

Cloud Migration Simplified:

A Guide for Migrating Infrastructure,

Databases, and Applications



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infrastructure, databases, and applications

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Introduction

Cloud computing allows organizations to However, the migration journey can be

reduce or eliminate expenses associated involved, depending on the complexity

with data centers, including real estate, of the customer environment. Sound power, servers, storage, and networks. guidance throughout the process Migration to the cloud has rapidly contributes to success, from strategy accelerated in recent years, with more definition and planning to governance

and more organizations seeking to take and management. To perform a successful

advantage of the many benefits that the migration, organizations must determine

cloud offers. Among these benefits are how to: improved cost efficiency, scalability, and

security. the initial cloud migration plan. • Define business justification and create

The cloud also provides greater flexibility • Assess the on-premises environment and scalability. Organizations can match to understand what workloads and utilization to business demands and applications to migrate. pay only for the cloud resources they • Perform the migration with limited use. Additionally, the advanced security impact on the business. technologies in the public cloud help

organizations protect themselves against • Govern and manage cloud resources

continuously changing threats. after migration, making the most of

The cloud also enables you to use cutting- the investment and securing it. edge technologies and concepts to This e-book provides strategies and steps

innovate and adapt to ever-changing for planning and executing your cloud

business and technological landscapes. migration and introduces concepts from

Technologies such as AI, PaaS-based the Microsoft Cloud Adoption Framework

services, and big data platforms provide for Azure. This proven method has helped

additional value beyond cost savings and many customers in their cloud adoption

better security. journey.

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I really appreciate the

scalability we’ve gained

through Azure, but I’m

also excited about our

time to market. We can

now deliver reporting

faster for the business,

and we have complete

control with Azure.”

Laurens Teuben

IT Engineering Lead, ABN AMRO

[Read the full story >](https://customers.microsoft.com/en-us/story/1619782358202322547-abn-amro-banking-capital-markets-azure)

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Build a Migration Roadmap

A successful Azure migration is facilitated Unmanaged customers can access Azure

significantly by following organizational Customer Enablement Resources, a free

best practices to plan, build, and run library of online materials, tools, and secure, reliable, and cost-efficient resources designed to help customers

workloads and environments. To help get started, build, and deploy applications,

build your specific migration roadmap, and optimize their usage of Azure services.

Microsoft delivers proven guidance, tools, These resources are available to all Azure

and frameworks to assist customers, customers and include documentation,

from initial strategy, planning, readiness, training videos, webinars, forums, and

and migration through to ongoing other self-paced learning materials.

organizational alignment. In addition to Azure Customer innovation, governance, management,and

Enablement Resources, Unified Contract

This roadmap guide provides a handy customers also have access to Services

catalog of resources to assist both Unified Hub, a portal providing 24/7 access to

Contract and Unmanaged Azure customers on-demand learning and personalized

in their cloud migration and optimization recommendations. It also provides tools

efforts at any stage in their cloud adoption for assessing and managing IT health, journey. This end-to-end migration customized reports and insights, and roadmap is marked by three phases. Each unlimited end-to-end managed support

phase involves multiple action steps. direct from Microsoft.

relevant resources and channels of support [Learn more about Microsoft Unified >](https://www.microsoft.com/en-us/unifiedsupport/overview) This roadmap references and includes all

available for each step and phase of the

journey. Some are self-serve while others

are assisted by Microsoft and its partners.

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Why migrate now?

At first glance, cloud migration might • Application innovation: Increase the seem like a purely technical decision. efficiency of developers and team However, at its core, it’s all about business. productivity by up to 50 percent The discussion centers around two key using a cloud platform for modern

questions: what’s driving your business to development.

migrate to and/or modernize in the cloud, • Software end-of-support: Migrate to and why is now the right time? Microsoft Azure for extended security There are many benefits to adopting updates up to three years after the

the cloud, such as lower running costs, product’s end-of-support date.

faster modernization capabilities, and By migrating to the cloud, businesses can

heightened security. But there’s usually a reduce costs, improve efficiency, enhance

specific catalyst that sparks the migration security and reliability, and foster innovation.

conversation. Some of these include: Azure can help save money and improve

• efficiency, leading your business to success. Lower expenses: Optimize processes

and reduce hardware support to save In the next section, we’ll discuss migrating

up to 30 percent on virtual machine with the Microsoft Cloud Adoption (VM) resource configuration. Framework, equipping you with

knowledge for a seamless transition.

• Faster time-to-market/release: Reduce

management overhead and reallocate

budget to focus on software and Why Azure? solution development.

