



ClearScale Empowers Retool's Transition from Azure to AWS, Unlocking Improved Performance and Business Growth

Retool

Executive Summary

Retool is a platform that enables software developers to build custom business software and both internal and customer-facing applications faster. With countless integrations, pre-configured (but customizable) components, workflows, templates, and more, its suite of features and building blocks are designed to address real business challenges.

Recently, Retool migrated from Microsoft Azure to AWS to fix reliability, performance, and scaling issues. Demand for the company's platform was growing, and the leadership team needed a better long-term cloud solution. As an experienced cloud migration services provider with deep AWS experience, ClearScale was the right partner to support Retool during the transition to AWS.

"ClearScale listened to our goals and worked with us to come up with a custom migration plan to move from Microsoft Azure to AWS. We're now in a fantastic position to continue growing due to the scalability and performance enhancements that AWS provides."

Ryan Wong, Infrastructure Manager, Retool

The Challenge

Several of Retool's environments in Microsoft Azure were struggling to keep up with the platform's usage—which motivated the company to reconsider whether Azure was the best fit for its needs. After exploring alternate solutions, Retool determined that AWS offered a more stable cloud platform to build and scale upon.

Retool also wanted to increase automation related to infrastructure management and application deployments. Migrating to AWS provided an opportunity to re-architect key aspects of the underlying IT infrastructure and eliminate pain points.



Ultimately, the company opted to rebuild its infrastructure from scratch, making targeted improvements while also ensuring a migration with near-zero downtime. Retool brought in ClearScale to support that smooth migration to AWS and to design an optimal cloud environment.

With Retool's goals clearly defined, ClearScale was all set to guide the migration.

The ClearScale Solution

ClearScale first spent time in Discovery mode to fully understand Retool's solution and requirements. Next, ClearScale engineers worked closely with the client's in-house team to design the new AWS architecture. The hope was to minimize the amount of refactoring needed for the migration. The collective team discussed options for every layer and service, keeping best practices in mind for every resource.

After agreeing on an architecture design, ClearScale began the migration by deploying an AWS Control Tower Landing Zone. Getting this foundation right was crucial for the success of the overall migration. ClearScale also implemented [AWS Organizations](#) so that Retool could create new AWS accounts easily and manage its new environments from a central location.

The next step of the migration was to develop Infrastructure as Code (IaC) processes that would enable ClearScale to deploy all of Retool's environments consistently across multiple regions. ClearScale used Terraform and Terragrunt for this work and then developed, tested, and approved all new IaC modules. With everything in place, ClearScale was able to deploy Retool's infrastructure one environment at a time. Simultaneously, Retool deployed its application and prepared it for testing.

To support multiple database use cases, ClearScale assisted Retool with a combination of Amazon Aurora PostgreSQL Global Database and [Amazon RDS PostgreSQL](#). The Retool team then migrated the data with appropriate backup, restore, and replication protocols defined for each database.

The Benefits

During the migration, everyone on the Retool team worked hard to learn about AWS, readying the company to build upon its new cloud foundation. Following the migration, Retool had a well-architected, multi-Availability Zone, and multi-regional cloud deployment in AWS. The company's core product can now scale seamlessly and is more resilient than ever.