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Azure Migration Planning and Readiness (using the Microsoft Cloud Adoption Framework)

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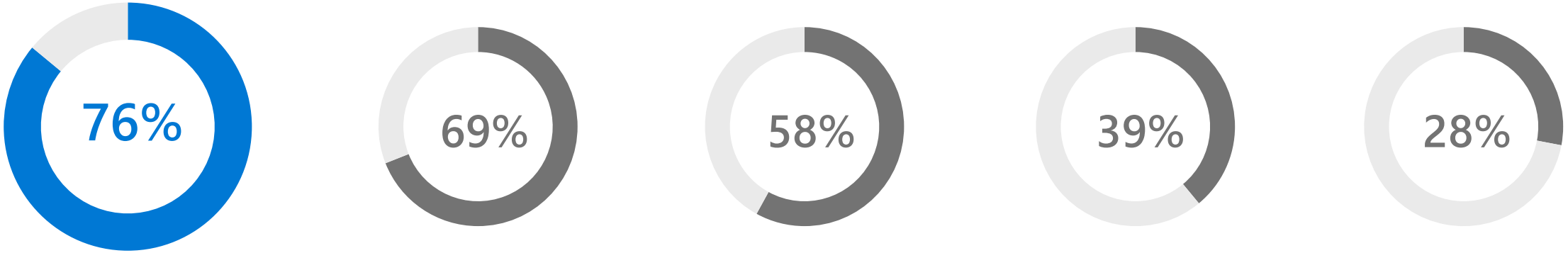
Cloud Adoption Framework for Azure Strategy – Plan – Ready Workshop

76% of CEOs consider Digital Transformation their #1 priority

Trends that will transform business over the next five years



Technological advances

Demographic shifts

Shift in global economic power

Resource scarcity & climate change

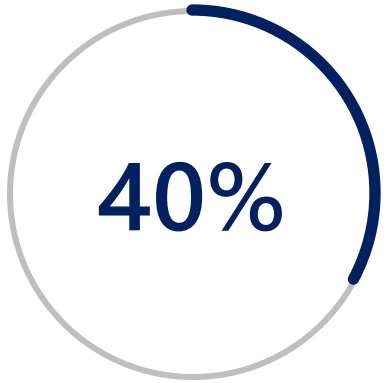
Urbanization

Source: PWC CEO Survey

Big opportunity for services partners

Three-year analysis shows **40%** ROI and **$12M** NPV on building a Business Applications practice[1]

ROI[1]



Return on investment:
A project's expected return in percentage terms.

NPV[1]

Net present value:
The present or current value of (discounted) future net cash flows given an interest rate (the discount rate)

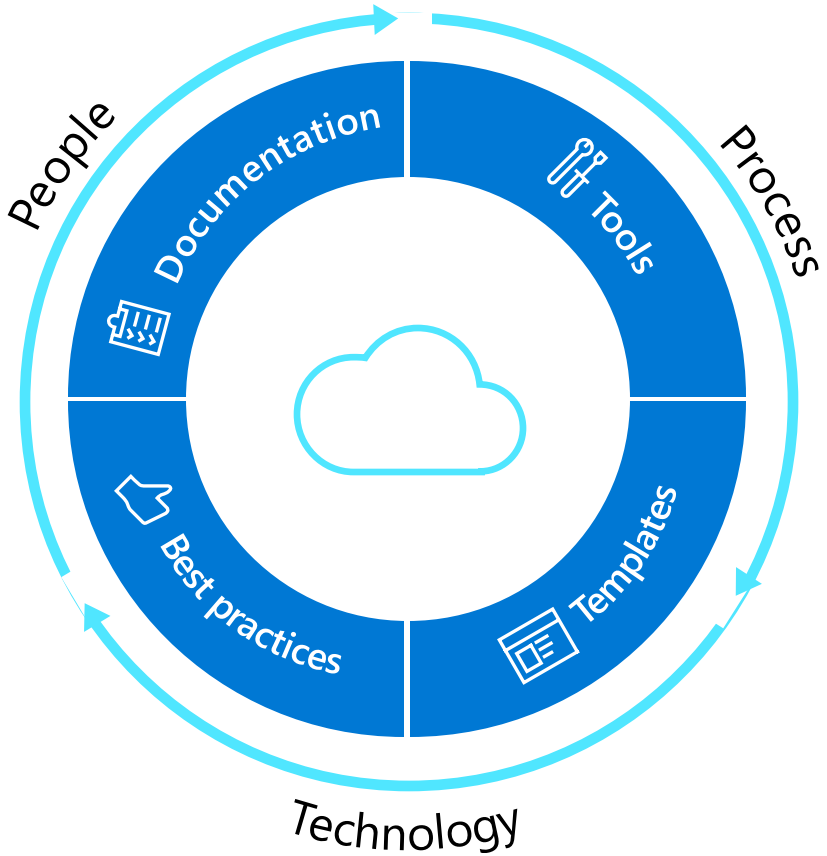
Every $1 of Microsoft Business Applications licensing margin…

On average, represents $10 of Business Applications partner services revenue for enterprise[1]

And $3 of partner services revenue opportunity for SMB[1]

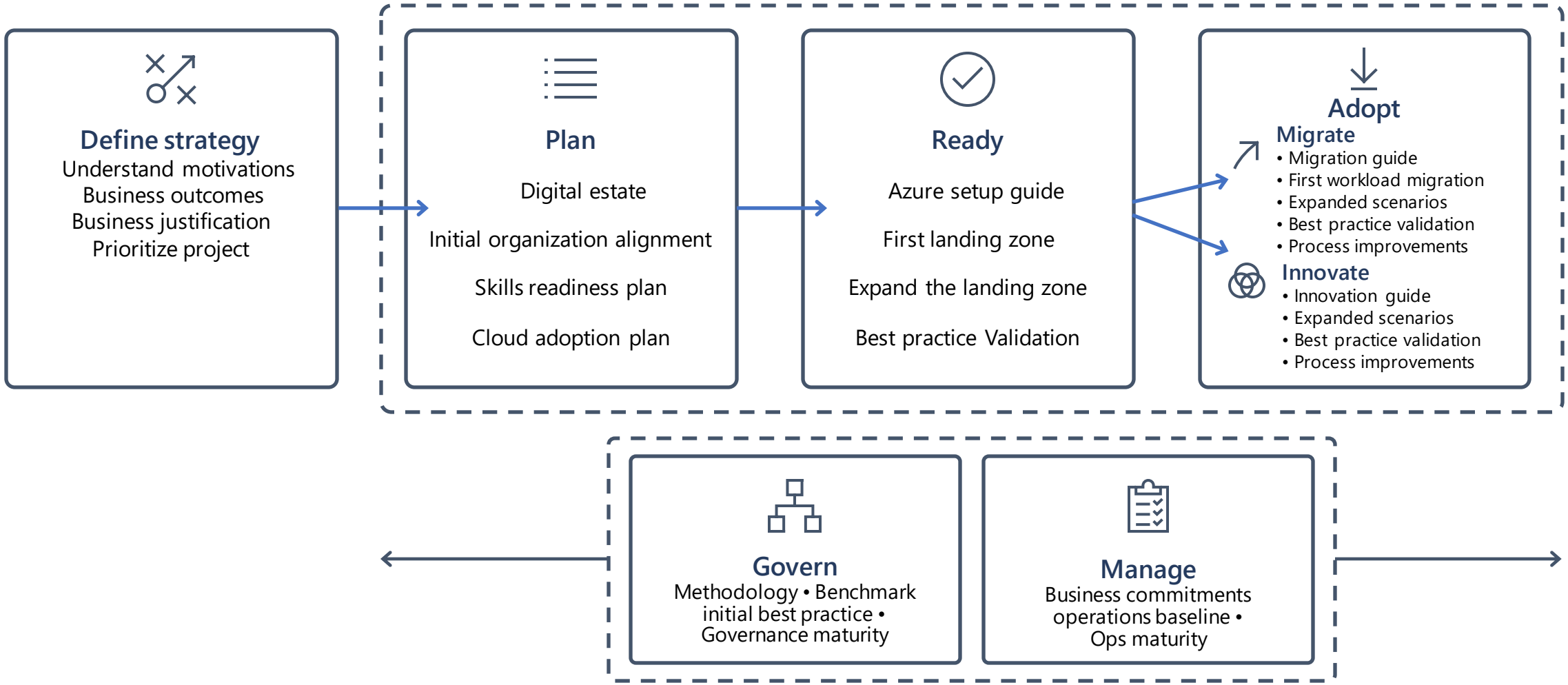
1. *Research based on Forrester The Partner Business Opportunity For Microsoft Business Applications, 2019*

