Microsoft

Azure

Cloud Adoption Framework

Azure Partners Tech Talks

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- April 2020

Azure Partners Tech Talks

Today's session goals

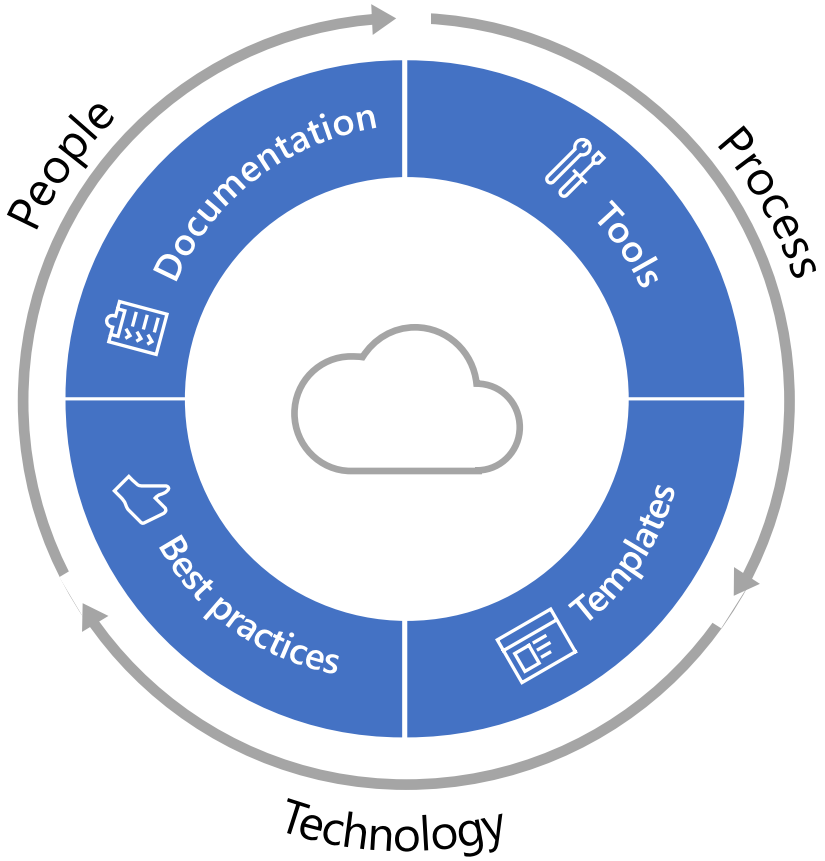
- ✓ Solution architecture overview, design patterns, proven practices, or demo
- ✓ Resources to help you develop your Azure-focused practice
- ✓ Overview of programs to help you drive customer adoption

Agenda

1. Overview of Cloud Adoption Framework (CAF)
2. Practice Development aligned to Cloud Adoption Framework
3. Create Repeatable IP that enables speed and consistent results
4. CAF Resources
5. Programs and offers
6. Q&A

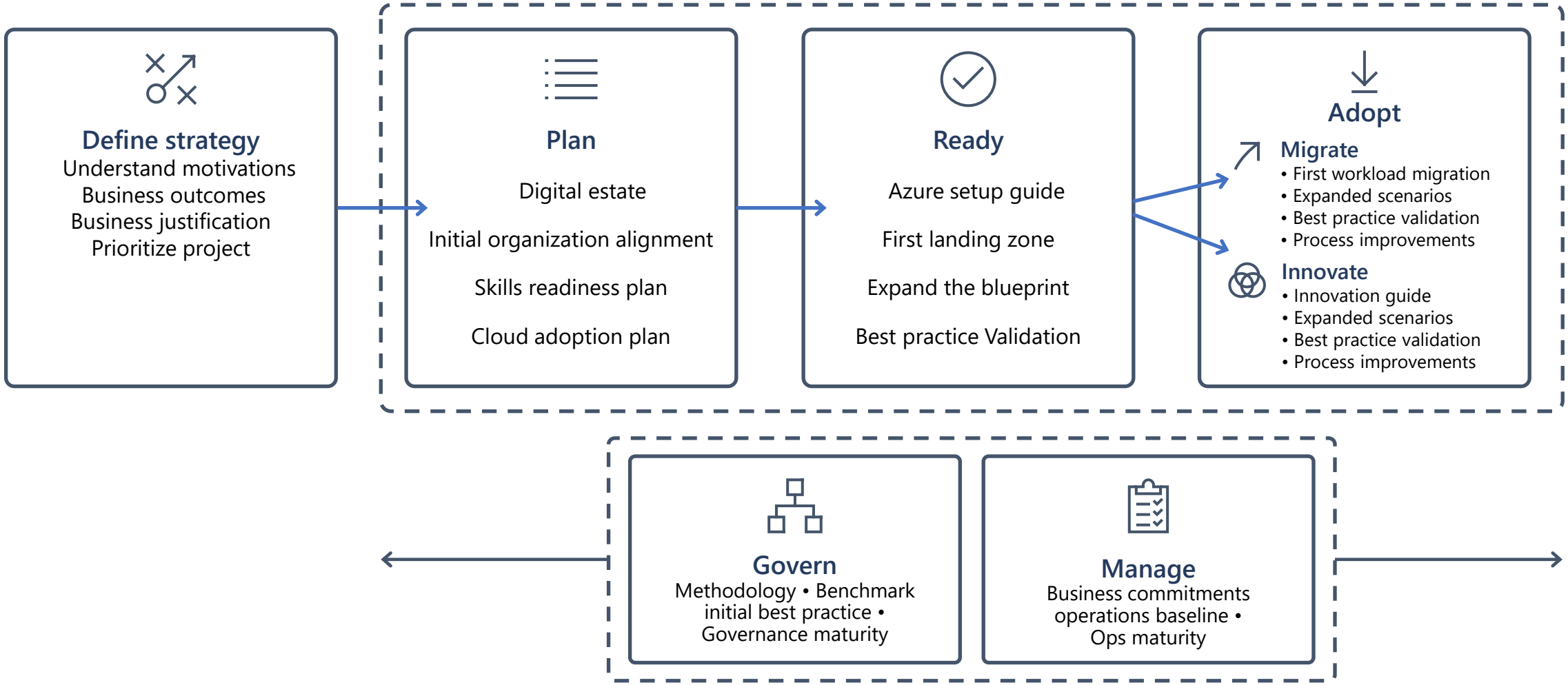
https://Aka.ms/caf

Microsoft Cloud Adoption Framework for Azure

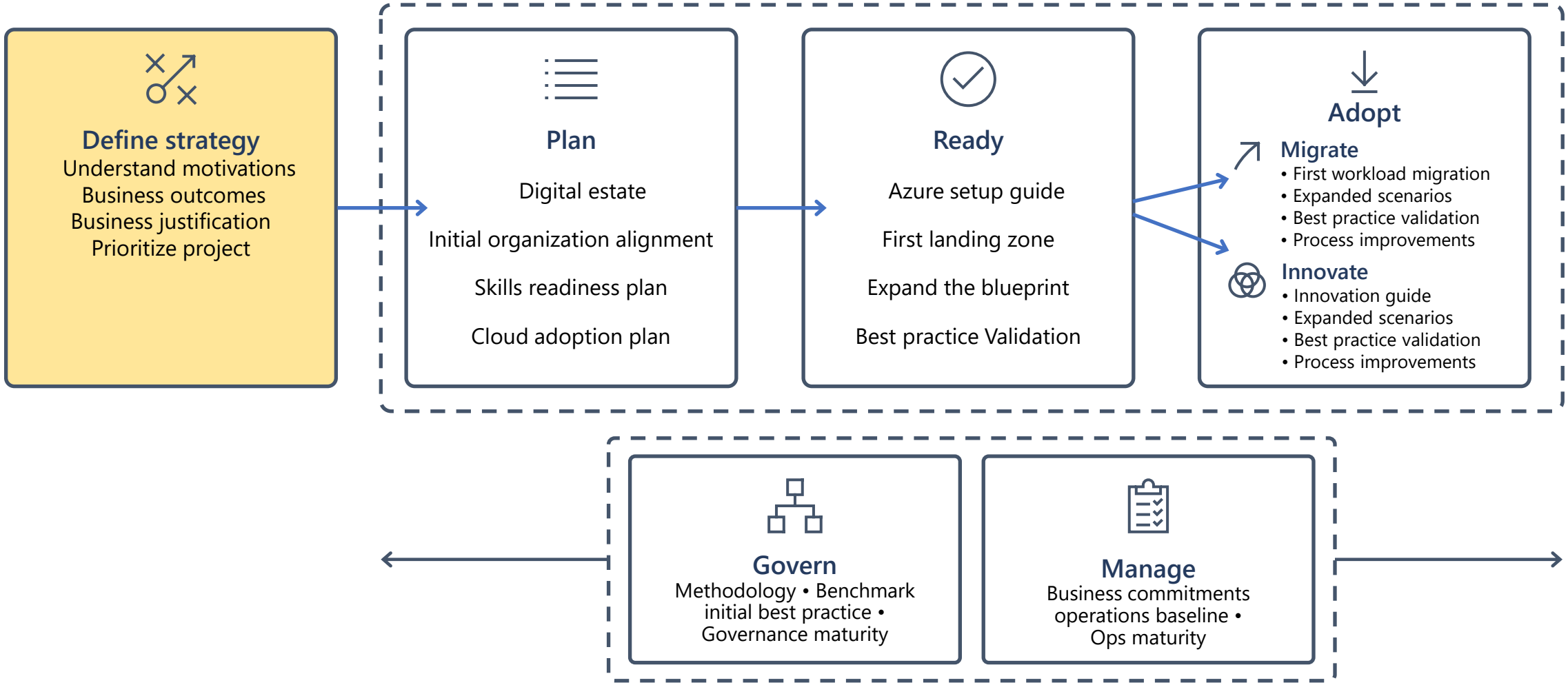


Align **business, people and technology strategy** to achieve business goals with **actionable, efficient, and comprehensive** guidance to deliver fast results with control and stability.

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

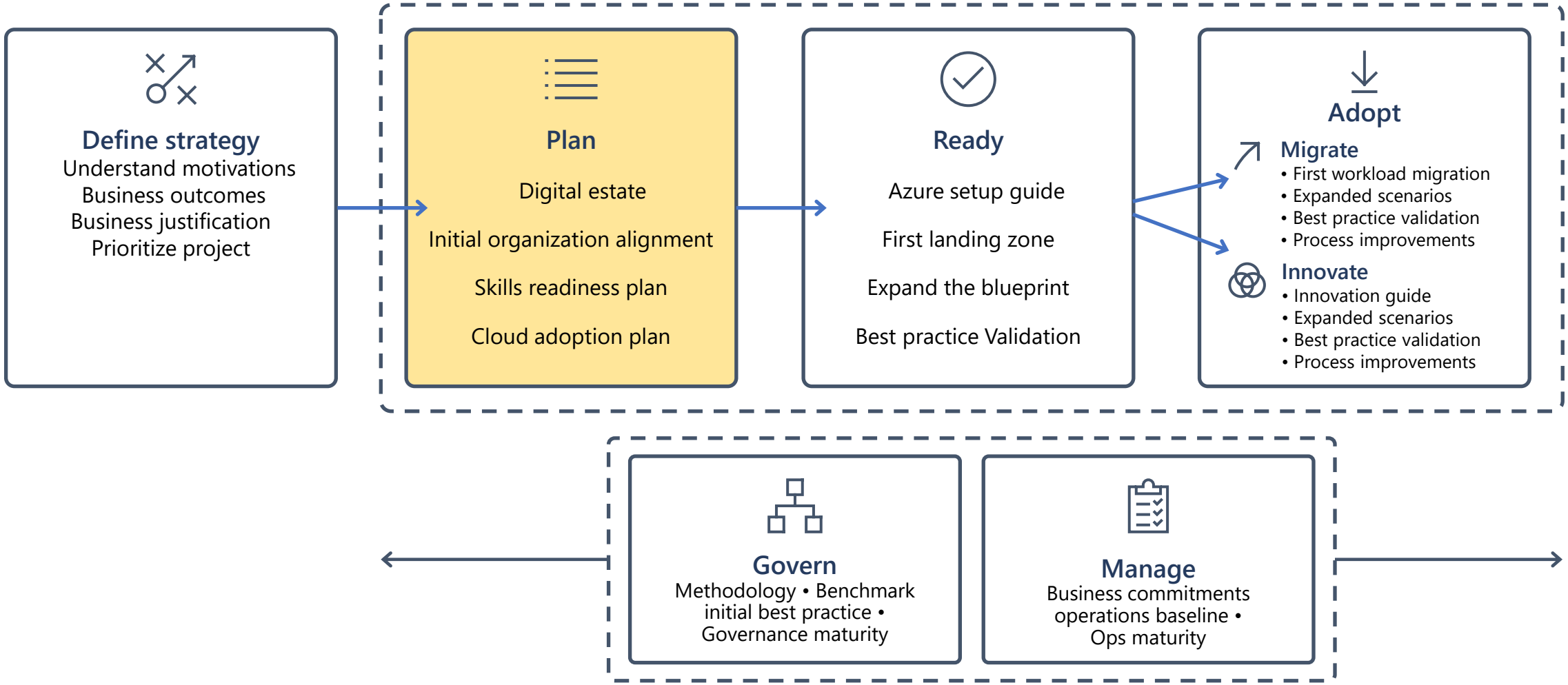
1 **Motivations**
Understand motivations to move to cloud

