



# Leap Into the Cloud

**A Step-by-Step Guide to a Successful  
Microsoft Azure Cloud Migration**

## INTRODUCTION

Migrating to the cloud is essential to business strategy in the post-pandemic era. And enterprises are increasingly turning to the Microsoft Azure cloud platform to solve today's challenges and become future-ready.

Already progressing at a healthy pace, COVID shifted cloud adoption into high gear: creating an urgent need for a secure, reliable, and scalable off-premises technology solution that allowed business to continue remotely. However, advantages gained from the agility, flexibility, and resiliency that cloud computing infuses into organizations will extend far beyond the pandemic – enabling faster deployments, increased collaboration, reduced risk of data loss, and secure connectivity and accessibility from anywhere in the world.

When managed properly, cloud computing can be the most cost-efficient method for using IT infrastructure as well: offering pay-as-you-go packages and no need to purchase, install, and maintain pricey server equipment and network devices.

Currently, 92% of organizations have at least part of their IT environment on the cloud. And Gartner expects more hypergrowth, with the global public cloud services market expanding 22% to \$480 billion in 2022.

Microsoft Azure is the second-largest cloud provider behind Amazon Web Services (AWS), but the gap is narrowing quickly. In fact, Azure adoption rates surpassed AWS for the first time in the 2022 State of the Cloud Report.

Azure is often a natural choice for businesses

that already use Microsoft products, with 95% of Fortune 500 organizations on the platform. Its ability to easily sync with legacy Microsoft solutions makes it a preferred choice for hybrid cloud deployments. It's five times less expensive than AWS for running Windows Server and SQL Server virtual machines. Azure also maintains the most Regions, according to ACG - ensuring an optimal cloud experience with data centers close by.

But it's no secret that cloud complexities and a shortage of cloud skills in IT Departments can make adoption a challenge. Some 50% of cloud migrations stall or fail – and 55% wind up over budget.

Cloud computing is a proven path to reducing IT costs and accelerating innovation and growth – when it's executed properly. Follow our roadmap to prevent your leap into the cloud from falling short and migrate your business to Microsoft Azure successfully.

Currently, **92%** of organizations have at least part of their IT environment on the cloud. And Forrester expects more hypergrowth, with the global public cloud infrastructure market expanding

**35%** to \$120 billion in 2021.

-Foundry / Forrester



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# 5 Key Considerations Before Embarking on an Azure Cloud Migration

- 1 Assess your needs before you start.
- 2 Consider your cloud migration approach.
- 3 Build a strategy for cost management and governance.
- 4 Look closely at security.
- 5 Create a comprehensive testing plan.



## 1. Assess your needs before you start.

Sounds obvious, right? But lack of planning is a common reason cloud migrations fall apart. Starting a migration without a clearly defined, well-researched strategy can doom your project to failure.

Start by identifying the business drivers for migrating to the cloud and align your leadership team behind them. Whether you aim to improve remote collaboration, increase scalability, lower costs, or something else, a well-defined end goal will help guide you toward the right decisions along the way.

Discussing your cloud migration project with all relevant stakeholders comes next. Zero in on the total cost of your current deployment and evaluate which parts of your application portfolio could benefit from cloud migration.

Gather detailed information on your storage, network, data collection, operating environment, and on-premises hardware –

digging into the volume of usage, number of users, technologies used, resource consumption, and more. Assess existing applications to determine how suitable they are for the cloud, as well as any re-architecting or re-platforming that must be done to run them in a virtual environment.

By grasping the complexity of your current solution, you can better map what applications, workloads, and data can be migrated and what should stay on-premises.

Azure offers several tools to optimize the assessment process. For instance, the Virtual Machine Readiness Assessment tool and Microsoft Assessment and Planning toolkit can assess applications for migration. Such tools can also deliver automated recommendations regarding CPU, current network architecture and capacity, and disk size, storage, performance, and ongoing maintenance requirements.