Microsoft Cloud Adoption Framework for Azure

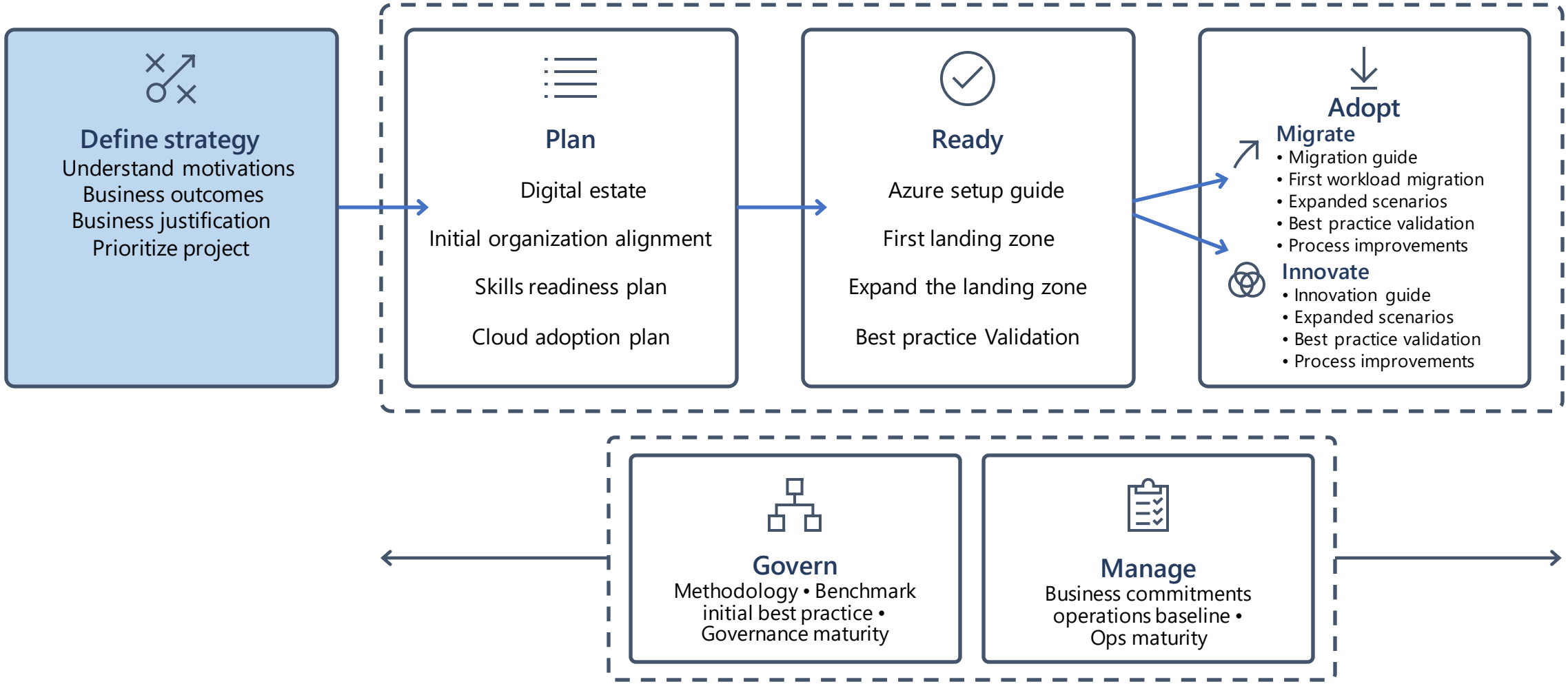


Align **business, people and technology strategy** to achieve business goals with **actionable, efficient, and comprehensive** guidance to deliver fast results with control and stability.

Microsoft Cloud Adoption Framework for Azure



Microsoft Cloud Adoption Framework for Azure



Define Strategy

Document your cloud strategy to help stakeholders understand the business outcomes the organization is pursuing by adopting the cloud

1 **Motivations**
Understand motivations to move to cloud

2 **Business Outcomes**
Engage stakeholders to document specific business outcomes

3 **Business Justification**
Develop a business justification that supports your motivations and outcomes

4 **Identify First Project**
Leverage business and technical criteria to choose your first project

Understand your motivations for cloud adoption

Business transformations that are supported by cloud adoption can be driven by various motivations. They are classified broadly into two main categories: **Migration** and **Innovation**.

Infrastructure | Applications | Data

MIGRATION

- ✓ Cost savings
- ✓ Reduction in vendor or technical complexity
- ✓ Optimization of internal operations
- ✓ Increase business agility
- ✓ Prepare for new technical capabilities
- ✓ Scale to meet market or geographic demands

INNOVATION

- ✓ Improve customer experiences or engagements
- ✓ Transform products or services
- ✓ Disrupt the market with new products or services
- ✓ Prepare or build new technical capabilities
- ✓ Scale to meet market or geographic demands

Define Strategy | Understanding your motivation

Critical business events

such as end of support for mission-critical technologies

- ✓ Datacenter exit
- ✓ Mergers & Acquisitions
- ✓ Reduction in capital expenses
- ✓ EoS of mission critical technologies
- ✓ Regulatory compliance changes
- ✓ Deadlines of data sovereignty requirements
- ✓ Recent disruptions in IT stability

Migration triggers

such as cost saving and operations optimization

- ✓ Cost savings
- ✓ Reduction in vendor or technical complexity
- ✓ Optimization of internal operations
- ✓ Increase business agility
- ✓ Prepare for new technical capabilities
- ✓ Scale to meet market or geographic demands

Innovation triggers

such as scaling to meet market or geographical demands

- ✓ Improve customer experiences or engagements
- ✓ Transform products or services
- ✓ Disrupt the market with new products or services
- ✓ Prepare or build new technical capabilities
- ✓ Scale to meet market or geographic demands

Engage stakeholders across business and technology to understand your motivations for cloud adoption

Define Strategy | Identify Business Outcomes

Engage different stakeholders and document desired outcomes across these categories

Use the business document template to identify your business outcomes

- **Fiscal** outcomes include increased revenue, savings in cost and drive profits
- **Agility** outcomes include time-to-market and provision time to respond to changes
- **Reach** outcomes include global access and data sovereignty
- **Customer engagement** outcomes include meeting customer expectations by reducing cycle times
- **Performance** outcomes include having highly available, global applications
- **Security & Compliance** regulations addressed and implemented

Define Strategy | Quantify Business Justification

Develop a justification backed by financial models starting with a basic formula

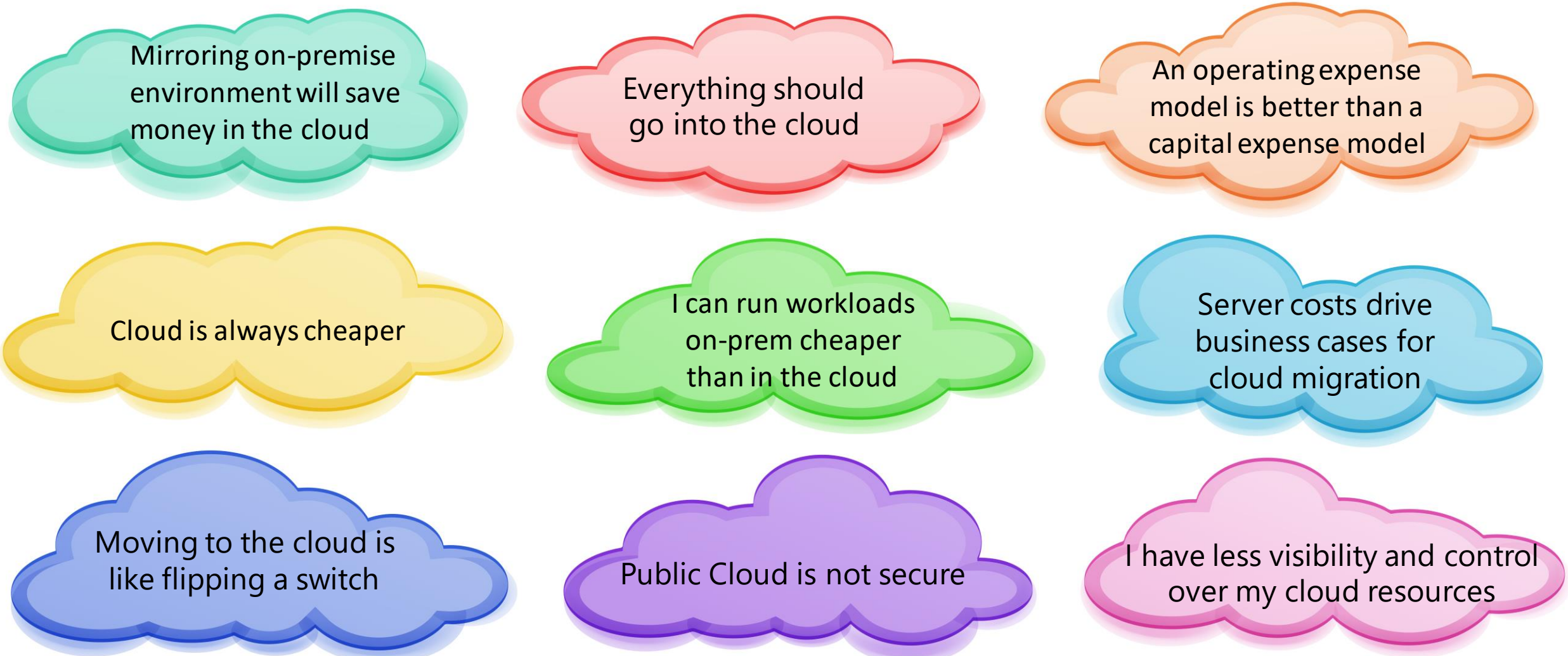
$$\textbf{Return on Investment(ROI)} = \frac{\textbf{Gain from Investment*} - \textbf{Initial Investment*}}{\textbf{Initial Investment}}$$

***Initial Investment** is the capital expense and operating expense required to complete cloud transformation.

***Gain from investment** include revenue deltas and cost deltas.

Define Strategy | Develop Business Justification

Dispel common cloud migration myths such as ..



Define Strategy | Identify First Project

Choose the first project to move to the cloud by using a clearly defined criteria and clearly identified outcomes to achieve

First Project Criteria

- Should align with your motivations for cloud adoption
- Should demonstrate progress towards a defined business outcome

First Project Expectations

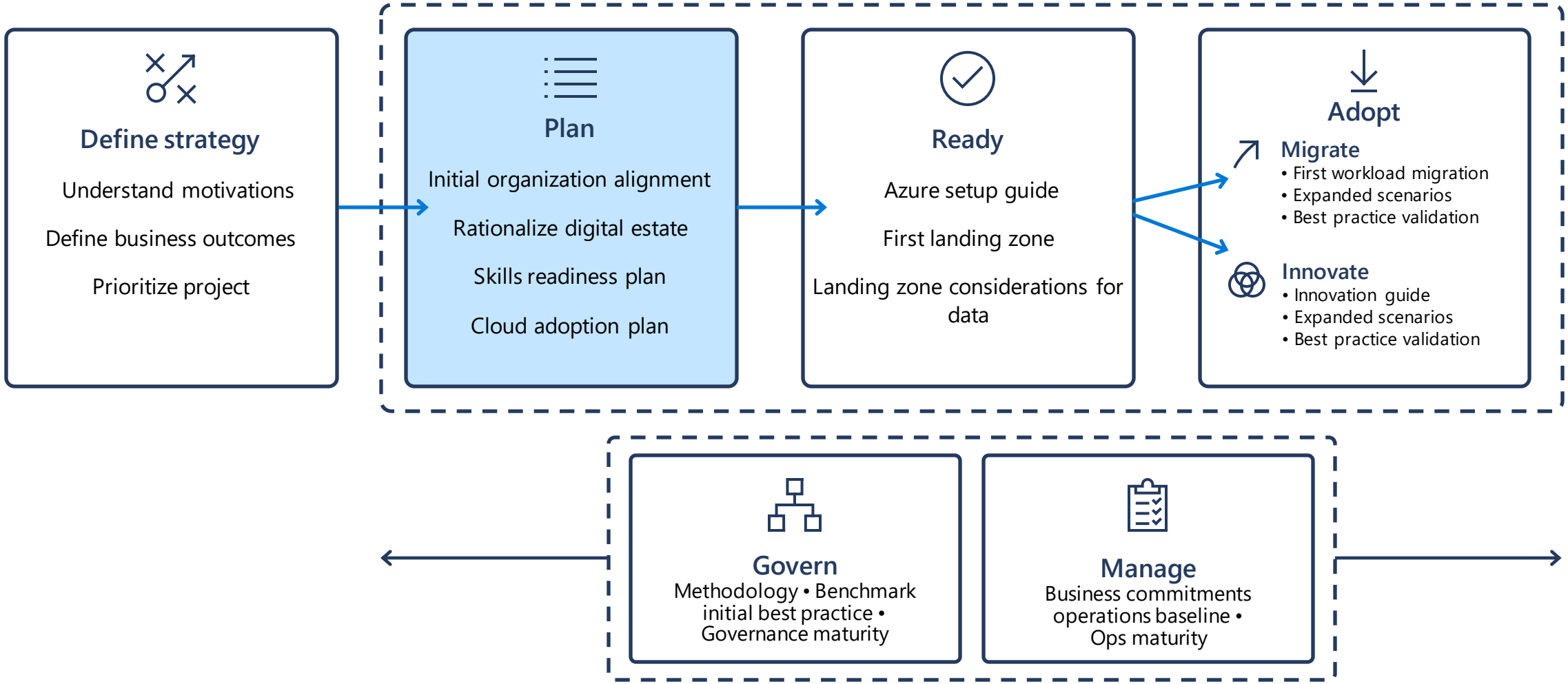
- Project is a source of learning.
- It might result in production deployments, but it will probably require additional effort first.
- The output of this project is a set of clear requirements to provide a longer-term production solution.