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

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

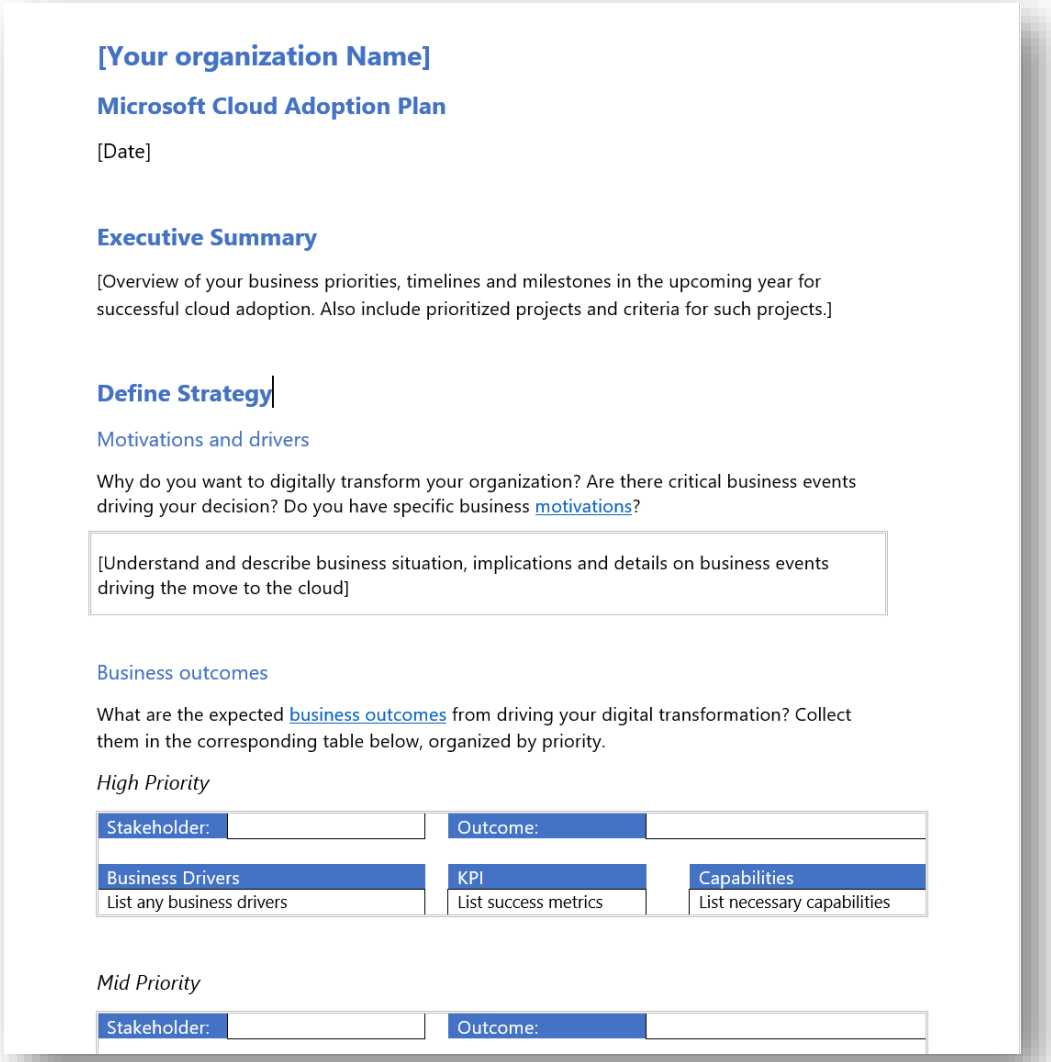
2. ## Initial org alignment
   Align governance and cloud adoption to mitigate risks

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

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.

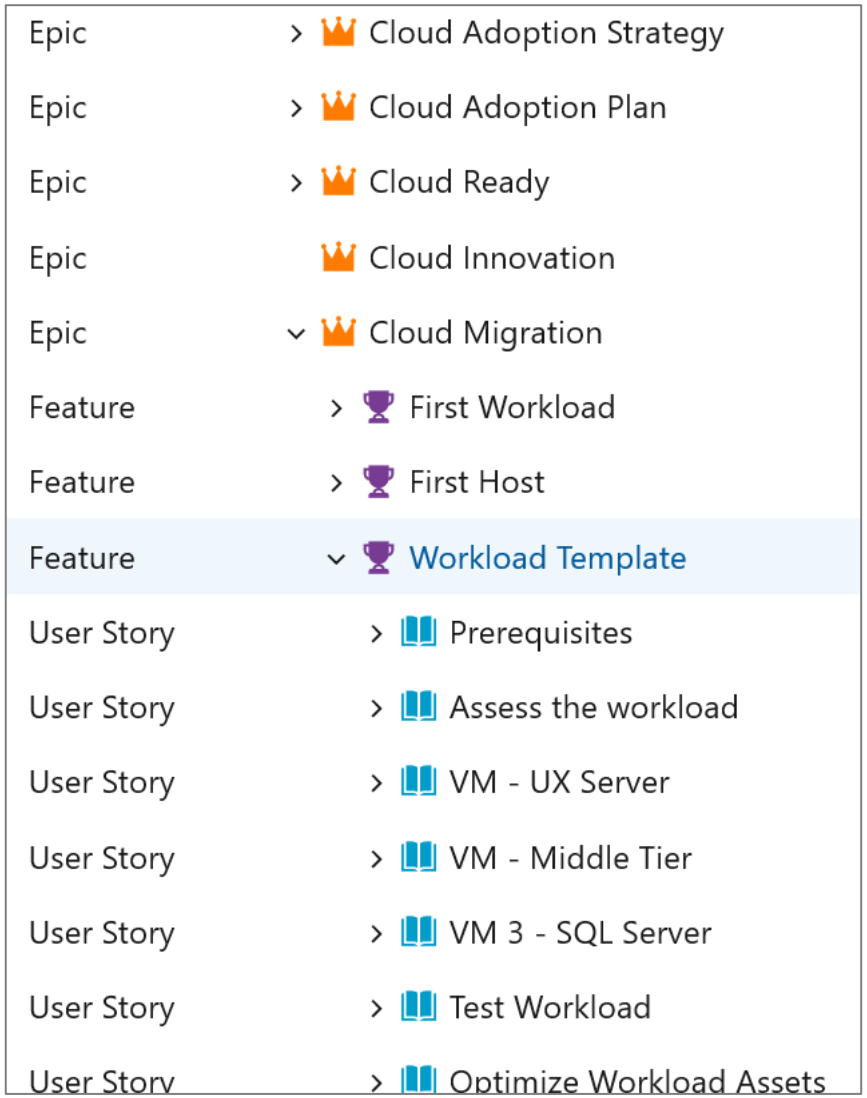
High Priority

Stakeholder:		Outcome:		
Business Drivers		**KPI**		**Capabilities**
List any business drivers		List success metrics		List necessary capabilities

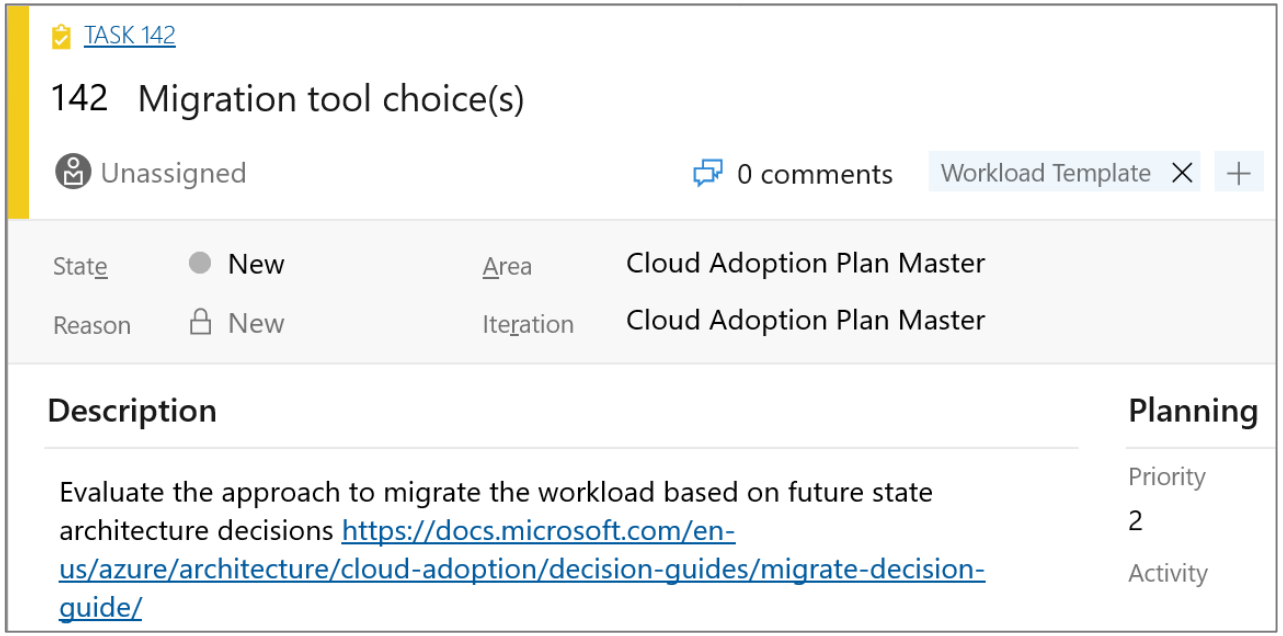
Mid Priority

Stakeholder:		Outcome:	

Azure DevOps Cloud Adoption Plan Generator



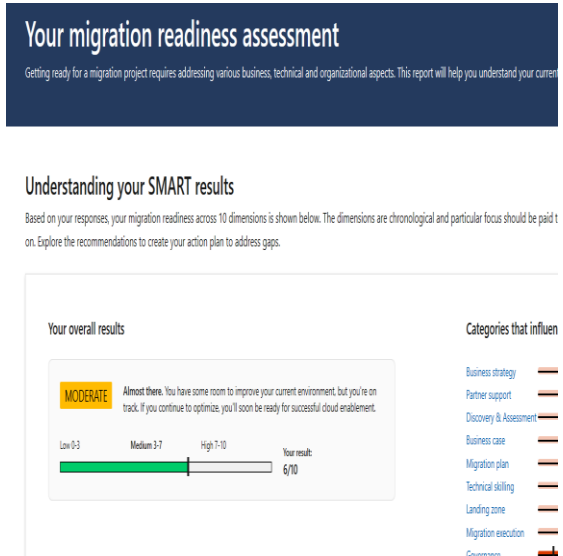
Leverage Azure DevOps to log and track your cloud adoption plan
aka.ms/adopt/plan

