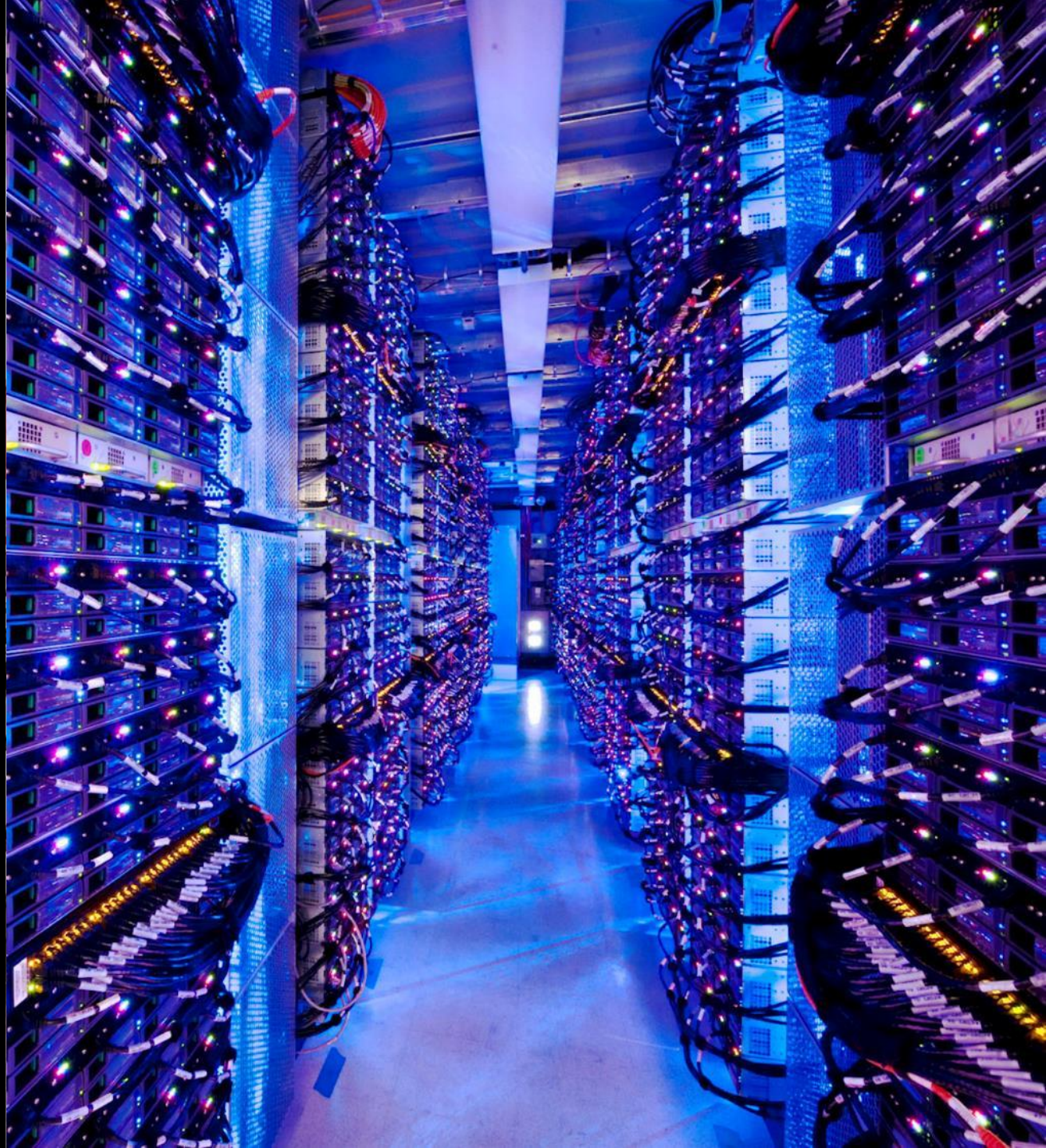
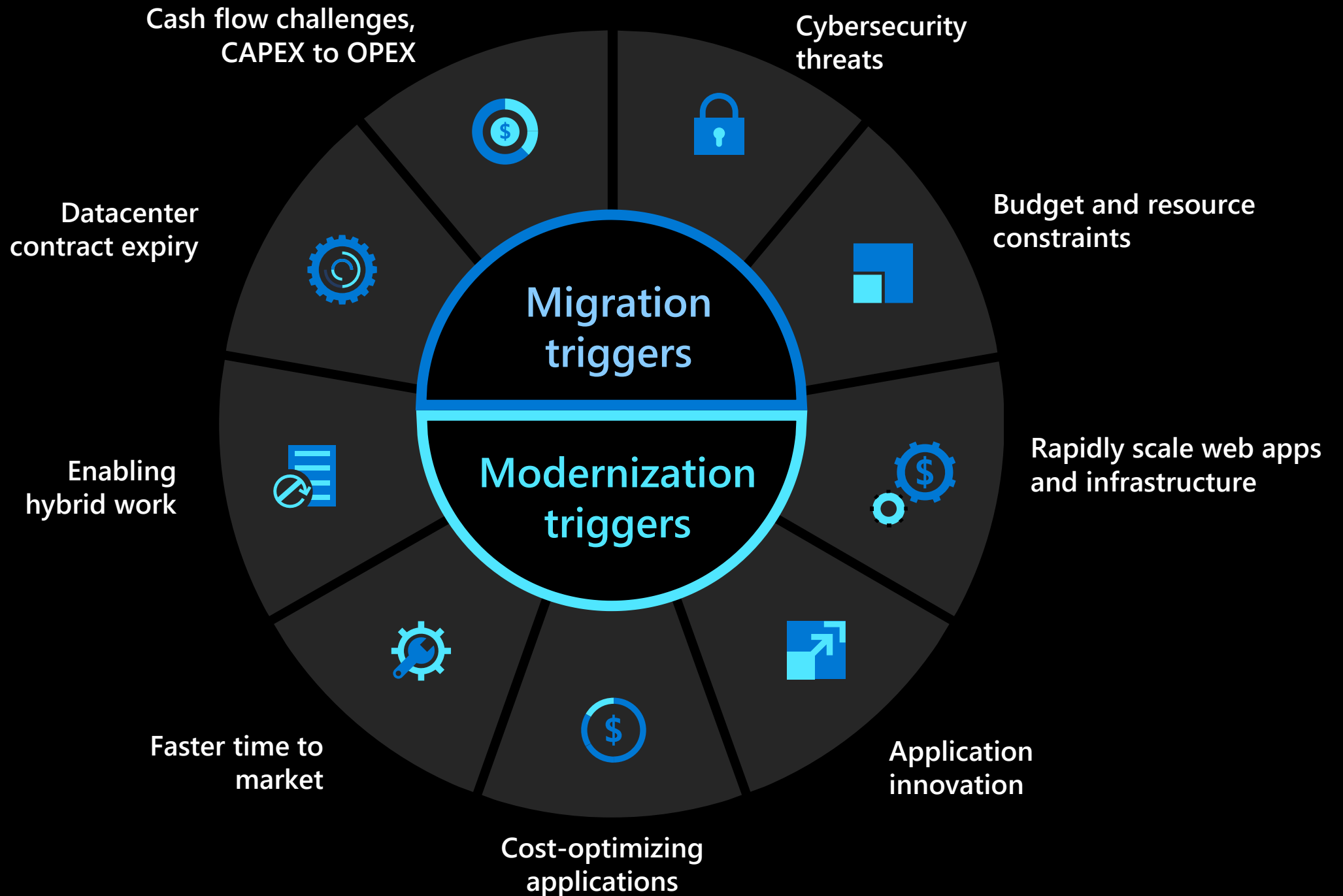