First Project Examples

for each motivation category

- **Critical business events:** Use Azure Site Recovery as a disaster recovery tool, reducing dependencies on disaster recovery assets within the datacenter.
- **Migration motivations:** Start with a noncritical workload and use Azure setup guide and the Azure migration guide for guidance
- **Innovation motivations:** Creation of a targeted dev/test environment can be a great first project.

Microsoft Cloud Adoption Framework for Azure



Plan

Cloud adoption plans convert the aspirational goals of the cloud adoption strategy into actions. It will help guide technical efforts, in alignment with the business strategy.

1 **Rationalize Digital estate**
Rationalize your digital estate to determine best approach to cloud adoption

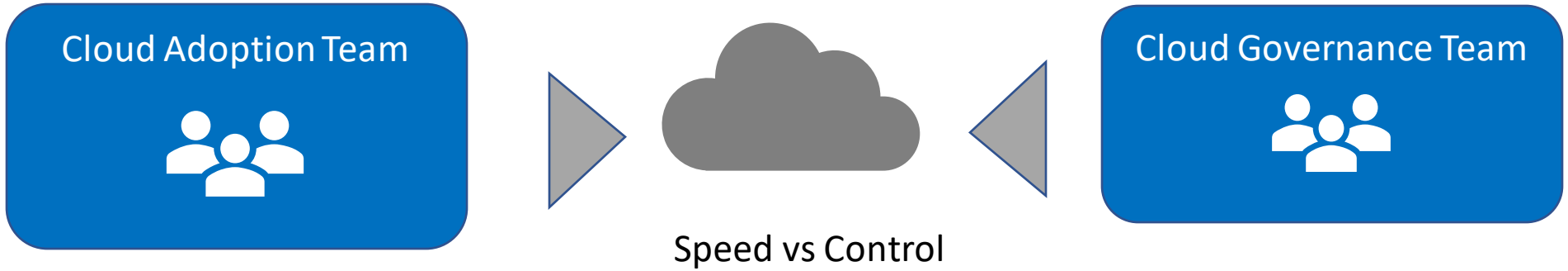
2 **Initial org alignment**
Align governance and cloud adoption to mitigate risks

3 **Skills readiness plan**
Get your people ready by identifying skills gap and plan

4 **Cloud adoption plan**
Create an actionable cloud adoption plan that aligns to your business strategy

Initial organization alignment

Implementing Cloud adoption plan requires some initial alignment of different stakeholders who will make the plan a reality.



- Create a balance between speed (*moving quickly)* and control (*reducing risks)* by having teams accountable for adoption and governance.
- While the **cloud adoption team** is required to execute cloud adoption tasks, the **governance team** ensures implementation of processes and controls. These two teams are the MVP for organization alignment, which should evolve as cloud adoption grows.

Plan | Rationalize Digital Estate

- **Cloud rationalization** is the process of evaluating assets to determine the best approach to hosting them in the cloud (public or hybrid)
- Rationalization can take place using an **Incremental approach** or 'Power of 10' where the cloud strategy team selects the first 10 applications to be migrated which are a mix of simple and complex workloads; (recommended approach)
- The output of a rationalization effort is a prioritized backlog of all assets that are affected by the chosen transformation.
- Use costing models from your chosen cloud provider to forecast costs for your prioritized backlog; for Azure, we have pricing tools like Azure Migrate, Azure pricing calculator and Azure cost management. Ensure that hybrid is incorporated into the costing models

Rationalize digital estate

Cloud rationalization is the process of evaluating assets to determine the best approach to hosting them in the cloud (public or hybrid).

Rehost

Moves a current state asset to the chosen cloud provider, with minimal change to overall architecture, aka lift and shift

Refactor

Modernize to platform-as-a-service, creating significant savings in application and data management and administration

Retire

Retiring assets can produce significant savings in annual operating costs and up-front migration efforts

- **High level rationalization** simplifies decision making to answer the key question about an asset – to rehost, refactor or retire? More detailed rationalization with 5R(s) happens in the 'Adopt' phase
- While cloud adoption team executes first workload migration, the cloud strategy team uses the **Incremental approach** or 'Power of 10' where they select the first 10 applications to migrate
- The output of a rationalization effort is a prioritized backlog of all assets that are affected by the chosen transformation.

Skills readiness plan

Cloud computing is a technology shift and a new set of skills are required to support cloud solutions.

1 Identify the gaps

- Emphasize new responsibilities and existing responsibilities to be retired
- Identify the area that aligns with each responsibility
- Check how closely a responsibility aligns with the area; crossover represents opportunity for better alignment
- Identify skills necessary to support each responsibility
- Identify the roles that will execute these skills

2 Look across teams

- The necessary skills are typically not confined to a single role or even a single department
- Skills will have relationships and dependencies that can span a single role or multiple roles
- These dependencies represent new processes that your organization implements to manage the workflow among roles

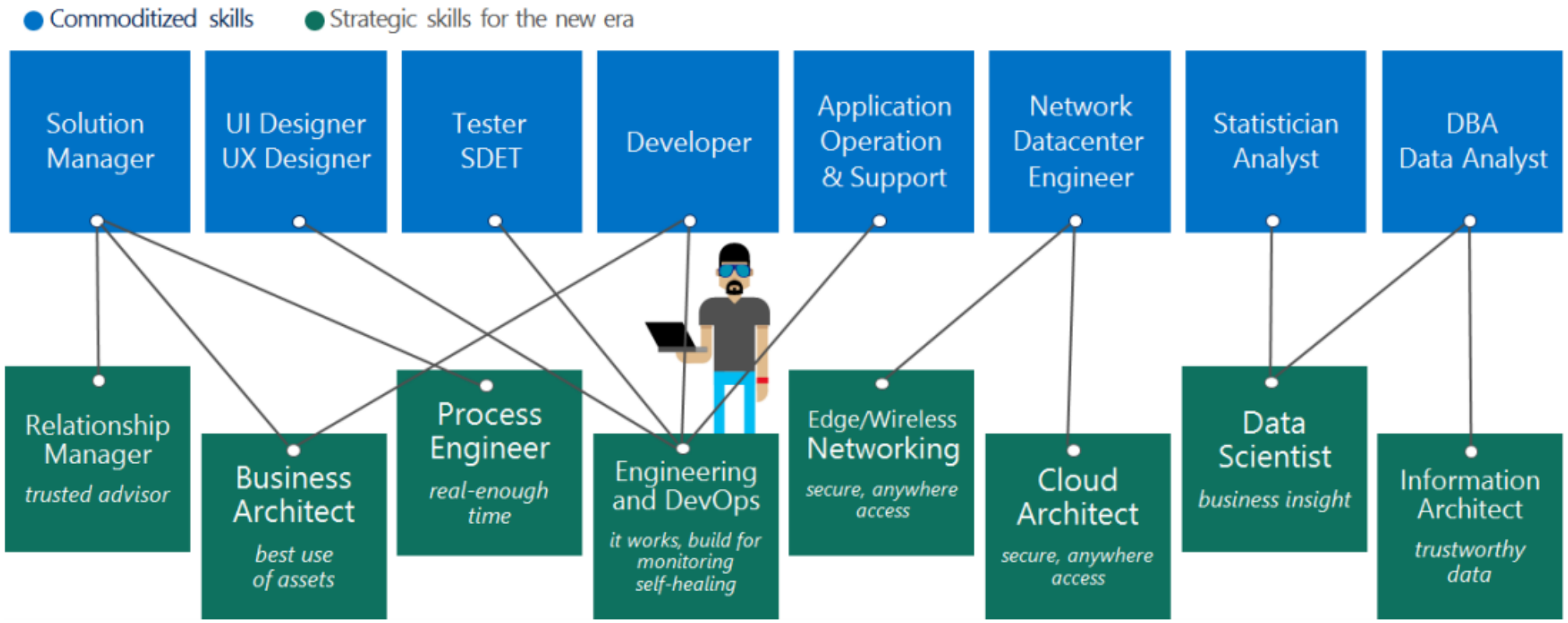
3 Establish new teams

- Evolve team structures as cloud adoption evolves
- Eventually central IT takes on the role to scale cloud adoption and reassesses existing tools and processes
- A cloud operations team needs to form to ensure stable operations
- A cloud center of excellence aligns teams around a cloud-first operating model

Use the RACI Charts to align responsibility and accountability across each team.