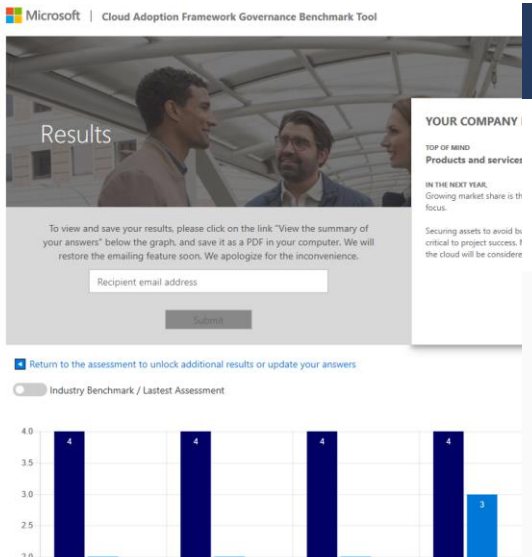


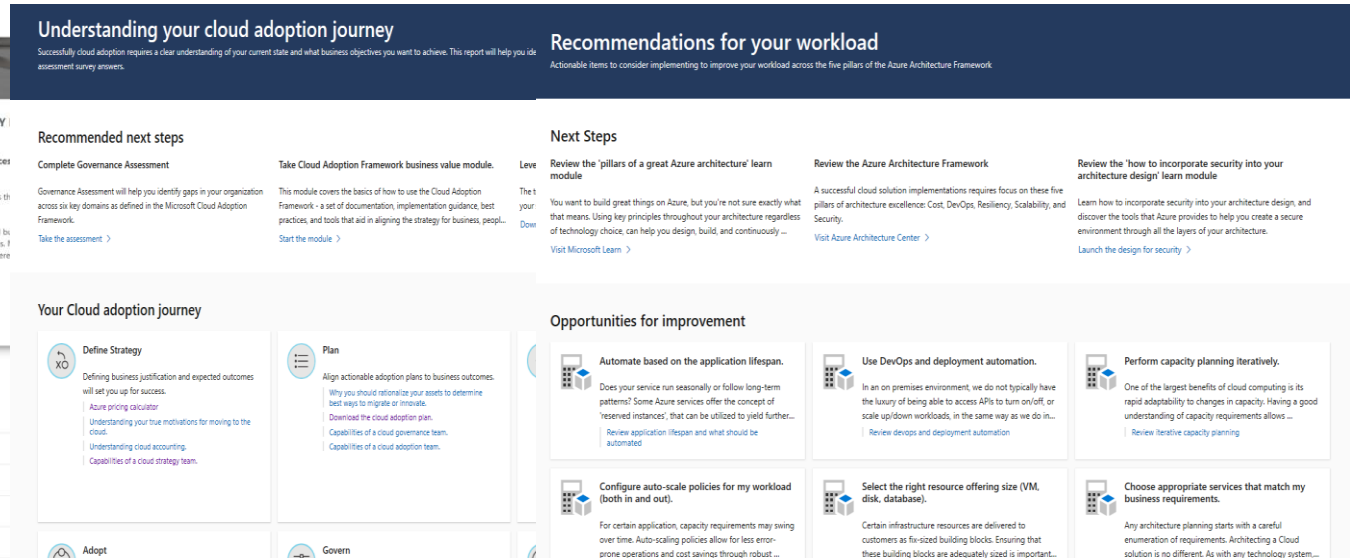
Assessments

https://docs.microsoft.com/en-us/assessments/

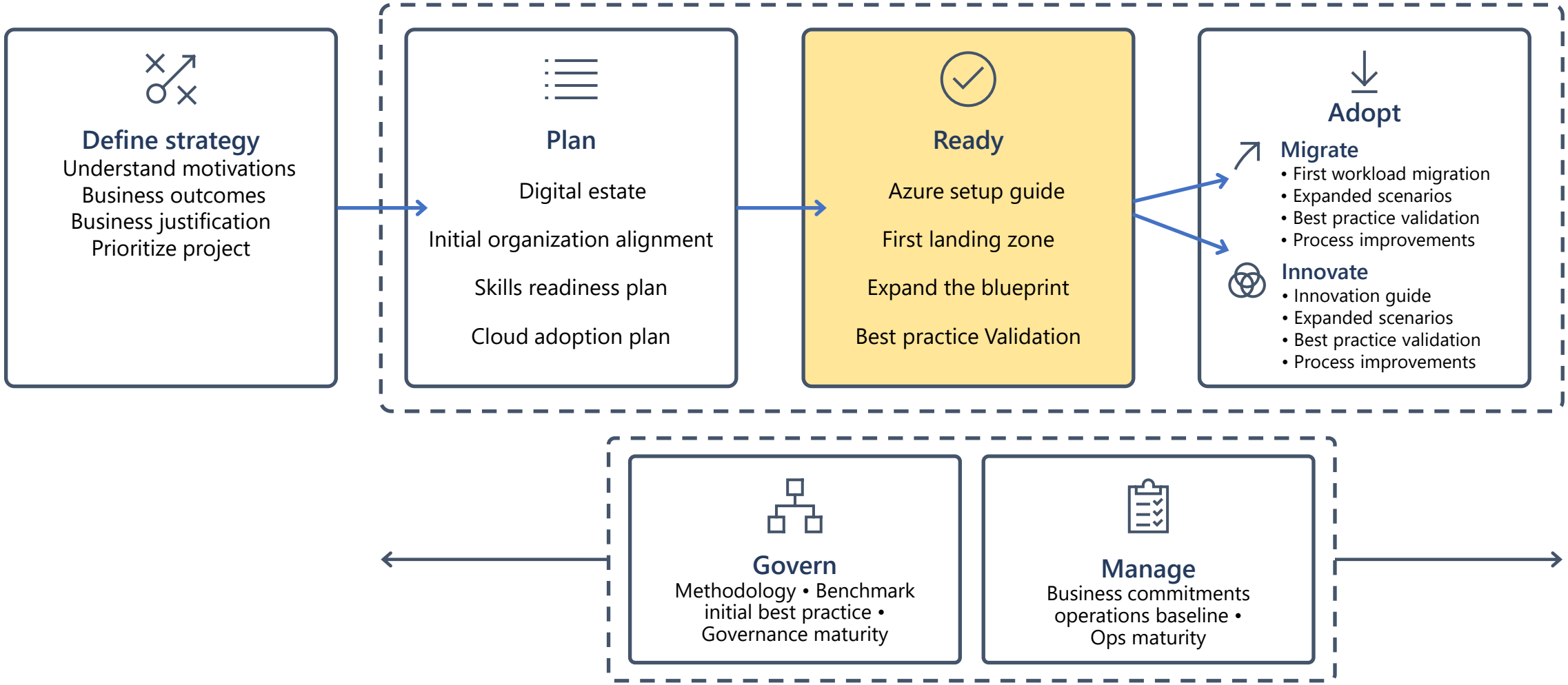
- **Strategic Migration Assessment and Readiness Tool (SMART)**
  Preparing for a scale migration is critical to ensure your project is executed smoothly and that you realize intended benefits . Based on your responses, your migration readiness across 10 dimensions
- **Governance Benchmark**
  Identify gaps in your organizations current state of governance. Get a personalized benchmark report and curated guidance on how to get started.
- **Cloud Journey Tracker**
  Identify your cloud adoption path based on your needs with this tracker and navigate to relevant content in the Cloud Adoption Framework for Azure
- **Azure Architecture Review**
  Examine your workload through the lenses of resiliency, cost, devops practices, security and scalability.







Microsoft Cloud Adoption Framework for Azure

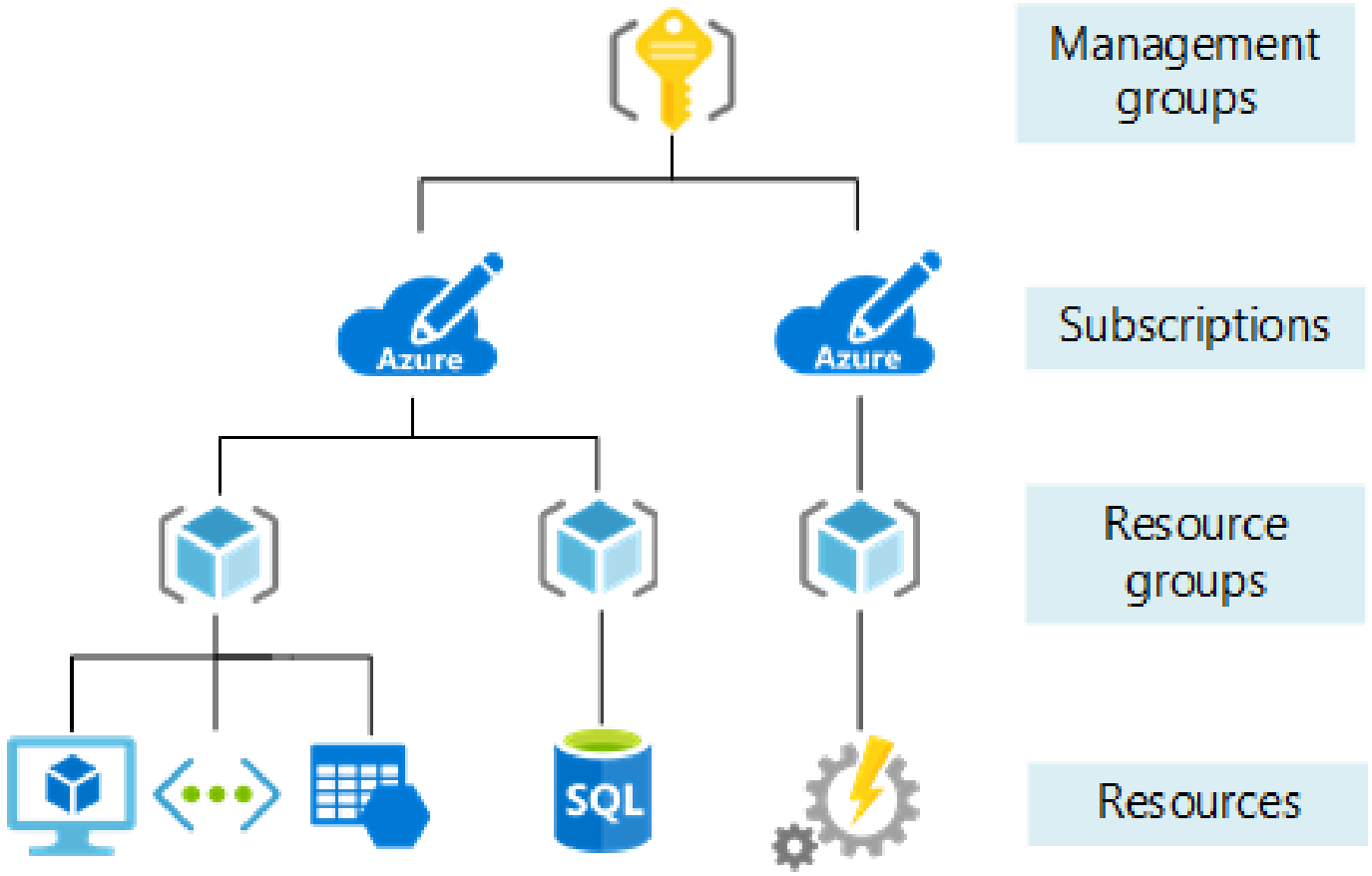


Ready

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

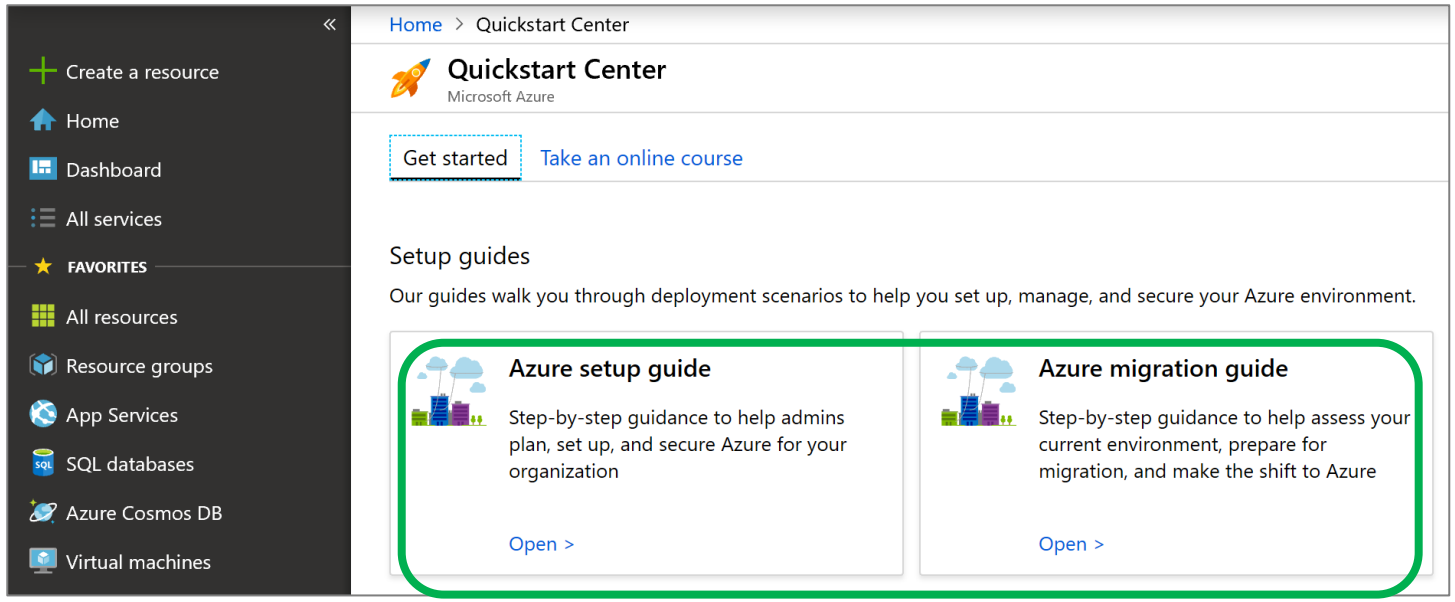
Ready | Organize your Azure Resources



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

Ready | Azure setup guide

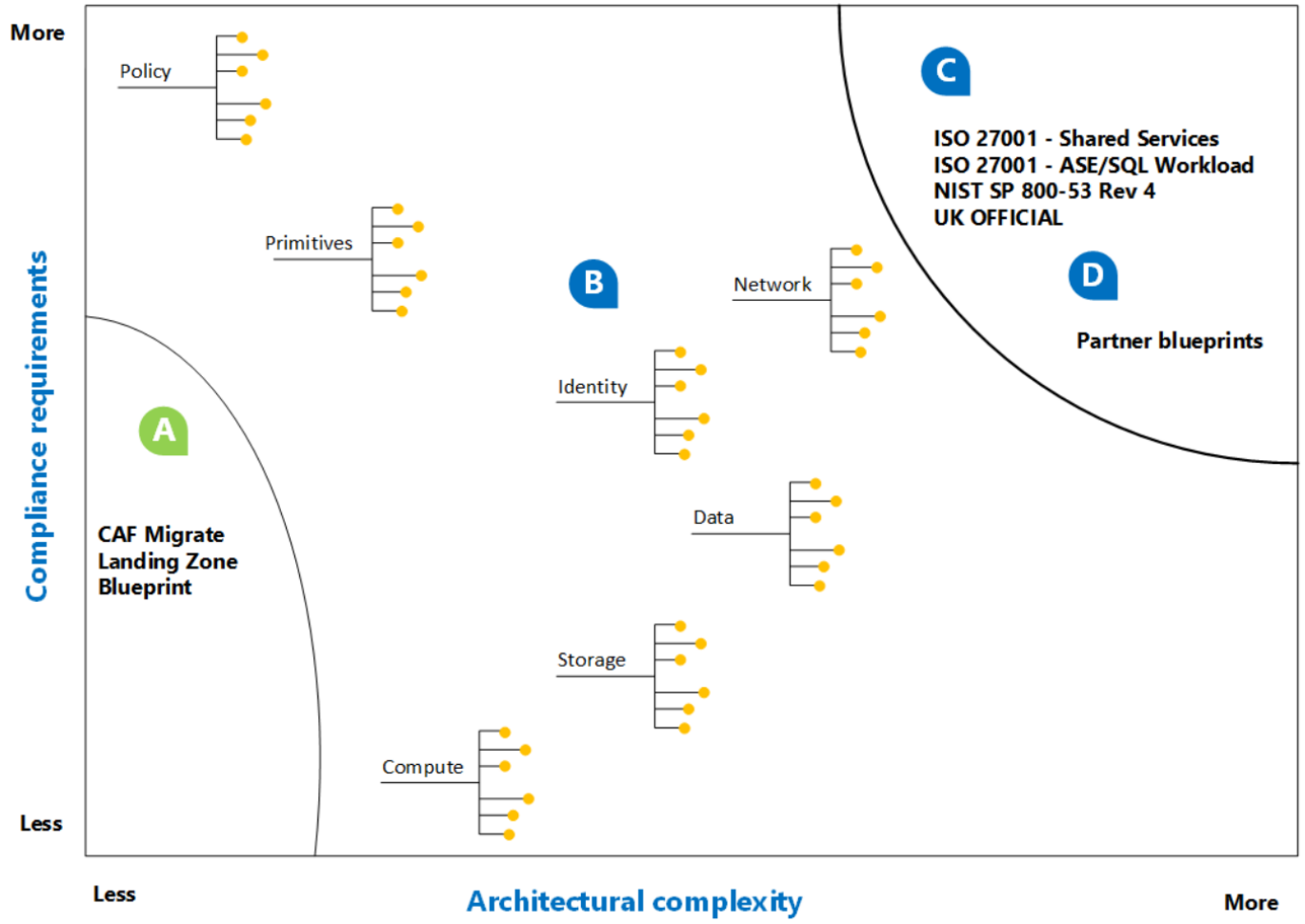
- Prepare the cloud environment before building and deploying solutions using Azure services
- The Azure setup guide provides guidance on how to organize resources, control costs, and secure and manage your organization helping you create your landing zone in Azure