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## 2. Consider your cloud migration approach.

Choosing the wrong approach is another common reason cloud migration projects fail. Too many organizations don't invest time determining the solution that works best for their specific applications, timeframes, and long-term needs.

The most common cloud migration approaches include:



### Rehost.

Also known as Lift-and-Shift, this approach involves moving applications to the cloud as-is.



### Refactor.

Adapting applications to better support the cloud environment.



### Replatform.

Taking advantage of cloud benefits while moving applications to the cloud without major changes.



### Rebuild.

Rewriting the application from scratch.



### Replace.

Retiring the application and replacing it with a new, cloud-native application.

Ultimately, the best approach is determined by key factors like the size of your organization, what data you want to migrate, and the type of team using the applications. Many times, a hybrid solution can make the most sense based on your objectives and requirements.

Once you've selected an approach, it's wise to start small: building a Proof of Concept from several applications that are easy to migrate and provide high value to the business. With an early win, you can then focus on migrating more complex or lower-value applications.

Keep in mind that migrating data is one of the trickiest parts of cloud migration. While massive amounts can be moved to the cloud quickly, careful planning is required to minimize business downtime. Migrating in waves with an iterative approach can help organizations methodically shift manageable batches of data.

Determining who will lead your cloud migration is also vital to your approach. Proper cloud adoption involves a cultural shift. Fully leveraging the cloud as a strategic component of you

business requires speed, specialized skill sets, and a new way of thinking for sustainable success. Many IT Departments are realizing they lack the specialized talent to drive their cloud initiatives. As more industries embrace the cloud as the key enabler to digital transformation, a sobering 90% of enterprises report a shortage of workers with cloud-related skills, states CIO Dive.

For instance, in-house staff often lack experience with the native set of tools and services utilized by their cloud provider, making it difficult to craft a strategy that achieves the platform's full potential. Overworked IT staff also struggle to keep pace with rapid cloud technology changes.

A qualified cloud migration partner provides the expertise and experience to help you strategize and carry out the right migration approach - ensuring your goals are achieved, your business isn't disrupted, and your cloud transformation drives your business to future success. Optima results stem from choosing a partner who has performed migrations of similar size and complexity.

## 3. Build a strategy for cost management and governance.

Nearly 65% of IT leaders cited "cost management and containment" as the biggest pain point to running cloud technologies and applications. One in 12 said they end up spending an alarming 40% more than they budgeted - with 30% of total cloud spend wasted on unused resources.

Gartner predicts that 60% of IT leaders will continue to face public cloud cost overruns through 2024 as they struggle with complex and fast-changing cloud pricing, little organizational insight into what impacts costs, and the ability of business units to spin up cloud services with little or no accountability. Implementing a robust cost management strategy is vital to avoiding terrible budget surprises on your cloud bills.

Resource optimization strategies like tagging keep your cloud configuration "right-sized," enabling you to upgrade, downgrade, or terminate cloud resources based on utilization metrics and automation. Essentially, tags are metadata labels that you assign to each of your resources to better categorize them for cost allocation,

reporting, cost optimization, and more. Once you understand your resource needs, you can also invest in pricing optimization strategies like Reserve Instances (RIs) that offer heavy discounts for pre-booking capacity. Azure RI savings can reach as high as 72% compared to on-demand pricing models, based on the upfront payment and time commitment you select.

Governance strategies like budget allocations and quotas are also key to keeping cloud costs from spiraling. Budget allocations track actual spending against planned spending. After the budget is set, monitoring tools trigger alerts when cloud resource consumption approaches a predetermined threshold.

Quotas go a step farther, guarding against runaway costs with an alert that automatically stops spending and requires an approval process to change.



**60% of IT leaders will continue to face public cloud cost overruns through 2024**

-Gartner



## 4. Look closely at security.

Security should be a top-of-mind concern for organizations contemplating a cloud migration. But too many businesses pay the price for rushing into a new cloud solution without carefully considering security challenges.