Plan | Skills Readiness Plan

Cloud computing is a technology shift and a new set of skills are required to support cloud solutions



1. Identify the gaps
2. Look across teams
3. Create an org-wide learning plan

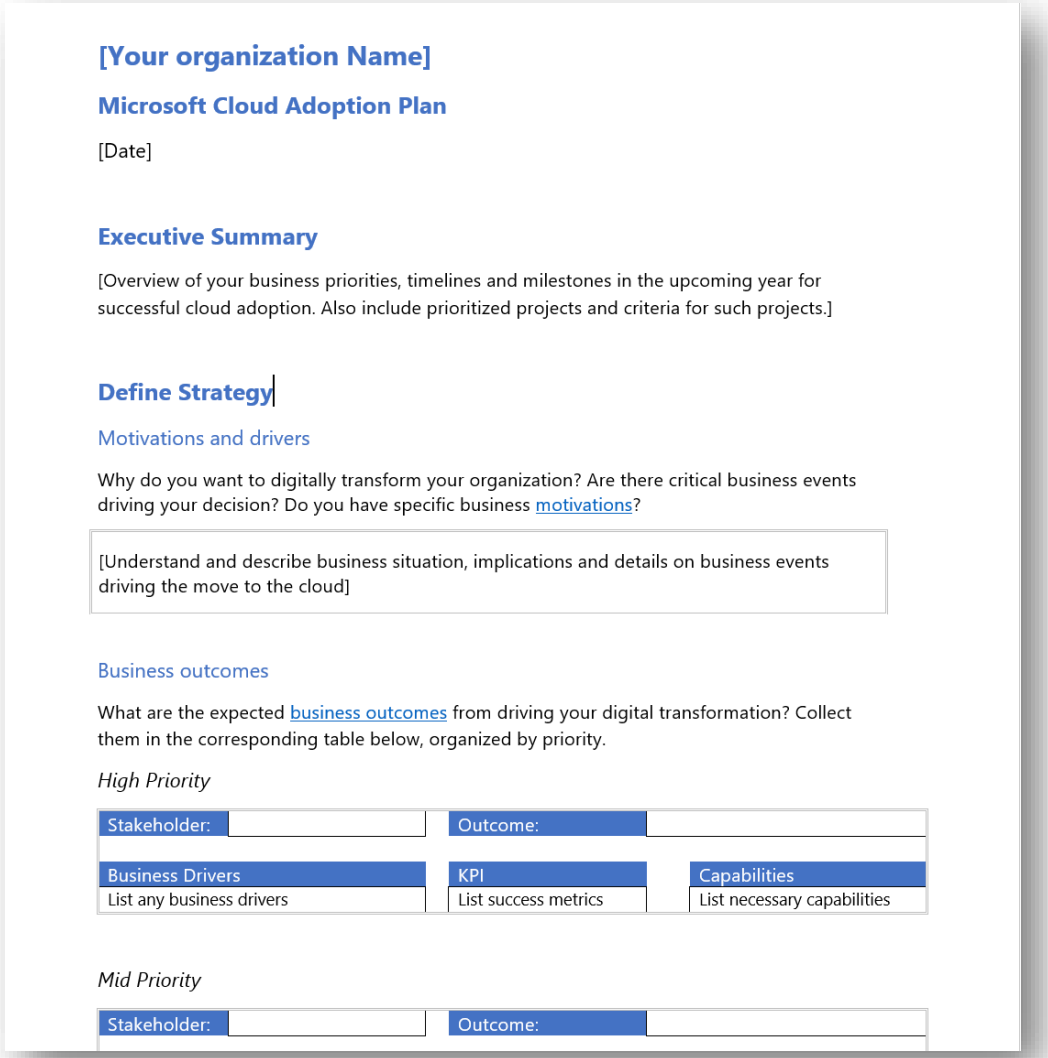
Cloud Adoption Plan

Translate strategy and effort into an actionable cloud adoption plan.

- **Prerequisites**: Confirm you have both strategic (motivations, outcomes, business justification) and tactical inputs (digital estate rationalization, skills readiness, org alignment).
- **Define and prioritize workloads**: Prioritize your first 10 workloads to establish an initial adoption backlog. [Workloads are set of IT assets that enable a business process].
- **Align assets:** Identify which assets (proposed or existing) are required to support the prioritized workloads.
- **Review rationalization:** Review rationalization decisions to refine adoption-path decisions: Migrate or Innovate.
- **Define iterations and releases:** Iterations are the time blocks allocated to do work. Releases are the definition of the work to be done before triggering a change to production processes.
- **Estimate timelines**: Establish rough timelines for release planning purposes, based on initial estimates.

Plan | Cloud Adoption Plan Template

- Cloud adoption plan converts the aspirational goals of the cloud adoption strategy into an actionable plan
- All the cloud teams leverage the cloud adoption plan to guide technical efforts, in alignment with the business outcomes.
- Download the template and get started with creating your plan



[Your organization Name]

Microsoft Cloud Adoption Plan

[Date]

Executive Summary

[Overview of your business priorities, timelines and milestones in the upcoming year for successful cloud adoption. Also include prioritized projects and criteria for such projects.]

Define Strategy

Motivations and drivers

Why do you want to digitally transform your organization? Are there critical business events driving your decision? Do you have specific business motivations?

[Understand and describe business situation, implications and details on business events driving the move to the cloud]

Business outcomes

What are the expected business outcomes from driving your digital transformation? Collect them in the corresponding table below, organized by priority.

High Priority

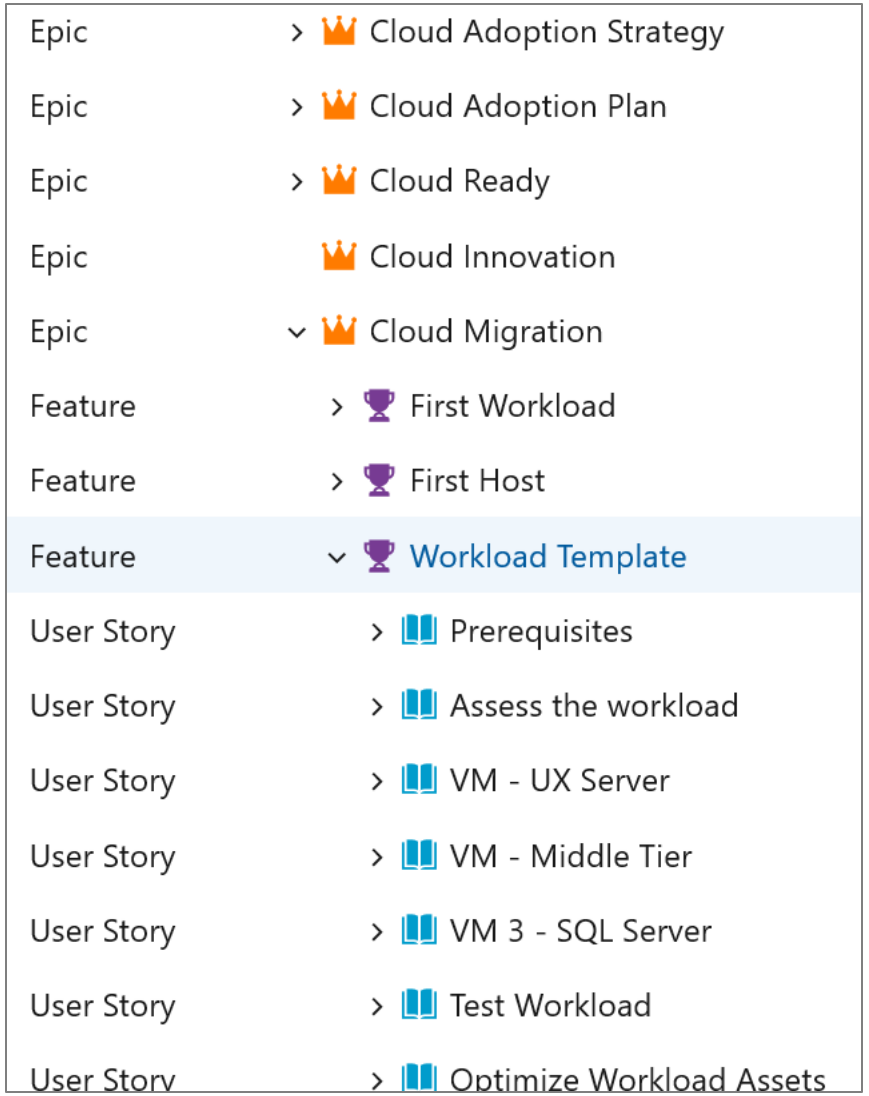
Stakeholder:		Outcome:	

Business Drivers	KPI	Capabilities
List any business drivers	List success metrics	List necessary capabilities

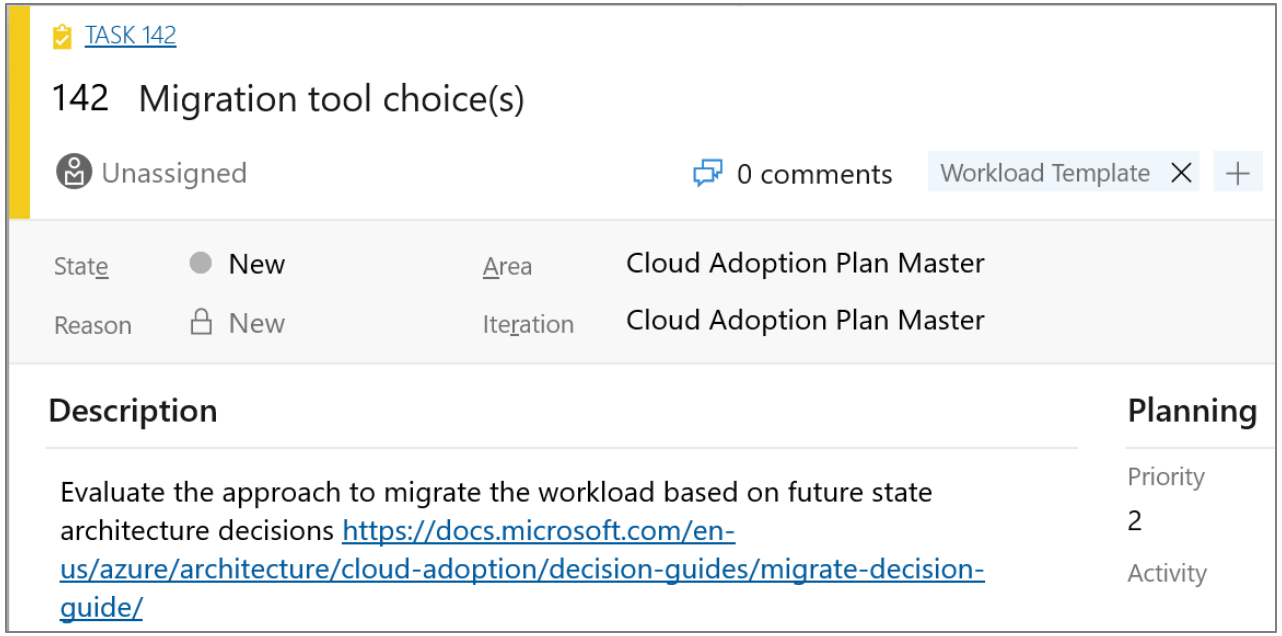
Mid Priority

Stakeholder:		Outcome:	

