# AUTOMATION OF LEASING APPLICATION MIGRATION FROM AWS TO AZURE

2x Cost Savings, High Availability and Resource Optimization with end-to-end automation and cloud migration.

## Client Background

Our client is one of the Big Four auditors and leading global service providers with focus on risk management, financial services, business advisory, and other services. Earlier, the client had a leasing application hosted on AWS Infrastructure as a Services (IaaS). The client's single tenant application infrastructure used to take weeks to provision. The cost of infrastructure was high due to lack of automation, and scaling infrastructure during peak hours became a concern. There were challenges with maintaining state configuration of VMs. Also, it was difficult to monitor application and infrastructure performance with limited monitoring capabilities.

To achieve the desired cost optimization and application scalability, the client entered a strategic partnership with Microsoft. Xoriant's expertise was brought in to migrate the existing Leasing Application from AWS to Azure and incorporate automation features.

The key objectives included:

- Migrate the application for 40+ Tenants from AWS to Azure.
- Enable single-click deployment automation for the Leasing Application infrastructure.
- Build Auto-Availability solution for UAT and Lower environments.
- Setup Application and Infrastructure monitoring using Azure monitor and application insights.
- Automate VM configuration management using Salt.
- Post cloud migration, route clients to the migrated infrastructure on Azure using a common URL.

## KEY BENEFITS

- Reduced infrastructure costs with automation and auto-availability.
- 2x Cost Benefits at lower environments (Dev, QA, UAT).
- Enabled scale in and scale out to manage the load on process servers with autoscaling managed through one server.
- Minimized tenant onboarding time to less than a day with single-click tenant deployment solution through end-to-end automation. Earlier, it used to take more than a week to setup single tenant environment.

## Xoriant Solution | Key Contributions

Xoriant deployed 160+ environments (4 environments for each tenant) to migrate 40+ tenants from AWS to Azure. We transformed the infrastructure with autoscaling capabilities and custom solutions to manage extra load during peak hours and optimize process costs.

Our key contributions included:

- Migrated the exisitng AWS environments and built a single-click deployment solution for Leasing Application infrastructure in Azure using ARM and PowerShell. Automation solution supported both Az SQL and SQL VM deployment with bacpac import.
- Built custom synthetic monitoring solution to monitor application queue count of documents being processed beyond a set threshold to prevent application overload.
- Set up autoscaling using application insights and virtual machine scale-set. Alerts were set up along with the infrastructure. Whenever event queue reaches a specific limit, VMSS triggers scale-out with the help of metrics stored in application insights.
- Built UI automation using python-selenium script to automate application configuration.
- Built a custom auto-availability solution using Azure Automation Runbook and Python-based utility to auto shutdown VMs in UAT and lower environment based on schedule and user activity.
- Enabled maintainence of VM state and application configuration with Salt stack (an opensource tool) for the 3-tier application architecture. PoCs with PaaS model indicated that the in-house application did not support a PaaS model and would need an application upgrade. Therefore, Xoriant automated the configuration of VMs (Except Data Tier) for application deployment in Azure.
- Centralized DIF [Data Integration Framework] Management from single server instead of individual App servers for each tenant.

### KEY BENEFITS

- Optimized costs in Data tier of the architecture by moving the VMs to a database PaaS instance.
- Reduced man efforts for application configuration through UI Automation.
- Minimized time and effort by giving the flexibility to manage DIF from a centralized server.

## Technology Stack

**Microsoft Azure – VM, VMSS, Azure SQL, Azure Monitor (Alerts, Dashboards), Application Insights, Azure Security Center, Azure Automation (Runbook, Update Management) | Salt | Nexus Repository Manager | Python | PowerShell | ARM Templates | Shell Scripting**

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