Azure Migration & Modernization Overview



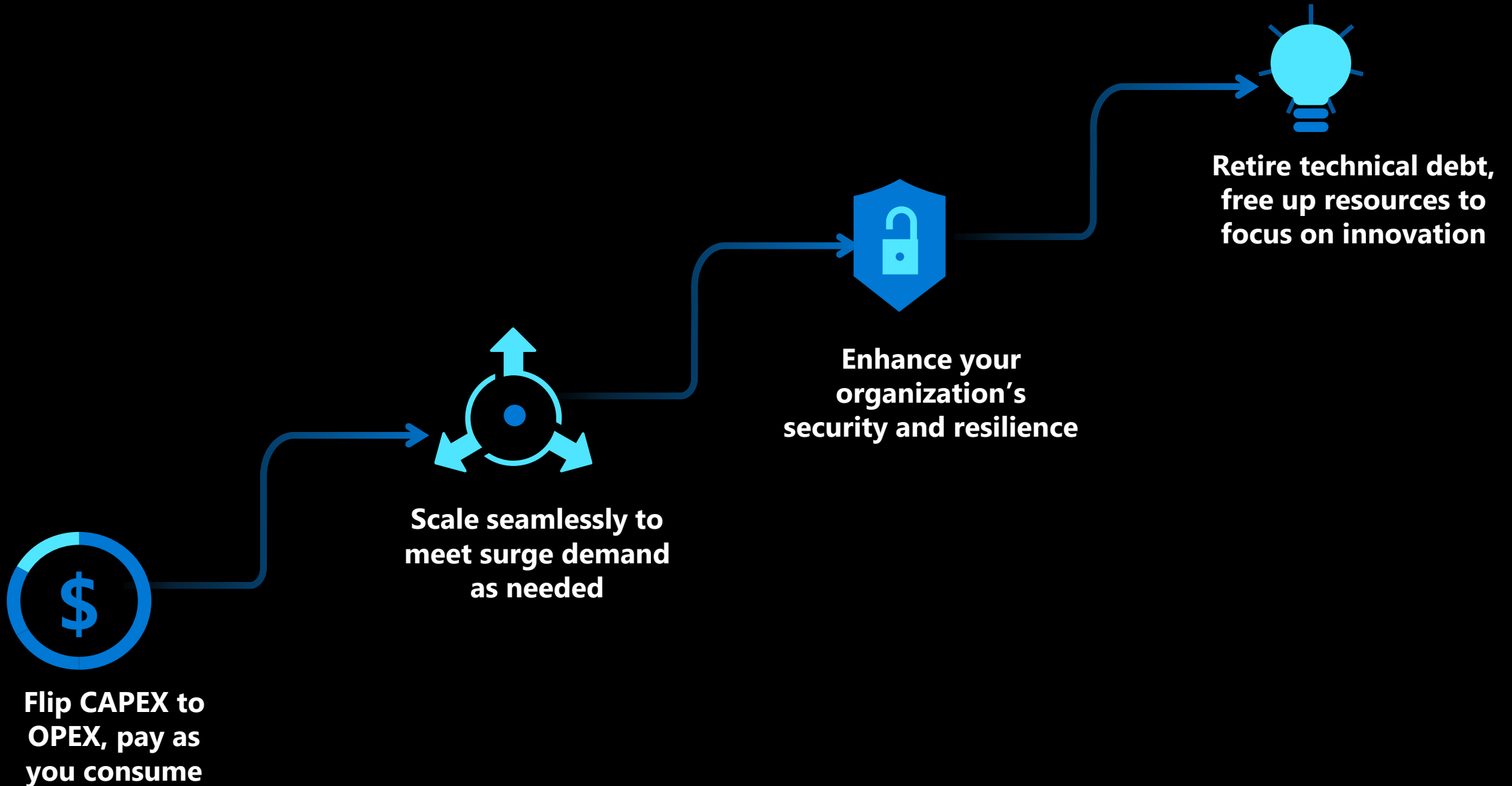


66% of businesses list cloud migration as a top cloud challenge

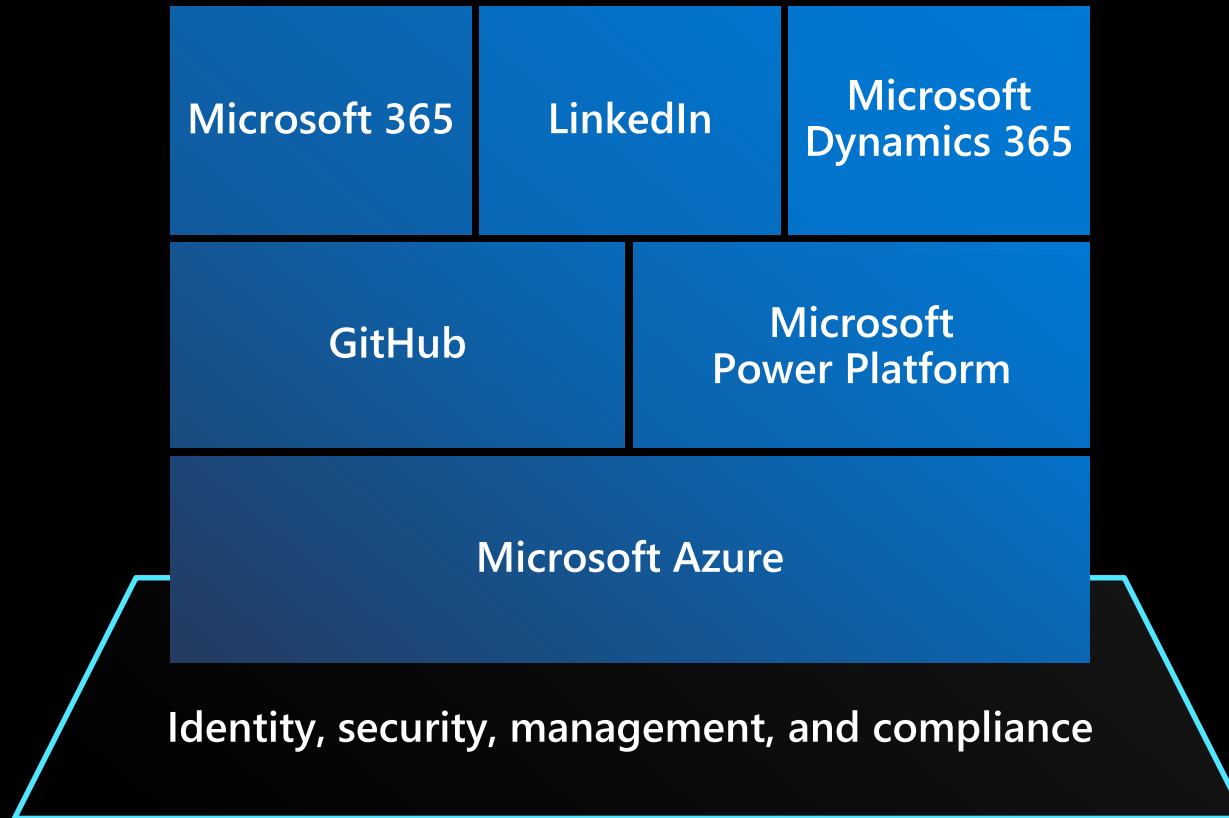
Top cloud initiatives of 2022

- Migrating more workloads
- Understanding application dependencies
- Assessing technical feasibility
- Right-sizing resources
- Migrating applications and data
- Modernizing applications

