

Empowering Growth Through Cloud: AZZ's OCI Migration Case Study



AZZ Inc is a global provider of galvanizing and metal coating solutions that enhance the longevity and appearance of buildings, products and infrastructure that are essential to everyday life. With over 60 locations across the United States and Canada, AZZ is North America's largest galvanizer and independent provider of coil coating solutions.

40% Savings on infrastructure costs compared to AWS

Executive Summary

AZZ Incorporated is transitioning from their current Oracle E-Business Suite (EBS) environment hosted on Amazon Web Services (AWS) to Oracle Cloud Infrastructure (OCI). To support this migration and modernization effort, the company has engaged Apps Associates LLC to provide architectural and technical expertise for setting up a new OCI tenancy.

This setup includes the deployment and configuration of key Oracle services such as Autonomous Database (ADB) with Oracle Application Express (APEX), Oracle Integration Cloud (OIC), and Oracle Enterprise Manager 24ai (OEM). Additionally, the project includes the migration of existing non-production EBS environments and related components such as ORDS and SplashBI from AWS to OCI. This initiative is driven by the need to enhance system performance, scalability, and maintainability by leveraging Oracle's cloud-native infrastructure and services.

To ensure secure and reliable connectivity, AZZ established links between its on-premises datacenters and OCI's Phoenix and Ashburn regions using FastConnect via Megaport. Apps Associates used Terraform to automate the infrastructure setup, streamlining the deployment process and ensuring consistency across environments. The migration approach combined newly built servers using Apps Associates CIS benchmark hardened OS images with replicated ones (via RackWare) from AWS, allowing for a smooth transition with minimal disruption to ongoing operations.

Throughout the project, collaboration between AZZ and Apps Associates was key—especially in integrating OCI resources with AZZ's on-prem Active Directory. This ensured seamless authentication and access across cloud-hosted services and infrastructure. The successful completion of this initiative not only modernized AZZ's technology landscape but also positioned the company to take full advantage of OCI's advanced capabilities for future growth and innovation.

Environment

Oracle Integration Cloud: (Prod and Non-prod)

- OIC 25.02
- Visual Builder

Autonomous Databases: (Prod and Non-prod)

- ADB: 23ai
- APEX: 24.2

EBS environments: Audit and Sonic

- Products: EBS 12.2.13, Database 19c
- Servers: EBS (3), Splash BI (2) and Apex (2)
- Size of the Databases: EBS (3.5 TB)
- Email system: IMAP Office 365 and on-prem SMTP

Oracle Enterprise Manager

- OEM 24ai on OCI with 6 on-prem targets

Driving Factors

AZZ is planning to modernize its Oracle E-Business Suite (EBS) environment by transitioning to a more cloud-native infrastructure that offers more benefits in licensing and cost savings, while also leveraging OCI's advanced capabilities.

The move was driven by the need to improve system performance, enhance scalability, and simplify long-term maintenance through Oracle's optimized cloud services. A key differentiator when moving from AWS to OCI is the possibility to use flex shapes. These eliminate the native AWS struggles with fixed combinations for CPU/Memory, which can be positively reflected in the amount of testing scenarios that can be included on different projects.

Cost was an important driving factor for AZZ. By migrating from AWS to OCI, AZZ was able to reduce their monthly infrastructure costs by 40%.

Additionally, OCI offered integrated solutions such as Autonomous Database (ADB) with APEX, Oracle Integration Cloud (OIC), and Oracle Enterprise Manager 24ai (OEM), which aligned with AZZ's operational and business goals.

High Level Steps of Migration

The project began with the foundational setup of Oracle Cloud Infrastructure (OCI). In this phase, the Apps Associates team defined the architecture, provisioned environments, and established secure connectivity. This was followed by the deployment of Oracle Integration Cloud (OIC), enabling seamless communication between internal systems and third-party applications, including ADFS authentication. The team also provisioned Autonomous Databases and configured APEX applications to support secure, scalable data access.

The core of the migration involved transitioning critical non-production systems—EBS Audit and SONIC—from AWS to OCI. This included building new servers, replicating existing ones using RackWare, and executing full application and data migrations. Additional environments such as APEX and SplashBI were also deployed. Functional validation, performance tuning, and user acceptance testing were conducted to ensure smooth delivery. In parallel, Oracle Enterprise Manager (OEM) was installed to provide centralized monitoring for production and disaster recovery systems.

The final phase, hypercare, focused on post-migration stabilization. The team provided daily monitoring, resolved user-reported issues, and conducted performance reviews to ensure system reliability. A structured transition to AZZ's operations team marked the successful completion of the project. Each phase was mapped to specific deliverables and carefully orchestrated to minimize disruption, ensuring a resilient and business-aligned transition to the OCI cloud.

Challenges

During the OIC deployment, we encountered several unexpected challenges. Initially, the client selected the Chicago region as the primary location. However, it was later discovered that the Chicago region did not support the OIC Development shape.

This limitation meant that Oracle-scheduled patches and changes would be applied directly to both production and non-production OIC services, posing a significant risk. Additionally, Robotic Process Automation (RPA) was not available in the Chicago region.

After evaluating the potential impact, we recommended switching the primary region to Phoenix, which supports both OIC Production and Development shapes and includes RPA. This decision required the Apps Associates team to dismantle the infrastructure previously deployed in Chicago and redeploy it in Phoenix, effectively restarting the setup process. However, due to the use of IaC (Terraform) the redeployment was merely a minor setback and had virtually no impact on the project timeline or budget.

Another major challenge involved establishing network connectivity between AZZ and OCI. The Apps Associates Network team collaborated closely with the AZZ team to configure FastConnect via Megaport, enabling connectivity across all AZZ network locations. Thanks to Apps Associates deep knowledge in advanced multi-cloud, hybrid networking, we were able to design and establish a secure high-speed connection that later facilitated an extremely quick replication of the source servers.

We also had changes to the original request to migrate one of the AWS environments. These changes required us to revise the migration plan and implement additional configurations, including using production database and application backups to build the EBS environments. During this process, access issues occurred due to firewall rules on the AZZ side that had not been initially mapped, which impacted the Active Directory setup. Additionally, client-side firewall adjustments were necessary to enable IMAP OAuth configuration with O365 and to support signing JAR files on EBS applications using DigiCert on OCI instances.

Despite these challenges, the Apps Associates team successfully delivered all requested components in the order specified by the client and at the same highlighted our superpower on these types of projects – flexibility.

About Apps Associates

Apps Associates is a premier enterprise applications and technology advisor, counseling and executing across every stage of the enterprise transformation journey - not just the destination. For more than two decades, Apps Associates has closely collaborated with decision makers across nearly every industry, offering end-to-end integration, modernization, and cloud migration services. By helping to break down the silos within today's most complex business challenges, Apps Associates is unlocking solutions and efficiencies that scale into future opportunities.

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