• Urgent capacity needs: Scale resources Trust your cloud

to provide more flexibility than Azure provides a secure foundation to

traditional on-premises systems. protect your customers and organization

• with multilayered security and investment Datacenter and hardware costs: Consider

migrating to the cloud to eliminate costly of over USD1 billion in research and

leasing and hosting services. development, backed by 3,500 security experts monitoring your data. You own

• Licensing renewal: Pay-as-you- your data with Azure’s core privacy

go options can help reduce annual principle, which ensures your data is licensing agreement costs. never used for marketing or advertising.

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Azure leads the industry with over 90 40 percent on your existing license compliance offerings to streamline investments. compliance and protect your data.

Build on your terms

Operate hybrid seamlessly With Azure, you can build and deploy Azure hybrid cloud solutions provide the applications how and where you want. Build

flexibility to operate seamlessly across with the language and tools of your choice

on-premises, multiple clouds, and the and take advantage of built-in support for

edge. You can simplify complex and Azure in popular development environments.

distributed environments, run Azure Access machine learning models and tools

services anywhere, and empower your for any skill level and build and scale without

employees to work from anywhere on constraints using hyperscale relational and

any device. Plus, using your Windows fast NoSQL databases with open APIs. Azure

Server and SQL Server on-premises delivers resilient applications that adapt licenses through the Azure Hybrid to your organization’s needs over time, Benefit, you can bring cloud innovation supported by industry-leading service level

to your workloads and save up to agreements.

Cloud migration triggers Common migration projects

• End-of-support for existing software • Windows Server

• Need for increased scalability and • SQL Server

flexibility

• Linux and open-source databases

• Desire to reduce IT infrastructure costs

• Dev and test

• Aging hardware and software systems

• Web apps

• Need for improved disaster recovery • SAP and business continuity capabilities

• Specialized workloads

• Need for enhanced security and

compliance • Data science and machine learning

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Migrating with the Microsoft

Cloud Adoption Framework

Organizations can achieve their cloud migration goals successfully by following a well-structured approach. This requires a cloud provider (and core partners) that can deliver comprehensive tools and methods to help simplify and accelerate migration and reduce overall risk. The Microsoft Cloud Adoption Framework provides proven guidance, best practices, tools, and templates to support your adoption journey through the different phases.

Strategize Plan Ready

Define business justification Align actionable adoption Prepare your cloud and expected adoption plans to business outcomes. environment for planned outcomes. changes.

Migrate Innovate Secure

Migrate and modernize Develop new cloud-native Improve security over time. existing workloads. or hybrid solutions.

Manage Govern Organize

Manage operations for Govern your environment Align the teams and cloud and hybrid solutions. and workloads. roles supporting your

organization’s cloud

adoption efforts.

The guidance covers strategy and planning and the ongoing governance, optimization, and management of the migrated workloads. With this proven approach, organizations can execute their migration projects with confidence.

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Strategize

To successfully migrate to the cloud and reap its benefits, you should use tools like the Cloud Adoption Strategy Evaluator to assess your cloud strategy. A strong business case communicates the reasons for migration and builds executive and stakeholder alignment. Engaging with partners early in the strategy phase can also help you get the most out of your cloud migration project.

Define and document your Evaluate financial considerations:

motivations: Meet with key Learn how to use the cloud to make

stakeholders and executives to your IT cost structure more flexible.

establish the drivers of cloud Then, build a business case to adopt

adoption. the cloud.

Document business outcomes: Understand technical Engage motivated stakeholders considerations: Identify the and executives to document efficiencies and capabilities that help

specific business outcomes. you build a business case to adopt

the cloud.

Assess your cloud strategy

[The Microsoft Cloud Adoption Strategy Evaluator](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/strategy/cloud-adoption-strategy-evaluator) can help you quickly and accurately identify your cloud strategy. It assesses key areas such as motivations, expected outcomes, and financial and technical considerations. Based on your responses, the assessment provides a personalized strategy score and guides you through the relevant areas. It also offers curated guidance, recommendations on specific tools and templates, and advice on cloud economics and organizational alignment principles.

Create a business case

Crafting a compelling business case for cloud migration can help gain buy-in from the finance team and accelerate the project. Key components of a business case may include:

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Reservations provide discounts of up to 72

Environment scope percent.

Azure savings plan for compute generates

Baseline financial data significant savings on pay-as-you-go prices

for eligible compute services.