Azure DevOps Cloud Adoption Plan Generator



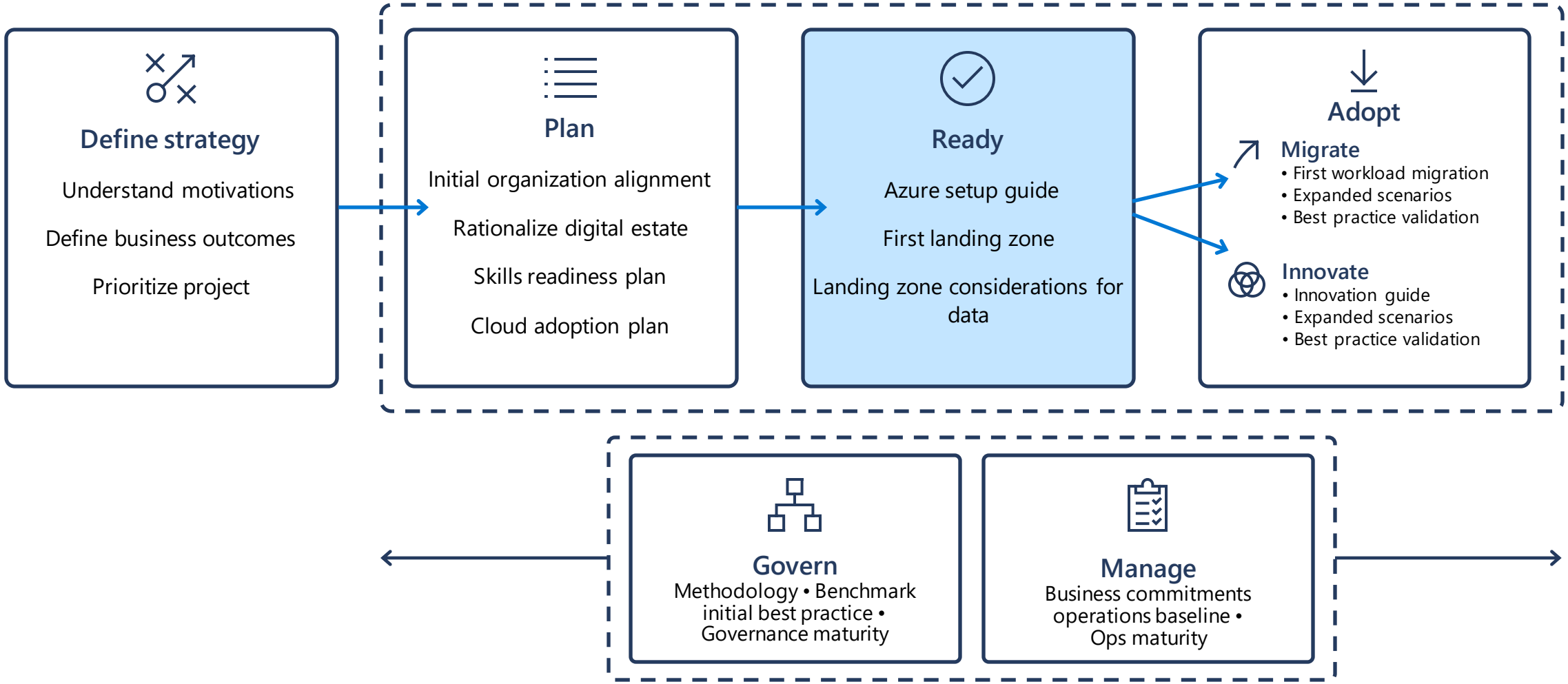
Leverage Azure DevOps to log and track your cloud adoption plan
aka.ms/adopt/plan



Demo

Azure DevOps Cloud Adoption Plan Generator

Microsoft Cloud Adoption Framework for Azure



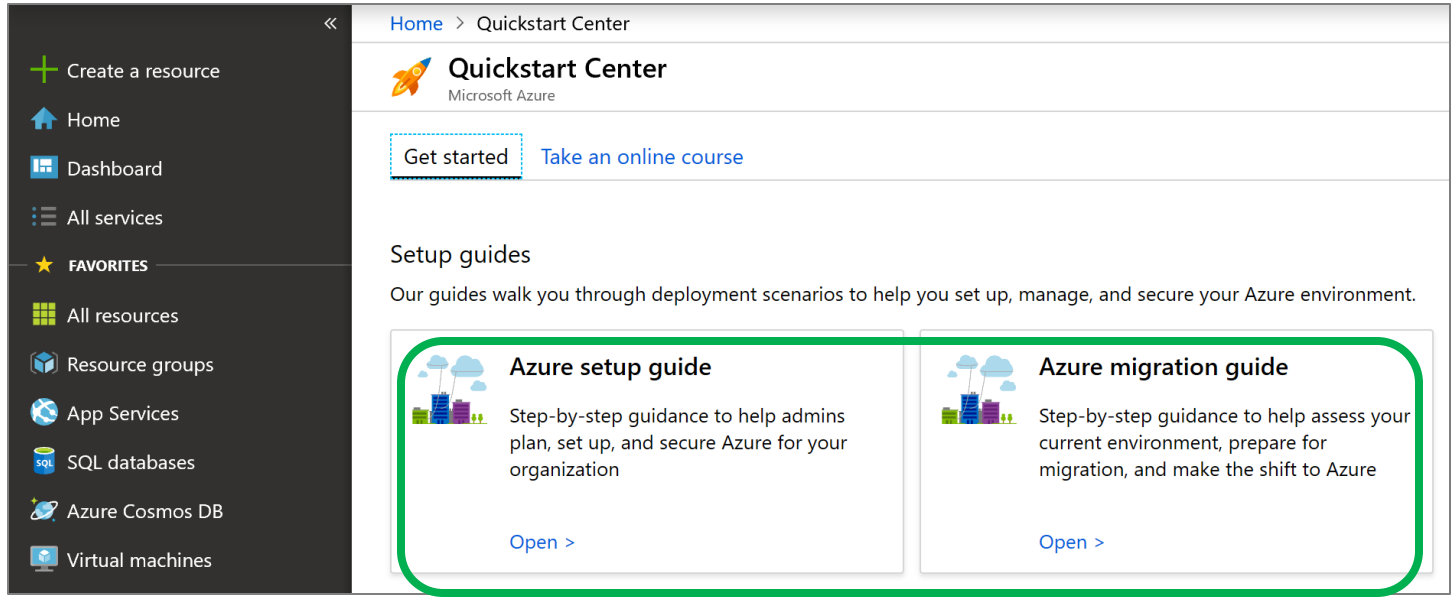
Ready

Ready establishes a cloud foundation or adoption target that can provide hosting for any adoption efforts.

1. **Azure setup guide**
   Azure setup guidance in the Cloud Adoption Framework
2. **First landing zone**
   Leverage the Cloud Adoption Framework migrate landing zone blueprint
3. **Expand the blueprint**
   Use the landing zone considerations to enhance the blueprint template
4. **Best practices**
   Validate landing zone modifications against best practices

Ready | Azure setup guide

- Prepare the cloud environment before building and deploying solutions using Azure services
- The Azure setup guide provides guidance on how to organize resources, control costs, and secure and manage your organization helping you create your landing zone in Azure



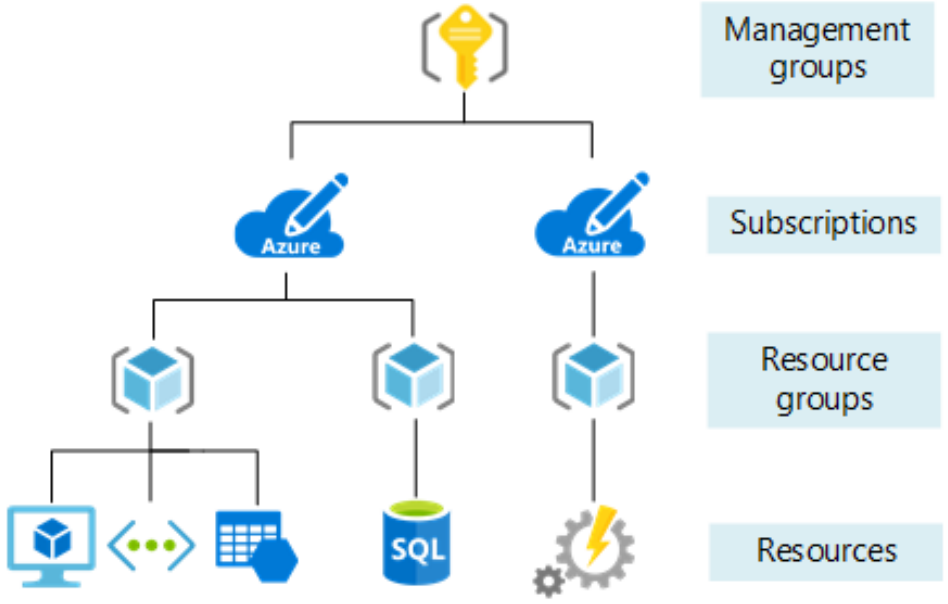
The guide is also published in the **Azure Quickstart Center** within the Azure Portal