How migration and modernization helps

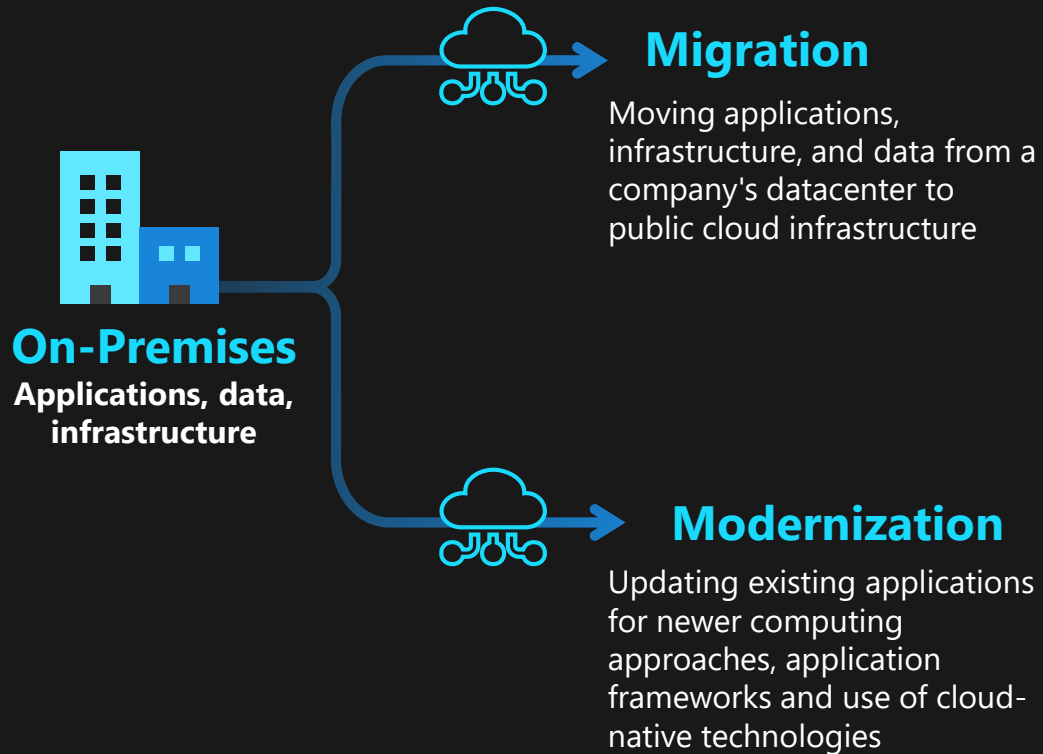


Microsoft Cloud

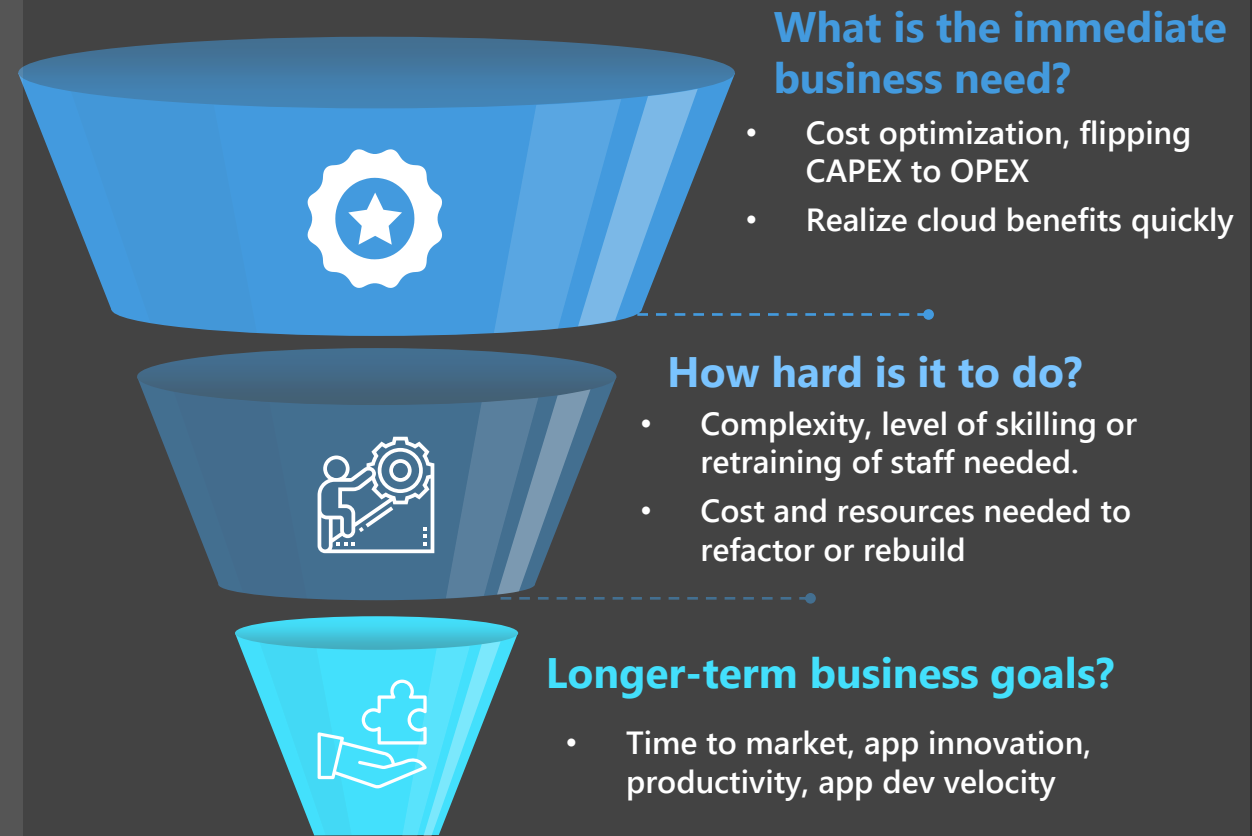


Understanding Migration and Modernization

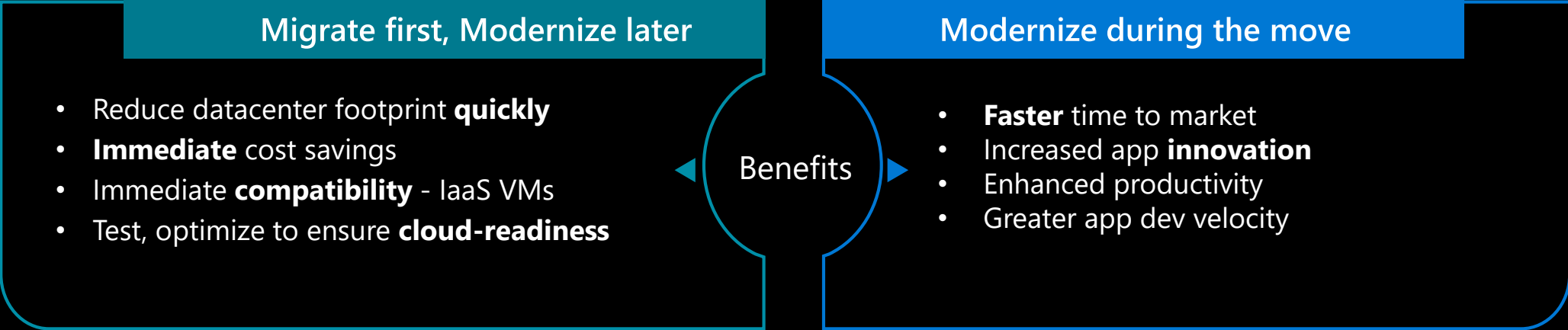
Defining Migration and Modernization



Migration and Modernization decision factors



Customer cloud migration and modernization approaches



Moving to Azure enables cost and operational efficiencies

Pay less with Azure.




AWS is **5x** more expensive for Windows Server and SQL Server.

Up to **54%**



savings vs on-premises and up to 30% vs. AWS by modernizing ASP.NET applications to Azure App Service

Up to **25%**



increase in productivity of IT staff

\$10M



savings from avoided on-prem infrastructure and staff costs

478%



3-year return on investment

Up to **80%**



savings with Azure Hybrid Benefit

1) Calculations based on scenarios running 744 hours/month for 12 months at 3-year Reserved Capacity. Prices as of October 24, 2018, subject to change. Savings based on eight vCore Azure SQL Database Managed Instance Business Critical in US West 2 running at Azure Hybrid Benefit rate. AWS calculations based on RDS for SQL EE for db.r4.2xlarge on US West (Oregon) in a multi AZ deployment for Reserved Instances under Standard 3-year term, all upfront payment. Actual regional pricing and program discounts may apply. Actual savings may vary based on region, instance size, and performance tier. Savings exclude Software Assurance costs, which may vary based on Volume Licensing agreement.

2) <https://azure.microsoft.com/en-us/overview/azure-vs-aws/cost-savings/>

3) Forrester Consulting Total Economic Impact™ Study: Migration to Microsoft Azure SQL Managed Databases, commissioned by Microsoft, March 2020

4) Forrester Consulting Total Economic Impact™ Study: Microsoft Azure IaaS, commissioned by Microsoft, October 2019

5) GigaOm report: [Costs and Benefits of .NET Application Migration to the Cloud](#) 8/31/2020

Free Extended Security Updates Only on Azure

SQL Server 2012 Extended Security Updates

Windows Server 2012 and 2012 R2 Extended Security Updates

One additional year of extended security updates only on Azure for Windows Server and SQL Server 2008 and 2008 R2

2022

SQL Server 2012
Extended Support
ends July 12, 2022

2023

Windows Server 2012
Extended Support
ends October 10, 2023

Find lifecycle support deadlines at: support.microsoft.com/lifecycle

How can customers move to Azure?



