

# Global financial services firm moves from an on-premises Oracle E-Business Suite to AWS – with zero issues and minimum downtime

## Industry

Financial services

## Location(s)

HQ in North America, with operations in 20 countries

## Technologies

- Oracle Database
- Oracle E-Business Suite (EBS)
- Amazon Web Services (AWS)

## Overview

A major financial investment research firm turned to Pythian to help it migrate its on-premises Oracle EBS environment to AWS with minimal downtime. As part of this project, the team developed over 20 custom integrations and performed a major Oracle Database upgrade, and introduced DevOps best practices to the team which now automates many processes today.

**Pythian helped the firm migrate to AWS, introduced a scalable DevOps solution, and automated the process – all with zero issues when the project went live.**

A global financial services leader that operates in more than 20 countries provides a wide array of investment research and management services to retail and institutional investors.

The firm uses Oracle E-Business Suite (EBS) for enterprise financial reporting and operations. The hardware they were running was five years old and was ready for retirement. The firm already had a large footprint in Amazon Web Services (or AWS) – nearly 80 percent of their web applications currently run in the cloud – so they decided to migrate their EBS financial applications to AWS. But, the team faced internal challenges, as there were resources with either AWS or EBS knowledge – but not both to manage this migration.

The firm also had another major goal: permanently eliminate their internal data center.

**Business need**

Moving Oracle E-Business Suite from on-premises to AWS.

As part of its cloud strategy, this financial services firm wanted to move all enterprise applications to AWS. Before the firm's database team started working with Pythian, almost 80 percent of the business applications were already running on AWS—excluding its ERP systems. When Pythian started working on this project, the client's main goal was moving its existing Oracle EBS applications from on-premises to the cloud-based AWS.

## More than 40 internal and external integrations needed to function correctly during the migration to AWS

A large financial services firm:

- Needed to move on-premises EBS applications to the cloud-based AWS
- Had a strong AWS presence but lacked the AWS experience across teams
- Interacted with more than 20 external integrations and even more internal integrations
- Coupled internal integrations with their emailing system, causing challenges with the migration

On-premises solutions hindered the company's user experience, limited development and made maintenance difficult.

### Moving EBS from on-premises to AWS

As part of their cloud strategy, this financial services firm wanted to move all their applications to AWS. Before they started working with Pythian, almost 80 percent of the business applications were already running on AWS. When they started working, their main goal was moving their existing EBS applications from on-premises to the cloud-based AWS.

### A strong AWS presence – without the necessary depth of experience

Although the financial services firm had a significant AWS presence, the team handling the databases didn't have any experience with it. As a result, the business had a strong network of procedures in place. They knew how to deploy projects and give permission, but that expertise wasn't spread to the EBS team that was supporting their internal financial system. For that team, AWS was a completely new environment.

To get the knowledge they needed, the team turned to Pythian, who helped them bridge the gap and implement best practices.

### Interacting with more than 20 external integrations and even more internal integrations

Perhaps the biggest challenge facing the financial services firm was the external integrations with third-party vendors, and the internal integrations that were coupled with the emailing system. Integrating the email system took tremendous work outside EBS, which added to the difficulty. In total, there were more than 20 external integrations, and the majority included more than file base exchanges. Without the email system fully migrated to AWS, the firm would be unable to retire their outdated EBS.

### Solution/What We Did

Migration of EBS to AWS and an Oracle Database upgrade

This leading investment research and advisory firm hired Pythian to manage the migration of an Oracle EBS system that was on premises to AWS. The firm needed to develop over 20 external integrations with third-party applications, including its emailing system. Additionally, the team was engaged to manage the upgrade of the Oracle Database from version 12c to 19c.

Getting all the firewalls, exceptions, and changes in place is a time-consuming and labor-intensive effort – and everything needs to function correctly in both test and production environments.

In addition to the external integrations, there were also more than 20 internal integrations that were coupled with the emailing system. One of the main goals of the migration was to move away from the data center. However, because the system was central to the business – and coupled with email – the project was saved for the end.

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**A large financial services firm needed to move their EBS to the cloud-based AWS. Despite already having a large AWS presence, the firm didn't have AWS expertise across their teams.**

### Moving EBS to the cloud – and adding an Oracle Database upgrade

The Pythian team provided:

- A migration from EBS to AWS, then added an Oracle Database upgrade
- An external team that was fluent in EBS and AWS and could help the firm establish business-wide best practices

When the Pythian team presented their approach for moving the EBS to the cloud, the financial services firm was pleased. As a result, they added a database upgrade as well, moving from 12c to 19c.

However, once the migration started, there were numerous challenges with the drivers. The 19c database with EBS has a multi-tenant configuration. As a result, many scripts on the database side needed extra review to ensure they were implemented correctly. In addition, to upgrade the database to 19c, the database needs to have a single edition.

#### **An external team who speaks AWS and EBS**

Because the internal teams at the financial services firm had different areas of experience, they turned to Pythian for help. In essence, Pythian served as an objective outside party – someone who was fluent in both AWS and EBS and was able to provide training and best practices.

#### **Documenting the integrations**

To summarize the progression of each integration, the Pythian team tracked every decision, customization, and integration, then scoped it down to a single file.

### Result/Key Outcomes

Successfully migrated Oracle EBS to AWS on schedule with minimal downtime

Pythian's deep understanding of EBS and AWS enabled the team to manage a major database upgrade, migration to the cloud, and development of more than 20 integrations in a very short timeframe.

The Pythian team helped this client to achieve:

- A noticeable boost in performance with an upgrade to the Oracle 19c Database
- Substantial improvement in the timing of regularly run reports
- Scalable DevOps and an automated process
- No challenges or issues during the project go-live with minimum downtime

The entire project was approached with the automation framework in mind. A DevOps expert from the Pythian team built the servers with Terraform, which included automation.

**The financial services firm was so pleased with Pythian's approach for moving from EBS to the cloud, that they added an Oracle Database upgrade as well – moving from 12c to 19c.**

### Improving performance speed, introducing scalable DevOps, and implementing automation

The Pythian team helped the financial services firm achieve:

- A noticeable boost in performance with an upgrade to the Oracle 19c Database
- Substantial improvement in the timing of regularly run reports
- Scalable DevOps and an automated process
- No challenges or issues during the project go-live with minimum downtime

#### A noticeable boost in database performance

To upgrade to the 19c database, the Pythian team performed an edition cleanup procedure before the migration, which helped with timing. The team was also able to leverage the Amazon Instance store for temporary storage with the Oracle Smart Flash cache feature – a move that boosted the database performance noticeably.

After the migration, the firm achieved one of its major goals: to permanently eliminate their internal data center.

#### A substantial improvement in the timing of reports

Before migrating to the cloud, the financial services firm experienced issues with some of the critical EBS reports. Once the migration was complete, they saw a significant improvement in the performance of the reports in the cloud, compared to what the performance had been with their on-premise solution.

#### Introducing DevOps and implementing automation

Prior to this project the financial services company had done minimal DevOps work. Once the Pythian team built the servers with Terraform, the entire process was automated. Pythian shared the DevOps information with the internal team, giving them the tools and the framework to continue the DevOps and automation work.

### No integration issues during the project go-live


When it was time to cover and interact with the integrations, the Pythian team worked with the firm to complete all adjustments and accept the connections. During the process, the Pythian team documented the changes, processes, and test scenarios so thoroughly that there was not a single issue reported during the go-live.

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**Pythian can serve as a consultant for businesses who are interested in implementing or scaling DevOps and moving to the cloud. The experts at Pythian can take an entire project from end to end – moving a system to AWS and building the automation framework.**

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#### 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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