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

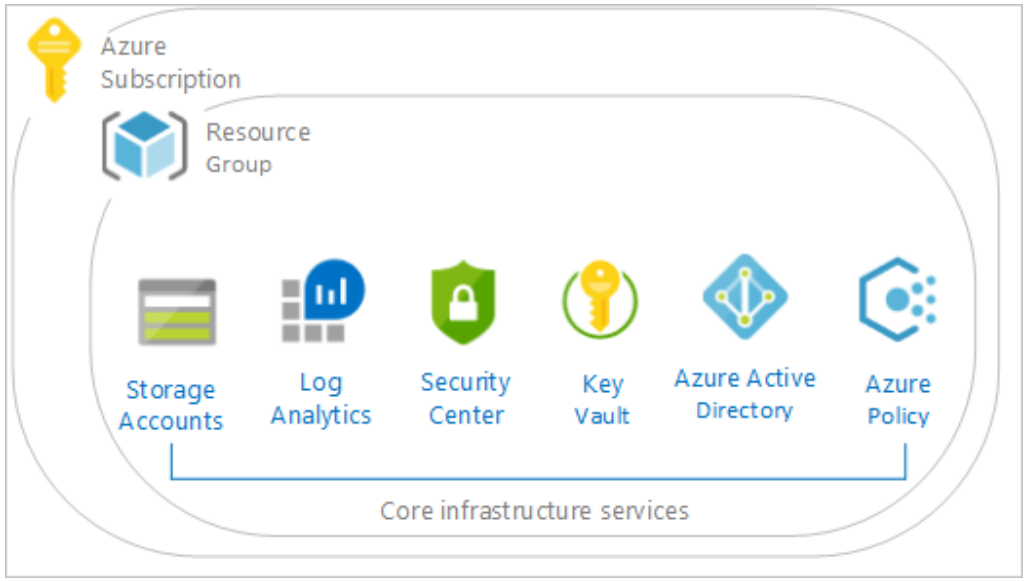
Ready | First Landing Zone / Blueprint

- 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 landing zone which can be updated to meet your specific needs.



Deploy the policies using Azure blueprints to create Governance MVP

Cloud Adoption Framework Foundation blueprint deploys recommended infrastructure resources to put in place the foundation controls necessary to manage the cloud estate.



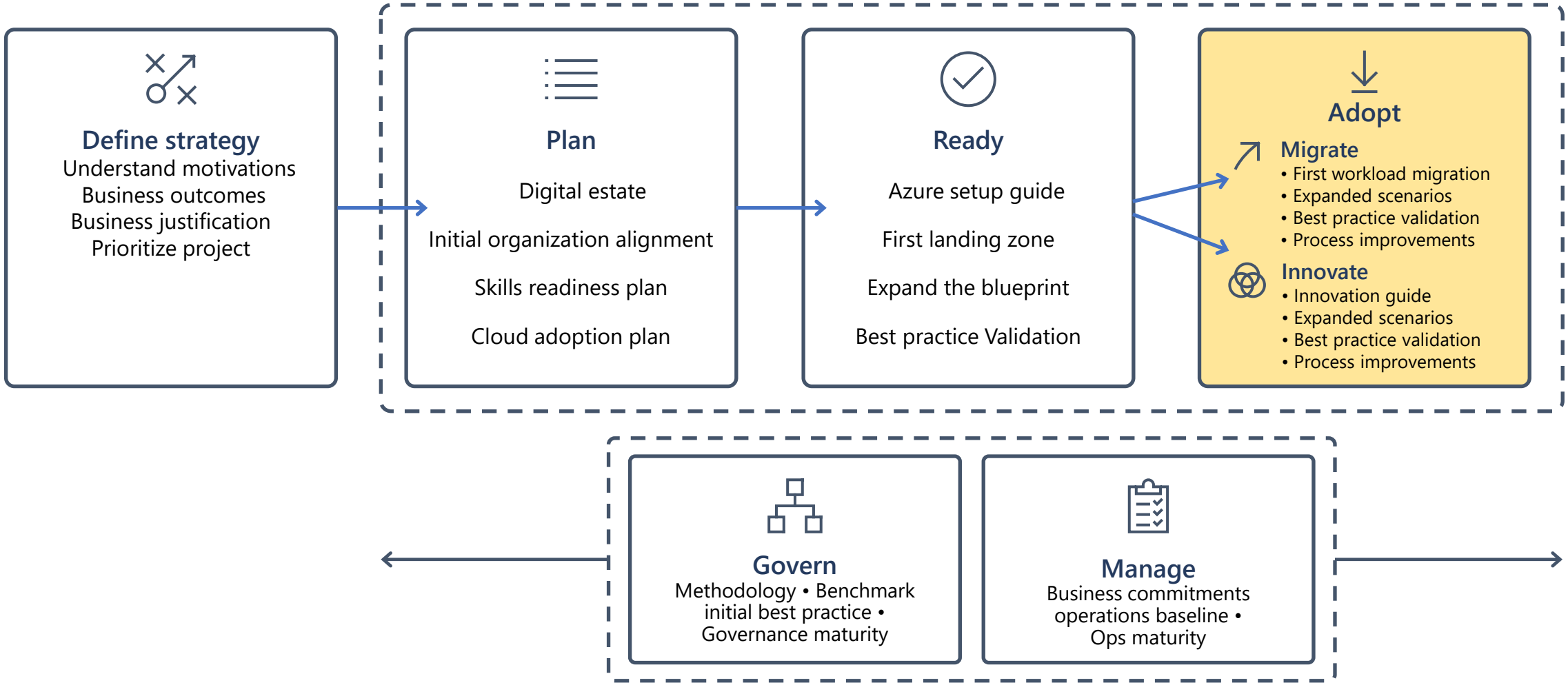
This environment is composed of:

- An Azure Key Vault
- Deploy Log Analytics
- Deploy Azure Security Center (standard version)
- The blueprint also defines and deploys Azure Policies, for
  - Tagging (CostCenter) applied to resources groups
  - Append resources in resource group with the CostCenter Tag
  - Allowed Azure Region for Resources and Resource Groups
  - Allowed Storage Account SKUs (choose while deploying)
  - Allowed Azure VM SKUs (choose while deploying)
  - Require Network Watch to be deployed
  - Require Azure Storage Account Secure transfer Encryption
  - Deny resource types (choose while deploying)
- Initiatives
  - Enable Monitoring in Azure Security Center (89 Policies)

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

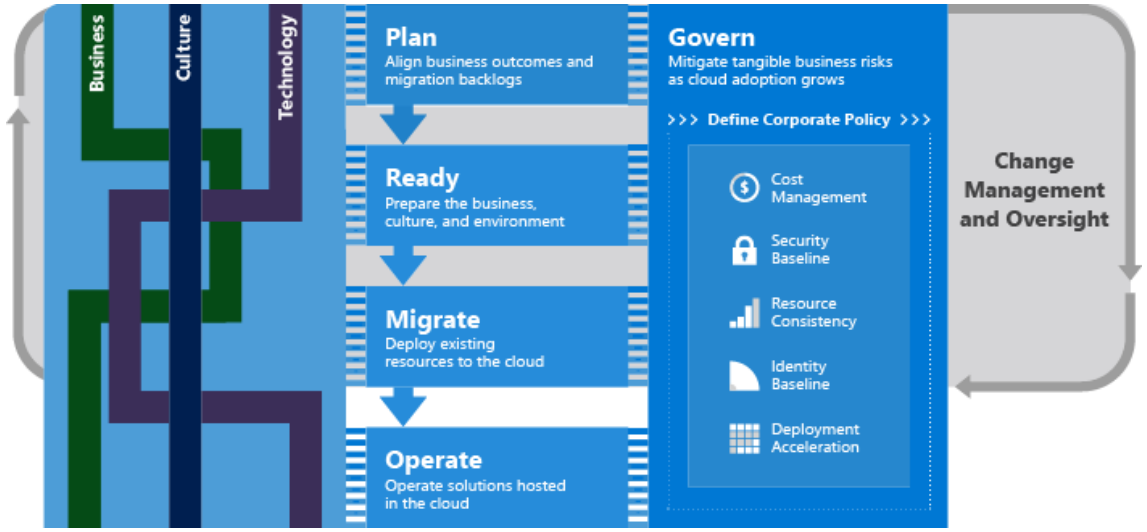
Microsoft Cloud Adoption Framework for Azure



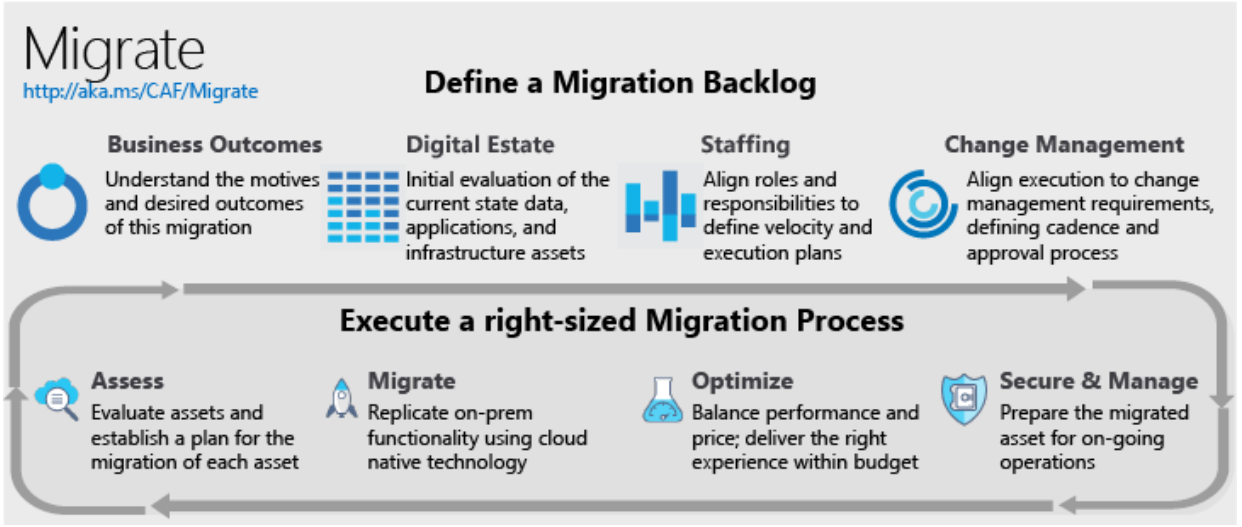
Migration methodology

Prioritize investments of time and energy based on migration objectives
Azure Migration Guide: http://aka.ms/caf/migrate

Migration Strategy & Plan



Migration Implementation



Migration Strategy & Plan

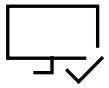
Align the business outcomes, priorities, and constraints to establish a migration strategy & plan that outlines the approach to migration and modernization of the IT portfolio, which spans the full collection of data centers, workloads, and/or misc. IT assets supported across all of IT. Proper management of the portfolio across the migration effort will drive the desired business impact.

Migration Implementation

Iterative process for migrating and modernizing the digital estate in alignment with targeted business outcomes and change management controls. During each iteration, workloads are migrated &/or modernized in alignment with the strategy & plan. Decisions regarding IaaS, PaaS, or hybrid are made during the assess phase to optimized control and execution. Those decisions will drive the tools used during the Migrate phase.

