

NIC
EMPOWER

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Smooth Sailing to Azure:

Streamlining Datacenter Workload Migration to Azure

Who am I?



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Xebia



Reliability
Applications
Telcos
Quantum
Monitoring
Site
Observability
Hybrid
Blockchain
Service
Posture
Confidential
Data
Managed
Management
Native
Infrastructure
API
Optimization
DevSecOps
Trust
Learning
Lakes
Backup
SaaS
Microservices
DBaaS
Security
Disaster
Recovery
Kubernetes
Architecture
Low
5G
Integration
Serverless
Multi
Automation
Zero
SRE
Unified
Containerization
Edge
Databases
AI
Cost
Machine
Engineering
IaC

Key Challenges in Cloud Migration

Unsupported COTS products

Outdated networking configurations

Complex database dependencies

Cultural and organizational resistance

Latency and Network Performance

Compliance and Regulatory Concerns

Vendor Lock-In

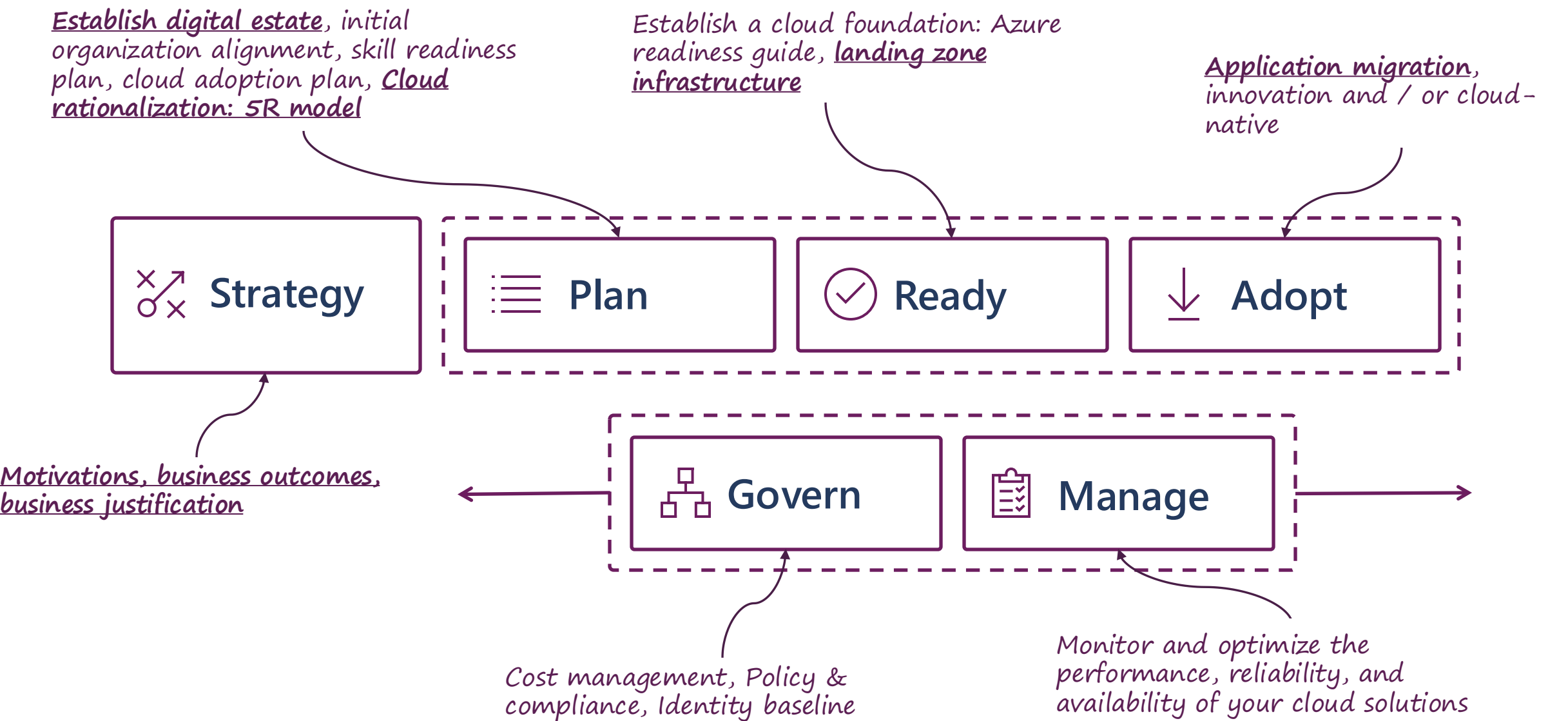
Cost Management

Specific data formats, proprietary database technologies, or

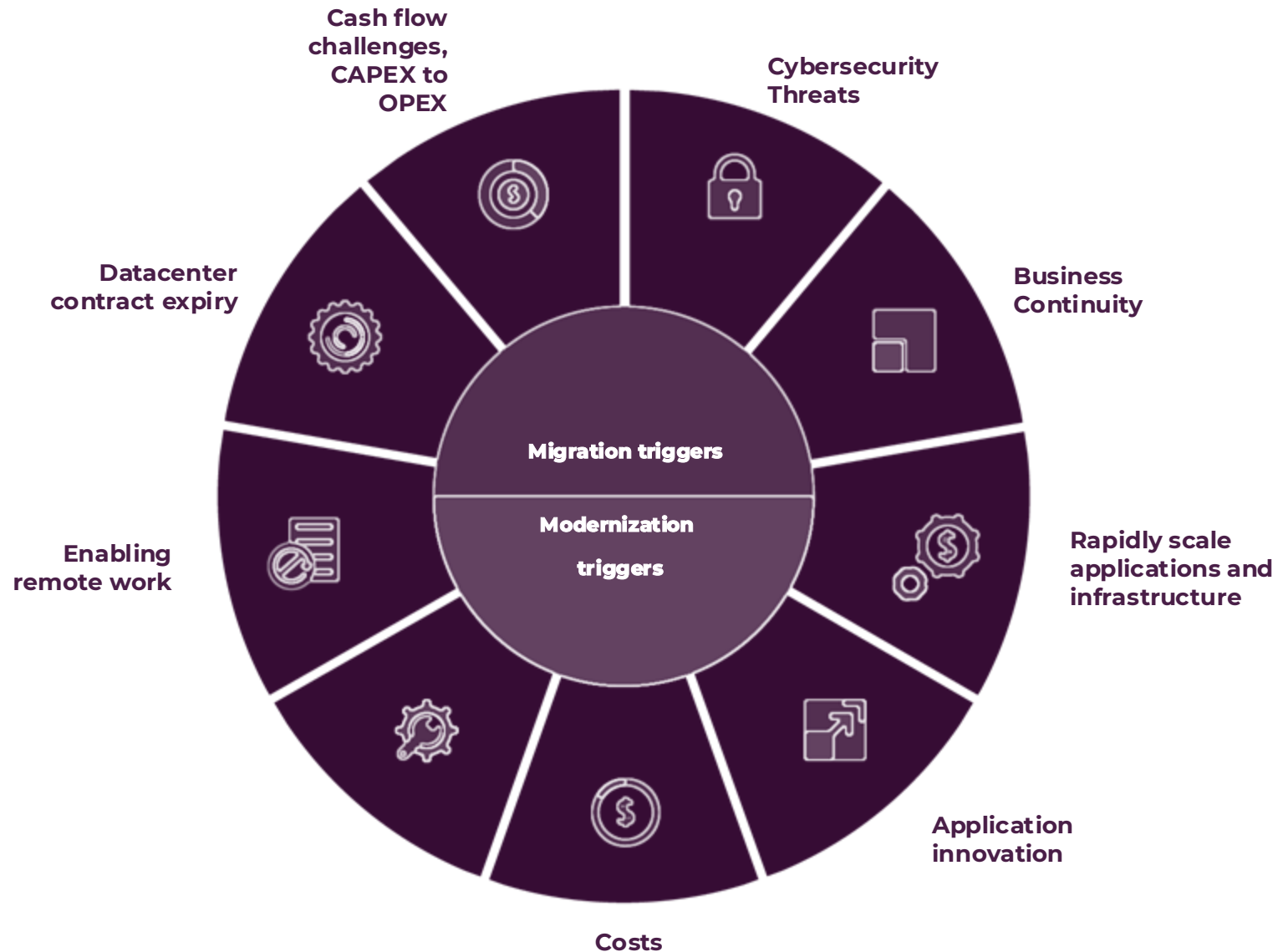
Cultural resistance might arise from fear of change, concern

Moving to the cloud can introduce unexpected costs, especially if not properly monitored

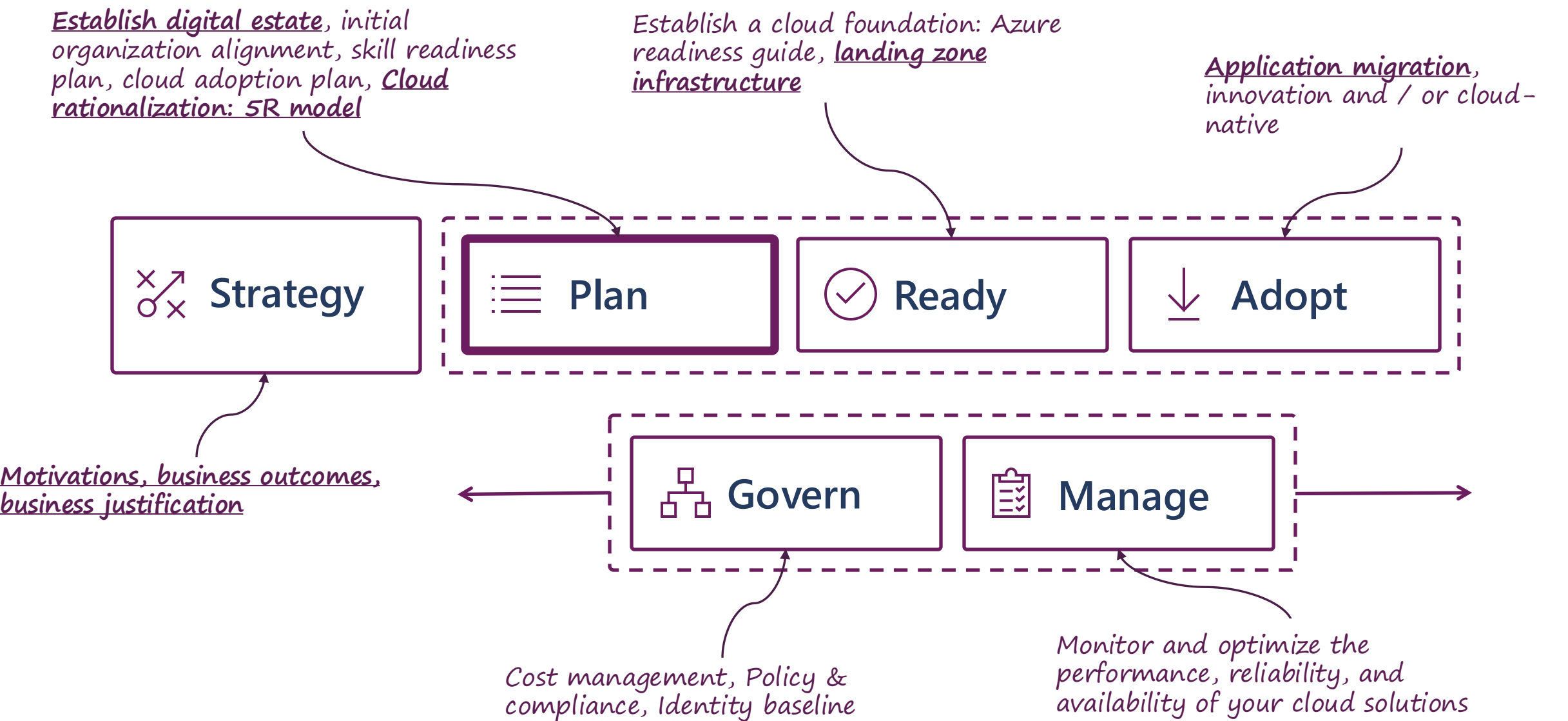
Microsoft Cloud Adoption Framework for Azure



