Azure Cost Reduction and Architectural Rebuild

Rebuilding an Azure Environment to Eliminate Waste and Restore Control

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Overview

An organization was operating entirely in Microsoft Azure but had no clear understanding of what resources were running, how systems were structured, or why costs continued to increase.

The environment had been lifted into Azure using a traditional server-based approach, resulting in unnecessary complexity, rising costs, and growing security concerns.

Calkri was brought in to assess the environment, regain control, and rebuild it in a way that aligned with how Azure is intended to be used.

The Problem

From both a technical and business perspective, the environment had several critical issues

- Multiple virtual machines running continuously with no clear purpose or ownership
- No tagging, naming standards, or resource organization within Azure
- Costs tied primarily to always-on infrastructure rather than actual usage
- File storage handled through server-based approaches instead of cloud-native services
- Accounting systems (QuickBooks and related tools) running in inconsistent and insecure ways
- No centralized or controlled multi-user environment for financial operations
- Permissions applied inconsistently, including direct user access with no role structure

At a leadership level, this created three problems

1. No visibility into spend
2. No confidence in security
3. No predictability in operations

What Was Identified

A full review of the environment revealed that the issue was not scale—it was design.

Key findings included

- Azure was being used as a direct replacement for on-prem servers rather than leveraging platform services
- Several virtual machines were oversized, underutilized, or no longer required
- Storage was fragmented across systems instead of centralized
- No separation between user access, system access, and administrative control

- No architectural documentation, making the environment dependent on tribal knowledge
- Accounting workflows required shared access but lacked a secure, structured solution

The environment had effectively become

A cloud-hosted version of a legacy system, with cloud-level cost and none of the cloud benefits

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What Was Done

The approach focused on restructuring, not patching.

1. Environment Cleanup and Baseline Control

- Audited all Azure resources and mapped them to actual business use
- Identified and removed unused or redundant virtual machines
- Established basic organization through resource grouping and naming standards

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2. Shift from VM-Based Design to Service-Based Architecture

- Reduced reliance on always-on virtual machines
- Moved appropriate workloads to Azure-native services where possible
- Aligned compute usage to actual demand instead of constant uptime

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3. File Storage Redesign Using SharePoint

- Replaced server-based file storage with SharePoint
- Centralized documents into a structured, permission-controlled environment
- Eliminated dependency on file servers and manual access management

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4. Identity and Permission Restructure

- Removed direct user permissions wherever possible
- Implemented role-based access aligned to business functions
- Separated user access from administrative control
- Created a structure that could be audited and maintained over time

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5. Secure Multi-User Accounting Environment

- Designed and deployed Azure Virtual Desktop (AVD)
- Enabled multiple users to securely access QuickBooks and related systems
- Centralized accounting workloads into a controlled environment
- Removed dependency on local installs and inconsistent access patterns

6. Documentation and Architectural Visibility

- Created full architectural diagrams of the environment
- Documented system relationships, access models, and dependencies
- Provided a clear reference for future changes and troubleshooting

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Outcome

The result was not just cost reduction—it was a fundamentally different environment.

- Ongoing Azure spend reduced by eliminating unnecessary infrastructure and aligning usage to actual demand
- Virtual machine footprint significantly reduced and right-sized
- File storage centralized and secured through SharePoint
- Accounting workflows stabilized within a secure, multi-user environment
- Permissions became structured, auditable, and maintainable
- Leadership gained clear visibility into how the environment was built and how it operated

Most importantly

- The environment no longer relied on guesswork to operate

The problem was not cloud cost. The problem was applying legacy infrastructure patterns in a platform designed to operate differently.

Once the architecture was corrected, cost, security, and usability all improved at the same time.