Azure Readiness Guide (Create the first landing zone)

Naming Standards | Resource Organization | Identity and Access



Compute

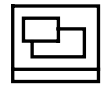
Configuring virtual machines for availability, scale and performance

Network

Designing the network for current and future connectivity requirements

Storage

Planning for performance, durability, scalability and archival



Manage

Planning for production operations for monitoring and disaster recovery

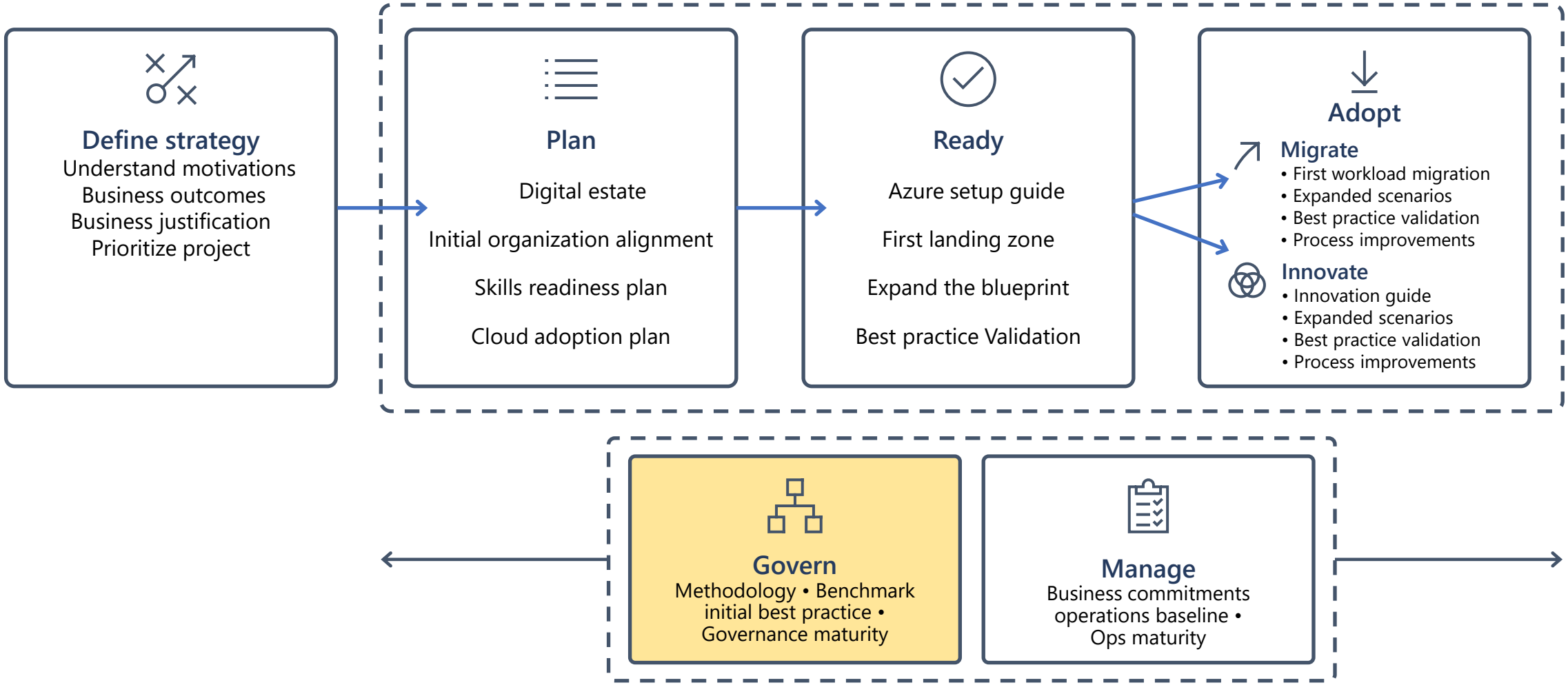
Governance

Control access to resources, what can be used, setup cost management and chargeback

Build a solid foundation using best practices and prescriptive guidance prior to starting migration efforts

Azure Readiness Guide: https://review.docs.microsoft.com/en-us/azure/architecture/cloud-adoption/ready/azure-readiness-guide/?branch=CAF%2Fmigrate-v1

Microsoft Cloud Adoption Framework for Azure



Get started with cloud governance

1

Methodology overview

Establish a basic understanding of cloud governance

2

Governance benchmark

Assess your current state and the future state to get started

3

Initial Governance Foundation

Begin establishing your governance foundation by implementing a set of governance tools

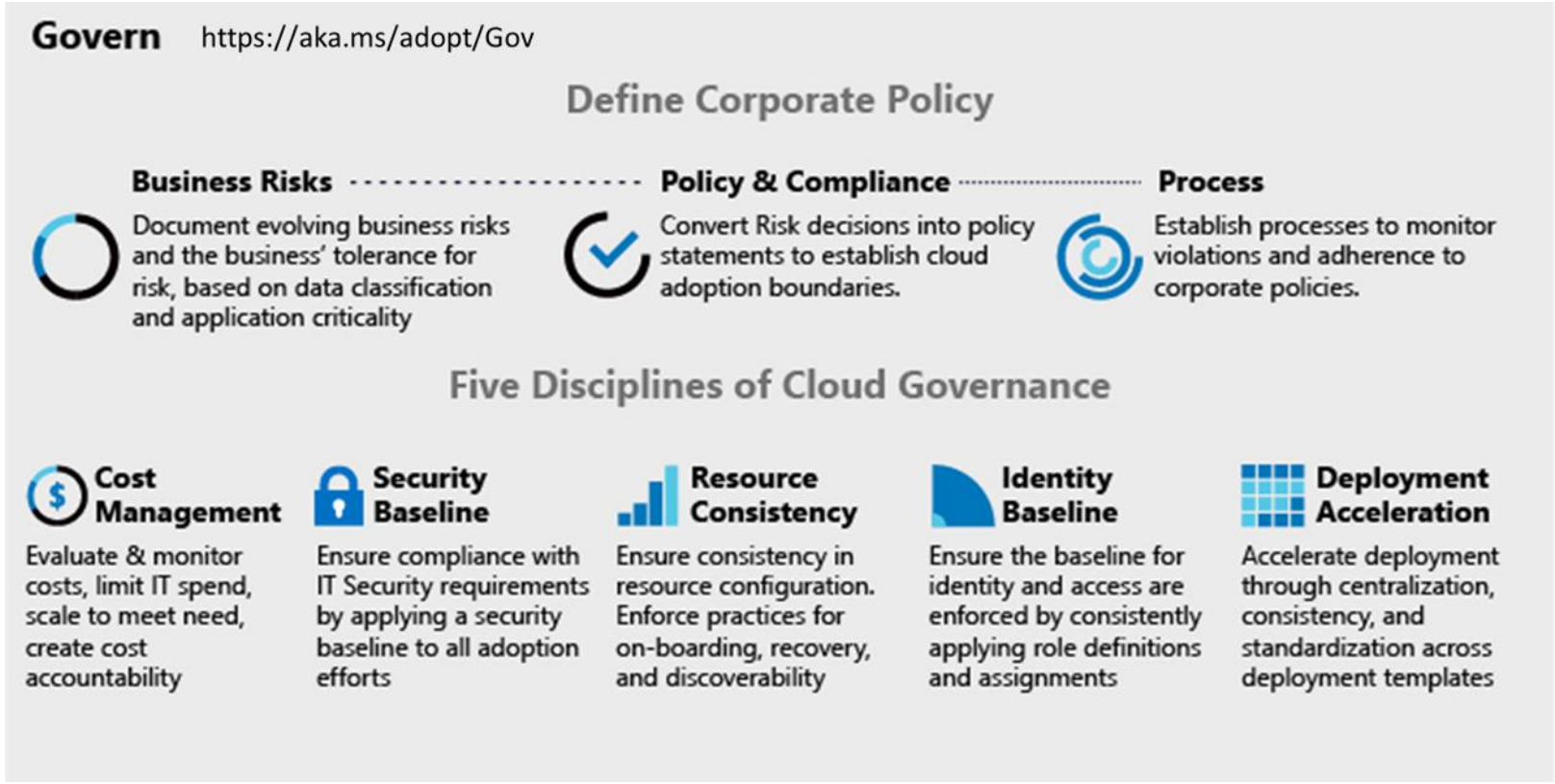
4

Evolve Governance Foundation

Iteratively add governance controls to address risks

Cloud Adoption Framework | Governance Model

Governance End State that fosters trust and builds confidence



Corporate Policy

Governance is a big, intimidating topic. Establish proper scope by mitigating *tangible* risks through corporate policy.

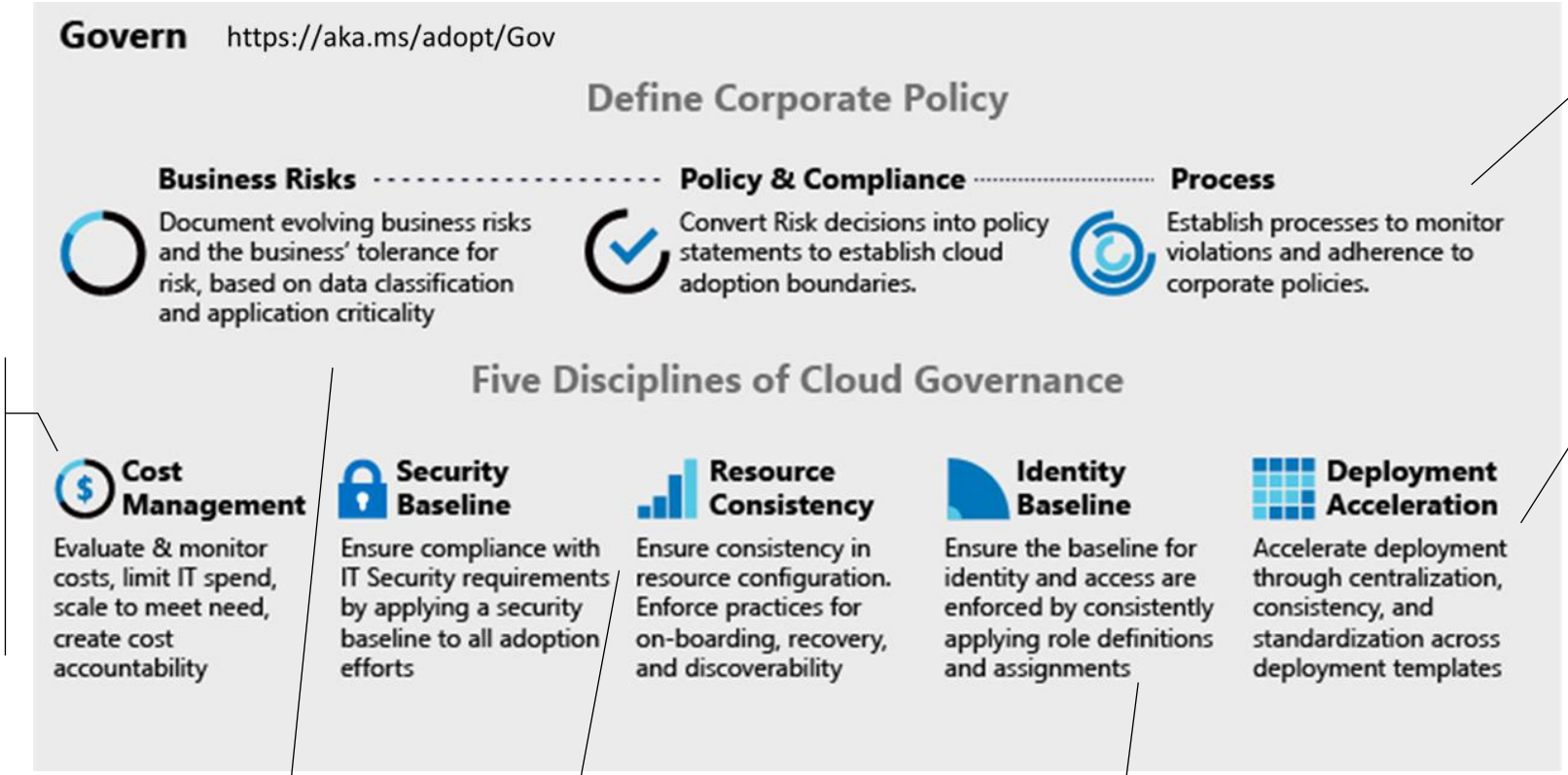
Cloud Governance Disciplines

Governance is a team sport. Empower multiple team members by decomposing corporate policy changes into five actionable disciplines.

Cloud Governance Team

A team of governance minded cloud architects can evolve these disciplines, ensure governance consistency, and accelerate deployment.

