Microsoft

# Backup and disaster recovery for your data and applications in Azure

# Why do you need a BCDR strategy?

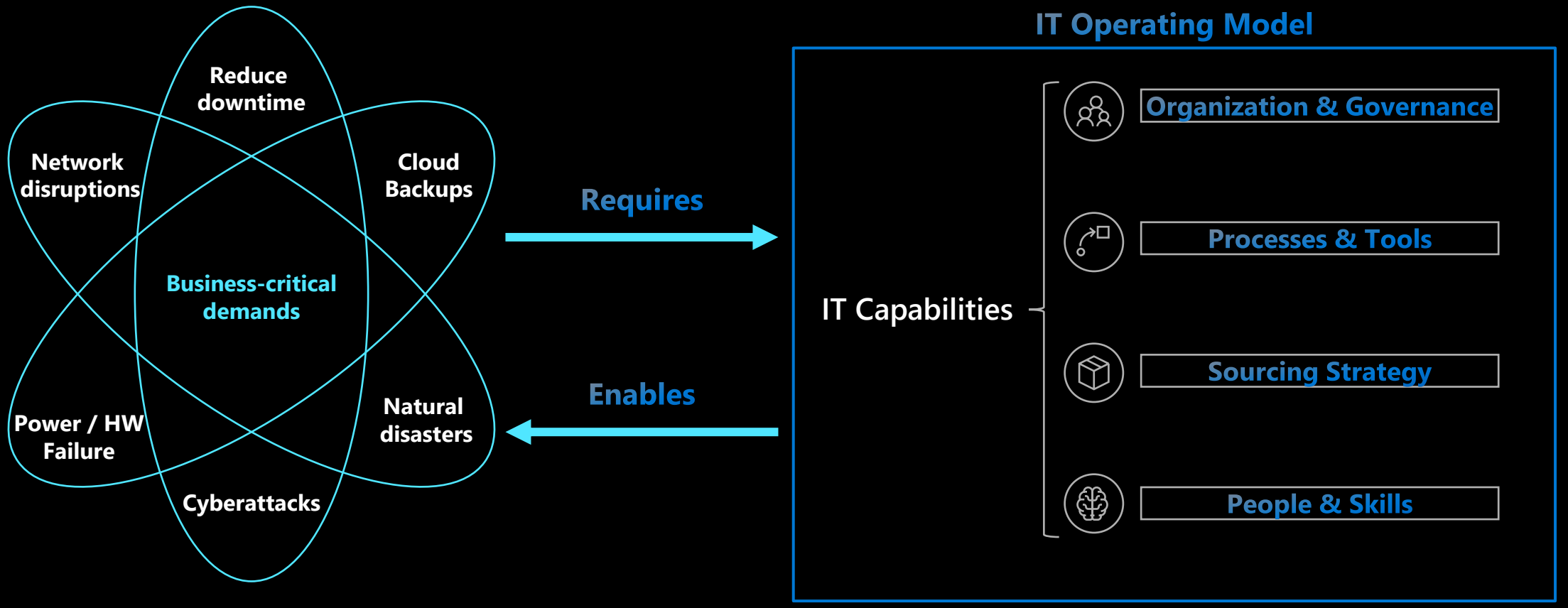
Ransomware

Data corruption and deletion

Outages and natural disasters

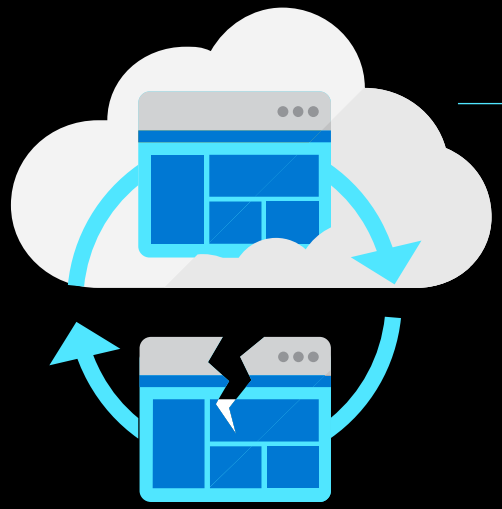
Compliance

# Business critical demands



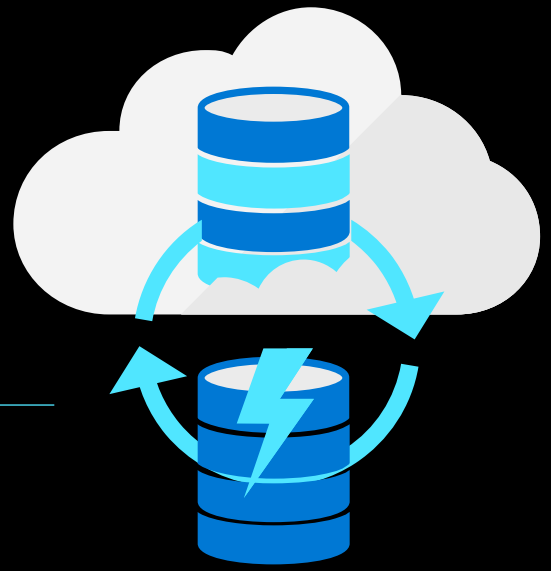
# Disaster recovery and backup

You need both



## Disaster recovery

When your applications have a catastrophic failure, quickly recover and run them in Azure or a secondary datacenter



## Backup

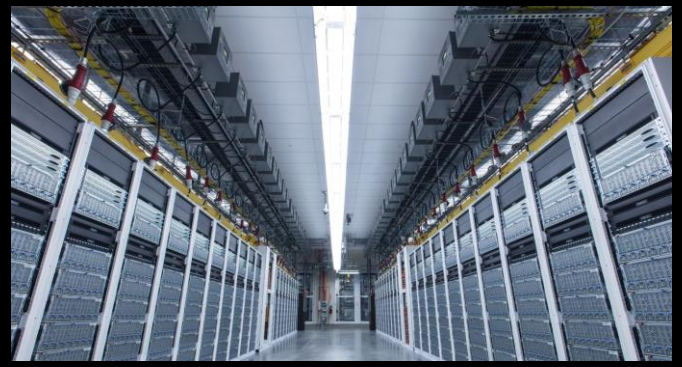