Unfortunately, that can lead to myriad issues: opening new attack vectors into your network, vulnerability to emerging cloud-based threats, and steep fines and penalties for failing to adequately consider compliance requirements in your industry or geographic location.

Consider these sobering facts: Cloud-based cyber-attacks rose 630% during the pandemic as criminals took full advantage of the abrupt transition to remote work. More than half of organizations forced to shift workloads from the cloud back on-premises after an unsuccessful migration cited security challenges as a primary factor.

Cloud security requires more than ringing a firewall around the perimeter of your infrastructure. A wide range of security solutions

may be needed, depending upon the applications running and services used. You also need to understand data flows and bandwidth requirements to ensure your security solutions meet performance requirements. That's especially true for latency-sensitive services that utilize VPN tunnels.

Before migrating to the cloud, take time to assess your current security mechanisms and identify your security and compliance needs. Consider business risks and risk tolerances – and look closely at the core security pillars that will protect your cloud-based applications, data, infrastructure, and systems on Azure. Dig into controls, policies, processes, and technologies.

Microsoft Azure is renowned for its robust security stance and cutting-edge technology – investing more than \$1 billion annually into cybersecurity research and development. While customers are protected by default by the platform's built-in security capabilities, Azure also offers security products and service add-ons that can enhance protection.

### Some core Azure security features and best practices:



Data encryption using 256-bit AES, one of the strongest encryption ciphers available



State-of-the-art firewalls as base-level protection, with firewall-as-a-service products to further strengthen your stance. For instance, the Azure Web Application Firewall offers protection from common web exploits that can impact your availability, compromise security, or consume excessive compute resources.



Identity and Access Management tools like Azure Active Directory prevent the wrong people from accessing private and sensitive information.



Azure offers the most comprehensive set of compliance and industry standards among cloud providers. Its secure cloud platforms and processes align with 91 compliance standards, including CSA STAR, GDPR, HIPPA, PCI-DSS, and a range of ISO standards. It also offers built-in compliance for many cross-border businesses and transactions.



The Azure Shared Responsibility Model documents security responsibilities for you and Microsoft, preventing a misunderstanding from causing gaps and vulnerabilities.



## 5. Create a comprehensive testing plan.

Another common mistake organizations make is failing to adequately test before migrating their entire infrastructure to the cloud.

Applications may not scale up correctly, even when running on the right infrastructures.

Assuming applications that worked in a physical server environment will automatically function in the cloud is another recipe for disaster.

Without extensive testing, there is a high potential for instability, incompatibility, and technical breakdowns that can ultimately drain time, resources, and customer goodwill from organizations.

