Cloud Migration Planning

Lessons From Migrations That Succeeded

— And the Ones That Didn't

A Valukoda Whitepaper

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Why Most Cloud Migrations Go Sideways

Cloud migration has a terrible reputation, and it has earned it. Industry surveys consistently report that the majority of enterprise cloud migrations exceed their planned timelines by 30–50%, overrun their budgets by similar margins, and deliver less value than the business case projected.

Having led cloud migrations at enterprise scale, including complex financial services environments where regulatory requirements add layers of complexity that most migration guides ignore, we can tell you that the problem is rarely technical. Cloud platforms work. The tools for migration are mature. The engineering is solvable.

The problem is almost always one of three things: the business case was wrong, the discovery was incomplete, or nobody managed the organizational change. Usually, it is all three.

> *The organizations that succeed at cloud migration are not the ones with the most resources or the most sophisticated technical teams. They are the ones that plan honestly, assess their environment completely, and treat migration as a business initiative with technology components, not a technology project with business implications.*

Before You Touch a Single Server

Start With the Business Question, Not the Technology Question

The most common mistake in cloud migration is starting with "let's move to the cloud" instead of "what business outcome are we trying to achieve?" These are fundamentally different starting points that lead to fundamentally different decisions.

"Move to the cloud" is a technology directive. It invites decisions about which cloud provider, which migration tools, and which applications move first. These are all the wrong first questions.

"Reduce our disaster recovery gap from 72 hours to 4 hours because our largest client requires it in their vendor agreement" is a business objective. It tells you why you are migrating, what success looks like, and which applications matter most. The technology decisions follow from this clarity.

Other legitimate business drivers: a lease expiration on your data center that creates a natural forcing function; a regulatory requirement that demands specific data residency or encryption capabilities; an acquisition that requires integrating two technology environments; a scalability requirement that on-premises infrastructure cannot meet cost-effectively.

If you cannot articulate the business driver in a single sentence that does not include the word "cloud," you are not ready to start planning.

Discover Everything, Including What Nobody Told You About

Every data center has secrets. The server that nobody remembers installing but that processes payroll every other Thursday. The database that two critical applications share through a connection string that is not documented anywhere. The FTP server that your largest client still sends files to because nobody ever migrated them to the SFTP endpoint you set up three years ago.

These secrets will destroy your migration timeline if you do not find them first. And you will not find them with a network scan alone. You need to combine automated discovery (network scanning, application dependency mapping, traffic analysis) with human discovery (interviewing the people who actually maintain these systems, reviewing change logs, tracing data flows from source to destination).

For financial services environments specifically: do not forget the regulatory data requirements. Books and records retention under SEC Rule 17a-4 means certain data must be stored in non-rewritable, non-erasable format. If you are moving that data to the cloud, you need to verify that your cloud storage configuration meets WORM (Write Once, Read Many) requirements. This is not something you discover during testing.

For manufacturing environments: inventory your OT/IT convergence points. If your ERP system talks to production floor controllers, those integration points need to be mapped before you move the ERP to the cloud. The Purdue Model does not disappear just because one layer moves to Azure.

For healthcare: map every system that touches PHI. Every one. Including the legacy PACS/DICOM system that the radiology department runs on a server under someone's desk. A BAA (Business Associate Agreement) is required with your cloud provider for any environment that stores, processes, or transmits protected health information.

The Six Strategies and When to Use Each

The industry references the "6 Rs" of migration strategy. Most guides list them as if they are interchangeable options. They are not. Each strategy has specific situations where it is the right choice and situations where it will waste money or create problems.

Strategy	When It Works	When It Doesn't
Rehost (Lift & Shift)	Data center lease expiring. Need to move fast. Application architecture is already virtualized. You plan to optimize later.	Application has performance-sensitive dependencies on local resources. Licensing does not transfer to cloud (some Oracle, SAP configurations). You expect cloud cost savings without architecture changes. You will be disappointed.

Replatform	Application needs minor modifications to leverage cloud services (e.g., moving from self-managed SQL Server to RDS). Team has bandwidth for limited refactoring.	The "minor modifications" reveal deeper architecture issues. Scope creep turns replatforming into refactoring without the planning.
Refactor	Application is strategic, long-lived, and would benefit significantly from cloud-native architecture. You have engineering talent and timeline to invest.	Application is nearing end of life. The business case does not justify the engineering investment. Your team lacks cloud-native development experience.
Repurchase	Current application is custom-built or outdated, and a mature SaaS alternative exists. The SaaS option covers 80%+ of your requirements.	Your requirements are highly specialized. Data migration from the legacy system is complex. The SaaS vendor's roadmap does not align with your needs.
Retire	Application has fewer users than you thought. Business process has changed. Another system has absorbed the functionality.	Someone depends on it and you did not ask them. Data retention requirements extend beyond the application's life.
Retain	Application has deep hardware dependencies. Regulatory requirements prohibit cloud hosting. Migration risk exceeds the benefit for this cycle.	You are using "retain" as a way to avoid hard decisions. Everything gets retained because nobody wants to do the work of migrating.