Why companies move to the cloud

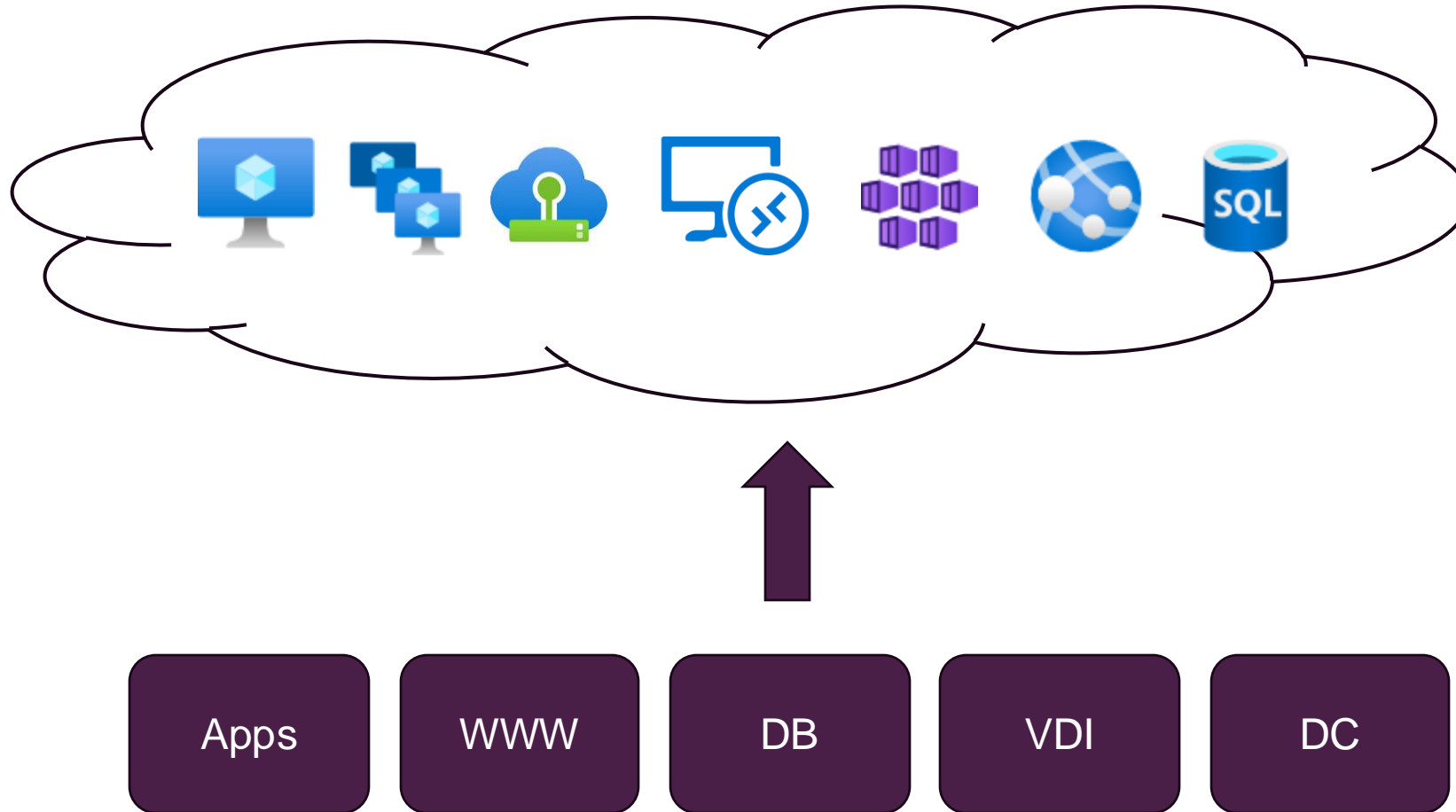


Microsoft Cloud Adoption Framework for Azure



Your digital estate?

A digital estate is the collection of IT assets that power business processes and supporting operations



Questions



How long do I have?



Is the App Strategic? Core or Context?



TCO time limit? ROI tolerance?



Budget?



Company strategy?

Cloud Rationalisation: The 5R model



Rehosting

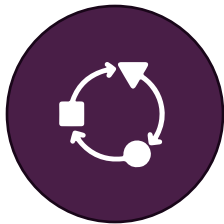
Move with minimal change to the overall architecture.

“Lift and Shift”

Common drivers:

Reduce capital expense.
Free up datacenter.
Rapid ROI

Easiest to do
No real advantage of cloud



Refactoring

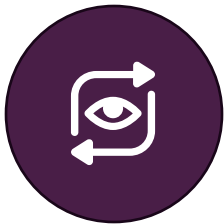
Slightly refactor an application to fit a PaaS-based model.

Not changing code

Common drivers:

Faster and shorter updates.
Code portability.
Greater cloud efficiency to help with resources, speed, cost, and managed operations.

E.g. move an app from IIS to an App Service



Rearchitecting

The application is incompatible and needs to be rearchitected before the migration.

Common drivers:

Application scale and agility.
Easier adoption of new cloud capabilities.
Mix of technology stacks.

E.g. switch the underlying database, run in a container, use functions

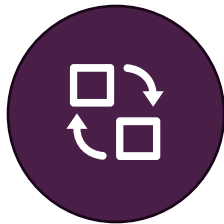


Rebuild

The delta that must be overcome to carry an application forward can be too large to justify further investment.

Common drivers:

Accelerate innovation.
Build applications faster.
Reduce operational cost.



Replace

A SaaS application can provide all the necessary functionality for the hosted application

Common drivers:

Standardize around industry best practices.
Focus on core applications

More
Minimal

Total cost of ownership
Effort / cloud benefit

Less
Lots



Cloud Rationalisation: Myths

It's easy to make rationalization decisions early in the process

Take an incremental approach

Cloud adoption must wait for all workloads to be rationalized

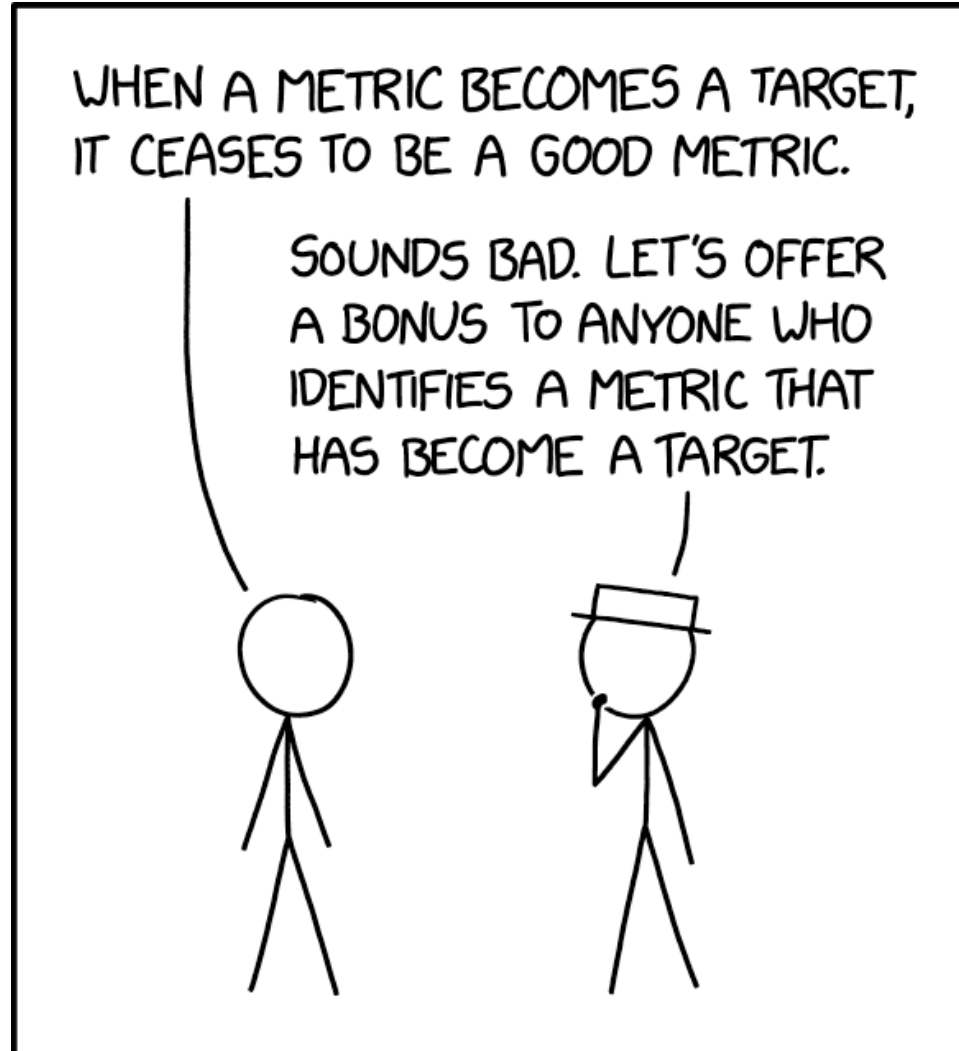
The power of 10

Business justification must wait for all workloads to be rationalized

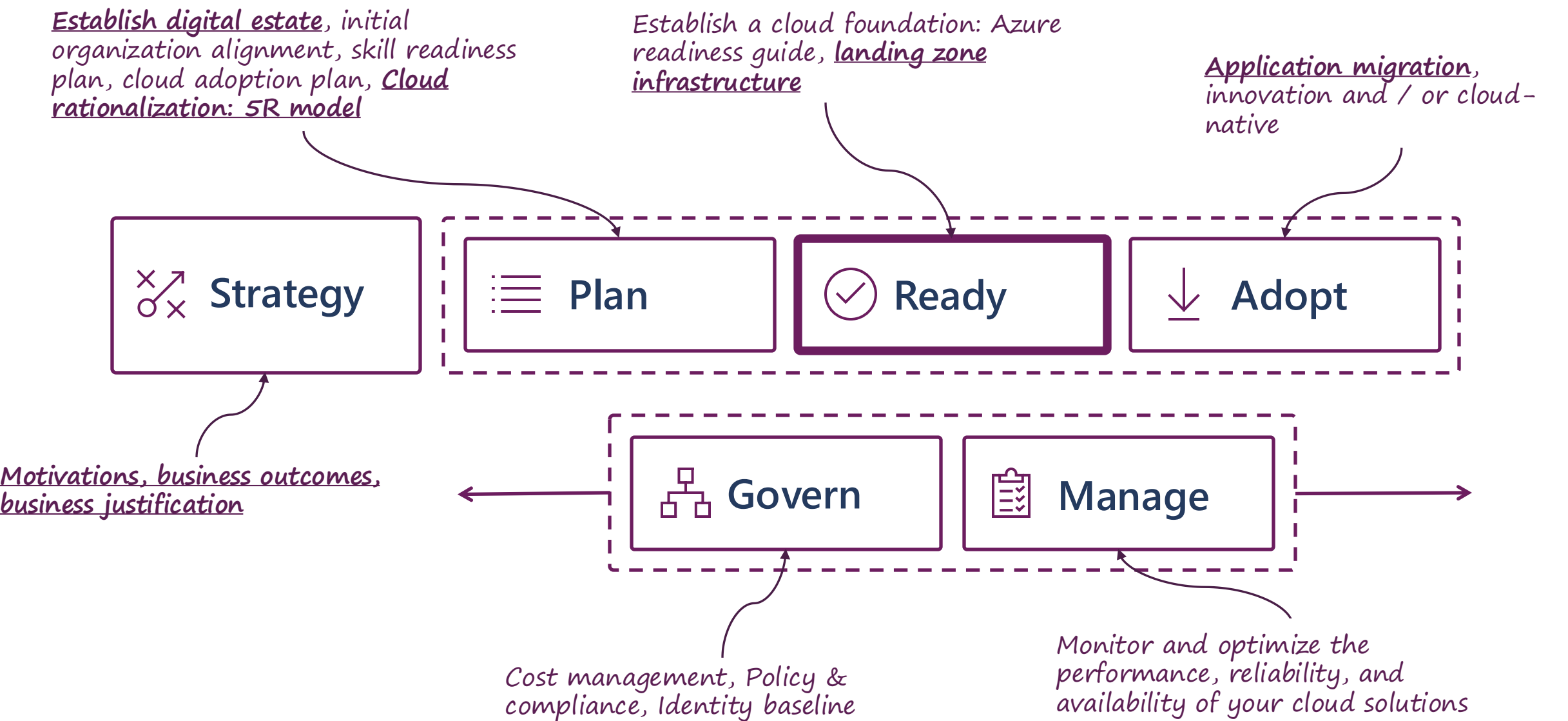
Make basic assumptions:

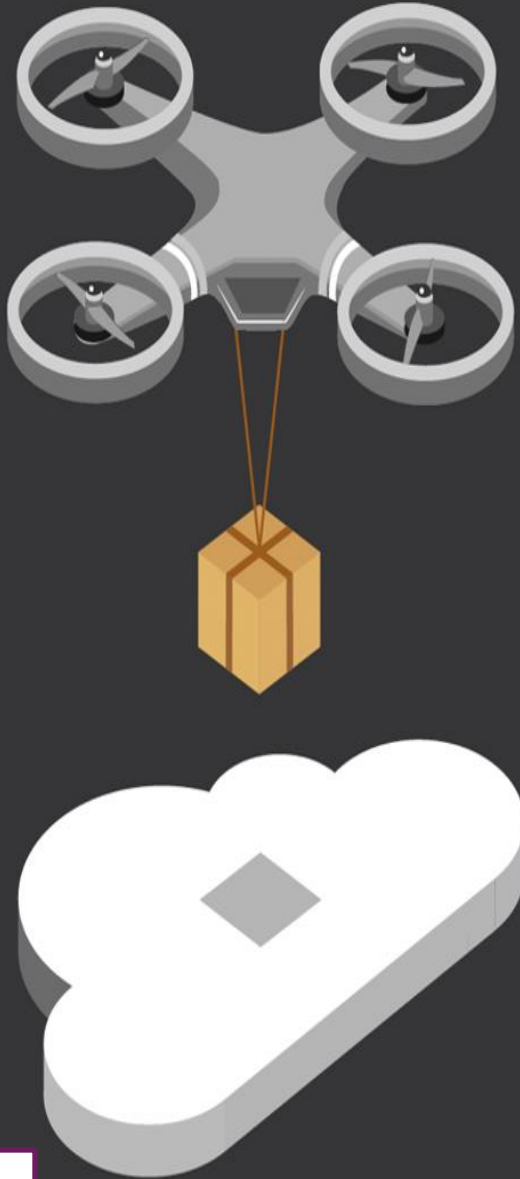
- Core: rearchitecture
- Context: migrate

Setting the right KPIs: Goodhart's Law



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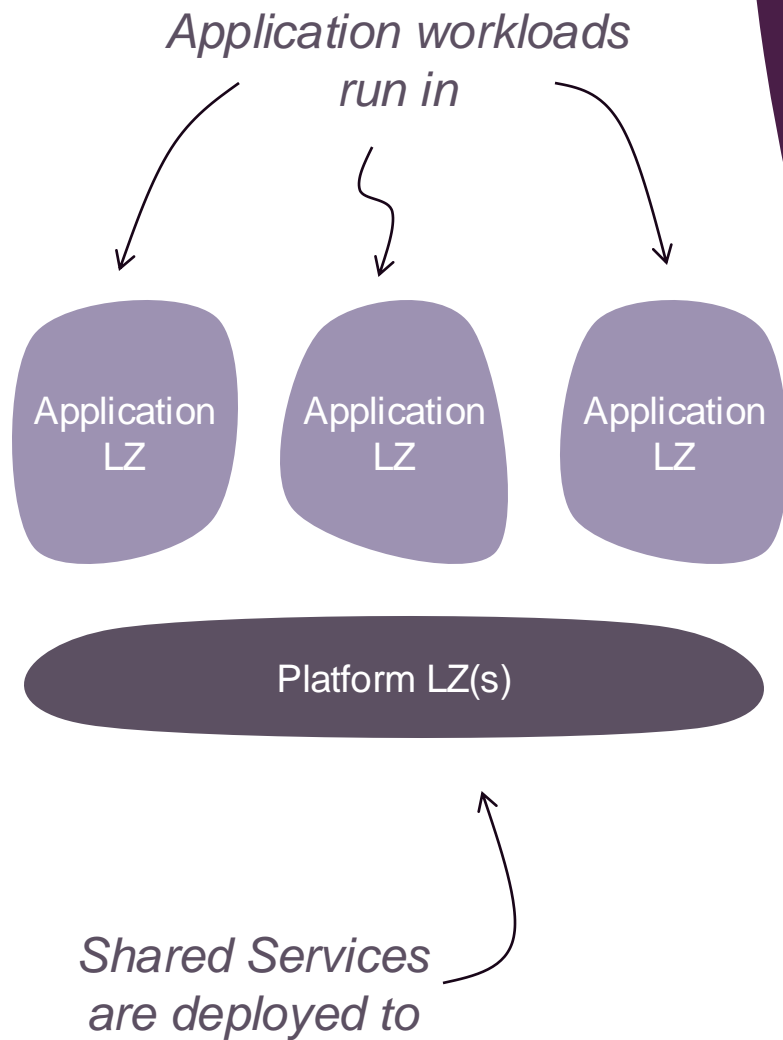
A Landing Zone