Azure Migrate
Azure Arc
Azure Automanage

Tools and capabilities for
efficiency and governance



Well Architected
Framework
Cloud Adoption Framework

Guidance to accelerate
your cloud adoption



FastTrack for Azure

Incentives and expert help,
including Azure engineers
& certified partners

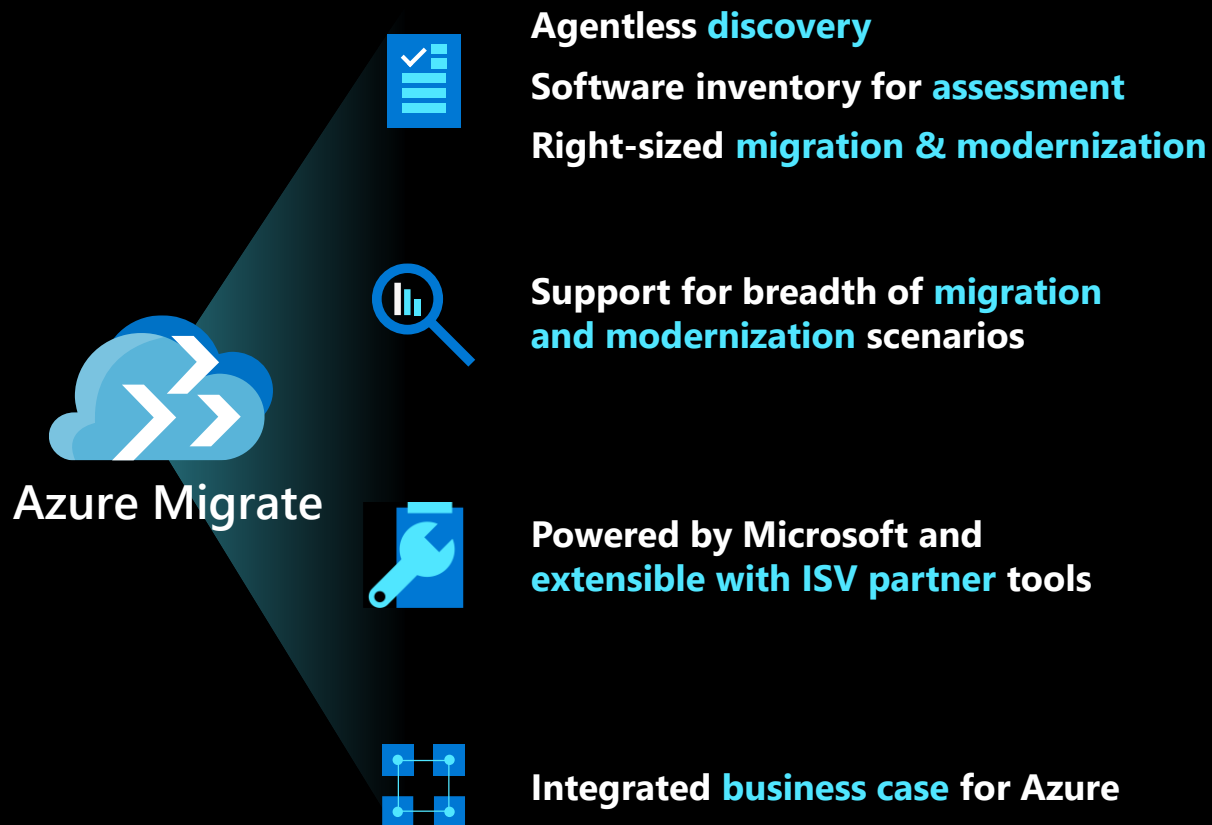


Tools, guidelines and programs to
move with confidence



Azure Migrate

Attributes

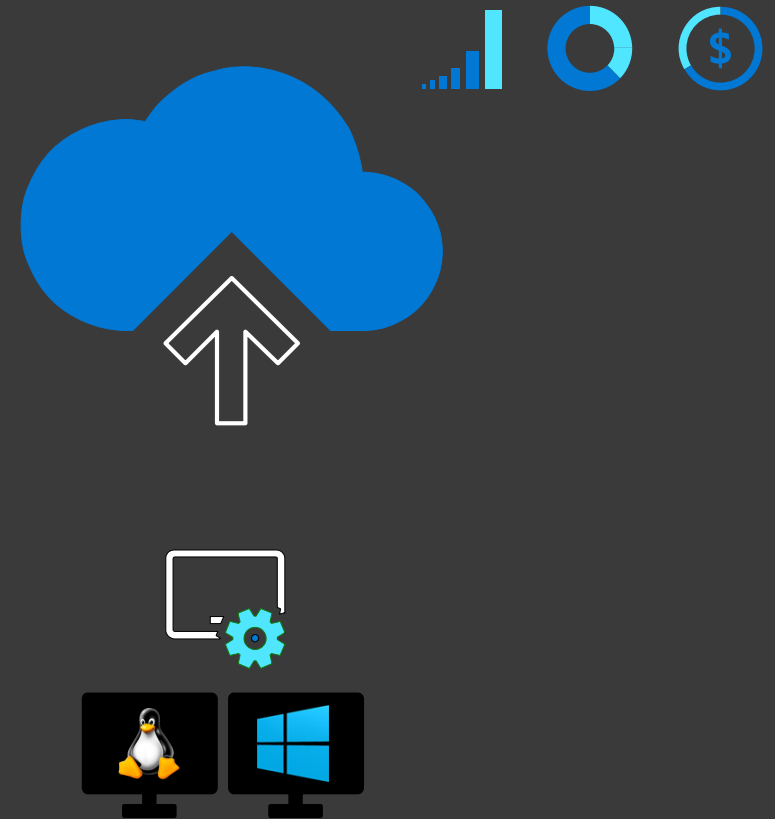


Customer value

- Reduced resources and non-intrusive method to map your environment
- Identify and co-locate all connected components for optimal performance
- Provision required resources in Azure for desired performance—lower cost
- Same familiar method for Windows/Linux, .NET/Java and SQL/OSS DB
- Flexibility—migrate only, modernize only [or] migrate + modernize
- Higher return on investments (ROI) by modernizing to PaaS/SaaS
- Consistent user experience for in-house and third-party features
- Expanding list of supported use-cases
- Automated and comprehensive Total Cost of Ownership (TCO) with savings

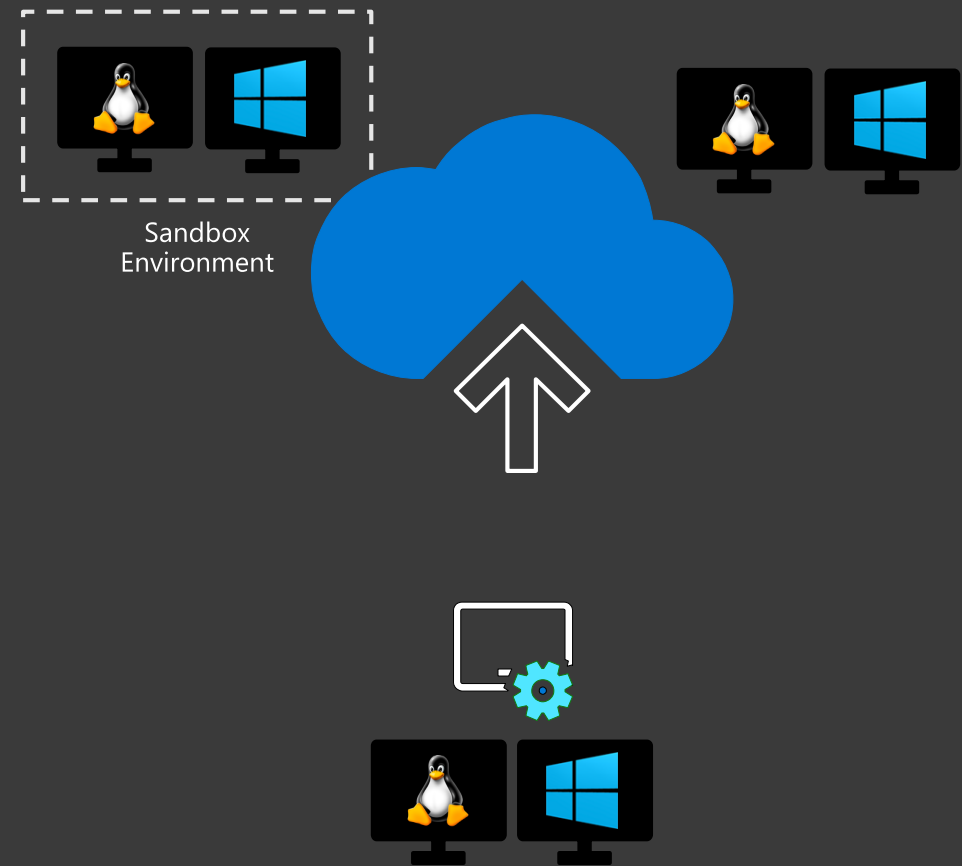
Discover, Assess and Migrate Infra and apps

1. **Deploy** the Azure Migrate appliance
2. **Appliance starts analyzing performance** of your Windows or Linux servers
3. **Group servers and perform assessments** to determine
 - Azure suitability
 - Right-sizing information
 - Dependency mapping
 - Cost planning