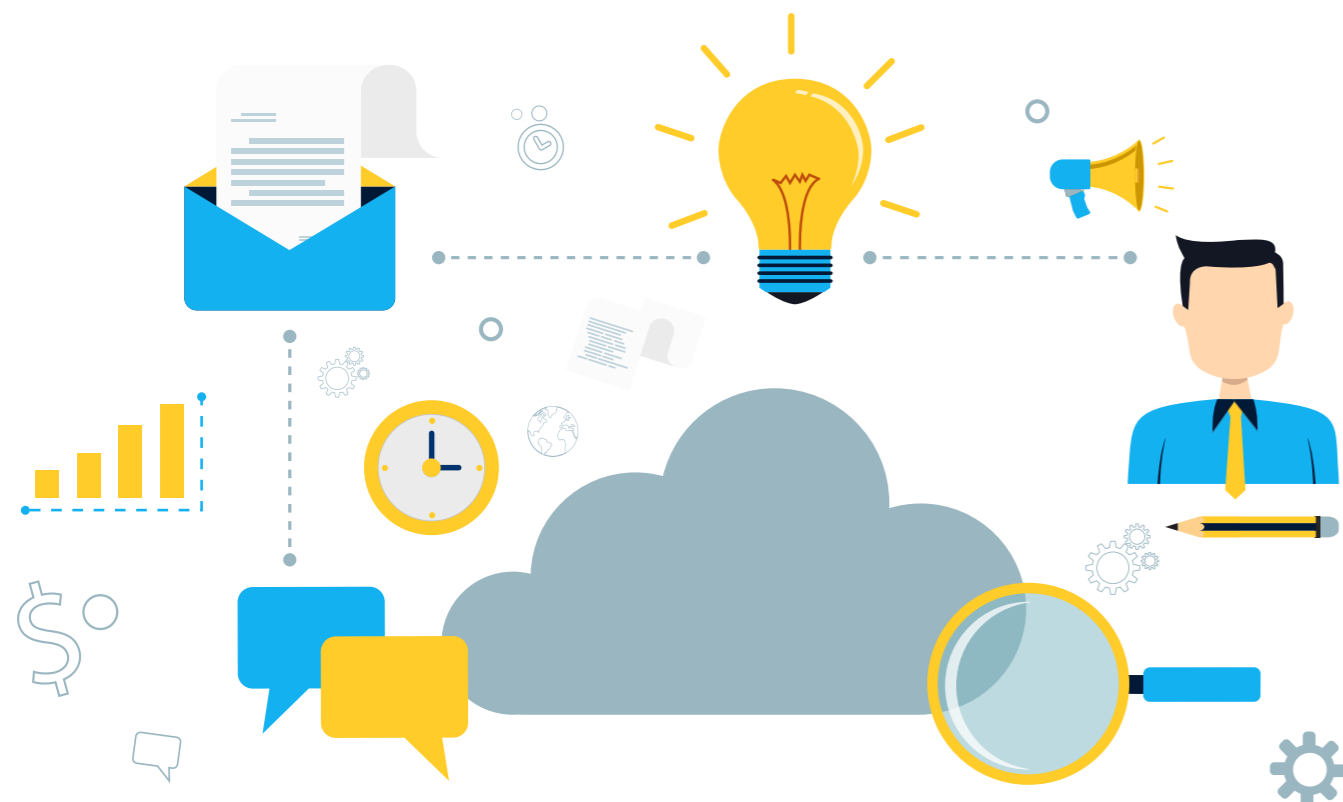
Baking testing into every stage of your cloud migration plan allows you to spot and resolve potential issues before your new environment goes live.

A comprehensive testing plan should cover stress and load, performance, integration, and security testing. Pushing your software and servers to the limit offers assurance that peak loads can be managed.

Functionality testing should occur once data and applications have been shifted to the new cloud environment, with a focus on software linked to toolchains and scalability.

Testing should also ensure legacy data transfers over to new applications with minimal downtime or disruption, as well as all essential data and functions remain intact. It should make sure the new, upgraded application is compatible with all hardware and software your legacy application currently supports as well.

Thorough migration testing is not complete until all applications are running flawlessly in the new environment.



# After the Migration: 5 Best Practices for Optimizing Your Azure Cloud Environment

Once a business has migrated successfully to Azure, its attention typically shifts to optimization: leveraging the platform's infrastructure and 200+ products and services to efficiently achieve organizational objectives.

These ongoing operations may be the most important stage of a cloud journey, continuously monitoring and improving your new environment to maximize its success.

- 1 **Analyze spend and usage to improve your mix of Azure services and automation.**
- 2 **Monitor performance to ensure you continue to meet your migration goals.**
- 3 **Put protective measures in place.**
- 4 **Plan your next steps.**
- 5 **Strategize who will manage your cloud services.**





These 5 best practices can help your business get the most out of your Microsoft Azure investment:

### 1. Analyze spend and usage to improve your mix of Azure services and automation.

Regular spend and usage analysis deliver valuable insights for optimizing your Azure cloud environment.