is an **environment** for

hosting workloads

in the Microsoft Azure Cloud,

pre-provisioned **through code**



A Landing Zone

is an **environment** for

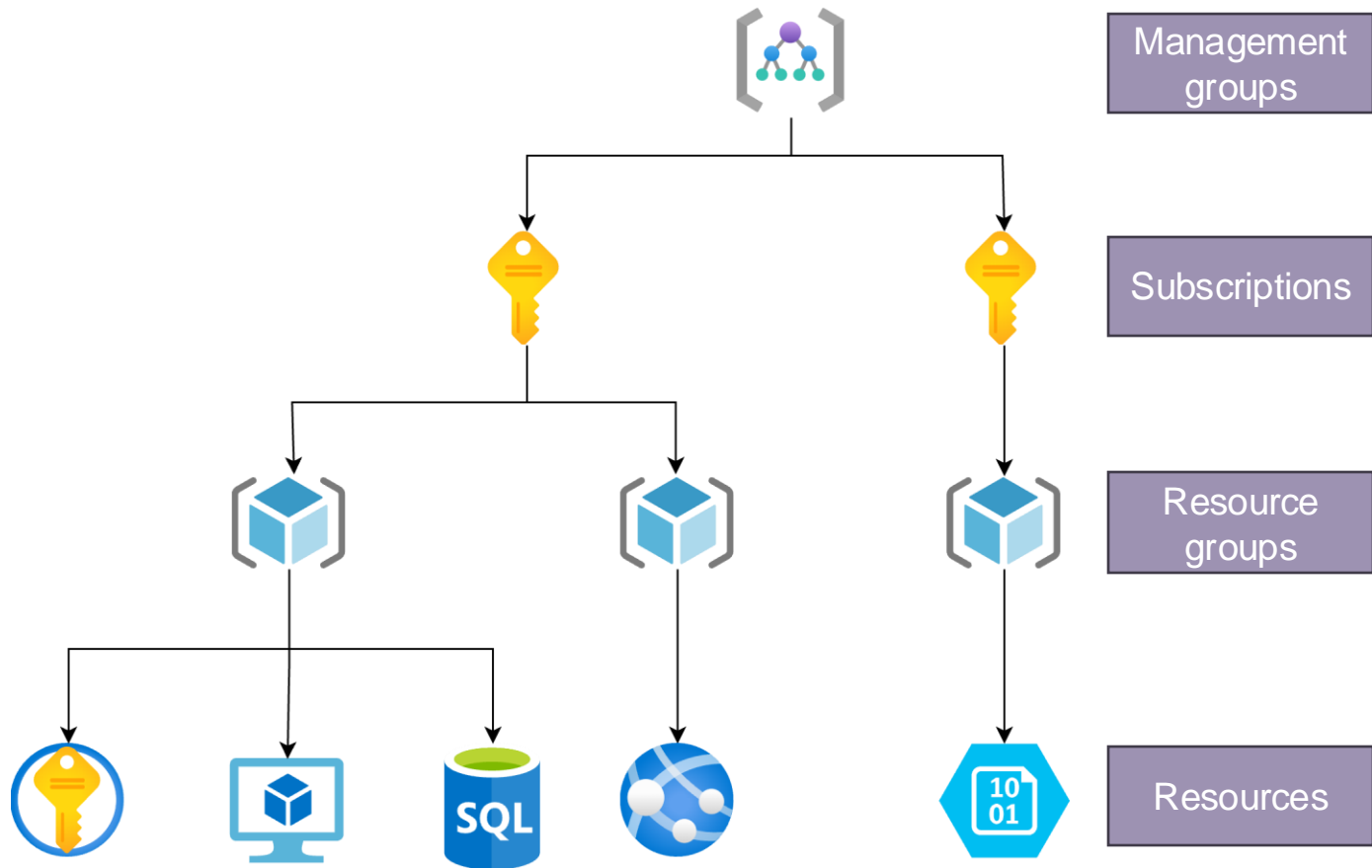
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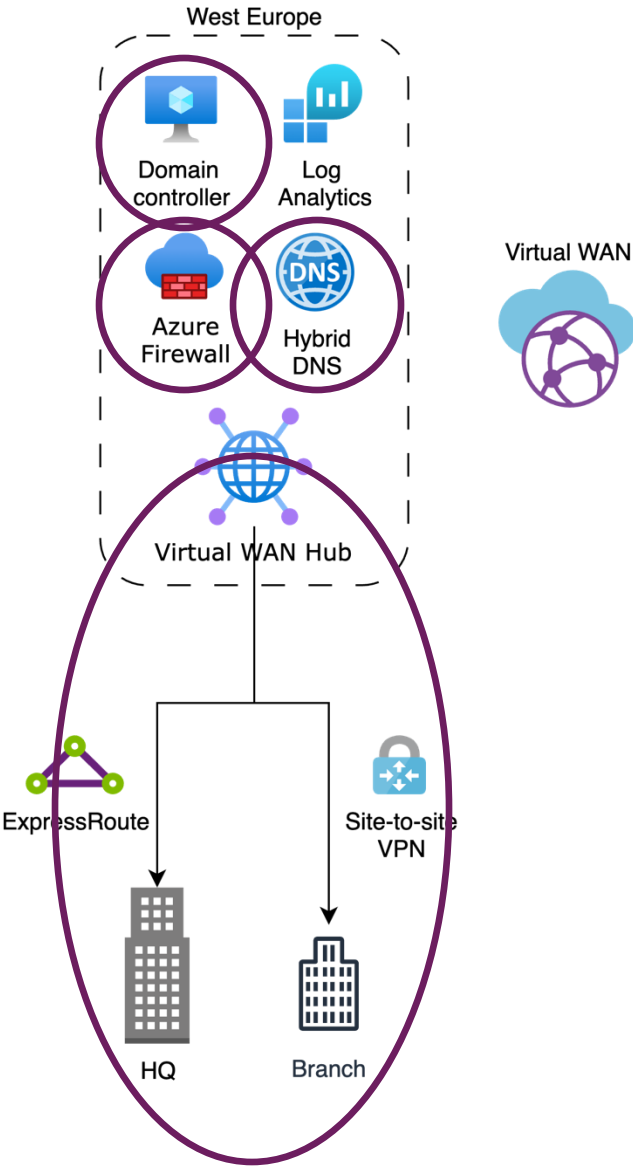
Deployment Scopes in Azure



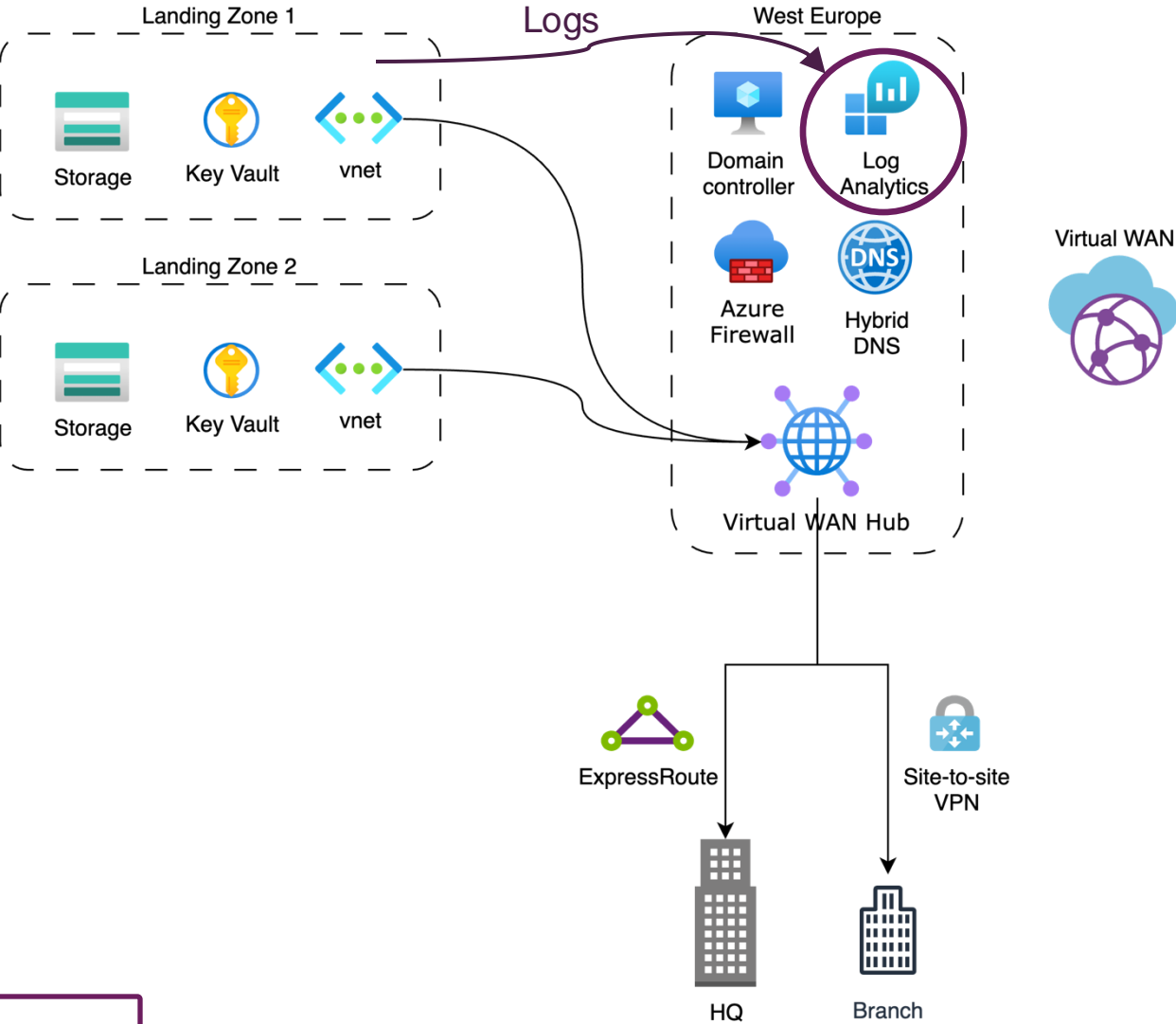
Subscriptions provide a management boundary for governance, costs and isolation that clearly separates concerns

Subscriptions serve as a scale unit so workloads can scale within platform subscription limits