Discover, Assess and Migrate Infra and apps

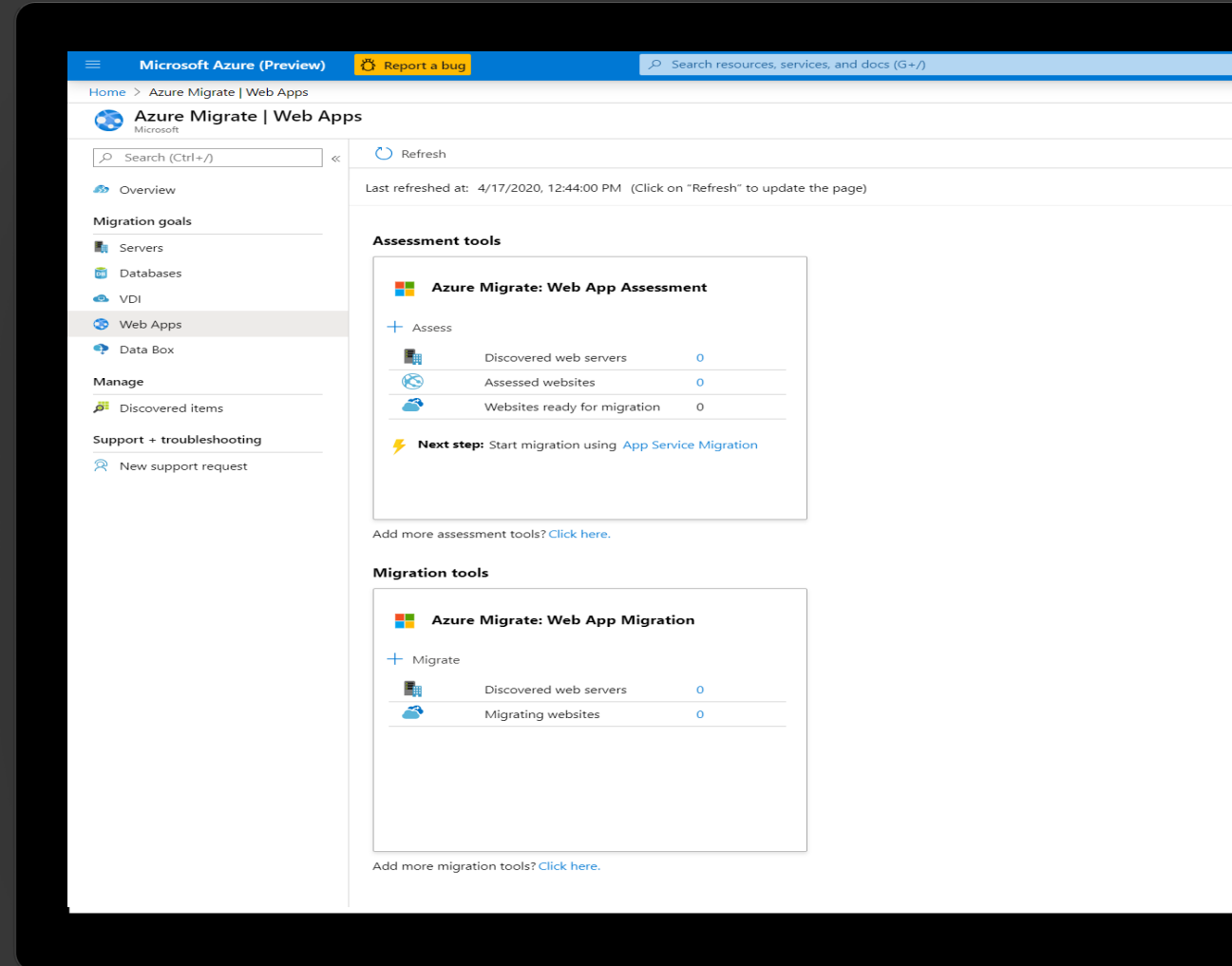
1. **Start replicating** your Windows or Linux servers using Azure Migrate: Server Migration
2. **Perform test migrations** to a sandbox environment with no impact to production to validate migration
3. **Migrate** to Azure with zero data-loss and minimal downtime



Discover, Assess and Migrate .NET Web Applications

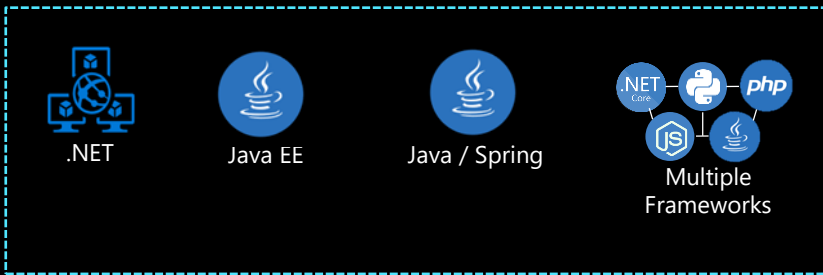
1. **Launch** App Service Migration from the Azure Migrate: Web App Assessment tool and download the App Migration Assistant
2. **Appliance starts analyzing performance** of your .NET web applications, including Azure readiness checks and configuration setting analysis
3. **Migrate** web application to Azure App Service

Learn more about [Azure App Service](#)



Migrate and Modernize your .NET and Java applications

Apps



Platform Windows/Linux



Azure App Service* migration assistant



Azure Migrate* - App Containerization tool

Azure platform-as-a-service



Azure App Service



Azure Spring Cloud

Container platform-as-a-service



Azure Kubernetes Service



Red Hat OpenShift

Azure IaaS



Java



Microsoft Azure

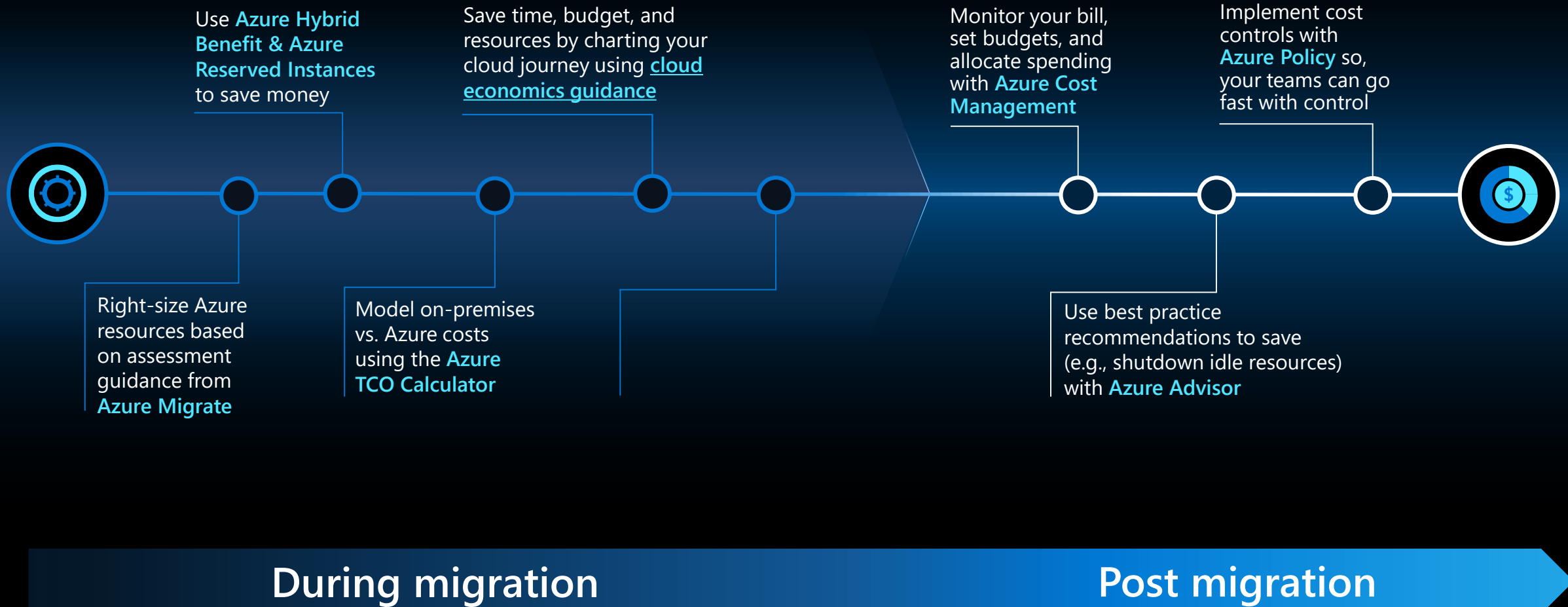
On Premises

PRODUCTIVITY

CONTROL

* Not all destinations are supported by Azure Migrate and Azure App Service

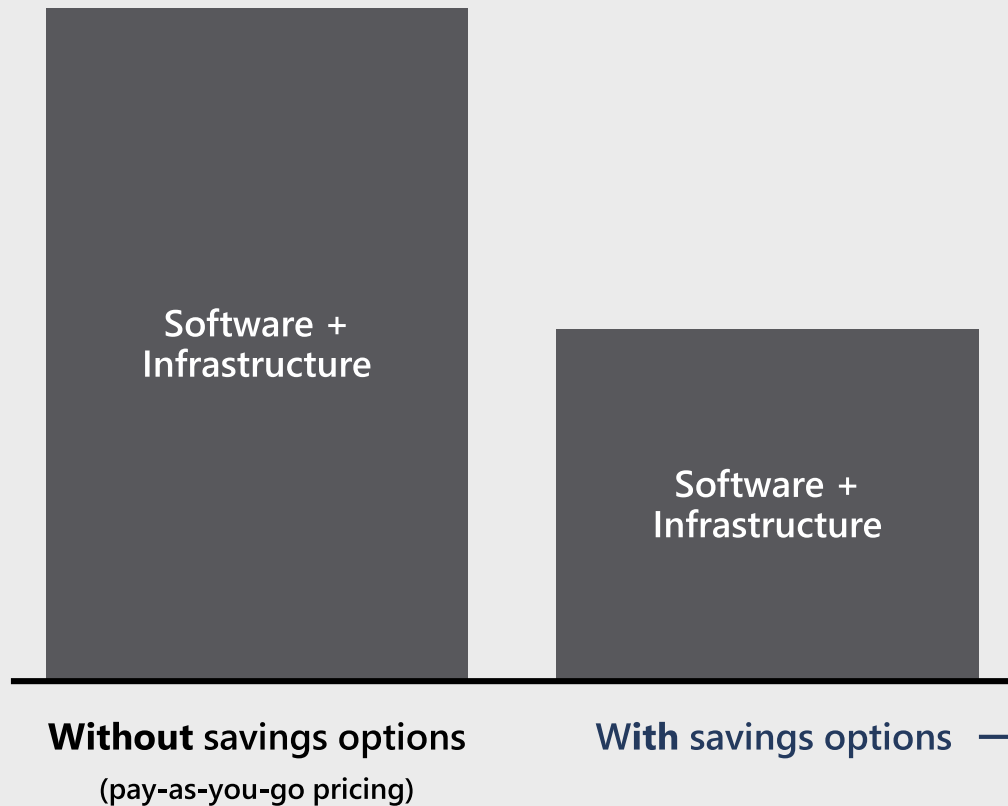
Optimize costs during and after migration



Expanding our cost saving options for Azure compute

Accelerate cloud adoption with new growth opportunities

Compute cost



Savings options

Software

Windows Server and SQL Server workloads → Bring your existing on-premises licenses to Azure with **Azure Hybrid Benefit**

Infrastructure

Stable, predictable workloads → Get lower prices on a specific virtual machine in a particular Azure region with **Reserved Instances**

Interruptible workloads → Access low-cost unused Azure compute capacity at scale with **Spot Virtual Machines**

NEW!