Azure setup guide

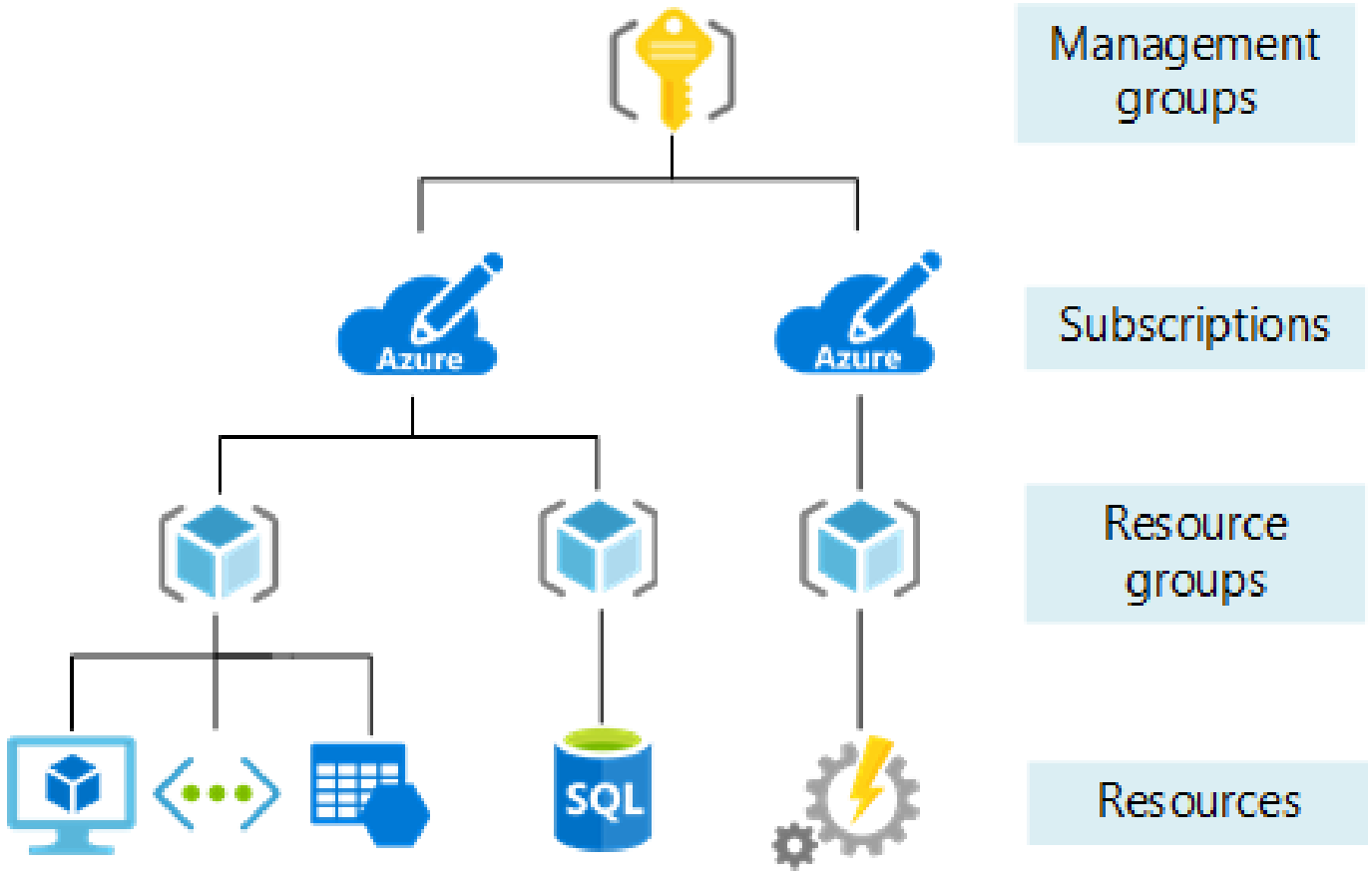
https://aka.ms/adopt/setupguide

Step-by-step guidance to help admins plan, set up, and secure Azure for your organization

- ✓ **Organize resources:** Set up a management hierarchy to consistently apply access control, policy, and compliance to groups of resources and use tagging to track related resources.
- ✓ **Manage access:** Use role-based access control to make sure that users have only the permissions they really need.
- ✓ **Manage costs and billing:** Identify your subscription type, understand how billing works, and see how you can control costs.
- ✓ **Plan for governance, security, and compliance:** Enforce and automate policies and security settings that help you follow applicable legal requirements.
- ✓ **Use monitoring and reporting:** Get visibility across resources to help find and fix problems, optimize performance, or get insight to customer behavior.
- ✓ **Stay current with Azure:** Track product updates so you can take a proactive approach to change management.



Ready | Organize your Azure Resources



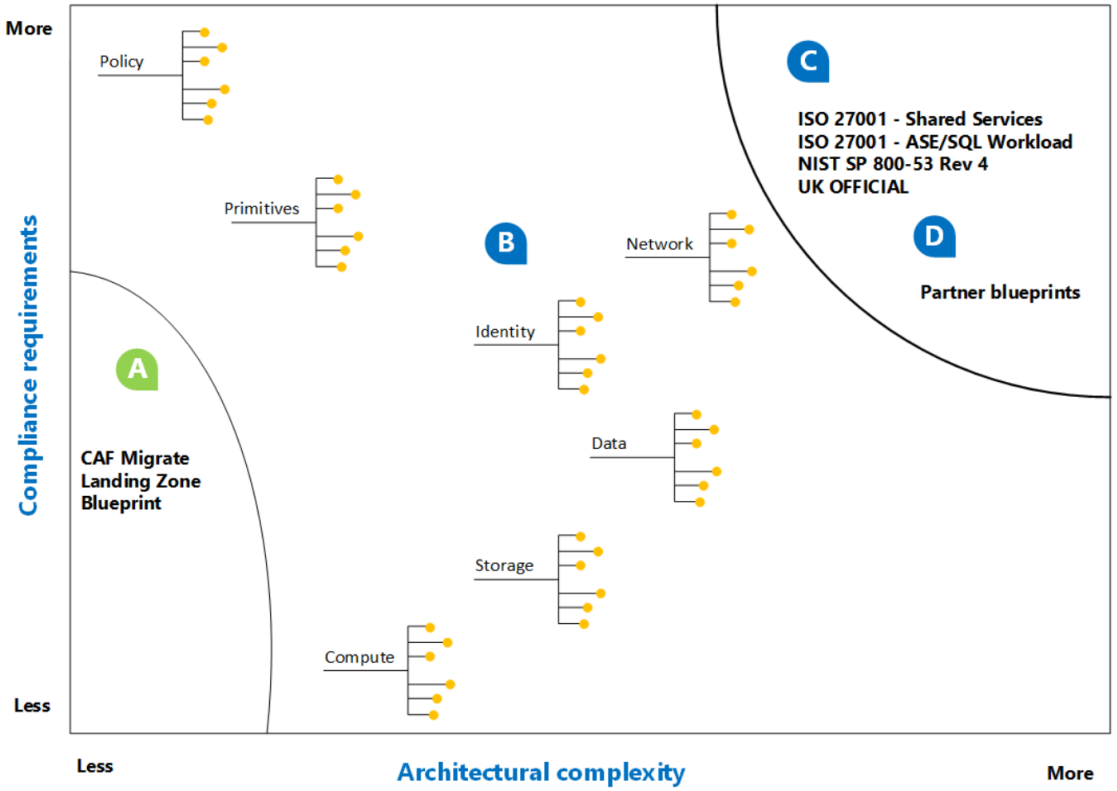
- Use the management hierarchies within the Azure platform.
- Implement well-thought out naming conventions
- Apply resource tagging

Prepare first landing zone

Landing zone is the environment that is provisioned to host workloads being migrated from an on-premises environment into Azure.

Landing zone is the environment that is provisioned to host workloads being migrated from an on-premises environment into Azure.

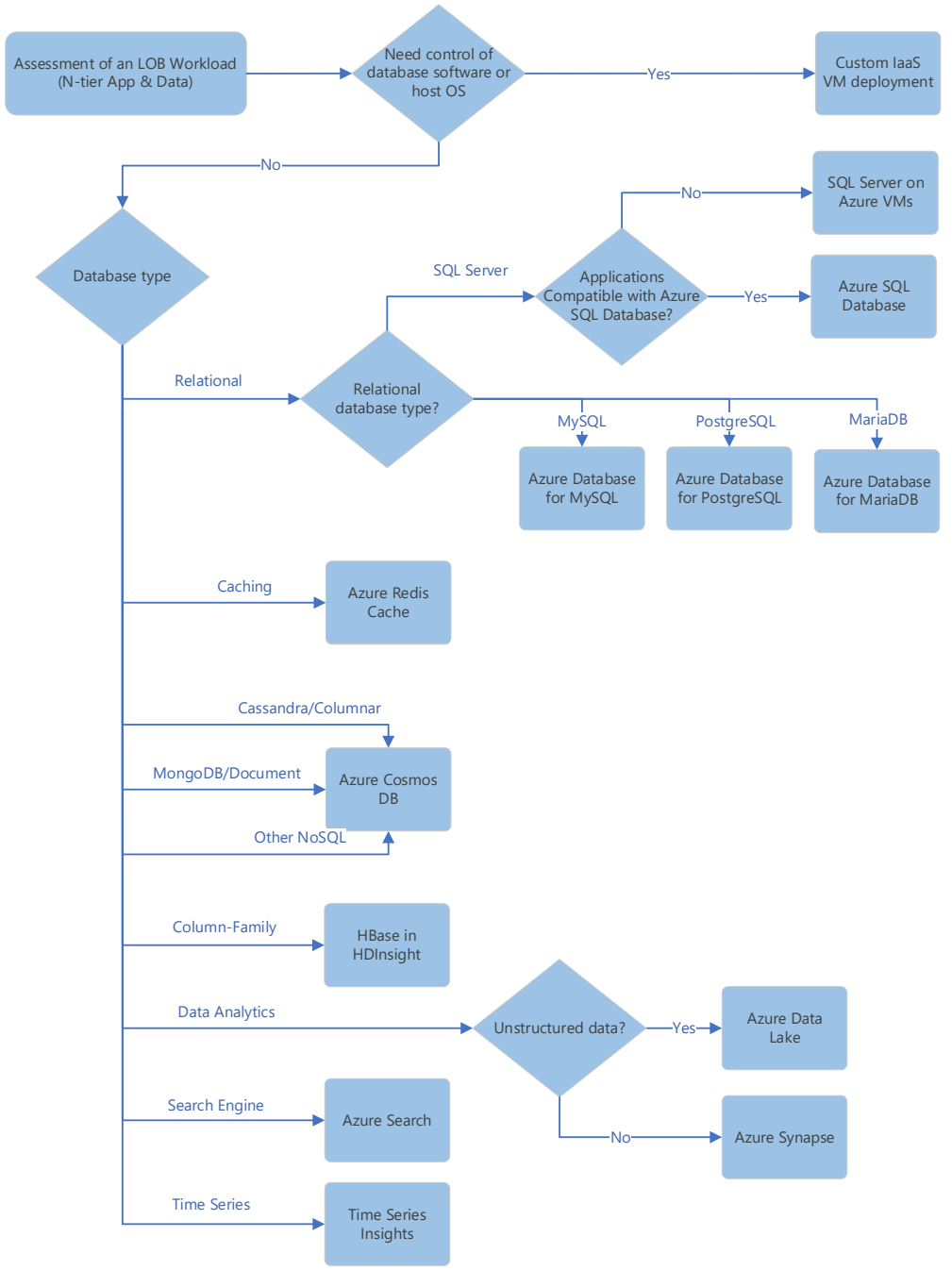
The [Cloud Adoption Framework migrate landing zone blueprint] creates a base landing zone which can be customized to meet your specific needs.