When your data is corrupted or lost, restore your data to the original location or a new location—you can retain backups for a long time

# Resilient foundation

## Our investments in global infrastructure, service management, and ensuring transparency

### Design

Global network
Datacenter infrastructure
Storage protection



### Operate

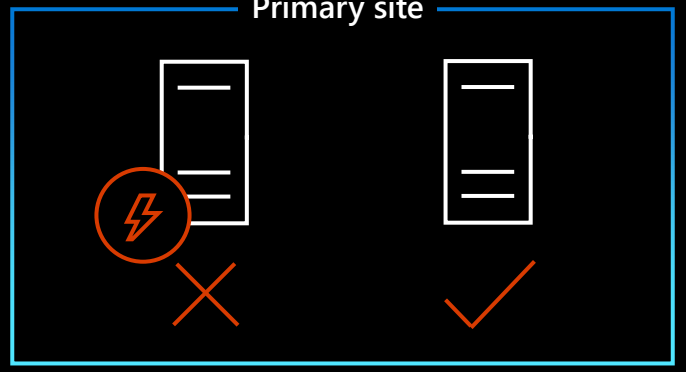
Safe deployment
Maintenance and control
ML and failure prediction

### Observe

Communications philosophy
Service health and alerts
Scheduled events

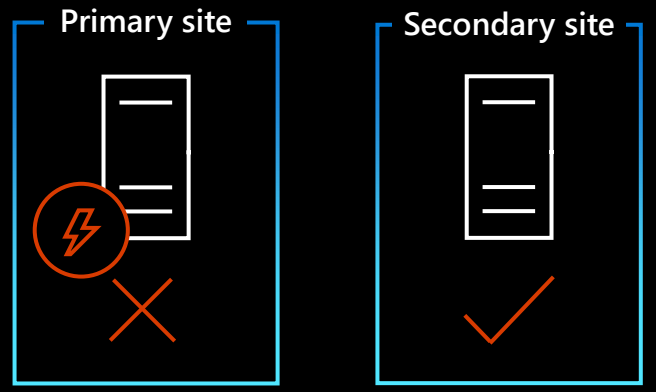
# What is resiliency?