Making Governance Actionable with Native Tools



Azure Monitor

- **Azure Blueprints**
- **Azure Policy**
- ***Azure Cost Management***
- ***Azure Advisor***
- Azure Portal
- Azure EA Content Pack

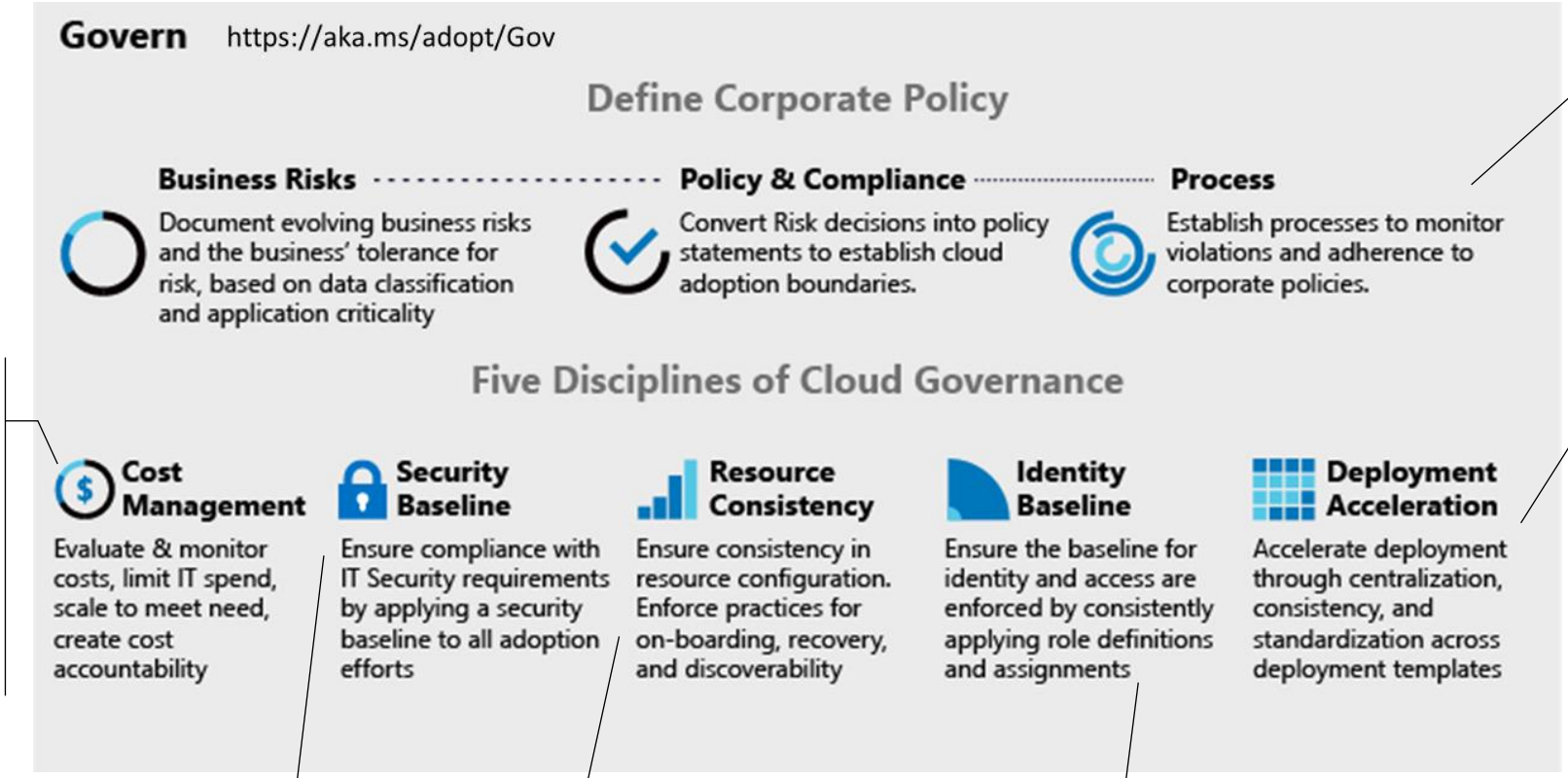
- **Azure Blueprint**
- **Azure Policy**
- **Resource Grouping & Tagging**
- **Resource Manager Templates**
- ***Azure Advisor***
- Azure DevOps
- Azure Site Recovery
- Azure Backup
- Azure Automation

- **Azure Blueprints**
- **Azure Policy**
- ***Azure Security Center***
- ***Azure Sentinel***
- Subscription Design
- Encryption
- Hybrid Identity
- Azure Networking
- Azure Automation

- **Azure Blueprints**
- **Azure Policy**
- ***Azure Monitor***
- ***Azure Advisor***
- Resource Manager Templates
- Resource Graph
- Management Groups

- **Azure Blueprints**
- ***RBAC***
- Azure AD
- Azure AD B2B
- Azure AD B2C
- Directory Federation
- Directory Replication

Integrating 3rd Party Tools



Monitoring 3rd parties
- OpsCompass
- Splunk
- AppDynamics
- Solarwinds
- New Relic
- Data Dog

Cost Management 3rd parties
- HashiCorp Terraform (ROI tools)
- Cloudcheckr

Deployment 3rd parties
- Nagios
- HashiCorp Terraform
- devops tools like Chef, Puppet, Ansible, Zabix

Security baseline 3rd parties
- Splunk
- HashiCorp Vault
- F5
- Gemalto
- Palo Alto
- CheckPoint
- Dome9

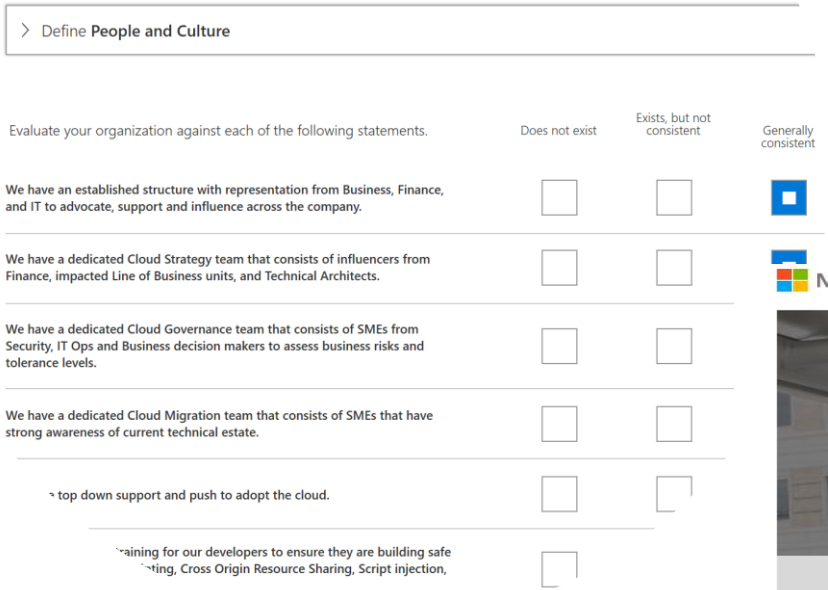
Discovery, onboarding, and recovery 3rd parties
- ServiceNow
- HashiCorp Terraform

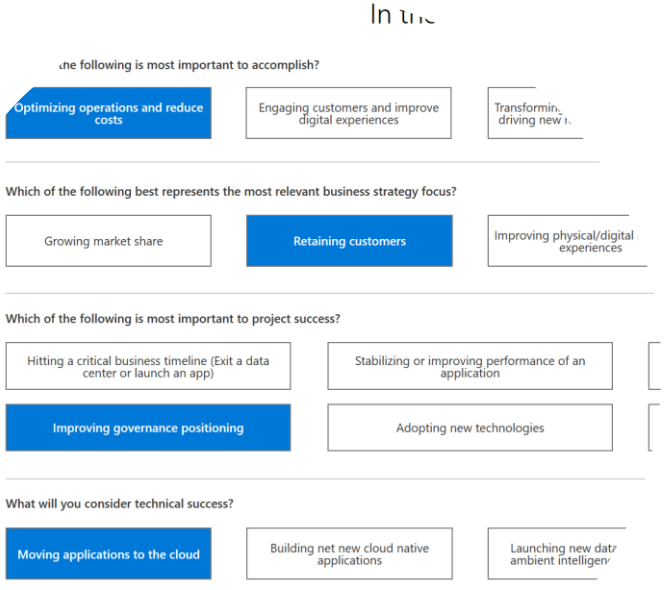
3rd party identity providers
- HashiCorp Vault
- RSA
- Omada
- Ping Identity
- SailPoint

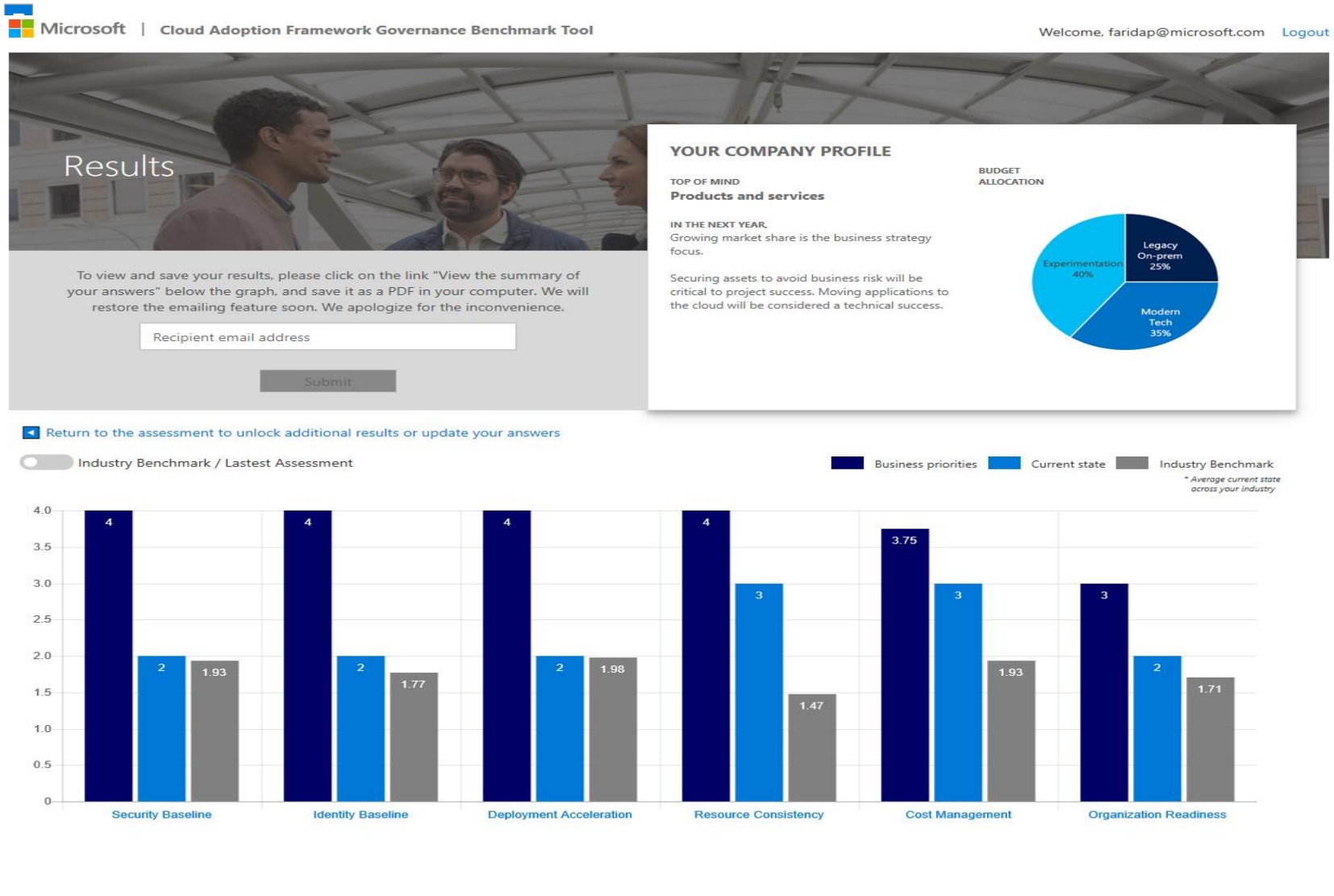
People and Culture

Governance Benchmark Assessment

https://docs.microsoft.com/en-us/assessments/

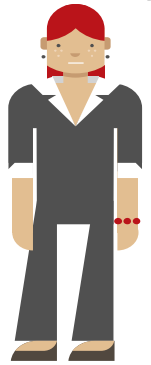




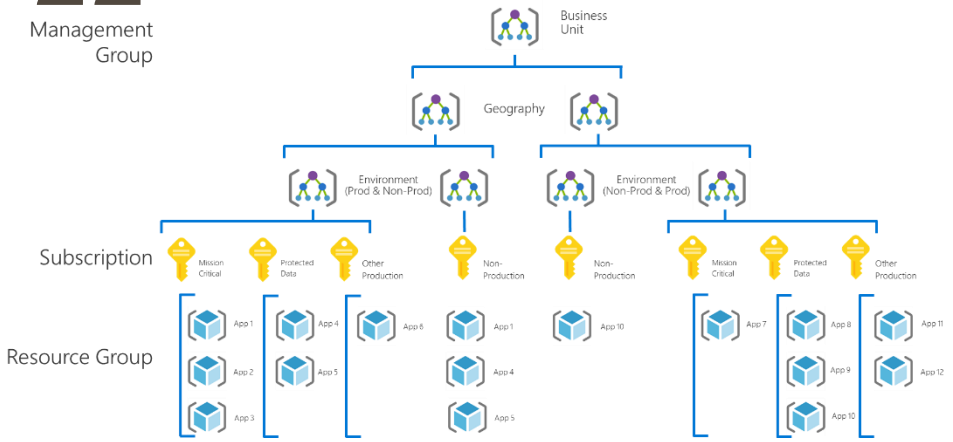


Resource Groups, Tags and RBAC

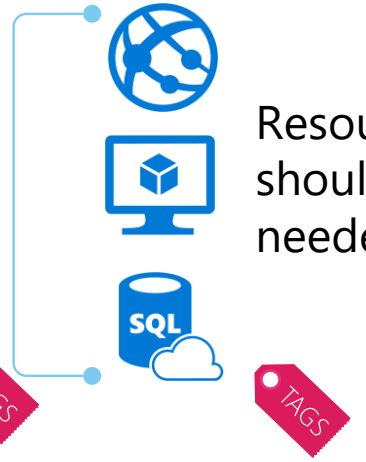
Finance/Business



- Need to be able to break out costs by various dimensions such as Customer, Cost Center, Environment



Create Roles with Appropriate Permissions



Resources in a RG should be tagged as needed

Always Tag!