On-premises cost scenarios

for comparison Azure dev/test pricing offers discounted

rates for development and testing.

Migration timelines and costs Extended security updates provide

continued support for SQL Server 2008

Cloud savings opportunities and SQL Server 2008 R2 through Azure VM

migration or purchasing extended security

updates.

By carefully devising and planning a Build executive and stakeholder business case for cloud migration, you can alignment optimize your Azure consumption plan and Establish the root business case for realize significant cost savings, which you migration, along with the urgency and

can reinvest in new technology initiatives. timelines associated with it. Distinguishing

case feature to easily build your own approaches. To get commitment from business case using built-in guidance leadership to pursue migration, spell out and calculators. your migration drivers. Use [Azure Migrate and its business](https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-cloud-migration/?ef_id=_k_f160736b123f1c4773ba171c7fc071b4_k_&OCID=AIDcmme9zx2qiz_SEM__k_f160736b123f1c4773ba171c7fc071b4_k_&msclkid=f160736b123f1c4773ba171c7fc071b4#definition) drivers supports flexibility in migration between business, technical, and timeline

Understand cost management In getting buy-in from executive strategies leadership, you should set a strategy to

Migrating to the cloud can save ensure success, consisting of the following:

organizations money through flexible • Guidance on why the organization is

billing models. Organizations can migrating. optimize their costs further using savings

opportunities offered by Microsoft Azure: • Assigning people and teams.

Azure hybrid benefit • Allocating budget (with the expectation allows organizations

to use on-premises licenses on Azure, to refine later).

reducing cloud costs. Migration involves coordination between

Spot virtual machines multiple functions, including leadership, offer deep discounts

for workloads that can be interrupted. lines of business, IT, security, and the

application owners who will be affected.

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Speaking in terms of business outcomes You are not alone in your cloud journey.

supports transparency and cross-functional Various partnership options can help partnerships. develop needed skills, augment staffing

To maintain application owners’ support specific processes. Consider these options requirements, or completely offload

throughout the migration effort and avoid to support your team throughout your surprises, include them in early planning cloud adoption journey: exercises and reinforce the benefits of

Azure. IT infrastructure groups (networking, [Find a Cloud Solution Provider (CSP):](https://www.microsoft.com/solution-providers/home) security, identity, etc.) should also be part Connect with a certified CSP to assess of design and planning discussions. business goals, identify the right cloud

[Azure Migrate](https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-cloud-migration/?ef_id=_k_f160736b123f1c4773ba171c7fc071b4_k_&OCID=AIDcmme9zx2qiz_SEM__k_f160736b123f1c4773ba171c7fc071b4_k_&msclkid=f160736b123f1c4773ba171c7fc071b4#definition) can also help to build a plan efficient in the cloud. solution, and become more agile and that is specific to your migration strategy

and circumstances. [Find a managed service partner:](https://www.microsoft.com/solution-providers/search?cacheid=16a3b49b-fef2-449d-bdf0-628008114cca) Transition

to Azure with guidance from an Azure

Engage your partner managed service partner (MSP) who can help

Smaller customers or those with less- with consulting, migrations, and operations

complex envir[onments can use](https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-cloud-migration/?ef_id=_k_f160736b123f1c4773ba171c7fc071b4_k_&OCID=AIDcmme9zx2qiz_SEM__k_f160736b123f1c4773ba171c7fc071b4_k_&msclkid=f160736b123f1c4773ba171c7fc071b4#definition)  management. [Azure](https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-cloud-migration/?ef_id=_k_f160736b123f1c4773ba171c7fc071b4_k_&OCID=AIDcmme9zx2qiz_SEM__k_f160736b123f1c4773ba171c7fc071b4_k_&msclkid=f160736b123f1c4773ba171c7fc071b4#definition)

[Migrate to guide them thr](https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-cloud-migration/?ef_id=_k_f160736b123f1c4773ba171c7fc071b4_k_&OCID=AIDcmme9zx2qiz_SEM__k_f160736b123f1c4773ba171c7fc071b4_k_&msclkid=f160736b123f1c4773ba171c7fc071b4#definition)ough the [FastTrack for Azure: Get dir](https://azure.microsoft.com/programs/azure-fasttrack/)ect assistance process in a self-service manner. from Azure engineers who will guide However, customers with complex you from setup, configuration, and environments or who don’t have necessary development to production of Azure cloud skills often require support from solutions.

partners working together towards a [Azure Migrate and Modernize: Receive](https://azure.microsoft.com/migration/migration-modernization-program/) common goal. Here are some steps to help technical skill building, step-by-step remove roadblocks in later phases of the guidance, free migration tools, and adoption lifecycle: potential offers.