Not about avoiding failures, but responding to failures



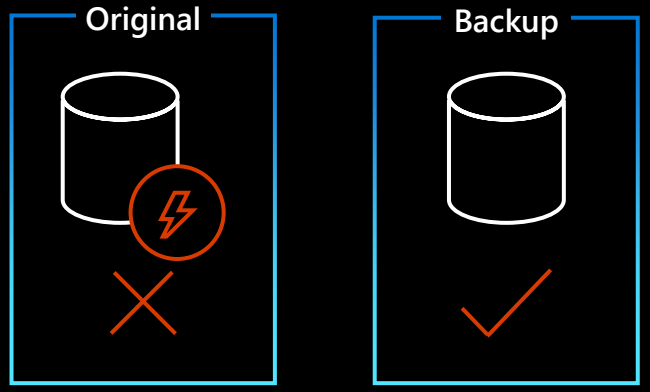

## High availability

Data is replicated to a minimum of one additional location at low latency so data and application uptime is preserved




## Disaster recovery

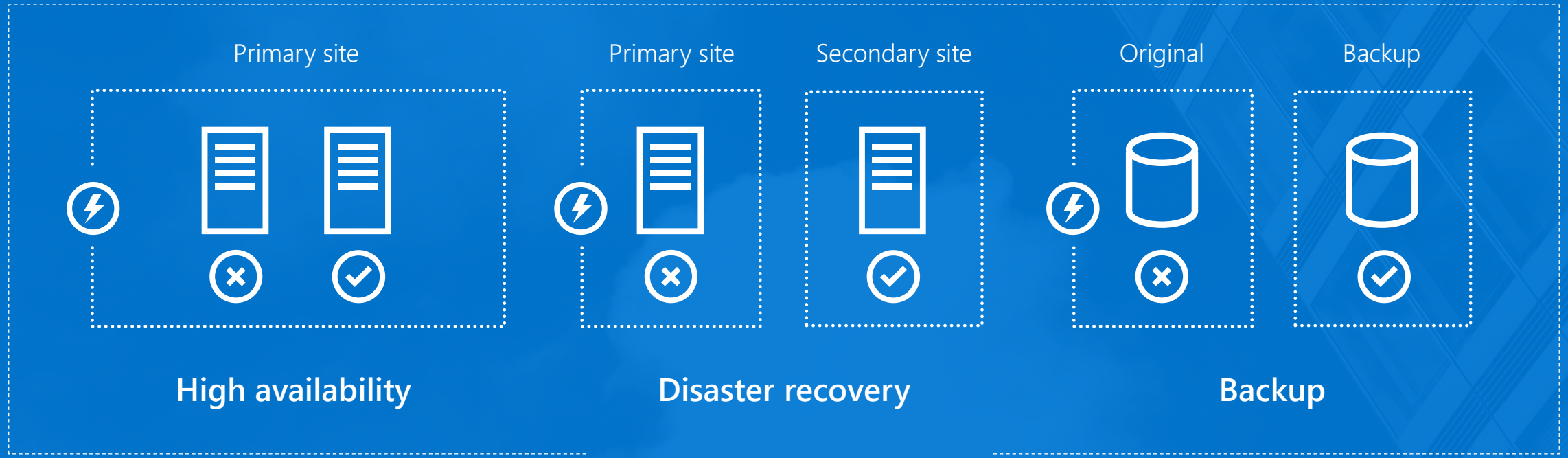
When your applications have a catastrophic failure, run them in Azure or a secondary datacenter




## Backup

When your data is corrupted, deleted or lost, you can restore it

# How Microsoft Azure can help




## Azure Site Recovery

A simple and compliant service for orchestrating your disaster recovery plan

+

## Azure Backup

Simple and reliable cloud-integrated backup as a service

**Simplified set up**

**Cost-effective services**

**Increased compliance**

# Characteristics of an ‘enterprise-grade’ backup solution

Self-service backup and restore

Backup lifecycle management beyond lifetime of data source

NSPOF or no single point of failure system—isolated fault domain, highly available backup and restores