Organizations accustomed to the relatively stagnant expense of traditional data centers can be caught off guard by the variable nature of cloud spending.

While 83% of IT leaders in the Flexera survey said their annual cloud spend exceeds \$1.2 million, it's too often a mystery where it all goes – with as much as a third of cloud spend untracked.

Tracking your costs through customized reports and dashboards delivers the information you need to make changes before it's too late. Constantly monitoring Azure usage and patterns also enables you to maximize savings, increase performance, spot automation opportunities, and take advantage of new tooling as it's released.

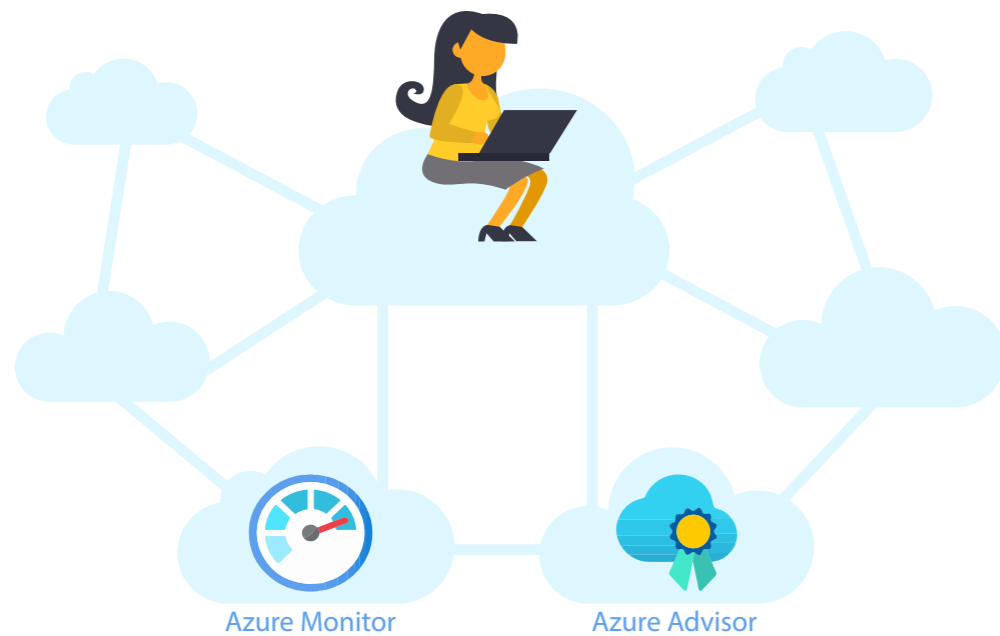
Azure's Cost Management tool is a great resource, providing recommendations for right-sizing, terminating resources, purchasing reserved instances, and more.

### 2. Monitor performance to ensure you continue to meet your migration goals.

Cloud environments are dynamic, and performance is not static. Even after a successful migration, monitoring is essential to ensure you continue to hit your performance targets.

Tools like Azure Monitor help you collect, analyze, and act on telemetry data – proactively identifying problems before they trigger

downtime and maximizing performance and availability. Azure Advisor helps you optimize performance as well, scanning your resource usage and configuration and providing more than 100 personalized recommendations for performance, cost, security, and availability that include inline actions.



### 3. Put protective measures in place.

Azure provides multiple services and mechanisms to protect your data. Its backup resources ensure fast reliable recovery for an unlimited amount of data from physical or virtual servers at a lower cost than on-premises solutions.



Implementing a full disaster recovery strategy is another critical step. For instance, you can minimize business interruption during a crisis by maintaining access to cloud servers that can be instantly infused with your backup data if on-premises equipment is destroyed.



Finally, be sure you understand the security posture of your new cloud-based applications. Test to ensure security measures are working and respond quickly to anomalies and incidents. It's also wise to become familiar with Azure's comprehensive security recommendations.