[Solution assessments:](https://www.microsoft.com/solutionassessments) Get an in-depth understanding of opportunities available in

Start to understand support needs your environment to improve productivity,

reduce cost, and optimize investments

Consider partnership options that by working with a Microsoft solutions fit your culture assessment expert or qualified partner.

Evaluate a shortlist of partner [Azure support: Cr](https://azure.microsoft.com/support/plans/)eate a support request or

options get deep technical guidance by aligning

with the best support plan for your needs.

Review legal terms and

contracting early

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Plan

Cloud adoption plans transform the • [Strategic Migration Assessment &](https://learn.microsoft.com/en-us/assessments/Strategic-Migration-Assessment/)

ambitious objectives of a cloud adoption [Readiness Tool (SMART)](https://learn.microsoft.com/en-us/assessments/Strategic-Migration-Assessment/) helps you strategy into a practical, actionable understand your level of readiness roadmap. These plans enable your across all dimensions of migration, from

organization’s cloud teams to coordinate initial strategy to ongoing management.

with your business strategy. • [Azure Migrate: Discovery and](https://learn.microsoft.com/en-us/azure/migrate/migrate-services-overview#azure-migrate-discovery-and-assessment-tool) their technical efforts while aligning them

[assessment tool](https://learn.microsoft.com/en-us/azure/migrate/migrate-services-overview#azure-migrate-discovery-and-assessment-tool) helps you through

To document your organization’s technology discovery, assessment, planning, strategy, use the following exercises. and migration or modernization of

These activities assist your cloud adoption infrastructure, databases, and on-endeavors by outlining prioritized tasks. premises applications. The business case

Upon completion, your cloud adoption plan feature can be used to create a proposal

will align with the metrics and motivations with TCO/ROI for both IaaS and PaaS

specified in the strategy. before moving to Azure. Dependency

analysis, readiness checks and right-

Discover and assess the digital estate sizing are some of the optimizations

A digital estate refers to the collection included in the proposal.

of owned IT assets, like virtual machines, • [Data Migration Assistant h](https://learn.microsoft.com/en-us/sql/dma/dma-overview?view=sql-server-ver16)elps you servers, applications, and data that support upgrade to a modern data platform by business processes and operations. It plays detecting compatibility issues that can a vital role in planning and executing impact database functionality in your digital transformation efforts, as it helps new version of SQL Server or Azure SQL align business goals with technical plans. Database. Analyzing the digital estate guides cloud

adoption activities and informs financial Identify application and server models, ultimately driving return on dependencies investment. This analysis involves choosing After discovering your IT assets, mapping

the right approach, taking inventory of dependencies between servers and current assets, organizing the digital estate, applications helps ensure all components

and aligning assets with cloud offerings to of an app are migrated together. Many calculate pricing. This information allows tools offer server dependency mapping,

financial models and migration plans to be but application dependencies complete the

adjusted accordingly. picture.

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Analyze configuration Migration plan Analyzing configuration ensures workload Organize your applications in a migration

compatibility with the cloud platform. plan based on business priority and Assessment tools provide metrics on complexity. Assemble the core team readiness and guidelines for addressing responsible for migration and determine

potential issues or making necessary the best approach. modifications.

Align migration team

Plan costs Align the people responsible for executing

Planning costs involves collecting resource the migration plan. Identify who will usage data, as on-premises virtual handle technical tasks, be accountable for

machines (VMs) are often over-provisioned team performance, manage protective

but underused. Cost analysis tools can governance mechanisms, and define recommend the most suitable Azure VM governance controls. Consider other roles

series for your workloads by analyzing or individuals responsible for aspects of the

historical resource usage. Migrating migration plan. Windows or SQL Server workloads to Azure

can maximize benefits, and the assessment Define migration approach solution can identify suitable programs for After assessing your goals and budgeting and forecasting. requirements, choose the migration

method that aligns with your business and

Evaluate potential cost savings by IT needs. Your migration could involve

comparing the total cost of ownership parallel and iterative processes as you (TCO) for Azure with that of a comparable move apps and workloads to the cloud.

on-premises deployment. Estimate

migration project costs, including Migration strategies can be grouped into

professional services, development, four categories. and training. Use the TCO estimate and • Rehost: “Lift and shift” your servers and business case to guide migration planning VMs to the cloud without code changes.

and refine them as needed throughout the Benefits include cost savings, security,

process. increased reliability, and lower TCO.