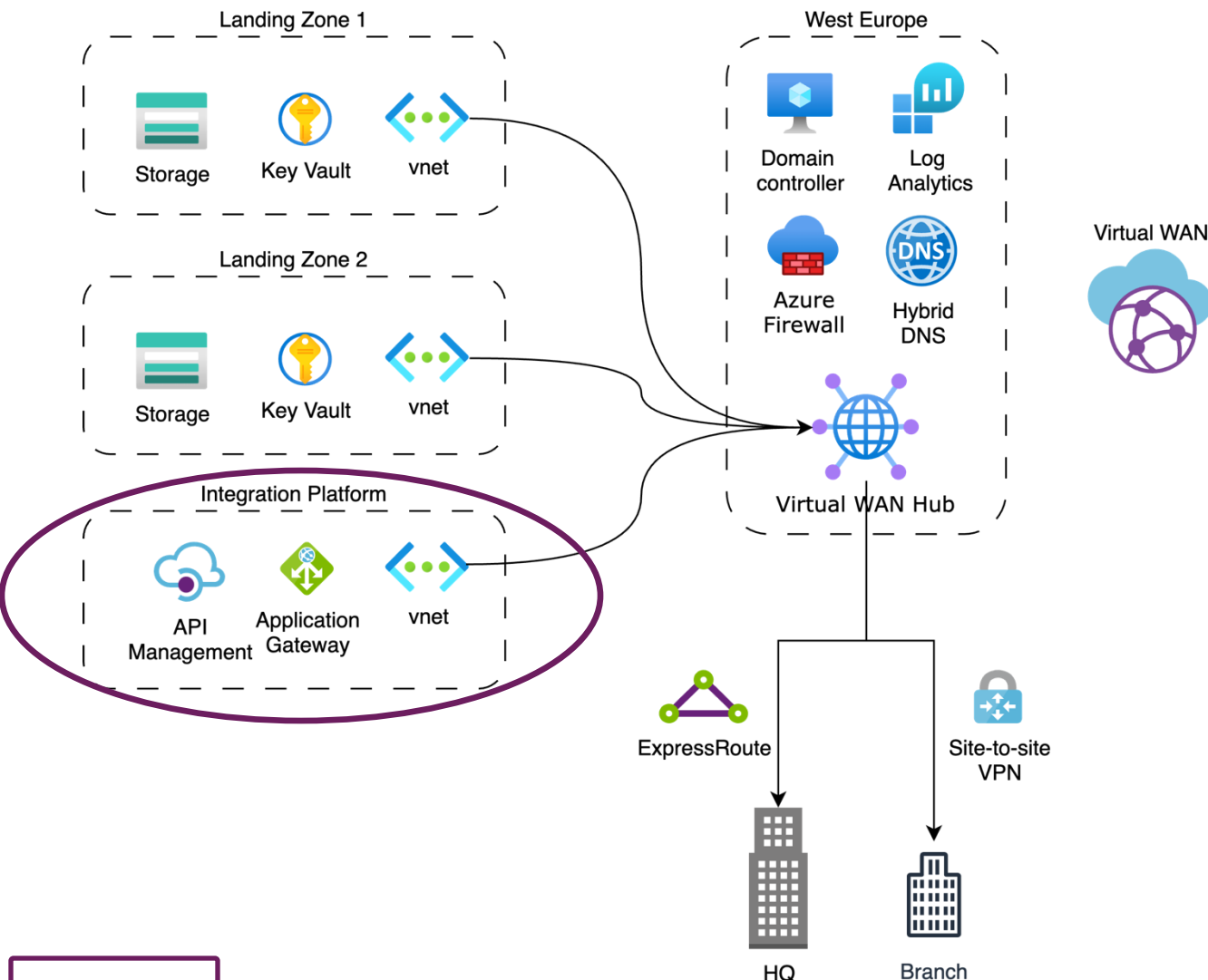
Landing Zones



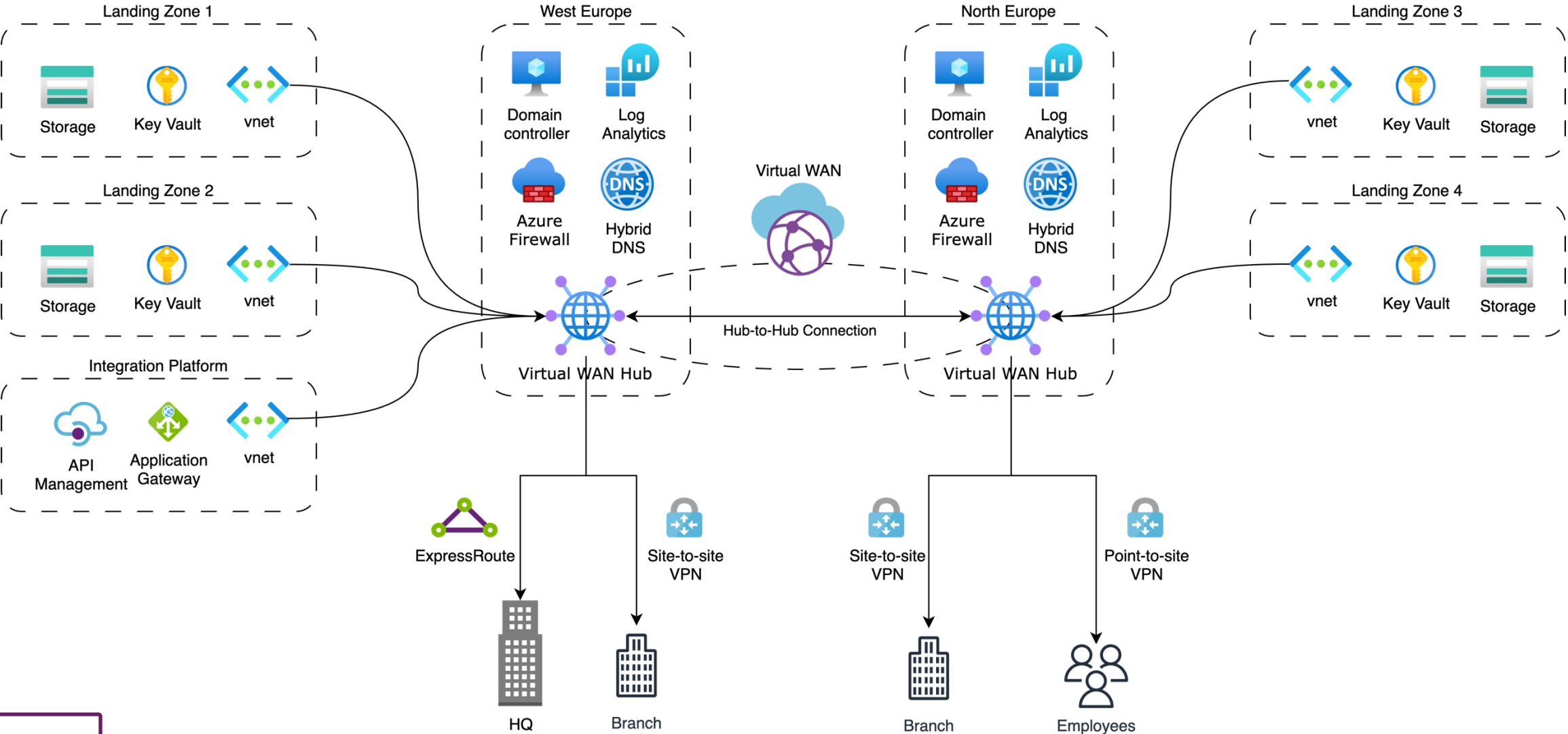
Landing Zones



Landing Zones



Landing Zones



Subscription vending

A mechanism for programmatically issuing subscriptions to application teams

- **Streamlined process:** the official front door for application teams to request subscriptions
- **Improved velocity:** faster access and onboard workloads quicker.
- **Efficient governance:** the platform team can enforce governance on application landing zones with minimal overhead.

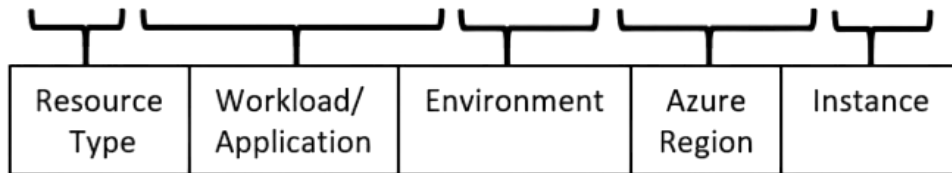


Resource Organisation

- Naming

- Accurately representing and naming your resources is essential for security purposes
- Security services such as Microsoft Defender for Cloud and Microsoft Sentinel reference resources and their associated logging and alert information by resource name.

pip-sharepoint-prod-westus-001



Resource Type	Workload/ Application	Environment	Azure Region	Instance
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- Tagging

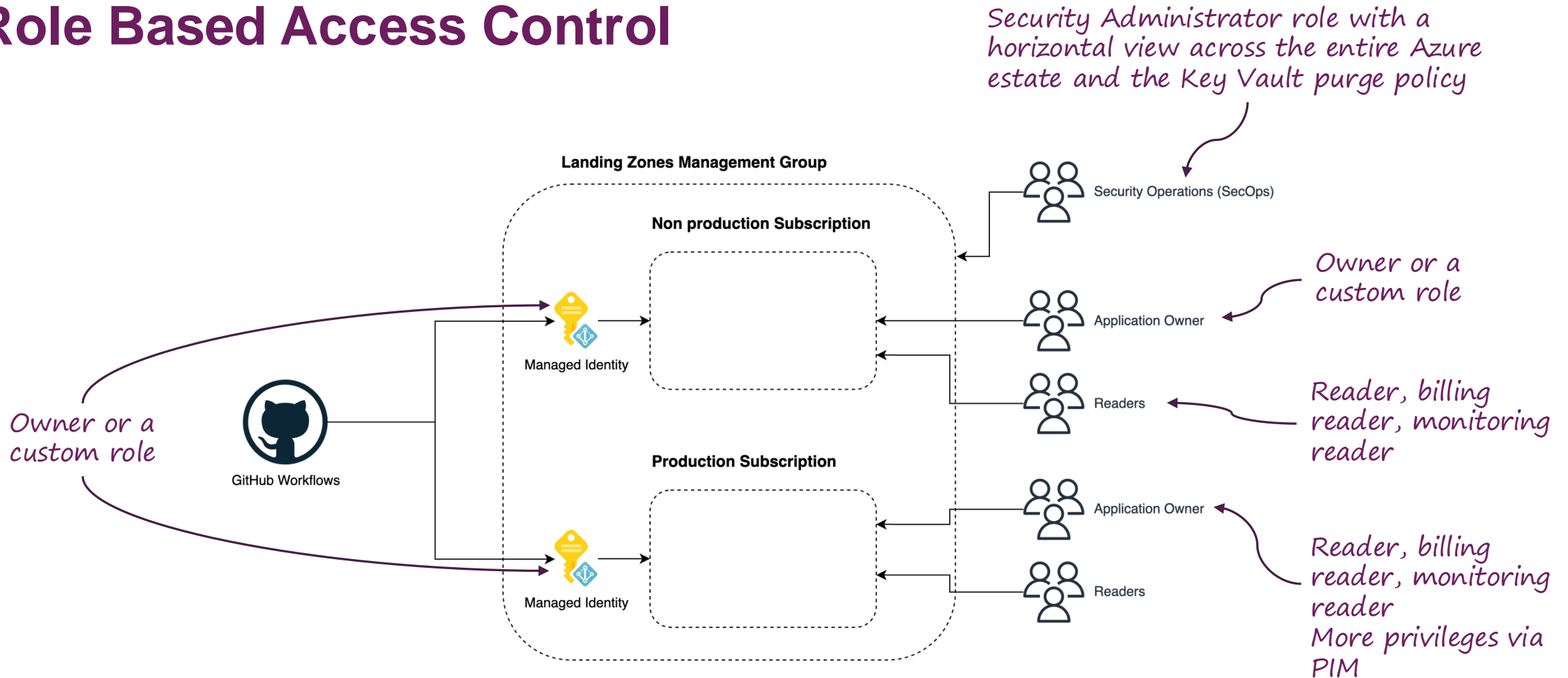
- Include information that couldn't be included in the resource name
- That information is used to run more sophisticated filtering and reporting on resources
- Tags should include context about the resource's workload, operational requirements, and ownership information
- Examples: Data Classification, business criticality, business unit, cost centre, owner, environment