Most real-world migrations use three or four strategies across their application portfolio. The right mix depends on your applications, your team's capabilities, your timeline, and your budget. Anyone who recommends a single strategy for your entire environment is either simplifying for convenience or does not understand the complexity.

The Money Conversation Nobody Wants to Have

Cloud Is Not Automatically Cheaper

This may be the most important sentence in this entire whitepaper. The promise of cloud cost savings has been oversold to the point where business leaders expect their infrastructure costs to decrease after migration. For some workloads, they will. For many, they will not, at least not initially.

On-premises infrastructure is a capital expense you have already made. The servers are bought. The network is built. The only ongoing costs are power, cooling, maintenance, and personnel. When you move to the cloud, you convert that sunk capital cost into an ongoing operational expense, and operational expenses in the cloud have a way of growing if you are not actively managing them.

The hidden costs nobody mentions in the sales pitch: Egress charges (moving data out of the cloud). Cross-region replication for disaster recovery. Premium support tiers you did not think you needed until your production environment went down at midnight and standard support has a 24-hour response SLA. Reserved instance commitments that lock you into capacity you may not need. The cloud architect you need to hire because your team knows on-premises infrastructure, not AWS IAM policies.

Parallel Running Costs Will Surprise You

During migration, you are paying for both environments. Your existing infrastructure does not stop costing money the day you start moving workloads to the cloud. For a complex migration that runs six to twelve months, you may be paying double infrastructure costs for the entire period. Budget for this explicitly, because it will not appear in your cloud provider's TCO calculator.

Execution: Where Plans Meet Reality

Migrate in Waves, Not Waterfalls

The temptation is to plan the entire migration end-to-end and then execute. This never works because you will learn things in the first wave that change your approach for subsequent waves. Instead, plan in waves: start with a small batch of low-risk applications, learn from the experience, adjust your approach, and scale.

Wave 1 should be your simplest applications with the lowest business criticality. Not because they are the most important to migrate, but because they are the safest place to learn. Your team needs to develop muscle memory for the migration process: how to test, how to cut over, how to roll back, how to validate. Better to learn those lessons on an internal wiki than on your revenue-generating platform.

Testing: The Only Non-Negotiable

Every migration plan gets squeezed eventually. Timelines slip, budgets tighten, stakeholders get impatient. When something has to give, it is almost always testing. This is the single most reliable predictor of post-migration problems.

At minimum, you need functional testing (does the application work correctly in the new environment), performance testing (does it meet the same or better response times), integration testing (do all the connections to other systems work), and security testing (are the controls properly implemented in the cloud configuration). If any of these gets cut, you are making a deliberate bet that nothing has changed, and that bet rarely pays off.

The Rollback Plan You Hope You Never Use

Every cutover needs a documented rollback plan. Not "we will figure it out if something goes wrong" but rather a specific, step-by-step procedure that returns the application to its pre-migration state. The rollback plan should include clear criteria for when to invoke it (not "when things look bad" but specific thresholds: response times exceed X, error rates exceed Y, specific functionality Z is not working).

You also need a rollback window: a defined period after cutover during which rollback is feasible. Once data starts flowing into the new environment and accumulating beyond what the old environment contains, rollback becomes significantly more complex. Know that window and communicate it to stakeholders.

The Organizational Change That Makes or Breaks It

Technical migrations fail for organizational reasons more often than technical ones. Your team needs to learn new tools, new processes, and new ways of thinking about infrastructure. Your operations team goes from managing hardware they can touch to managing resources through a web console and API calls. Your security team needs to understand cloud-native security controls that work differently from their on-premises counterparts.

This is not a training gap you close with a certification course. It is a cultural and operational shift that takes months. Plan for it. Budget for it. Give your team the time and support to make the transition without pretending it is trivial.

> *The best migration plans we have seen allocate 20–25% of the total project budget to organizational readiness: training, process redesign, documentation, and support during the transition period. The worst plans allocate zero and then wonder why the cloud environment is managed like an on-premises environment with a different billing model.*

About Valukoda

Valukoda provides IT consulting and managed services with True CIO™ executive leadership. Our leaders have led cloud migrations at major financial services organizations, navigating the regulatory, operational, and organizational challenges that turn straightforward migration plans into complex, multi-year initiatives. We bring that experience to every engagement.

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