- Owner
- Dept.
- Environment
- Application
- (Cost Center)

Best Practices on using Resource Tags: https://azure.microsoft.com/documentation/articles/resource-group-using-tags/
Custom RBAC Roles: https://azure.microsoft.com/documentation/articles/role-based-access-control-custom-roles/
Tagging Decision Guide: https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/decision-guides/resource-tagging/
Manage tag governance with Policy: https://docs.microsoft.com/azure/governance/policy/tutorials/govern-tags
CAF Blueprints CAF aligned Azure Blueprints

Microsoft Azure

Azure Cost Management

Cost Management in Azure

Always on by default, no setup needed

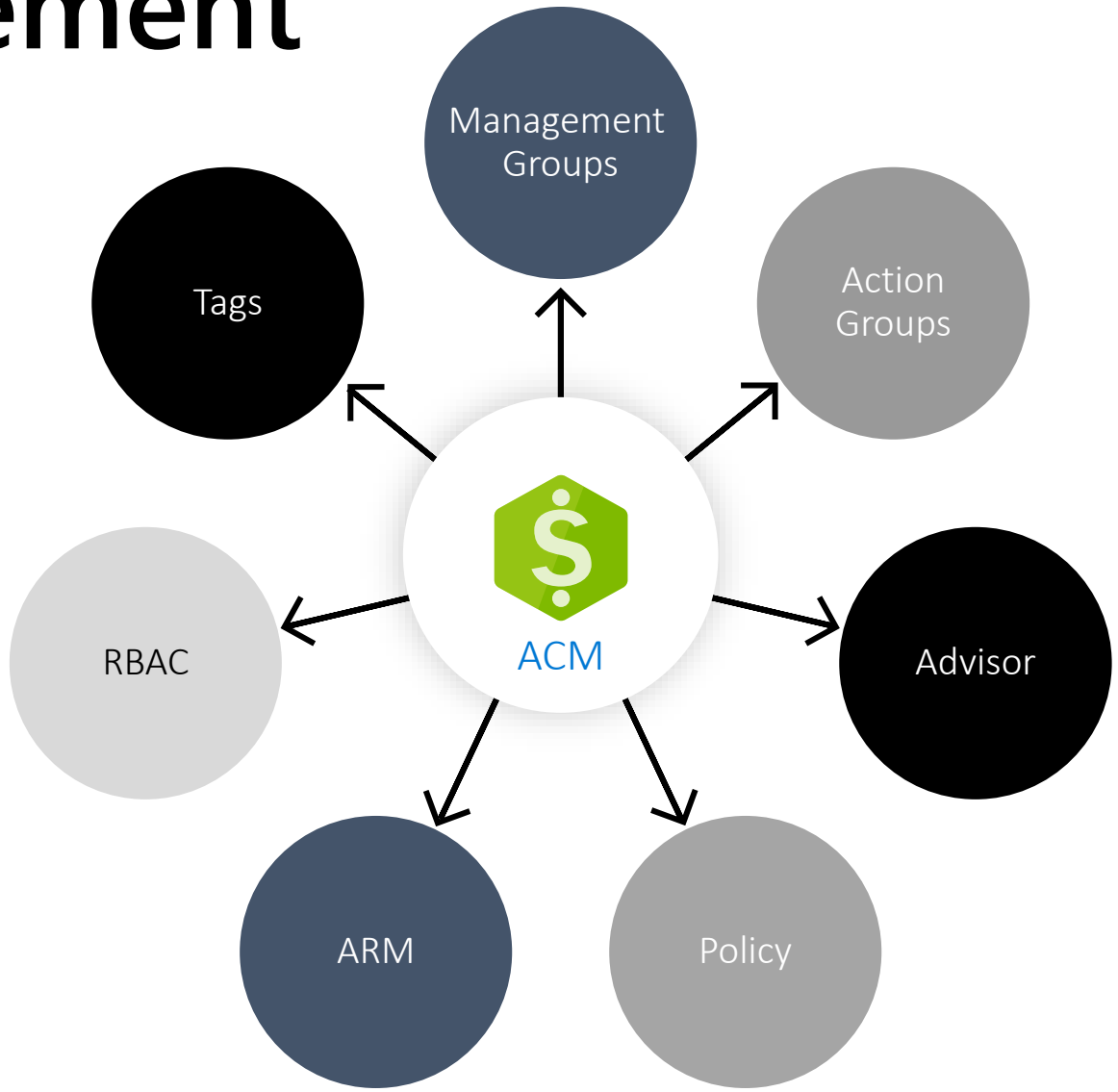
Data hygiene for tags and policies

Optimize through Azure Advisor

Notifications through action groups

RBAC and management groups ensures better access controls

Manage AWS costs and usage in Azure



Cost management solutions for a variety of needs

Cost Management in Azure Portal

Connectors to PowerBI

Azure APIs

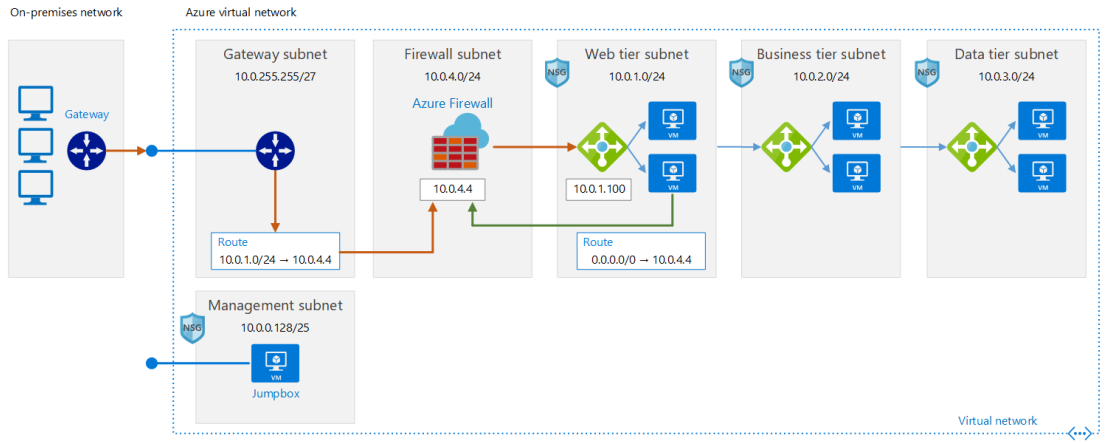
Ready to use

Custom dashboards

Custom solutions

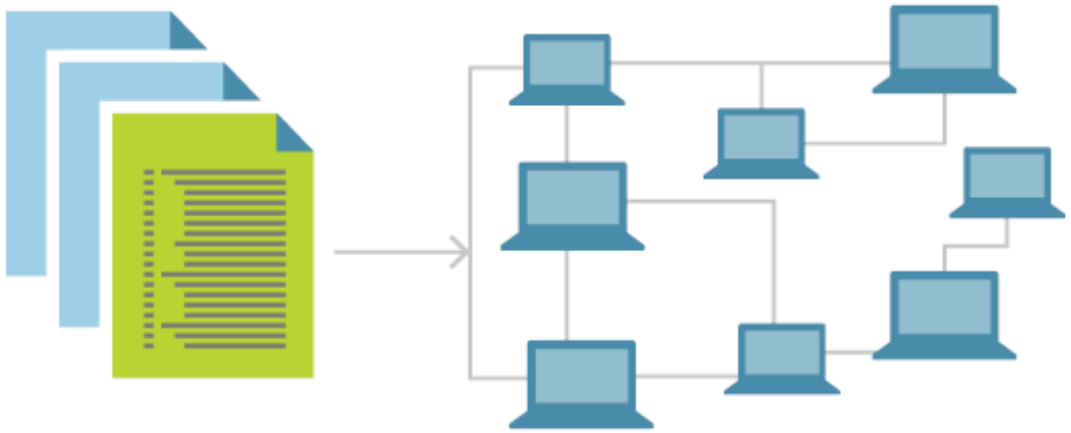
Security Baseline – Automate using Policies

- Networking
- Azure Data Security and Encryption Best Practices
- Identity
- SQL Security



Deployment Acceleration

- This discipline focuses on ways of **establishing policies** to govern asset configuration or deployment which could be manual or fully automated through DevOps.
- The DevOps practices that are leveraged in this discipline include **Infrastructure as Code, Continuous Integration and Continuous Deployment**.
- Azure services that enable deployment acceleration include **Azure Blueprints**



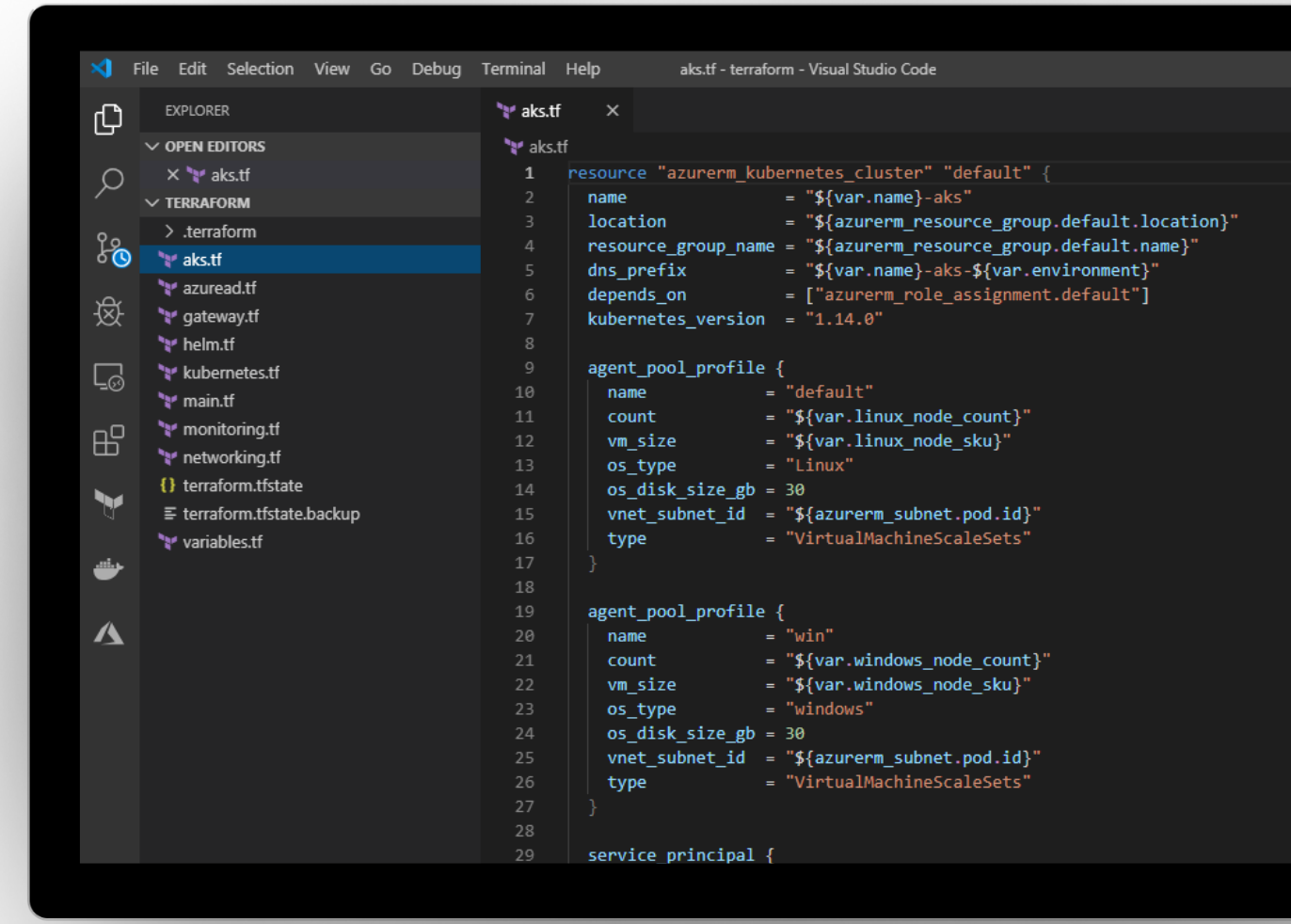
Infrastructure as code

Stand up environments in the fastest means possible.

Remove the human element and reliably and repeatable deploy every time.

Improve environment visibility and improve developer efficiency

Store your infrastructure definitions alongside your application code.