Ready

<https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-tagging>
<https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-naming>
<https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-abbreviations>

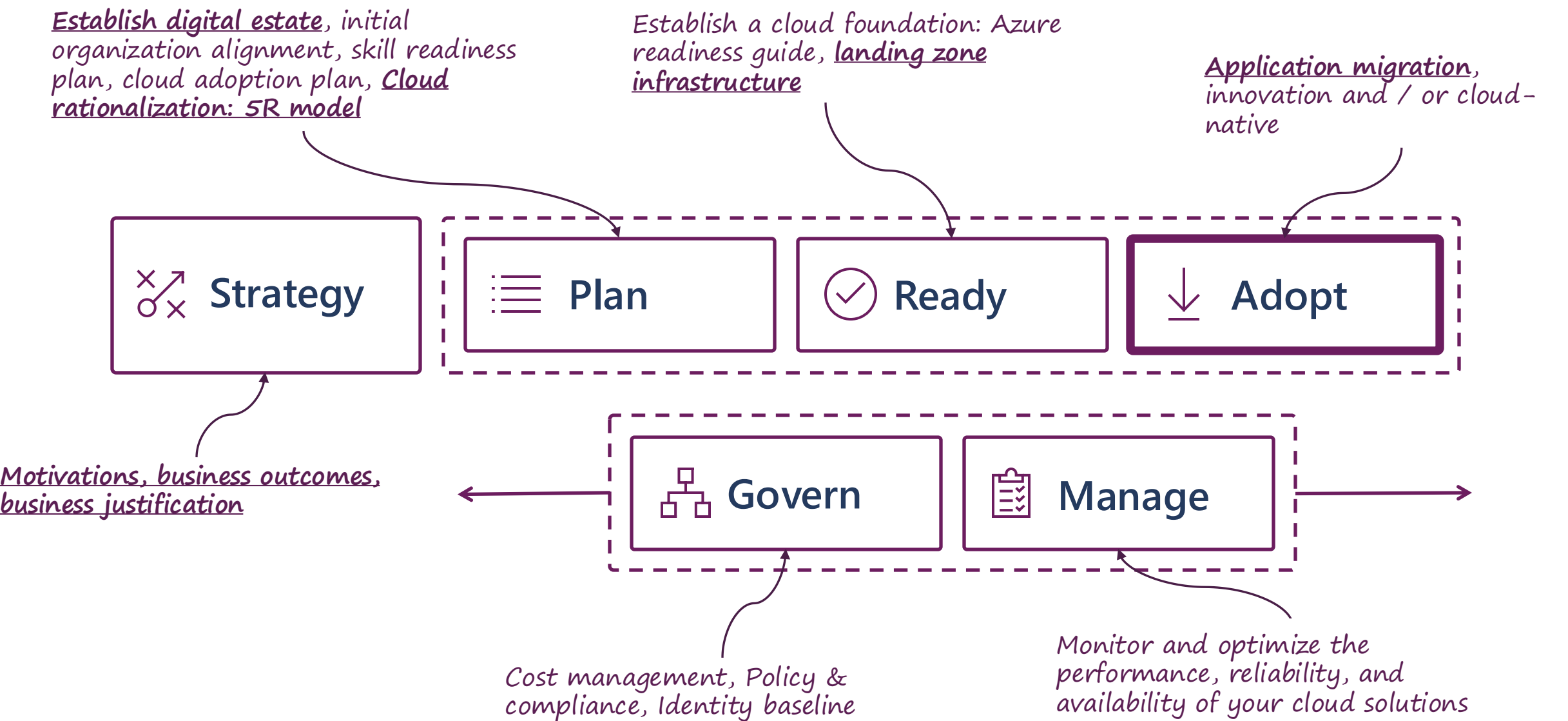
Role Based Access Control



Govern: Azure Policy

```
resource allowedLocations 'Microsoft.Authorization/policyDefinitions@2020-09-01' = {  
  name: 'Allowed locations'  
  properties: {  
    policyType: 'BuiltIn'  
    displayName: 'Allowed locations'  
    description: 'This policy enables you to restricts deployments to West Europe'  
  }  
  policyRule: {  
    if: {  
      allOf: [  
        {  
          field: 'location'  
          notIn: ['westeurope']  
        }  
        {  
          field: 'location'  
          notEquals: 'global'  
        }  
      ]  
    }  
    then: {  
      effect: 'deny'  
    }  
  }  
}
```

Microsoft Cloud Adoption Framework for Azure



Phases of migration

Clean Up

- Simplify application landscape by removing duplicates or unused applications
- Clean data

Discover

- Using our digital estate
- Find technical details
 - OS, storage needs, versions, etc.
- Find performance characteristics
 - You pay different for CPUs on-prem vs in the cloud
 - Quality of data is important here, seasonality
- Find dependencies
 - What is my application talking to?
 - Who is talking to the application?
- Application value

Assess

- Reevaluate chosen 5R strategy
- Can it move to the cloud?
- Rightsizing
- Grouping
 - E.g. based on latency and dependencies
- Governance and readiness of target services

Migrate

- Prepare environment
- Plan
 - Test migration
 - Migrate
- Online / Offline (downtime)

Optimize

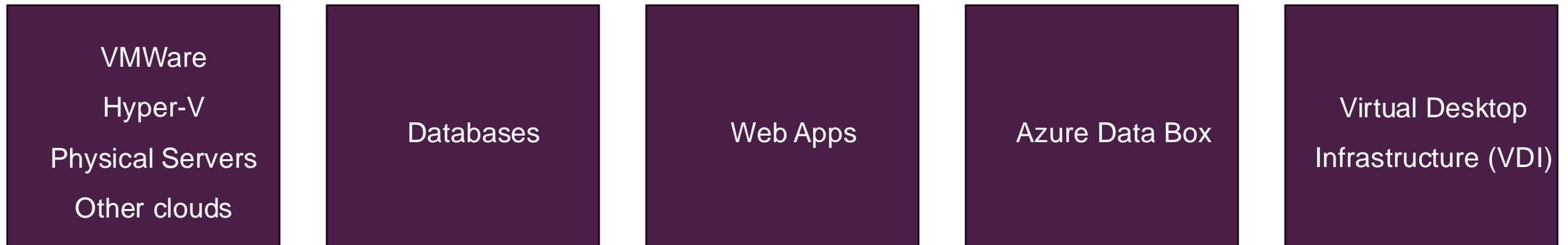
- Ongoing



Adopt

Azure Migrate

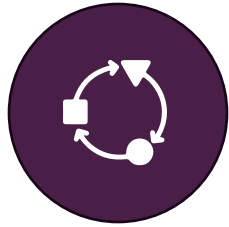
- Central Hub to Discover, Assess and Migrate resources to Microsoft Azure
- Built-in tools and third-party tools
- Plan, Test and Migrate workloads to Azure



Cloud Rationalisation: The 5R model



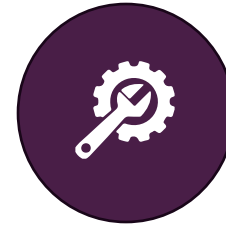
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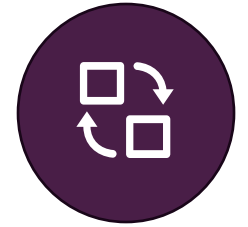
Refactoring



Rearchitecting



Rebuild



Replace



Azure Migrate



Adopt



Azure Migrate | Servers

Microsoft

Search (Ctrl+ /)



Refresh

Overview

Last refreshed at: 10/6/2020, 4:00:50 PM (Click on "Refresh" to update the page)

Migration goals



Servers



Databases



VDI



Web Apps



Data Box

Manage



Discovered items

Support + troubleshooting



New support request

Assessment tools [\(Add more tools\)](#)



Azure Migrate: Server Assessment



Discover



Assess



Overview



Discovered servers

51



Groups

0



Assessments

0



Notifications

2 warnings



Next step: Start assessing your servers by clicking on 'Assess'




Adopt

Start an assessment

[Home](#) > [Azure Migrate](#) > [Assess servers](#) >

Assessment properties

 You can also edit these properties later by opening the **assessment** and clicking on 'Edit properties' command on top

TARGET PROPERTIES

Target location ⓘ West Europe ▼	Storage type ⓘ Automatic ▼	Reserved instances ⓘ 1 year reserved ▼
------------------------------------	-------------------------------	---

VM SIZE

Sizing criterion ⓘ Performance-based ▼	Performance history ⓘ 1 Day ▼	Percentile utilization ⓘ 95th ▼
VM series ⓘ 14 selected ▼	Comfort factor ⓘ 1 ▼	

PRICING

Offer ⓘ Pay-As-You-Go ▼	Currency ⓘ Euro(€) ▼	Discount (%) ⓘ 0	VM uptime ⓘ Not appl... ▼	Day(s) per month	Not appl... ▼	Hour(s) per day
EA Subscription ⓘ Not applicable ▼						

Azure Hybrid Benefit
Apply Azure Hybrid Benefit and save up to 49% vs. pay-as-you-go costs with an eligible Windows Server license.

