**

Pythian worked with the company to build a migration plan and then conduct a comparative test to evaluate the current database environment on Amazon Aurora PostgreSQL against Google AlloyDB. Pythian provisioned Google AlloyDB, carefully reviewing and adjusting the configuration to achieve settings as similar as possible to the source AWS database.

**Result/Key outcomes**

Pythian presented comparative testing to key stakeholders to identify the benefits and limitations of migrating to Google AlloyDB. The comparative test determined that Google AlloyDB provides a more performant environment, yielding better results to meet the business's needs.

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## Business outcome

Through the comparative test and migration assessment that Pythian conducted, the company better understands the advantages, performance characteristics, and implications of migrating to Google AlloyDB. The comparative test determined that Google AlloyDB overall can provide a more performant environment than the existing Amazon Aurora PostgreSQL-based systems, yielding better performance results to meet the business's needs.

The company's migration to Google AlloyDB improved their database performance—performing 3x faster. Additionally, the company saved 60% in operational data costs by migrating to Google AlloyDB.

### Want to see similar results for your company?

Get in touch with a Pythian Google Cloud expert to see how our team can help.

### About Pythian

Founded in 1997, Pythian is a global IT services company that helps organizations transform how they compete and win by helping them turn data into valuable insights, predictions and products. From cloud automation to machine learning, Pythian designs, implements and supports customized solutions to the toughest data challenges.

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