• [Build a business case](https://learn.microsoft.com/en-us/azure/migrate/how-to-build-a-business-case) in [Azure Migrate](https://azure.microsoft.com/en-us/products/azure-migrate) • Refactor: Optimize cost, reliability, and

• performance using additional cloud [Cost optimization](https://azure.microsoft.com/en-us/solutions/cost-optimization) concepts in provider services. Enjoy lower costs, [Azure Migrate](https://azure.microsoft.com/en-us/products/azure-migrate) easier management, and compatibility

• Explore more [Azure cost planning tools](https://docs.microsoft.com/azure/cloud-adoption-framework/digital-estate/calculate) with minor code/configuration changes.

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• Rearchitect: Modernize applications solutions help you scale and reduce your

by transforming their architecture management overhead.

bring new capabilities to existing apps, It is generally faster and less expensive to for better scalability. Improve agility,

migrate an existing application, but that

and cost-effectively meet scalability

adoption approach doesn’t take advantage

requirements.

of opportunities to innovate in the cloud.

• Rebuild: Revamp applications by

adopting PaaS or SaaS architecture. Consider a migration approach if the Build new cloud-native applications, source code is likely to remain stable and

accelerate development, and use the workload currently supports business

innovative technologies like AI, processes and will continue to do so. blockchain, and IoT.

Consider a modernization approach

for workloads that drive market

Migrate or modernize? differentiation or where data can create

new experiences or service offerings.

Each workload will require the decision of

whether to migrate (rehost) or modernize Migration decision tree (re-platform) your existing application. Use a migration decision tree to make The answer will likely depend on the choices based on your company’s priorities. type of application or workload and your For example, if you don’t plan to develop business goals for moving it to the cloud. your business application further, choose When you migrate your application, you the rehost strategy to move quickly to IaaS.

move it to the cloud as-is (lift-and-shift) to If you aim to maximize cloud benefits and

take advantage of infrastructure as a service include future development with PaaS,

(IaaS) to reduce your data center footprint consider refactor, rearchitect, or rebuild

and achieve immediate cost savings. strategies.

With a modernization approach, the Define migration timelines application is rebuilt and enhanced for Create a clear timeline for your the cloud, delivering better performance cloud migration project. Use project and cost-efficiency. This platform-as-a- management tools like work breakdown

service (PaaS) approach enables faster structures (WBS) to outline dependent

deployment, enhanced development tasks and their completion times. Iteration

productivity, and increased potential duration will depend on technical effort,

for innovation. You’re not just moving administrative overhead, and team the application but modernizing your preferences. For added flexibility, adopt

databases and processes. A DevOps agile and iterative methodologies, allowing

methodology accelerates your workload you to adjust the project scope as needed.

modernization efforts, and PaaS

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Ready

Adopting the cloud offers a chance to • [Azure setup guide](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-setup-guide/) familiarizes you with rethink how you manage technological the tools and approaches to create a

systems. Cloud operating models differ landing zone

from traditional IT models as they shift • [Microsoft Azure Well-Architected](https://learn.microsoft.com/en-us/azure/well-architected/) focus from physical assets to digital ones, [Framework](https://learn.microsoft.com/en-us/azure/well-architected/) is a helpful reference for such as operating systems, applications, developers and architects who are and data. This change affects success deploying solutions within a landing zone metrics, security, and the pace of managing

changes. Azure resources

consistent operations while balancing a comprehensive solution for collecting, analyzing, and acting on telemetry from architectural principles like cost A cloud operating model aims to ensure Azure offers many services that provide

your applications and the Azure resources

optimization, operational excellence,

that support them.

performance efficiency, reliability, and

security. • Azure Monitor provides a single unified

hub for all monitoring and diagnostics

• [Compare cloud operating models](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/operating-model/compare) data in Azure.

• Azure Service Health provides a

Landing zones: an overview personalized view of the health of the

An Azure landing zone provides a Azure services and regions you use.

scalable and modular environment • Azure Advisor is a free, personalized to support application migration, cloud consultant that helps you follow modernization, and innovation in Azure. and implement best practices for Azure This code-based, pre-provisioned deployments.

environment ensures consistency and • Azure Security Center can help you efficiency, offering a comprehensive monitor the security of your machines,

solution for both infrastructure as a networks, storage, data services, and

service and platform as a service. applications.

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Adopt

The Adopt methodology helps you navigate the cloud adoption journey by offering guidance on migration, modernization, innovation, and relocation of workloads in Azure. Each stage has unique objectives, solutions, and benefits.