CI / CD Pipeline

Automating workflows from code to cloud

Accelerate delivery through automation

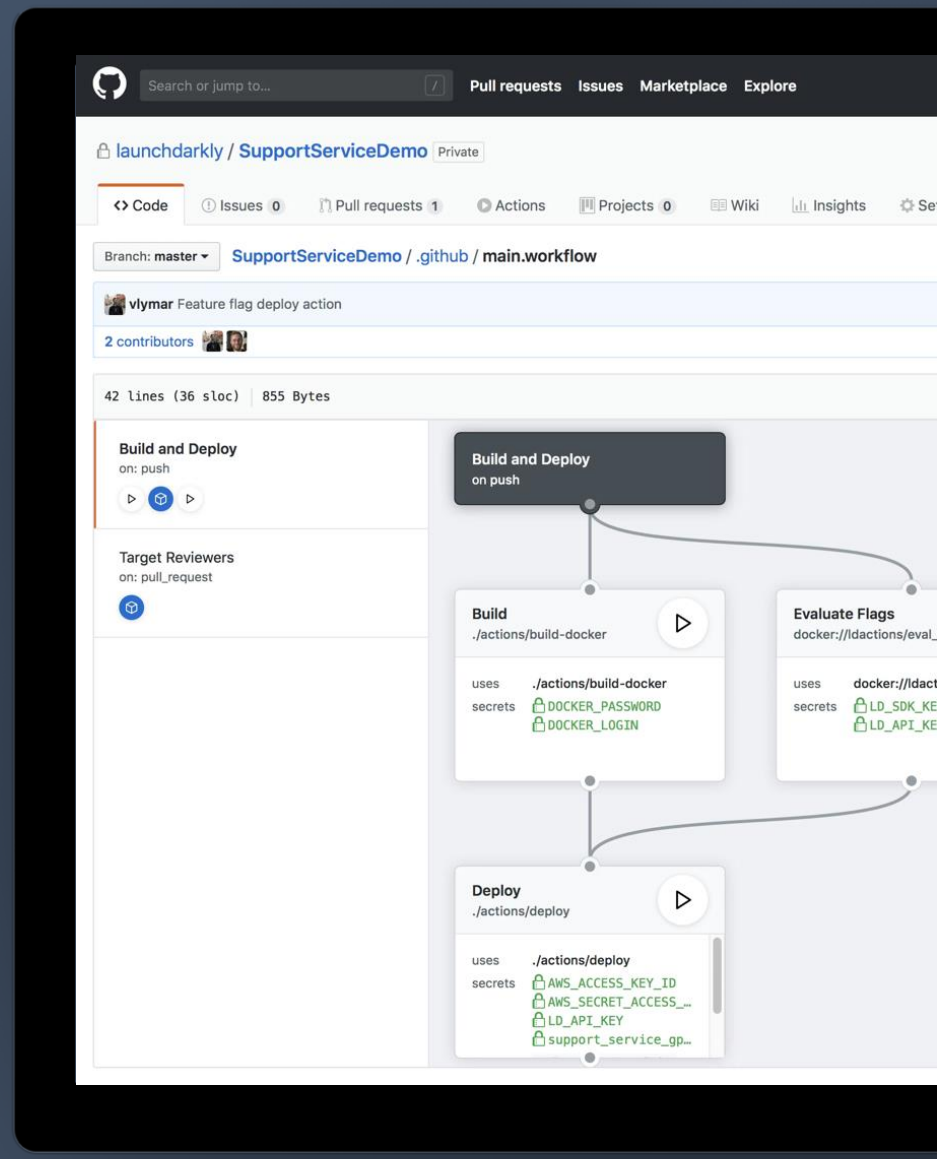
Automation triggers for 20+ project events allows for automation beyond just CI/CD to any available API

Simple and easy to use

Configuration based on YAML with a host of sample workflows to learn from and get started

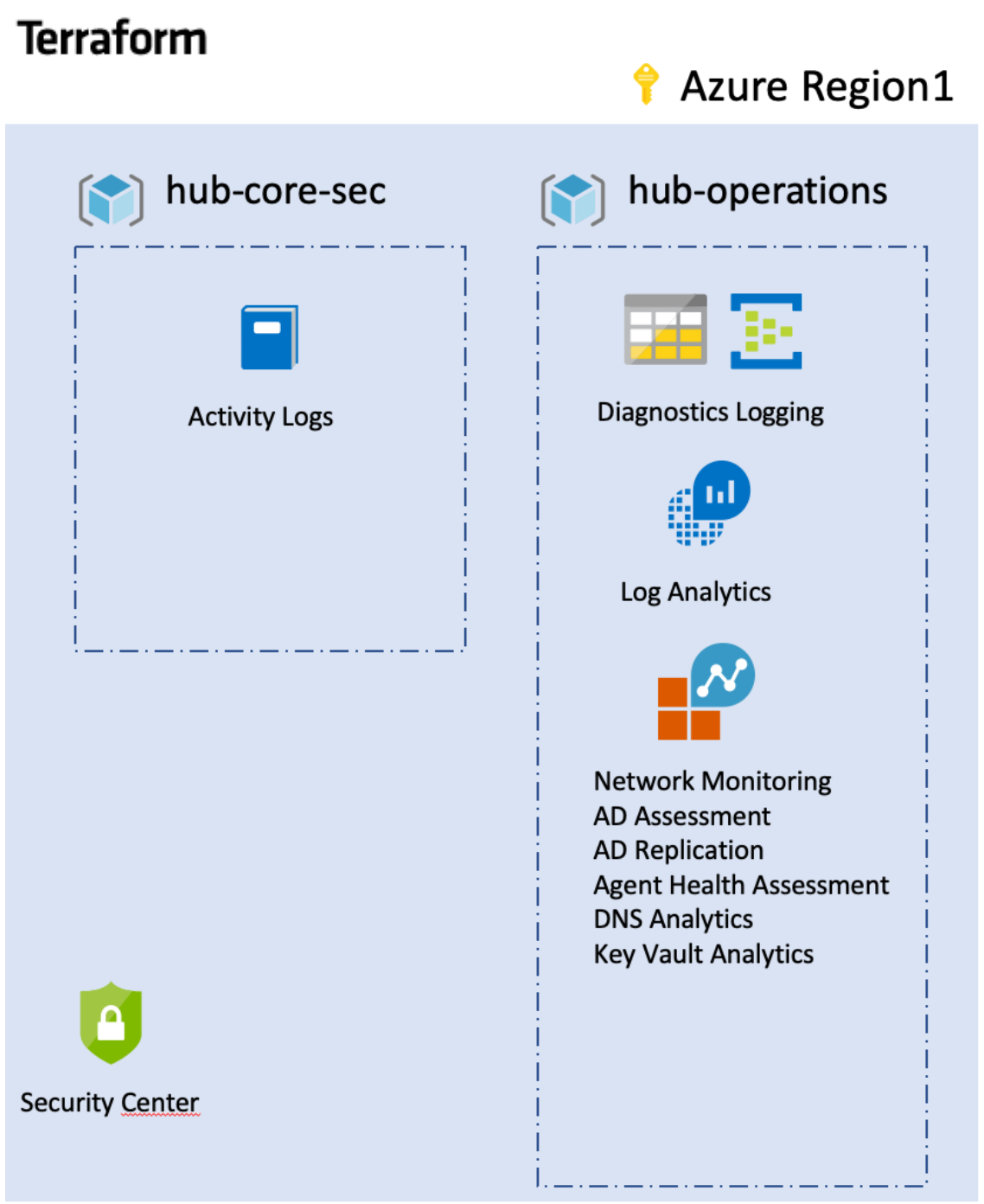
Global community for actions

Thousands of open source Actions, maintained by the community and by companies offering integrations, including Microsoft Azure

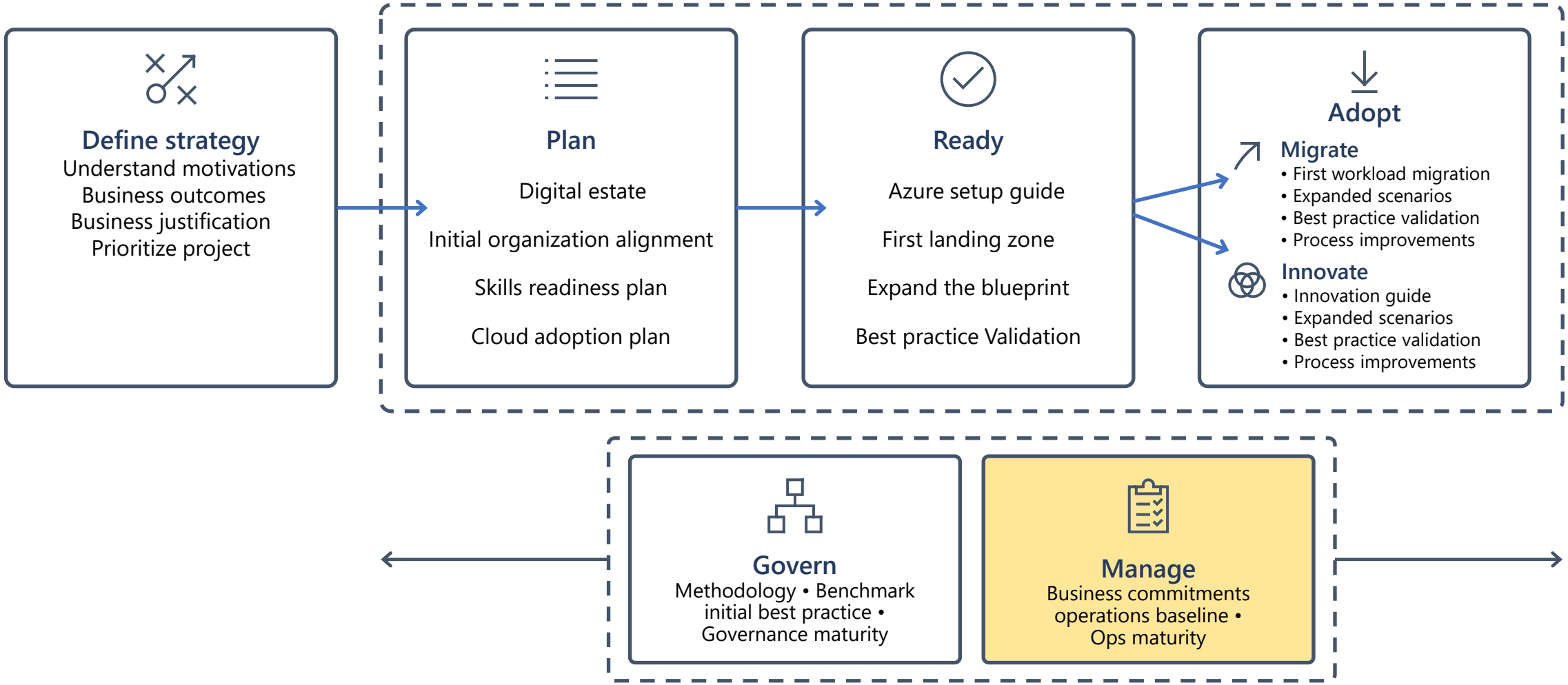


Terraform landing zone blueprint

- The Cloud Adoption Framework foundational landing zone for Terraform has a set of responsibilities and features to enforce logging, accounting, and security.
- This landing zone uses standard components known as Terraform modules to enforce consistency across resources deployed in the environment.
- This edition can be extended by:
  - Adding other modules to the blueprint.
  - Layering additional landing zones on top of it which is a good practice for decoupling systems, versioning each component that you're using, and allowing fast innovation and stability for your infrastructure as code deployment.



Microsoft Cloud Adoption Framework for Azure



Management Disciplines

Manage

Business Alignment

Criticality

Document the criticality and relative business value of each workload.

Impact

Establish clear performance expectations and business interruption time/value metrics.

Commitment

Document, track, and report on commitments to cost and performance

Cloud Operations Disciplines

Inventory & Visibility

Establish a defined inventory of assets. Develop visibility into the asset telemetry.

Operational Compliance

Manage configuration drift and standards. Apply management automation and controls.

Protect & Recover

Implement solutions to minimize performance interruptions and ensure rapid recovery when needed.

Platform Operations

Customize operations to improve performance of the common platforms that support multiple workloads.

Workload Operations

Understand workload telemetry. Align workload operations to performance and reliability commitments.

Management Baseline

Process	Tool	Purpose
Monitor health of Azure services	Azure Service Health	Health, performance, and diagnostics for services running in Azure
Log centralization	Log Analytics	Central logging for all visibility purposes
Monitoring centralization	Azure Monitor	Central monitoring of operational data and trends
Virtual machine inventory and change tracking	Azure Change Tracking and Inventory	Inventory VMs and monitor changes for guest OS level
Subscription Monitoring	Azure Activity Log	Monitoring change at the subscription level
Guest OS monitoring	Azure Monitor for VMs	Monitoring changes and performance of VMs
Network monitoring	Azure Network Watcher	Monitoring network changes and performance
DNS monitoring	DNS Analytics	Security, performance, and operations of DNS
Patch management	Update Management	Management and scheduling of updates
Policy enforcement	Azure Policy	Policy enforcement to ensure environment and guest compliance
Environment configuration	Azure Blueprints	Automated compliance for core services
Resource Configuration	Desired State Configuration	Automated configuration on Guest OS and some aspects of the environment
Protect data	Azure Backup	Back up data and virtual machines in the cloud.
Protect the environment	Azure Security Center	Strengthen security and provide advanced threat protection across your hybrid workloads.

Monitoring and Management

- Azure Arc - Centralize Management Operations (OnPrem and Cloud)
- Azure Lighthouse – Multiple tenants
- Azure Sentinel – Security Information and Event Mgmt (SIEM) and SOAR

Next Steps

- **Create offerings aligned to Cloud Adoption Framework guidance**
  - Strategize, plan, ready offerings
  - Landing Zones
  - Blueprints (Compliance, security, business needs)
  - Governance framework for business
  - Automated detection and remediation
  - Resiliency in Apps and Workloads
  - Monitoring and Autocorrections
  - Build out Governance frame for the business
  - Ensure you have resiliency in your apps and workloads

Drive customers' adoption

Programs & Offers

Programs & Offers*

Microsoft Partners Investments

Demand-generation, pre and post sales funding for eligible partners.

https://www.microsoftpartnerinvestments.com/

Microsoft FastTrack for Azure

Accelerate your customers' Azure deployments while building your cloud skills and learning from Azure engineers.

https://azure.microsoft.com/en-us/programs/azure-fasttrack/partners/

* Eligibility, terms, and conditions may apply.