Consistent compute spend → Unlock lower prices on compute services by committing to spend a fixed hourly amount with **Azure savings plan for compute**

Unlock significant cost savings



Get better pricing across a broad set of compute services worldwide

- Save up to 65% compared to pay-as-you-go prices on select compute services
- Achieve greater savings with longer-term plans
- Save even more by combining with other saving options such as Azure Hybrid Benefit

Note: Pricing is for illustrative purposes only and are not actual



Example: M32dms v2 in Japan East

Pay-as-you-go
\$10/hour

Savings plan (1-year)
\$7/hour

Save 30%

Savings plan (3-year)
\$3.5/hour

Save 65%

Cost saving options for different compute usage needs and patterns



Azure savings plan for compute

Most flexible savings for dynamic workloads while accommodating for planned or unplanned changes



Reserved Instances

Greatest cost savings for stable, predictable workloads with no planned changes

Savings compared to pay-as-you-go	Save up to 65%	Save up to 72%*
Commitment type	Spend a fixed hourly dollar amount on compute services collectively (e.g. Spend \$5/hour on compute services for 1 year)	Usage of a specific virtual machine type in a particular Azure region (e.g. D2v4 virtual machine in Japan East for 1 year)
Savings apply	Across select services globally, up to the hourly commitment	Directly to the identified compute service in a particular region
Term	1 or 3 year	1 or 3 year
Payment options	Upfront or monthly	Upfront or monthly
Cancellation	No cancellations	Up to \$50,000 USD
Savings Calculation	Based on pay-as-you-go price	Fixed price at the time of purchase

*The 72 percent saving is based on one M32ts Azure VM for SUSE Linux Enterprise + 24x7 Support OS in the West US 2 region running for 36 months at a pay-as-you-go rate of ~\$1,976.11/month; reduced rate for a 3-year reserved instance of ~\$552.85/month. Azure pricing as of February 22, 2022. Prices subject to change. Actual savings may vary based on location, instance type, or usage.

Identify workload patterns that best align to savings options

Categorizing compute costs by usage behavior | example

Highly stable workloads like domain controllers

- Run continuously on D2v4 virtual machines in Japan East datacenter near headquarters
- No expected changes to the machine series or region



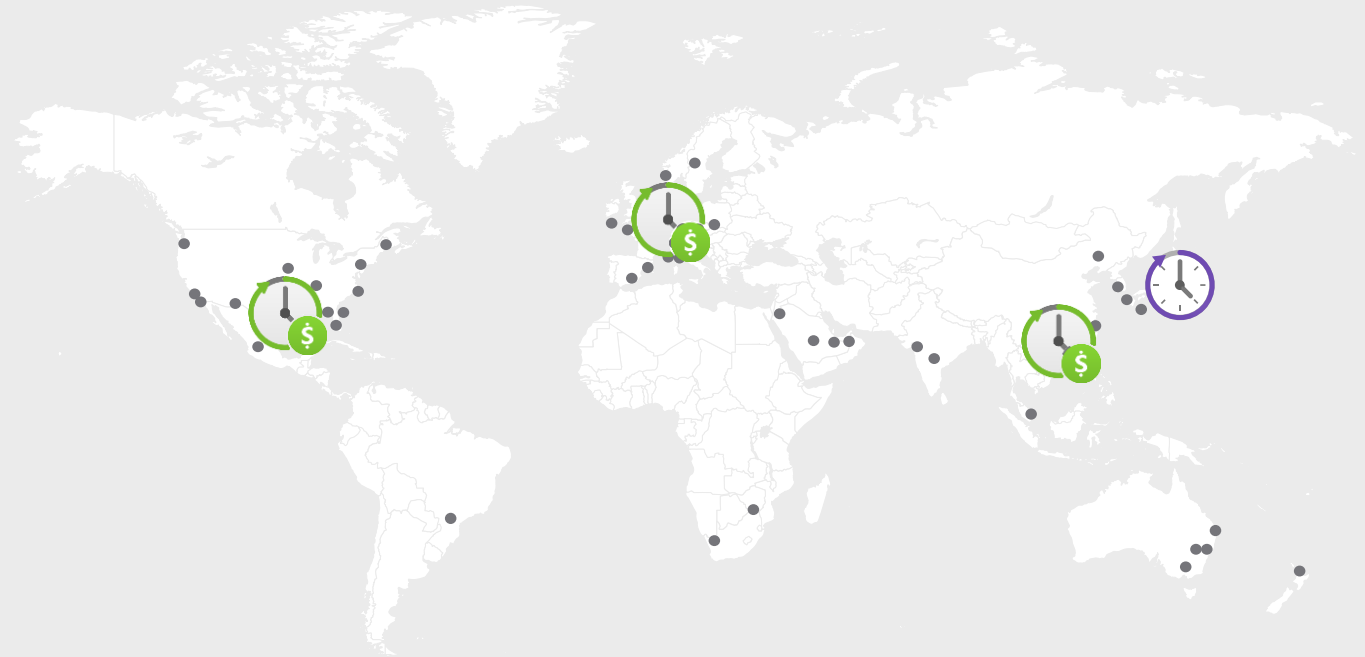
Consider a **Reserved Instance** for the greatest savings

Dynamic workloads like those that power the case management solution of the 24-hour global help desk

- Run on different sized virtual machines based on expected volume of each distributed service center
- Change regions throughout the day (follow-the-sun)



Consider **Azure savings plan for compute** for savings with built-in flexibility and automatic optimization

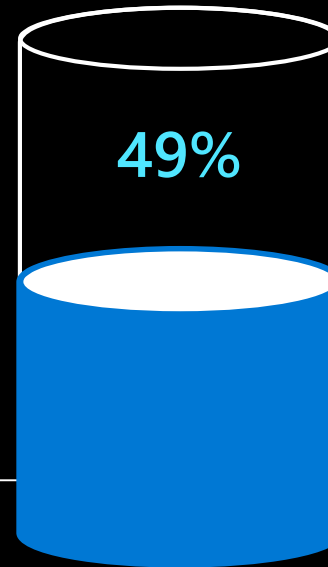


For illustrative purposes only.

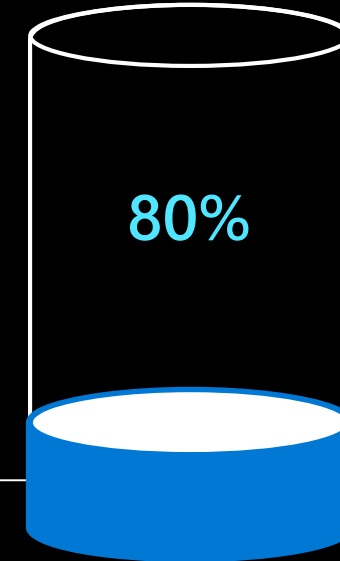
Save more with Azure Reservations

Azure Reservations is a way to reduce Azure costs by committing to a one- or three-year term for a virtual machine, in exchange for a discount of up to 80%* compared to the standard pay-as-you-go rate.

Save up to 49%
with **Azure Hybrid Benefit**



Save up to 80% with
Azure Hybrid Benefit + Azure Reservations*



*The 80 percent saving is based on the combined cost of Azure Hybrid Benefit for Windows Server and 3-year Azure reserved instance. The estimate does not include Software Assurance costs. Sample annual cost comparison of one D8s v4 Windows Server VMs in US West 2 Region running for 36 months at a pay-as-you-go rate of \$548.96/month; reduced rate for a 3-year reserved instance with Azure Hybrid Benefit of ~\$105.39/month. Azure pricing as of Feb 22, 2022. Prices subject to change. Actual savings may vary based on location, instance type, or usage.