Migrate:

Transfer workloads to the cloud. The migration guidance helps you choose a strategy that aligns with your goals.

Goals Solutions Key benefits

Meet business needs, Implement cloud solutions Enhance security, reliability, transition away from on- based on business performance, and premises environments, and requirements. operations using managed adhere to Well-Architected solutions. Simplify Framework principles. integration of new solutions

and design patterns

and eliminate hardware

management and security.

Modernize:

Improve existing workloads for better operations, efficiency, developer productivity, and lower total cost of ownership. Typically, modernization involves adopting platform-as-a-service (PaaS) solutions for scalable business growth.

Goals Solutions Key benefits

Minimize technical debt, Integrate additional Optimize cost, security, update applications, and services and modify code to reliability, performance, revamp data platforms. achieve business objectives. and operations for higher

productivity. Focus on

core business without

managing the underlying

infrastructure.

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Innovate:

Adopt cloud-native technologies to develop customer-centric solutions that rapidly transform business outcomes.

Goals Solutions Key benefits

Reposition your business Embrace data and Enhance predictive and technical solutions and application capabilities to analytics, performance, and explore innovative data foster adoption and create adaptability. opportunities. predictive tools.

Relocate:

Move Azure workloads to other regions within Azure. You can relocate a workload at any time after migration. Regularly evaluating relocation ensures your workload evolves along with your business needs.

Goals Solutions Key benefits

Adapt to business Use a new Azure region’s Respond to business changes, expand global location, services, and shifts, increase global reach, address data features. presence, comply with data sovereignty and residency sovereignty and residency

requirements, and reduce requirements, and provide

latency for end users. lower latency to end users.

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Govern

Adopting cloud technology is an ongoing journey with milestones and tangible business benefits. Cloud governance creates guardrails that ensure a safe path throughout this journey. The Cloud Adoption Framework provides governance guides based on real customer experiences to help navigate the process.

Envision an end state before starting the journey. The Cloud Adoption Framework governance model identifies Five Disciplines of Cloud Governance, which include:

Cost management Security baseline Resource consistency

Enabling cost efficiency and Providing a baseline of Implementing consistent optimization in the cloud security controls and policies and processes for environment. ensuring compliance with resource deployment and

industry regulations. management

Identity baseline Deployment acceleration

Ensuring secure and Optimizing deployment constant access to processes to increase agility resources for users and reduce time to market. and services.

Minimum Viable Product governance approach

By adopting a minimum viable product (MVP) approach early and responding rapidly to changing risks, the cloud governance team can stay ahead of cloud adoption teams, plotting routes and quickly establishing guardrails to manage risks. This approach ensures that governance strategy remains one step ahead, allowing businesses to quickly and smoothly reap the benefits of cloud adoption.

• [Microsoft Cloud Adoption Framework Governance Benchmark Tool: I](https://cafbaseline.com/)dentifies gaps in your

organization across the Five Disciplines of Cloud Governance.

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Manage

Establishing good operational practices for operations for platforms or workloads with

your migrated workloads helps to avoid a higher level of business commitment. costly business disruptions and ensures your These workloads might require a deeper

applications run optimally. architecture review to deliver on resiliency

As with governance, management is an and reliability commitments. ongoing process. Well-defined guidance For simplified and optimal cloud can help your organization expand its IT management and operations, you should

management and operations to use secure, consider the following: cost-effective methods and modern, cloud-

first tools for your cloud-based solutions. • Business alignment efforts aid in

capturing the business impact and

The business and technical approaches you

negotiating management costs.

These approaches include establishing and Alignment assures everyone you use develop are key to cloud management.

expanding the management baseline by the most appropriate operational management processes and tools. defining the criticality classifications, cloud

management tools, and processes required • Cloud operations disciplines establish to deliver your minimum commitment to levels of operations management. operations management. These disciplines support workloads

Define business commitments by and business commitments such as

documenting supported workloads and inventory and visibility, operational

cloud management investments for each compliance, and protection and workload. Also, consider the advanced recovery.

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Tools to manage

• [Azure Backup: P](https://azure.microsoft.com/products/backup/)rovides secure and cost- • [Azure Well-Architected Review:](https://docs.microsoft.com/azure/architecture/framework/)

effective solutions to back up your data Assesses your workloads concerning

and recover it from the Azure cloud best practices and offers actionable next

steps.

platform.