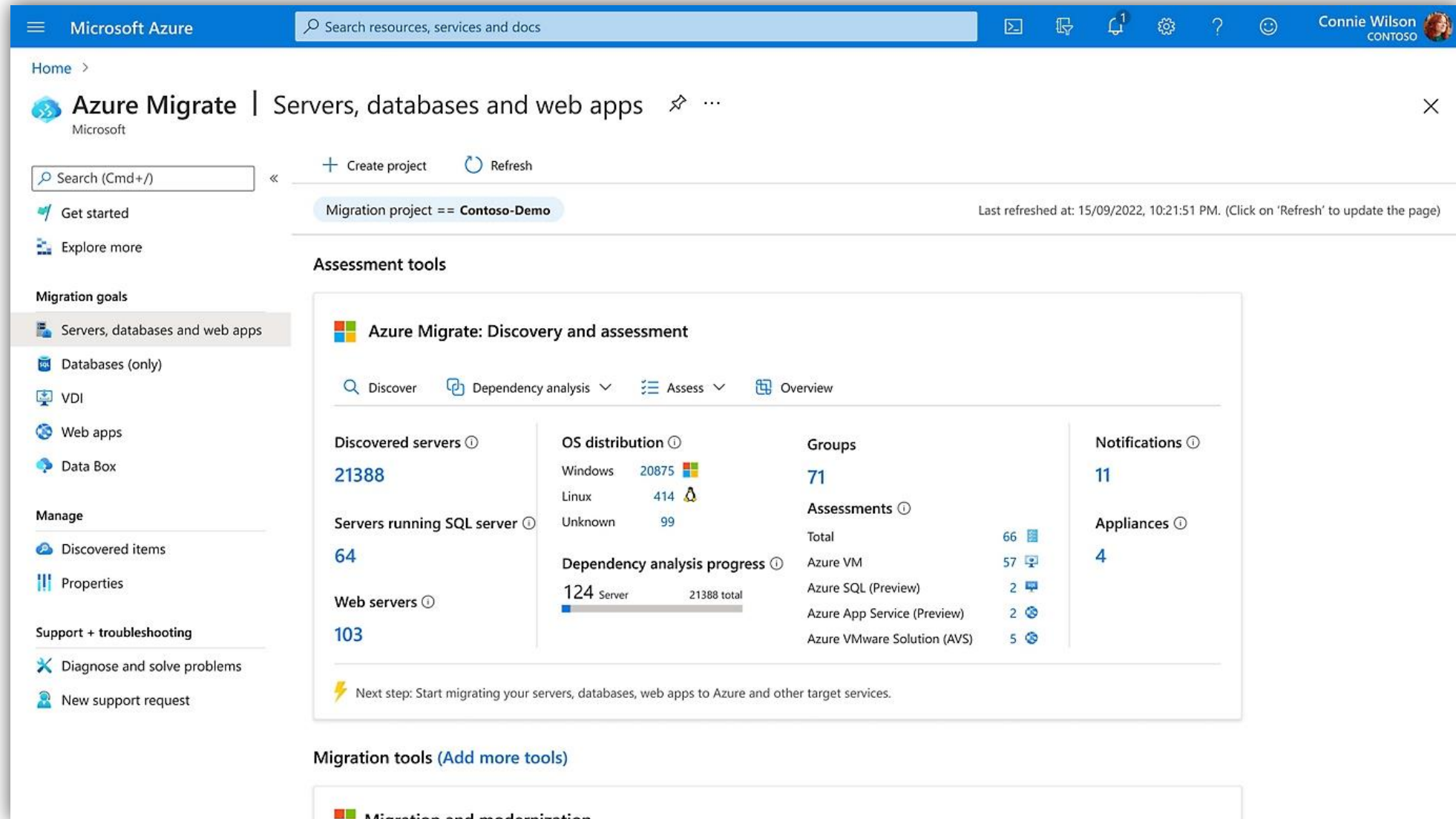
Already have a Windows Server license? * ⓘ
☐ Yes ☒ No

[Review Azure hybrid benefit compliance](#)