Windows Server licensing terms

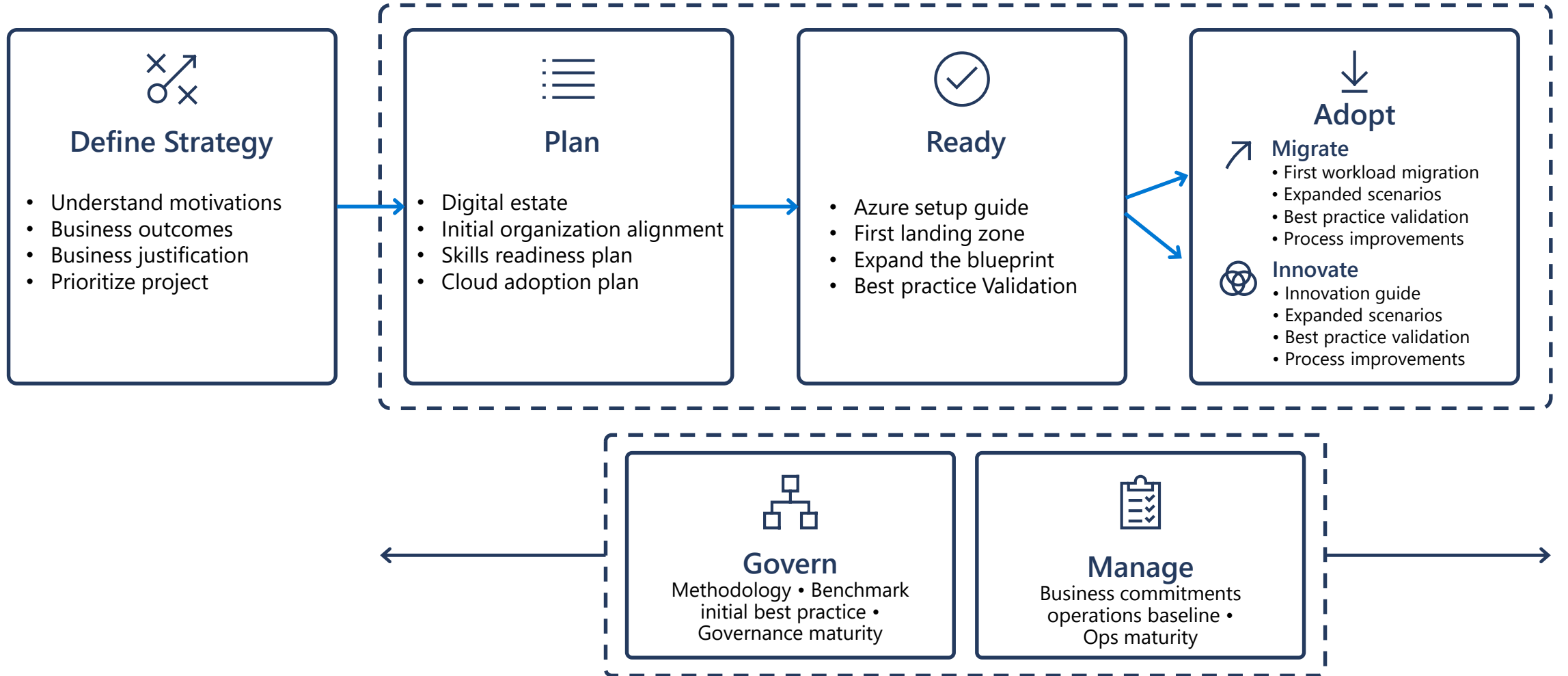
License with SA/Subscription	VMs and cores granted	How they can be used
WS Datacenter (16 cores or a 2-proc L)	Up to two VMs and up to 16 cores	Run virtual machines both on premises and in Azure
WS Standard (16 cores or a 2-proc L)	Up to two VMs and up to 16 cores	Run virtual machines either on premises or in Azure

Comparing AWS to Azure Hybrid Benefit – Eduard’s slide

Features	Azure Hybrid Benefit	AWS License Mobility
Description	Save big on Azure by leveraging your existing on-premises licensing investment	The closest parity offer to Azure Hybrid Benefit that AWS current has is the AWS license Mobility
Windows Server License Mobility	✓	-
SQL Server License Mobility	✓	✓ ¹
SQL Server Database as a Service License Mobility	✓	-
Get 4 vCPUs for each Enterprise Core Applied toward DBaaS	✓	-
No need to complete and submit license verification forms	✓	-
180 Days Dual Use Right to Facilitate the Migrations	✓	-
Use Windows and SQL together for IaaS	✓	-
Power BI Report Server Access with SQL Server Enterprise	✓	-
Unlimited Virtualization for Dedicated Hosts	✓	-
Free Fail-Over Servers For SQL Server Disaster Recovery	✓	-
Free Extended Security Updates for 2008/R2 Servers	✓	-

¹ For the migration period, you may need SQL Server licenses to cover both on-premises and cloud environments. If SQL Server is deployed on Windows Server, the only option to acquire the Windows Server license for VMs deployed on 3rd party clouds is through the cloud/hosting solution providers.

Microsoft Cloud Adoption Framework for Azure



Cloud Adoption Framework Governance Model

Governance End State that fosters trust and builds confidence

Govern <http://aka.ms/CAF/Gov>

Define Corporate Policy

Business Risks



Document evolving business risks and the business' tolerance for risk, based on data classification and application criticality

Policy & Compliance



Convert Risk decisions into policy statements to establish cloud adoption boundaries.

Process



Establish processes to monitor violations and adherence to corporate policies.

Five Disciplines of Cloud Governance



Cost Management

Evaluate & monitor costs, limit IT spend, scale to meet need, create cost accountability



Security Baseline

Ensure compliance with IT Security requirements by applying a security baseline to all adoption efforts



Resource Consistency

Ensure consistency in resource configuration. Enforce practices for on-boarding, recovery, and discoverability



Identity Baseline

Ensure the baseline for identity and access are enforced by consistently applying role definitions and assignments



Deployment Acceleration

Accelerate deployment through centralization, consistency, and standardization across deployment templates

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.

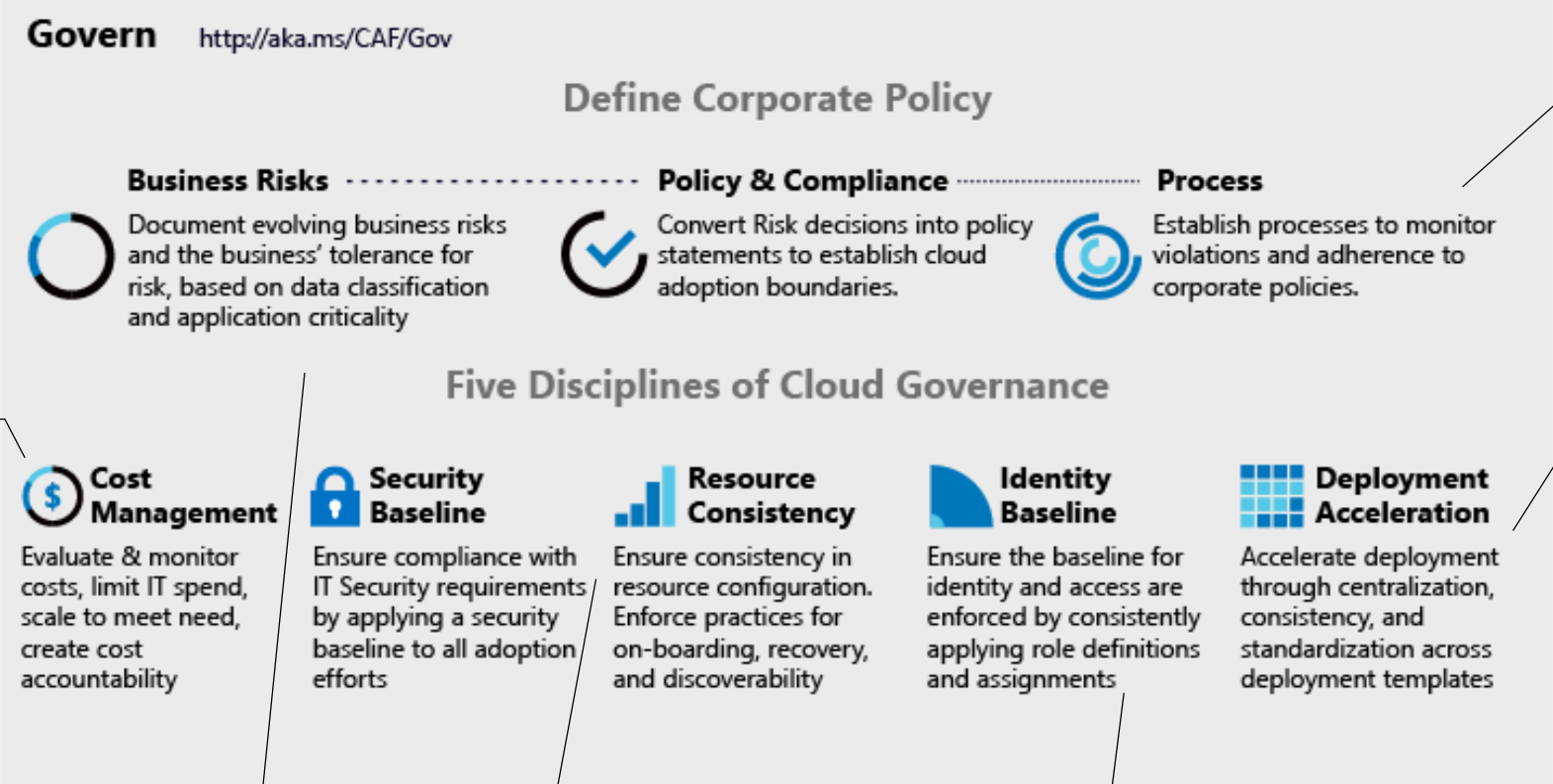
Governance MVP

Start small. Establish a foundation that can quickly evolve as cloud adoption and cloud governance mature. Mitigate tangible risks identified in the cloud adoption plans.