Security controls for destructive operations and rogue admin scenarios—RBAC, MFA, MUA, soft delete, CMK

Management at-scale—single pane of glass across the estate, govern by policy, monitoring and alerts

Expert help from specialized partners

**Azure Backup through its ‘Data Protection Platform’ does the heavy lifting that allows Azure teams to enable enterprise-grade backup for their resources with minimal effort**

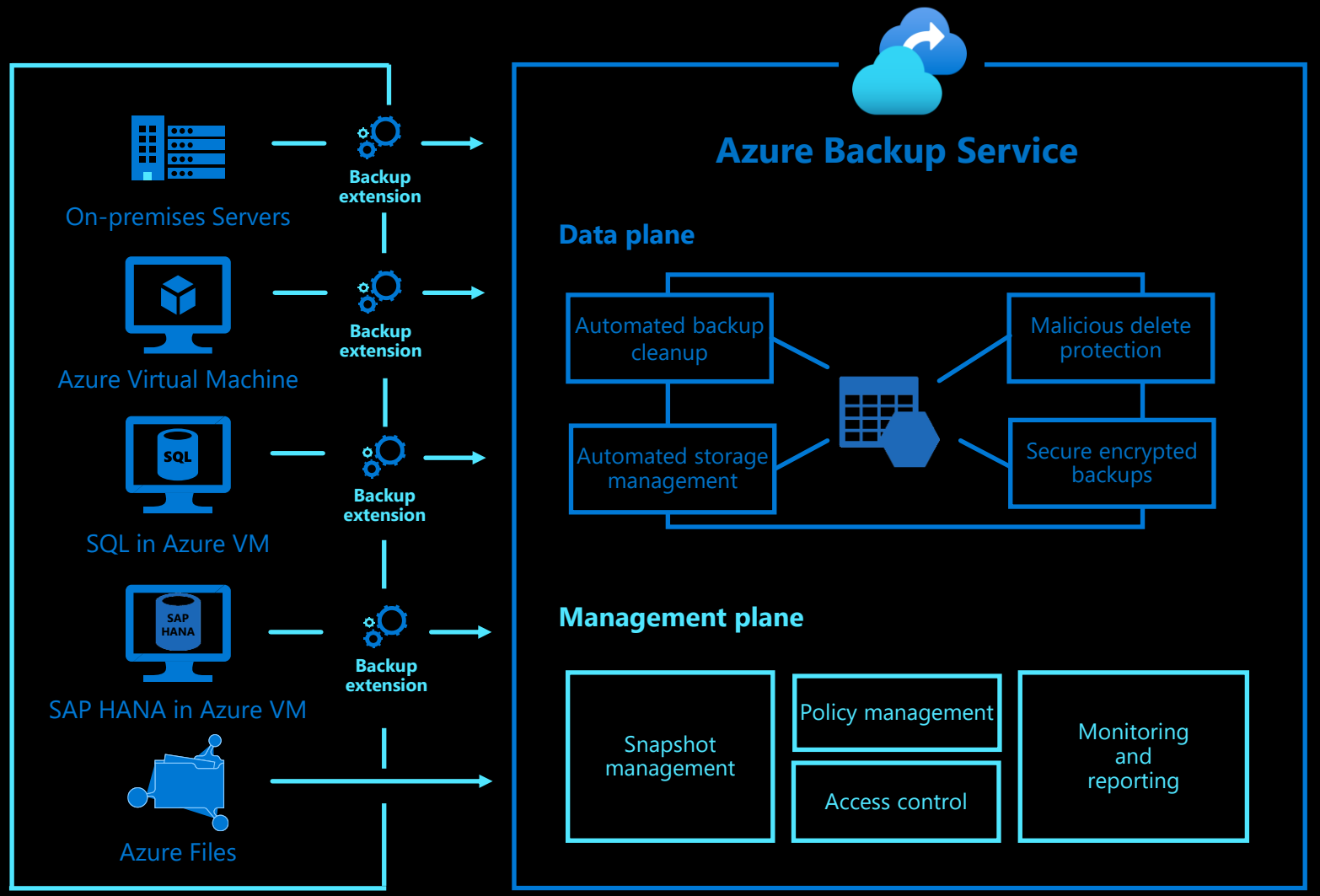
# Simplify data protection with built-in backup