Identify data service requirements

- Assess each of the applications and services that make up your workloads to determine their data storage and access requirements.
- Create policies for your landing zone to control allowed resource types

For each application or service you'll deploy to your landing zone environment, use this decision tree as a starting point to help you determine the appropriate data store services to use:



For more help: Asset: Database Migration Patterns and Target Platform Recommendation (Microsoft internal link)

Common database scenarios

The table below lists a few common use scenario requirements and the recommended database services for handling them.

Scenario	Data service
I need a globally distributed, multi-model database with support for NoSQL choices.	Azure Cosmos DB
I need a fully managed relational database that provisions quickly, scales on the fly, and includes built-in intelligence and security.	Azure SQL Database
I need a fully managed, scalable MySQL relational database that has high availability and security built in at no extra cost.	Azure Database for MySQL
I need a fully managed, scalable PostgreSQL relational database that has high availability and security built in at no extra cost.	Azure Database for PostgreSQL
I plan to host enterprise SQL Server apps in the cloud and have full control over the server OS.	SQL Server on Virtual Machines
I need a fully managed elastic data warehouse that has security at every level of scale at no extra cost.	Azure Synapse Analytics
I need data lake storage resources that are capable of supporting Hadoop clusters or HDFS data.	Azure Data Lake
I need high throughput and consistent, low-latency access for my data to support fast, scalable applications.	Azure Cache for Redis
I need a fully managed, scalable MariaDB relational database that has high availability and security built in at no extra cost.	Azure Database for MariaDB

Azure SQL

A unified SQL portfolio built on the industry-leading SQL Server engine

Azure SQL Virtual Machine

Best for lift and shift and/or workloads requiring OS-level access

IaaS

Learn More

Azure SQL managed databases

Azure SQL Managed Instance

Best for modernizing existing apps

Azure SQL Database

Best for building new apps in the cloud

PaaS

Learn More

Azure is the cloud that knows SQL Server best

Which deployment option do I select?

IF you need (a specific version of SQL Server, or specific Operating System, …),

THEN use **Azure SQL Virtual Machines**,

ELSE IF you need (Inst. level capabilities, such as SQL Agent, Service Broker, Linked Server, CLR, VNET, …),

THEN use **Azure SQL Managed Instance**,

ELSE use **Azure SQL Database**!

Business motivations for choosing databases, managed instances, or SQL virtual machines

- Cost - Both PaaS and IaaS option include base price that cover underlying infrastructure and licensing. However, with IaaS option you need to invest additional time and resources to manage your database, while in PaaS you are getting these administration features included in the price. IaaS option enables you to shut down your resources while you are not using them to decrease the cost, while PaaS version is always running unless if you drop and re-create your resources when they are needed (unless you have chosen the Serverless deployment option for SQL DB).
- Administration - PaaS options reduce the amount of time that you need to invest to administer the database. However, it also limits the range of custom administration tasks and scripts that you can perform or run. For example, the CLR is not supported with single or pooled databases but is supported for a managed instance. Also, no deployment options in PaaS support the use of trace flags.
- Service-Level Agreement - Both IaaS and PaaS provide high, industry standard SLA. PaaS option guarantees 99.99% SLA, while IaaS guarantees 99.95% SLA for infrastructure, meaning that you need to implement additional mechanisms to ensure availability of your databases. You can implement High-availability solution at 99.99% by creating an additional SQL Server in VM and configure AlwaysOn Availability groups.
- Time to move to Azure - SQL Server in Azure VM is the exact match of your environment, so migration from on-premises to Azure SQL VM is not different than moving the databases from one on-premises server to another. Managed instance also enables extremely easy migration; however, there might be some changes that you need to apply before you migrate to a managed instance.

Other landing zone considerations for data

Regional availability

- Refer the regions page to check the latest status of regional availability.
- Not all database services are available in all regions

Data residency and compliance requirements

- Legal and contractual requirements might vary based on the location of your organization, the jurisdiction of the physical assets that host your data stores, and your business sector.
- Components of data obligations to consider include data classification, data location, and the respective responsibilities for data protection under the shared responsibility model.
- If your workloads are subject to data sovereignty or other compliance requirements, you must deploy your storage resources to regions in a compliant Azure geography.

Establish controls for database services

- Establish controls that limit what data stores users can deploy. Use Azure Policy to control the database resources that you allow users to create. For example, you might restrict users to creating only Azure SQL Database resources.
- You can also use policy to control the allowable options when a resource is created, like restricting what SQL Database SKUs can be provisioned or allowing only specific versions of SQL server to be installed on an IaaS VM.
- Policies can be scoped to resources, resource groups, subscriptions, and management groups.

Ready | Expand the landing zone blueprint

The considerations for implementing a landing zone fall into three categories

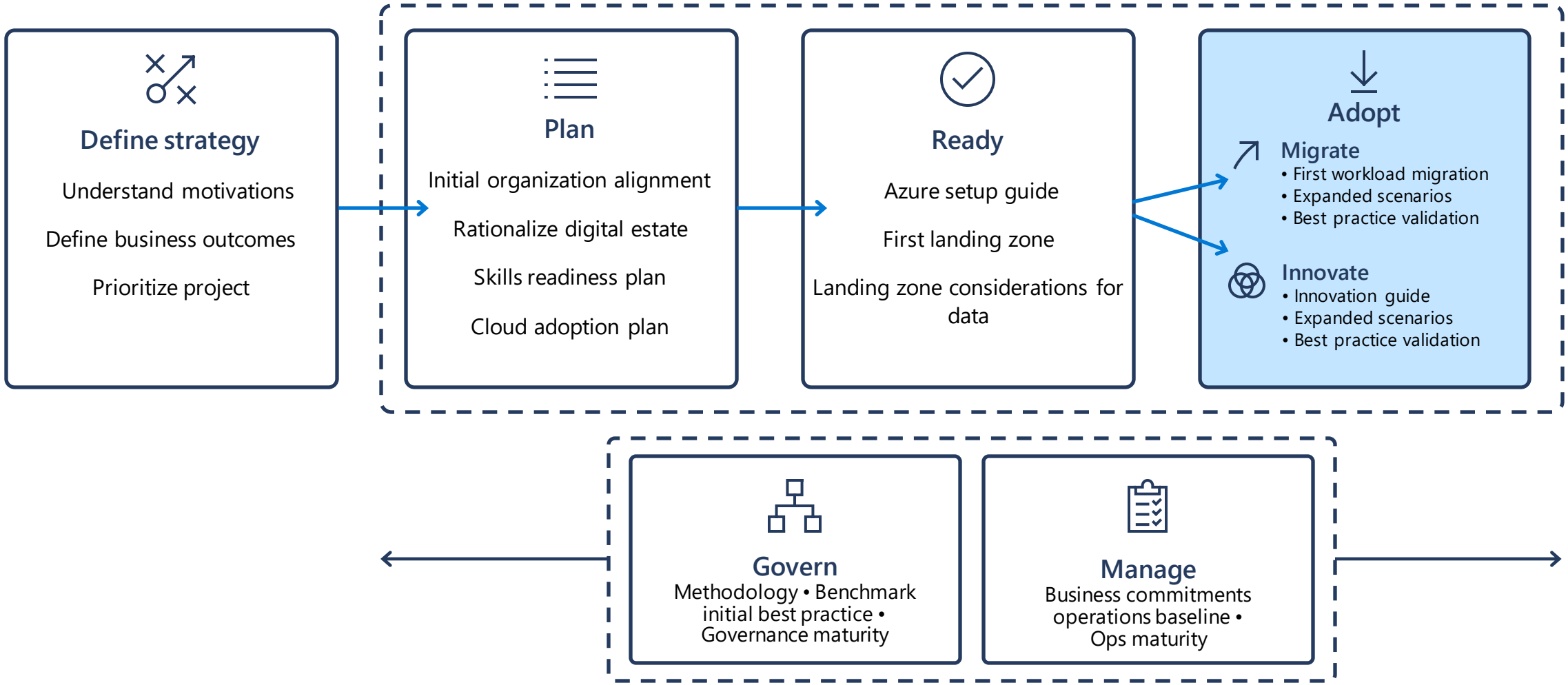
- Hosting - decisions need to be made around compute, storage, networking, databases to help create hosting options in the landing zone blueprint
- Azure fundamentals - these are the foundational building blocks for organizing resources in the cloud environment.
- Governance considerations – applying governance principles on each landing zone

Ready | Recommended Practices

Leverage best practices in Cloud Adoption Framework to help your teams establish and prepare Azure environment. These include guidance in the areas of

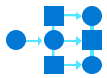
- Azure fundamentals
- Networking
- Identity and Access Control
- Storage
- Databases
- Cost Management