• [Azure Arc:](https://azure.microsoft.com/en-us/products/azure-arc/) Azure Arc simplifies

• [Azure Monitor: P](https://azure.microsoft.com/services/monitor/)rovides visibility governance and management by

into your applications, infrastructure, delivering a consistent multicloud and

and network. on-premises management platform.

Cloud operations disciplines

Management baseline Enhanced baseline options:

Evaluate common additions to the baseline

that might meet business needs.

• Inventory and visibility: Create a list of

visibility into the run state of each asset. Platform operations: assets across multiple clouds. Develop

Extend the management baseline with a

• Operational compliance: Establish well-defined service catalog and centrally

controls and processes to ensure each managed platforms. state is configured correctly and running

in a well-governed environment. Workload operations:

• Extend the management baseline to focus Protect and recover: Ensure all on mission-critical workloads. managed assets are protected and

can be recovered using baseline

management tooling.

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Secure

Security frameworks to consider Access control: Apply network

and identity boundaries to reduce

Security is a complex organizational the impact and frequency of discipline that’s difficult to define and security breaches. map in detail. Aligning to widely accepted

frameworks can simplify the process. Security operations: Monitor IT

operations to detect, respond,

follow the Zero Trust principles of assume and use data to reduce risk breach, verify explicitly, and use least Zero Trust: Microsoft’s security disciplines and recover from breaches

continuously.

privilege access, which underpin any sound

security strategy. Asset protection: Safeguard

The Open Group: infrastructure, devices, data, Microsoft’s security

disciplines closely align with the Zero Trust applications, networks, and components in The Open Group’s core identities to minimize risk.

principles white paper, except for elevating Security governance: Monitor DevSecOps to a top-level element. decisions, configurations, and NIST cybersecurity framework: Microsoft data to govern actions made highlights where its security disciplines throughout the environment and

most closely align with the NIST framework, workloads. with modern access control and DevSecOps

mapping broadly to the full framework Innovation security: Integrate spectrum. security into DevSecOps processes

by embedding expertise and

Security disciplines resources into the fast-paced

innovation cycle, empowering

As you adopt the cloud, different workload-focused teams. security disciplines require attention and

investment. The following disciplines,

ordered by their potential for quick wins,

include:

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Focusing security efforts

Security activities should focus on two main areas:

• Business enablement: Align with the organization’s objectives and risk framework.

• Security assurances: Apply Zero Trust principles, including:

Assume breach Explicit verification Least-privileged access

Design security by Validate trust using all Minimize risk from considering the possibility available data points instead compromised users or that other resources within of assuming trust, such resources by providing just-the organization are as verifying user identity, in-time and just-enough compromised, reducing location, device health, access (JIT/JEA), risk-based the attacker’s ability to service or workload, data adaptive policies, and data expand access. classification, and anomalies. protection to help secure

data and productivity.

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Organize

Successful cloud adoption relies on skilled Organizational structure options

individuals working together to achieve

clear business goals within a well-managed Organizational structures don’t always

environment. To create an effective need to be reflected in traditional org cloud operating model, establish proper charts, as they are designed to capture role

organizational structures. This can be and responsibility alignment rather than

accomplished in four steps: strict command and control management

structures. The first step in managing

Structure type: Determine the organizational alignment is to determine

organizational structure that best suits how the following structures will be your operating model. fulfilled:

Cloud functions: Identify the necessary Org chart alignment: Align management cloud functions for adoption and hierarchies, manager responsibilities, and

operation. staff within organizational structures.

Mature team structures: Define the teams Virtual teams: Maintain existing responsible for providing various cloud management structures and org charts but

functions. create virtual teams responsible for the

RACI matrix: required functions. Use a RACI matrix to assign

roles to each team for the cloud operating Mixed model: In many cases, a model functions, including responsibility, combination of org chart alignment accountability, consultation, and and virtual teams is best for achieving

information roles. transformation goals.

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Driving organizational maturity

Organizational structures often follow a common maturity model, as outlined below:

Cloud adoption team only MVP best practice Central IT team

A small, dedicated team A recommended structure A central team that responsible for initial that establishes a minimum oversees cloud adoption cloud adoption tasks, viable product (MVP) for best and management, typically lacking broader practices, fostering better providing guidance organizational integration. cloud adoption success. and support for various

business units.

Strategic alignment Operational alignment Cloud center of excellence

An organization-wide A seamless integration A dedicated team of alignment of cloud of cloud adoption and experts focused on driving strategies with overall operations within existing cloud best practices, business objectives, business processes, innovation, and education ensuring a cohesive enabling smooth across the organization. approach to cloud functioning and innovation. adoption.