## Azure Backup

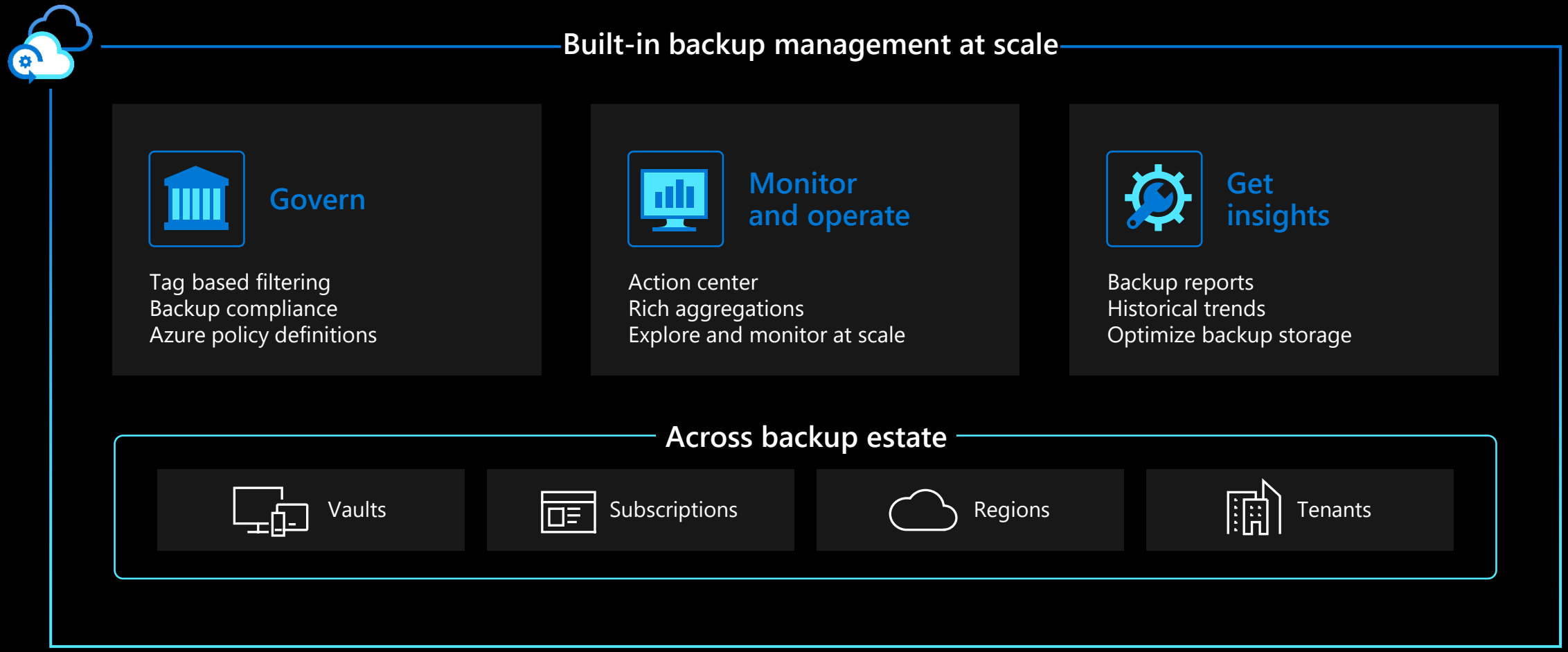
Built-in management at scale

Scalable, durable and secure storage

Native workload integration

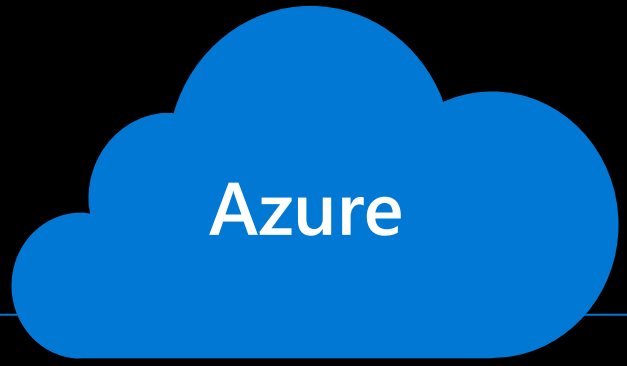


# Azure Backup Center




https://docs.microsoft.com/de-de/azure/backup/backup-center-overview