Microsoft Cloud Adoption Framework for Azure



Aka.ms/CAF/migrate

Migration planning and execution



Define strategy

Executive sponsorship

Stakeholder alignment

Partner engaged

Plan

Discovery and assessment

TCO/ Business case

Migration plan

Ready

Technical skilling

Landing zone

Adopt

Migration execution

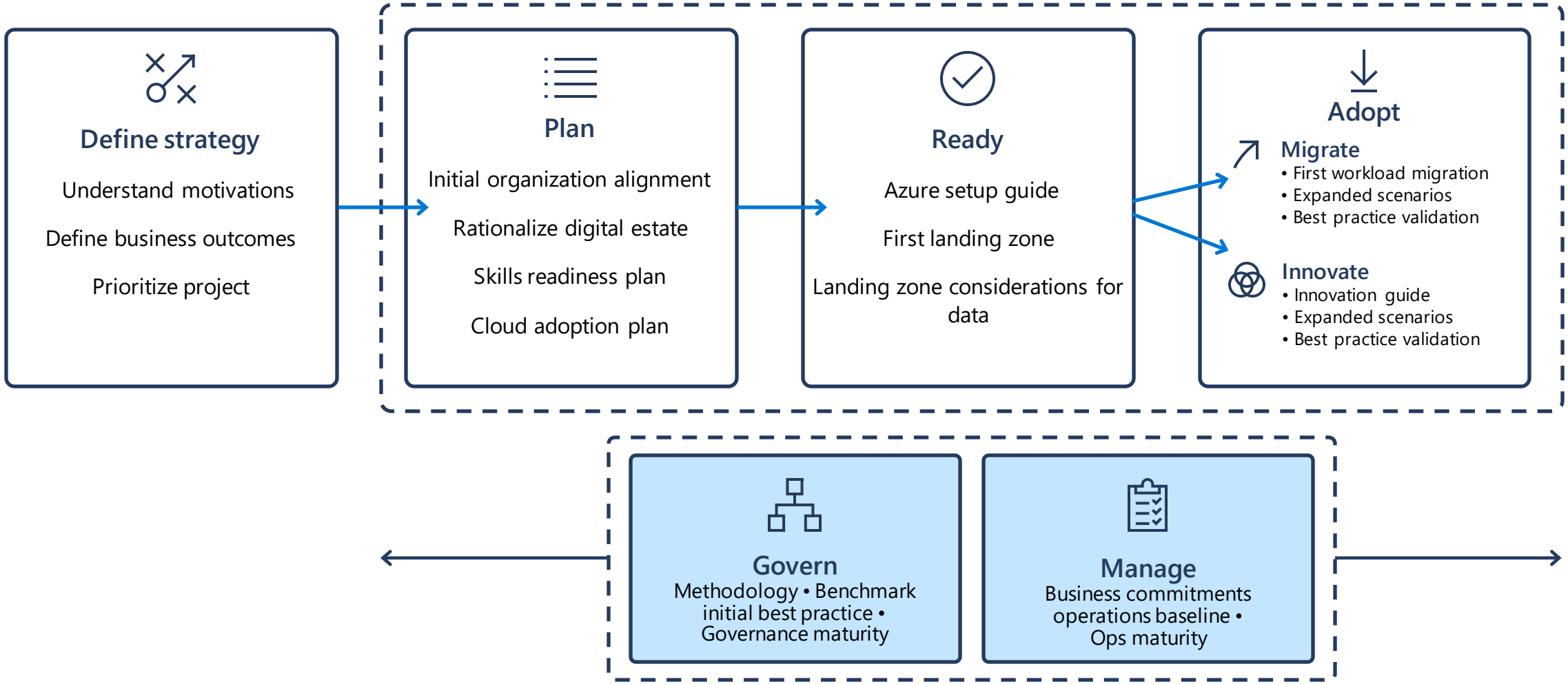
Migration waves

Govern

Manage

Assess migration readiness: aka.ms/smarttool

Microsoft Cloud Adoption Framework for Azure



Cloud Adoption Framework guidance

Find guidance for each methodology as you proceed through your cloud adoption journey.

Get started

- Document foundational decisions
- Accelerate migration
- Deliver operational excellence
- Align your organization

Strategy

- Motivations
- Business outcomes
- Align your partner strategy
- Choose the right first project

Plan

- Rationalize your digital estate
- Organizational alignment
- Skills readiness plan
- Cloud adoption plan for DevOps

Ready

- Azure setup guide
- Operating model alignment
- Azure landing zones
- Best practices for Azure readiness

Migrate

- Azure migration guide
- Migration scenarios
- Best practices for cloud migration
- Process improvements

Innovate

- Business value consensus
- Azure innovation guide
- Best practices
- Feedback loops

Govern

- Methodology
- Benchmark assessment
- Governance foundation
- Improve the foundation

Manage

- Management baseline
- Business commitments
- Expand the baseline
- Evaluate design principles

Organize

- Organizational alignment
- Establish teams
- Align responsibilities

Tools and templates

04/14/2020 • 3 minutes to read • +2

The Cloud Adoption Framework includes tools that help you quickly implement technical change. Use these tools, templates, and assessments to accelerate cloud adoption. The following resources can help you in each phase of adoption. Some of the tools and templates can be used in multiple phases.

Strategy

Resource	Description
Cloud journey tracker	Identify your cloud adoption path based on the needs of your business.
Strategy and plan template	Document decisions as you execute your cloud adoption strategy and plan.

Plan

Resource	Description
Cloud journey tracker	Identify your cloud adoption path based on the needs of your business.
Strategy and plan template	Document decisions, as you execute your cloud adoption strategy and plan.
Cloud adoption plan generator	Standardize processes by deploying a backlog to Azure Boards using a template.

Ready

Resource	Description
Readiness checklist	Use this checklist to prepare your environment for adoption, including preparing your first migration landing zone, personalizing the blueprint, and expanding it.
Naming and tagging conventions tracking template	Document decisions about naming and tagging standards to ensure consistency and reduce onboarding time.

Is this page helpful?
Yes No

https://note.microsoft.com/CatalogueDisplay-SRDEM46502_CatalogDisplayPage.html

A Deep Dive into Cloud Adoption Framework for Microsoft Azure

Cloud Adoption Framework is a collection of documentation, implementation guidance, best practices, and tools that are proven guidance from Microsoft designed to help you accelerate the cloud adoption journey for your customers. Before cloud adoption can begin, you must create a landing zone for your customer to host the workloads they plan to build in or migrate to the cloud. One of the most critical considerations is landing zone design, and implementation is your operating model. In this in-depth dive training, hear the Microsoft experts talk about how you align your target operating model with a start-small or Enterprise-scale approach and then discuss how you can build an offering around the same as a partner.

	Time Zone in UTC	Local Time details
Occurrence #2	10:30AM UTC	10:30AM London | 02:30PM Dubai | 04:00PM Bangalore

Deep Dive into Cloud Adoption Framework for Microsoft Azure: Introduction to Azure Landing Zones and Start-small approach

23-Nov-2020 | 10:30AM - 12:30PM UTC

Register Now

Deep Dive into Cloud Adoption Framework for Microsoft Azure: A look into Enterprise-scale Landing Zone and building an offering

24-Nov-2020 | 10:30AM - 12:30PM UTC

Register Now

Resources

CAF In-A-Box resources on GearUp

- **CAF – Data Migration deck**
- **Data migration customer invite template**
- CAF walking deck
- Strategy-Plan-Ready Customer Workshop
- Governance Customer Workshop
- Field Execution Playbook
- CAF briefing customer invite template
- Social media assets (resources)
- Propensity list (scenarios: Migrate to SQL, Migrate from VM)

CAF on Docs

- Choose the right deployment option in Azure SQL
- Data Migration Guide
- Migrate expanded scope: Accelerate migration by migrating multiple databases or entire SQL Servers
- Tooling documentation: Azure Migrate, Azure Database Migration Service
- Azure SQL Database security best practices playbook

CAF Partner offers

Questions on this deck? Feedback? Reach out to the team

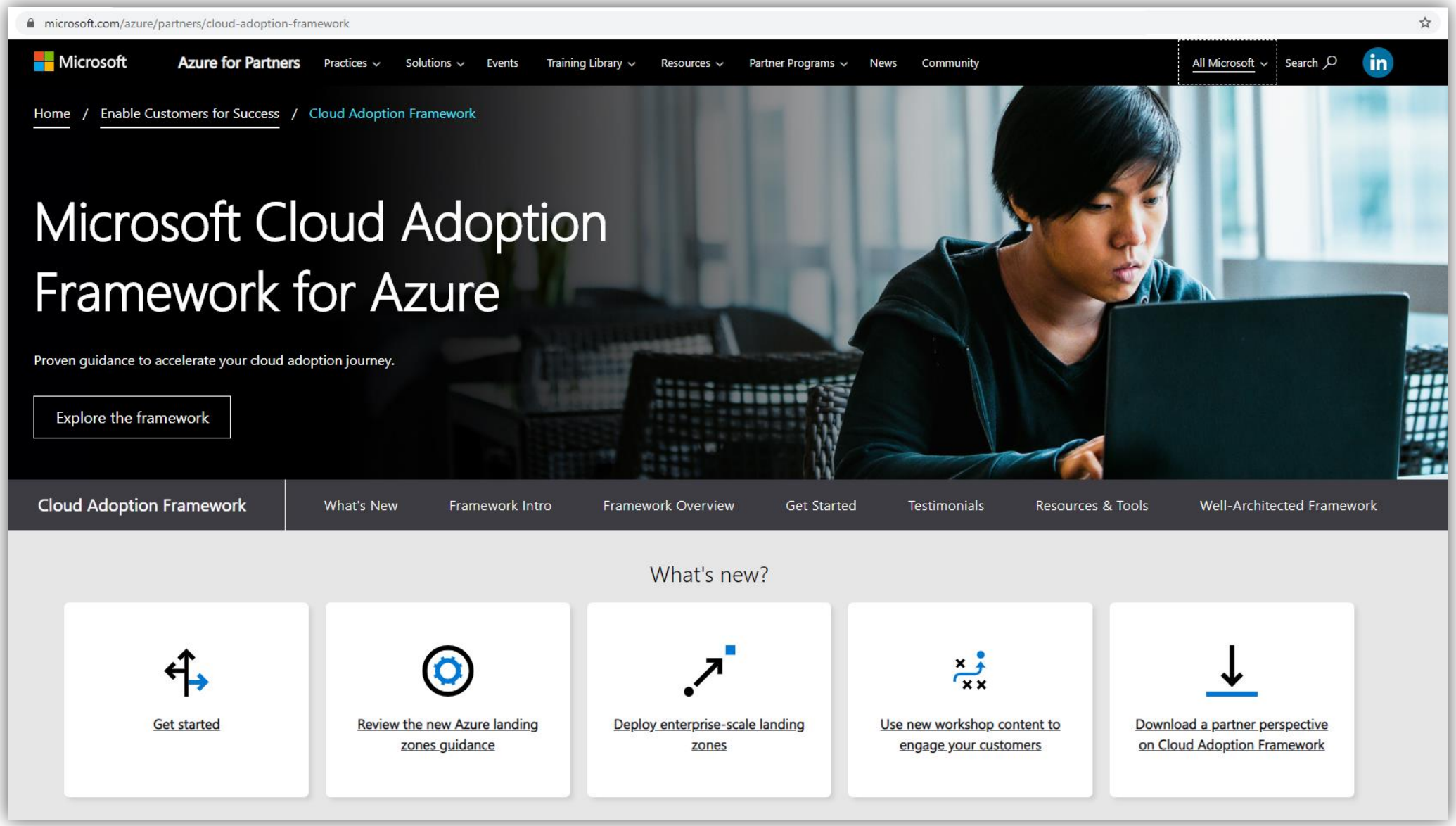
Next Steps

- Finalize the Cloud Adoption Plan
- Create cloud adoption project through Azure DevOps
- Build the Landing zone using Azure Blueprints
  - Append compliance templates as per business requirements

Workshops to consider:

- Build out Governance frame for the business (Governance Workshop)
- Ensure you have resiliency in your apps and workloads (Resilience briefing and workshop)

Cloud Adoption Framework for Azure



https://www.microsoft.com/azure/partners/cloud-adoption-framework