Most companies start with just a cloud adoption team. Over time, aligning to the MVP best practice structure drives better cloud adoption outcomes.

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Summary

With the right tools and best practice guidance, you can migrate faster and with less friction. An optimal migration approach can reduce costs immediately and allow you to focus on future cloud modernization. Processes for assessment, optimization, security, and management can also help throughout your continuing adoption of cloud resources.

Ultimately, cloud migration allows organizations to accelerate their growth, improve efficiency, increase security, and advance development. Whether you’re in the early stages of assessment or planning your approach, the Cloud Adoption Framework offers an easier method for migration. With free integrated services, programs, a strong partner ecosystem, and proven guidance from Microsoft, you can tread a well-forged path to minimize risk to your business.

Here are a few helpful starting points when diving into the Cloud Adoption Framework.

• [Get started with the Cloud Adoption Framework.](https://learn.microsoft.com/azure/cloud-adoption-framework/get-started/)

• [Understand cloud operating models.](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/operating-model/?source=recommendations)

• [Introduction to migration.](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/migrate/)

• The [One Migrate approach](https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/scenarios/) provides consistent guidelines and processes for migrating both

Microsoft and third-party technologies.

Take the next step

[Try Azure for free](https://azure.microsoft.com/en-us/solutions/migration/migration-modernization-program/)

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Additional

resources

• [Azure Migrate](https://azure.microsoft.com/en-us/products/azure-migrate/#product-overview) Assessments:  [i](https://azure.microsoft.com/en-us/products/azure-migrate/#product-overview)s Microsoft’s end-to-end

solution for migrating to Azure.

• Identify your cloud adoption path

• Accelerate and automate your based on your needs with the [Cloud](https://learn.microsoft.com/en-us/assessments/cloud-journey-tracker/)

migration—visit the [Azure Migration](https://azure.microsoft.com/migration/resources/)  [Journey Tracker](https://learn.microsoft.com/en-us/assessments/cloud-journey-tracker/).

[and Modernization Center for](https://azure.microsoft.com/migration/resources/) helpful • Assess your cloud adoption strategy migration tools. and get recommendations on building

• Find curated, step-by-step guidance or advancing your cloud business case

from [Microsoft experts and specialized](https://aka.ms/azureexpertmsp/)  with the [Cloud Adoption Strategy](https://learn.microsoft.com/en-us/assessments/8fefc6d5-97ac-42b3-8e97-d82701e55bab/)

[migration partners b](https://aka.ms/azureexpertmsp/)ased on the [Evaluator.](https://learn.microsoft.com/en-us/assessments/8fefc6d5-97ac-42b3-8e97-d82701e55bab/)

[Microsoft Cloud Adoption Framework](https://azure.microsoft.com/en-us/solutions/cloud-enablement/cloud-adoption-framework/)

• Prepare for a smooth migration that

[for Azure.](https://azure.microsoft.com/en-us/solutions/cloud-enablement/cloud-adoption-framework/)

achieves key business benefits with the

• Get trained for your migration with [Strategic Migration Assessment and](https://learn.microsoft.com/en-us/assessments/Strategic-Migration-Assessment/)

foundational and role-specifi[c courses](https://azure.microsoft.com/en-us/solutions/cloud-migration/#training) [Readiness Tool.](https://learn.microsoft.com/en-us/assessments/Strategic-Migration-Assessment/)

to develop new Azure skills and long- • Identify gaps in your organization’s term organizational readiness. current state of governance with the

• Get best-practice guidance and direct [Governance Benchmark](https://learn.microsoft.com/en-us/assessments/b1891add-7646-4d60-a875-32a4ab26327e/) assessment.

access to Azure engineers, tools, and

• Take the first step in modernizing your

subsidized partner services by joining

workloads using the [App and Data](https://learn.microsoft.com/en-us/assessments/50adbf76-60fb-47ce-a787-f9d5f52f6a48/)

[Azure Migrate and Modernize](https://azure.microsoft.com/en-us/solutions/migration/migration-modernization-program/).

[Modernization Readiness Tool](https://learn.microsoft.com/en-us/assessments/50adbf76-60fb-47ce-a787-f9d5f52f6a48/).

• Get insights about when to modernize

versus migrate in thi[s blog post](https://techcommunity.microsoft.com/t5/azure-migration-and/moving-to-the-cloud-your-guide-on-when-to-migrate-and-when-to/ba-p/3594144).