Tools like Azure Security Center are another important resource, offering suggested changes and alerts for protecting your Azure resources.





## 4. Plan your next steps.

Cloud technology is evolving rapidly, providing a steady stream of new opportunities for innovation and improvement. Once your new environment is running smoothly, explore what you can do next in Azure to gain new capabilities. Look for new or existing features and services that can maximize your use of the platform.

That can mean using automation to monitor and adjust capacity and utilization of cloud services, improving security and optimizing cloud applications. It can also mean leveraging other cloud services from the Azure marketplace (or even other cloud providers) to maximize efficiencies. Now is the time to develop a clear map to optimization and set up a cloud spend budget and efficiency target. It's also important to keep training and certifying internal resources supporting your migration to keep them up-to-date with the latest advancements. If you are working with a Managed Service Provider, make sure it is certified and continuously updating skills as well.

## 5. Strategize who will manage your cloud services.

The cloud doesn't automatically improve performance and spending – and many companies quickly discover that the time, risks, and costs of relying exclusively on IT staff eat away at the benefits. Without the right expertise, enterprises risk implementing useless architecture with poor security, increased and unexpected costs, and negative impacts on market relevance and competitiveness.

Retaining internal cloud talent is another critical concern, with high demand for limited resources generating a whopping 42% turnover rate.

Partnering with an experienced, Azure-certified Managed Service Provider (MSP) is fundamental to maximizing the value of the cloud and unlocking the endless possibilities it offers at each stage of your adoption journey.

While IT staff are focused on many initiatives, cloud migration and management form the core competency of Azure partners. They invest heavily in building a specialized team of experts who can demonstrate proof of certification across key skill sets, from DevOps to architect specializations to machine learning. These MSPs keep pace with ever-evolving changes to Azure technology, services, and pricing. They know native tools and services inside and out, using them continuously across multiple client environments.

To meet Service Level Agreements (SLAs) and strengthen customer relationships, MSPs are also incentivized to consistently improve operational efficiencies. They have optimized infrastructure and proven processes and procedures already in place to help you maximize benefits and minimize your learning curve. They are also experts in leveraging the wealth of cloud automations available to achieve promised value, often unfamiliar territory for IT staff used to running on-premises equipment. Ultimately, MSPs can provision a cloud platform

that meets your specific needs in a fraction of the time it takes to bring an in-house team up to speed or hire new resources amidst the cloud labor shortage.

Only 37% of executives say they fully achieve the outcomes they expect from their cloud initiatives, the Harvard Business Review reports. And 86% of IT leaders believe the national talent shortage will continue to slow down cloud projects.

Outsourcing to an Azure MSP resolves these challenges with consistent access to a deep bench of highly skilled cloud talent at a fraction of the cost of hiring similar resources in the U.S. Organizations can avoid time spent recruiting resources, researching cloud services, learning new tools, and correcting the inevitable mistakes made by inexperienced teams.

From reducing IT costs to accelerating innovation, the benefits of a successful cloud migration journey will continue to power digital transformation in 2022 and beyond. However, achieving the promised value is difficult without a well-developed strategy and experienced talent in place.

An exceptional Azure MSP delivers the expertise, guidance, and services to successfully migrate and manage workloads on the cloud. With the right partner, IT leaders can accelerate time to value while allowing internal teams to stay focused on the innovation and strategy that drives growth.



# About Auxis

Auxis is a management consulting and nearshore outsourcing firm focused on helping organizations modernize operations across Finance, IT, HR, Customer Service, and more. Over the years, we have tailored our Azure Cloud Services to assist organizations in adopting and operating their Azure environment successfully. Our Azure services offer complete cloud migration, day-to-day operations, applications development, automation, and on-demand professional services. Whether an organization is in its cloud adoption program's early stages or has already migrated, Auxis offers skilled and experienced technology and operations professionals and practices to achieve their ultimate goals.

## Delivering Peak Performance Since 1997

### Contributors

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