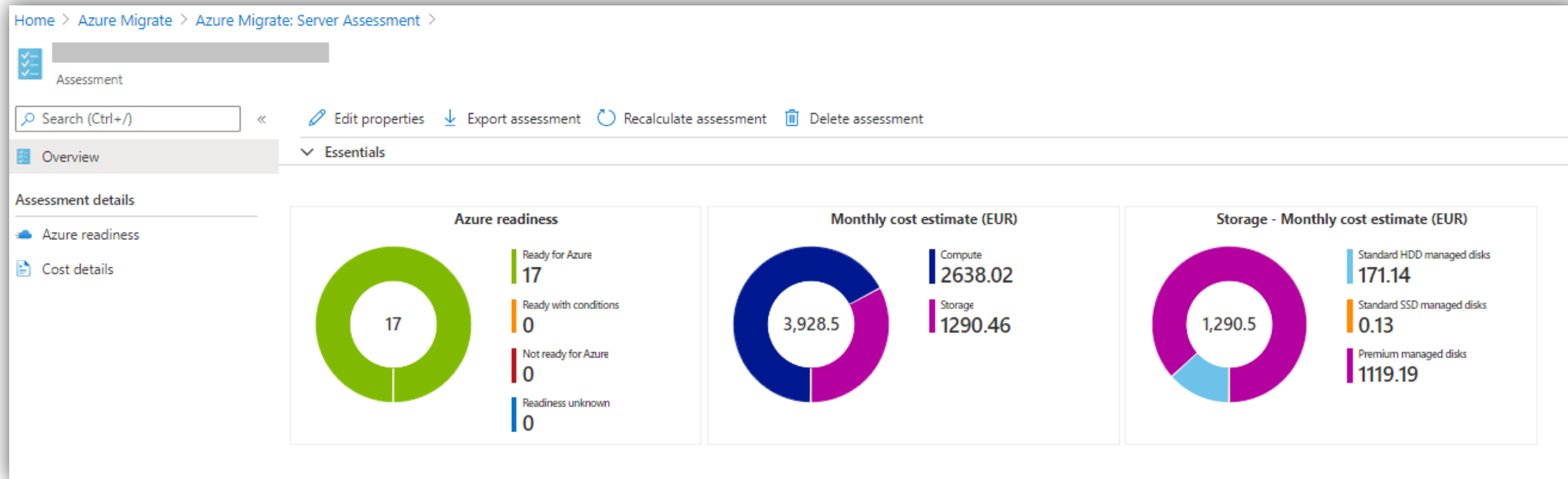


Adopt

Assessment result

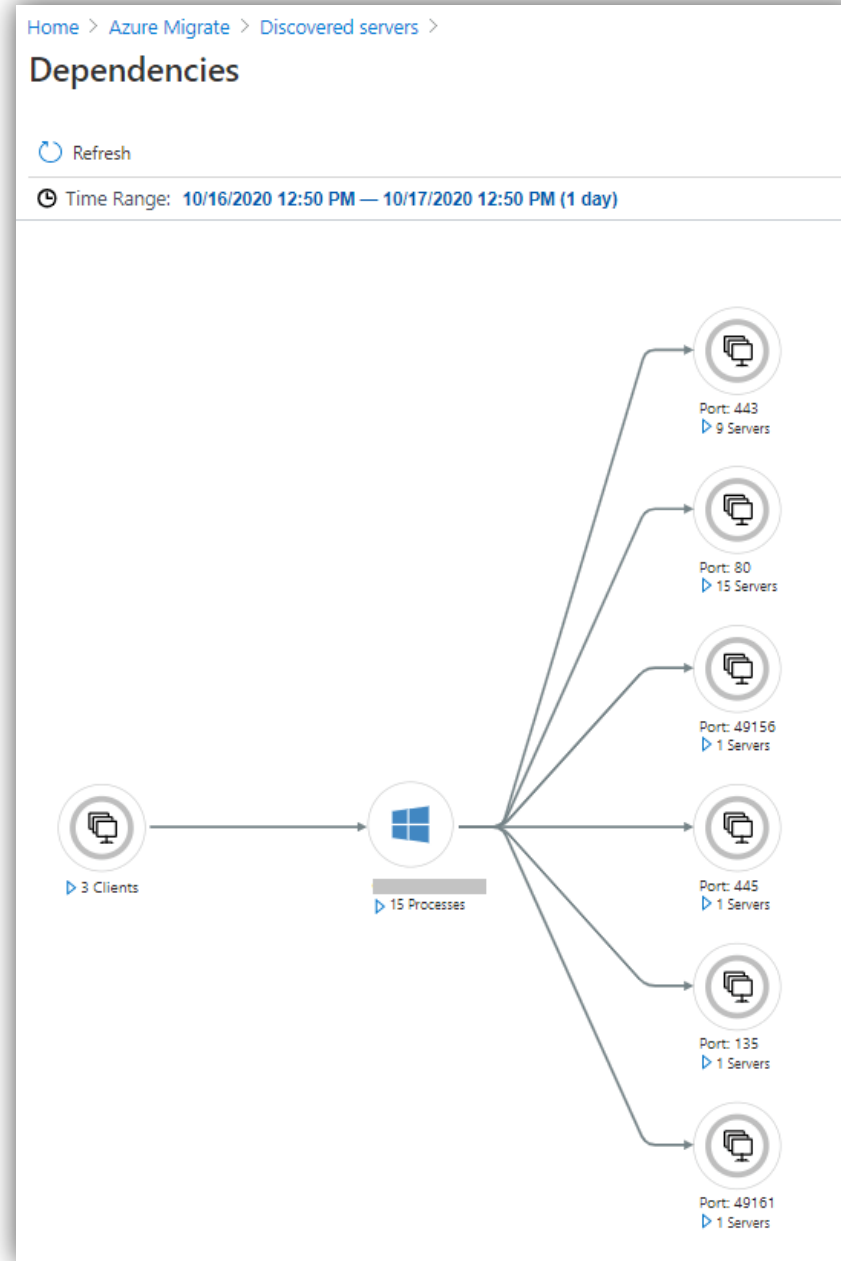


Assessment result



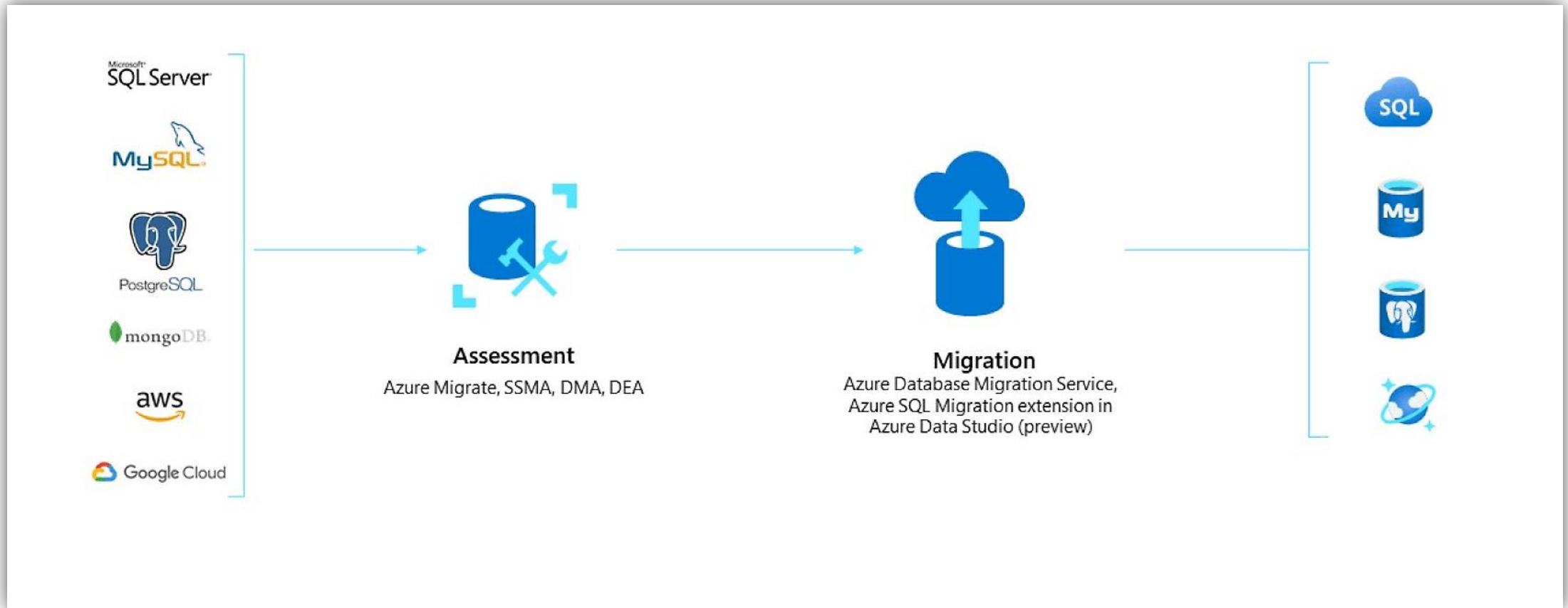
Adopt

Dependency graph



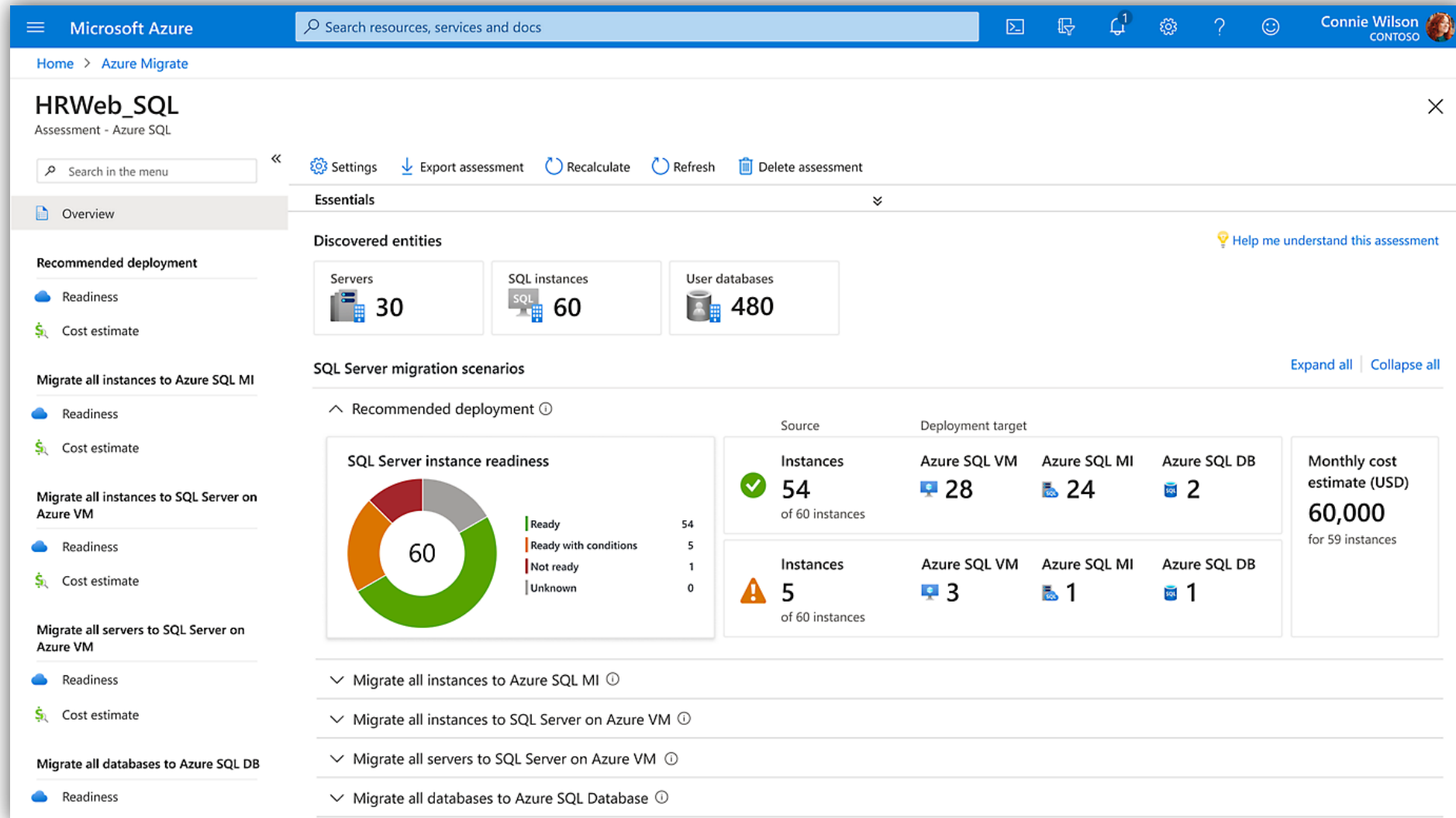
Adopt

Database migration



Adopt

Database assessment



Adopt

Azure migrate scenario's

When Azure Migrate is Very Usable:

- **Lift-and-Shift of VMs:** Simplifies bulk VM migration with minimal changes.
- **Data Center Exit:** Supports full data center migration (VMs, databases, apps).
- **SQL Database Migration:** Eases migration to managed SQL services on Azure.
- **Web App Migration:** Streamlines web app migration to Azure App Service or container.

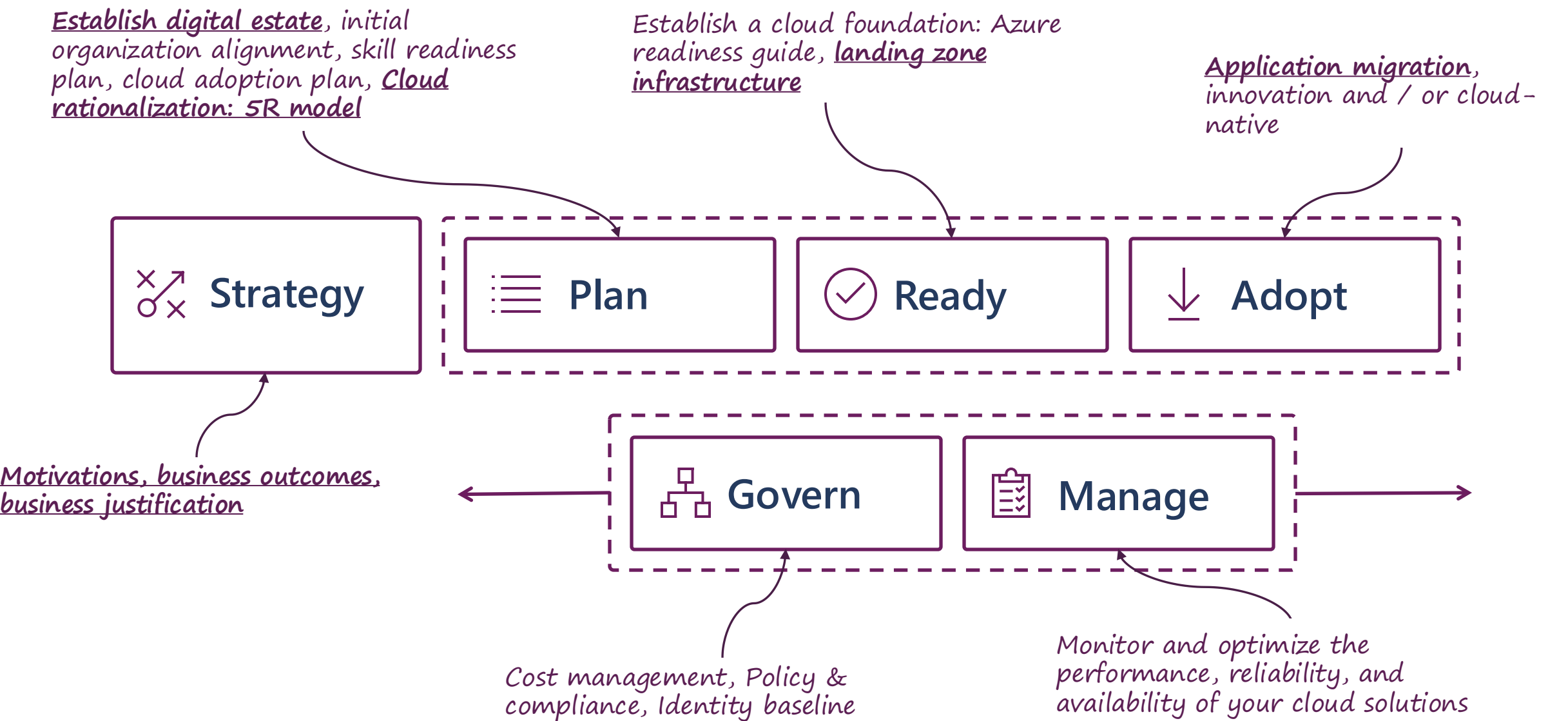
When Azure Migrate May Not Be Ideal:

- **Infrastructure as Code:** Azure Migrate does not generate IaC
- **Multi-Cloud Strategy:** Only supports migration to Azure, not other clouds.
- **Highly Customized/Legacy Apps:** Limited support for complex, outdated systems.
- **Small-Scale Migrations:** May be overkill for minimal migrations.
- **Cloud-Native Rebuilds:** Better suited for lift-and-shift than full rebuilds.
- **Large Data Transfers with Low Bandwidth:** Physical options like Azure Data Box may be more practical.



Adopt

Microsoft Cloud Adoption Framework for Azure



Key Takeaways & Next Steps

- **Migration Success:** Cloud migration is a journey
 - Understanding unique needs, challenges, and goals is essential
 - The impact on organisational change and people is not to be taken lightly
- **Strategic Planning:**
 - Use tools like **Azure Migrate** to assess, plan, and execute migrations with minimal disruptions.
 - Prioritize workloads,
 - Define a migration strategy
- [Azure Migrate Docs](#)
- [Cloud Adoption Framework Migrate Docs](#)
- [Cloud Adoption Framework tools](#)
- [Azure Migrate GitHub repo](#)



Thanks!

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