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

Monitor your hybrid and multicloud infrastructure



Azure Arc



Azure Monitor

Hybrid and multcloud security is top of mind



Adaptable attackers

Attacks traverse laterally across silos and perimeters



Disparate security tools

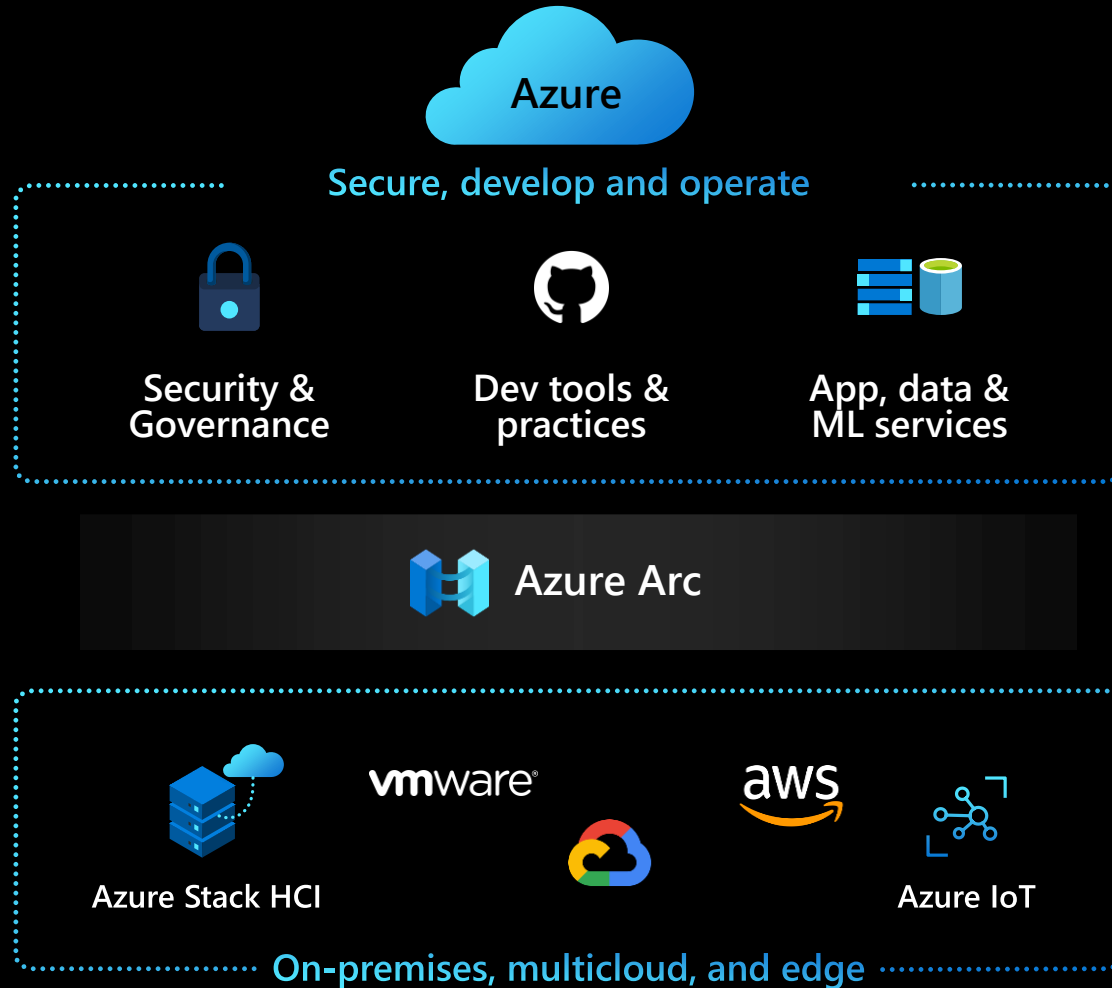
Security tools are increasingly complex, and poorly integrated into the DevOps cycle



Overwhelming noise

It's harder than ever to find the signal in the noise

Innovate anywhere with Azure Arc



Use cases for hybrid and multicloud security



Azure AD

Identity and access management



Microsoft Defender for Cloud

Cloud security posture management and protection



Microsoft Sentinel

Intelligent security analytics across the organization with a cloud-native SIEM



Azure Arc



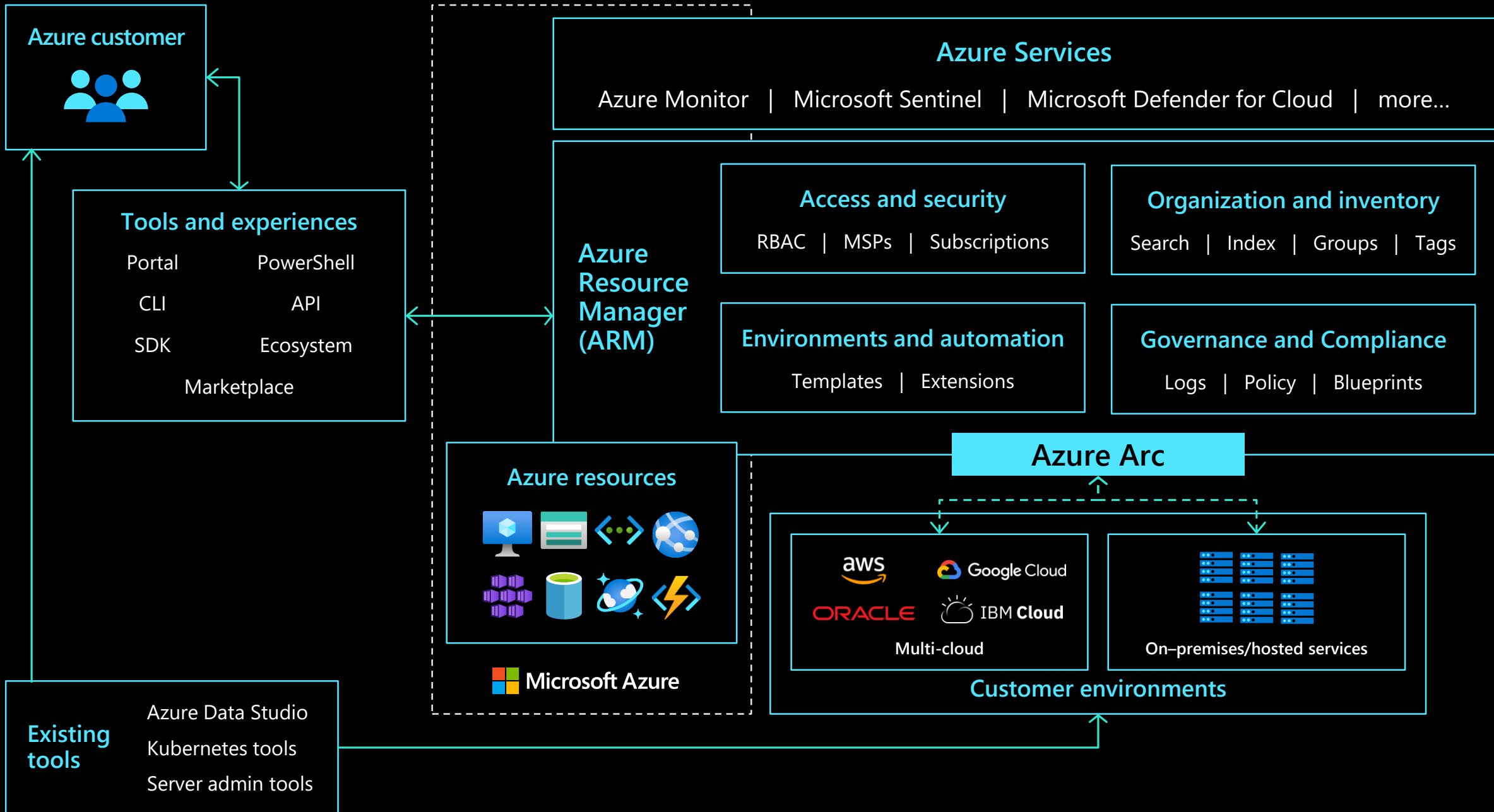
Multi-cloud



Datacenter



Edge





Thank you!