# Microsoft Azure: Infra designed for every workload




**Azure native** IaaS and PaaS offerings

Modern Apps

Business Critical

Dynamic and Scalable

**Seamless integration** with other Azure Services

Backup & Disaster Recovery

Security & Identity

Management & Operations

**Purpose-built** Azure for platform continuity

SAP

vmware

NUTANIX

Skytap for IBM Power

NetApp

# Minimize downtime with Azure Site Recovery

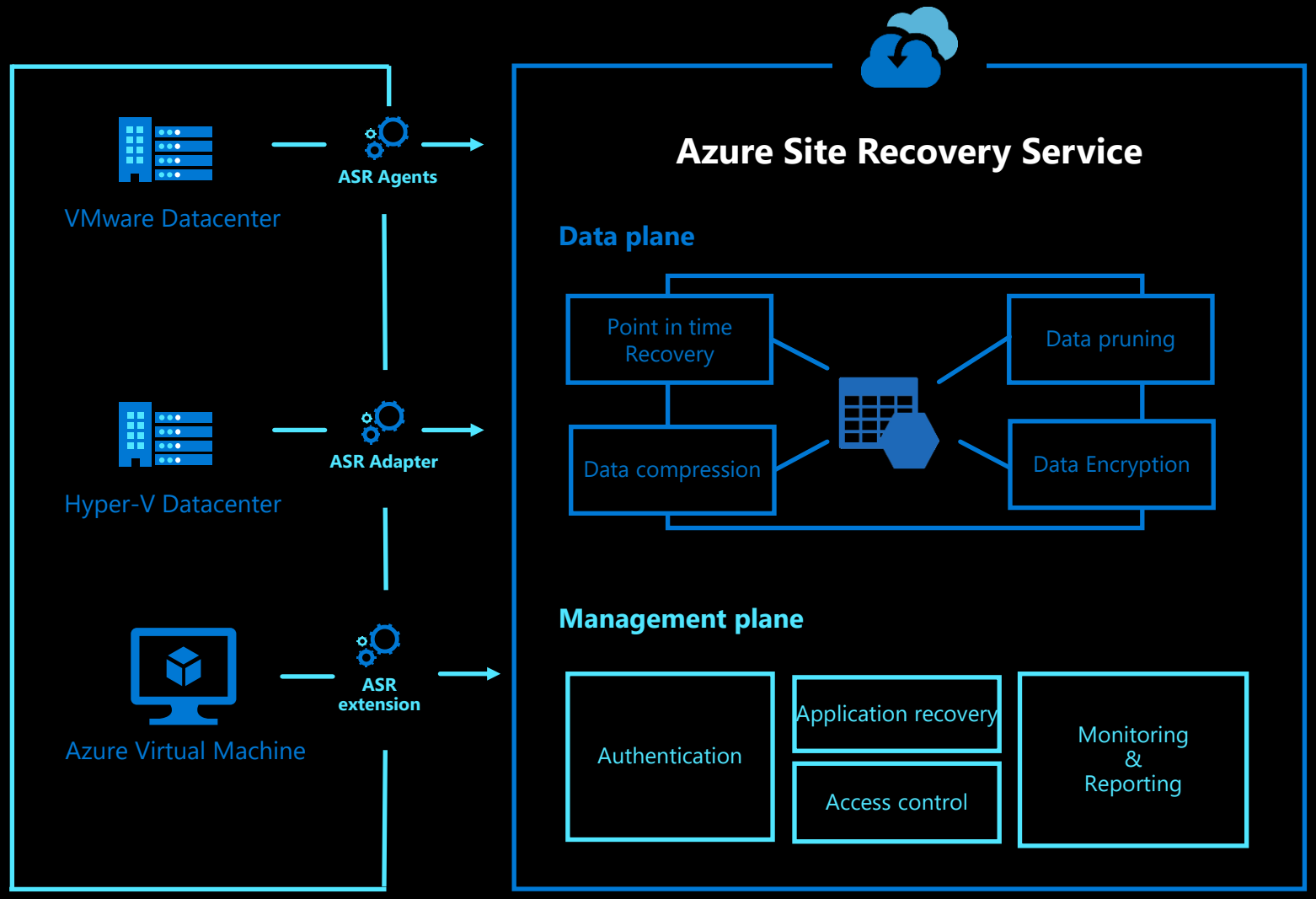
Easy to deploy and manage

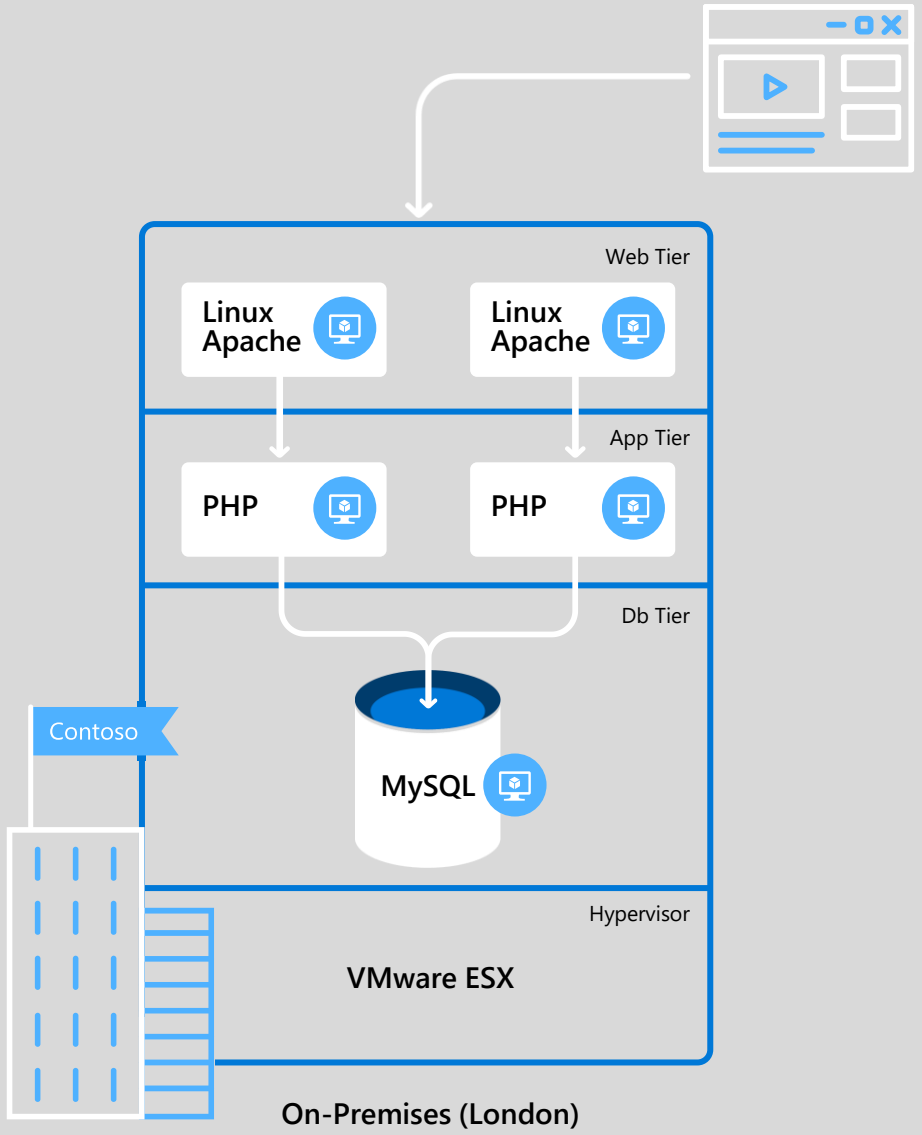
Reduce infrastructure costs

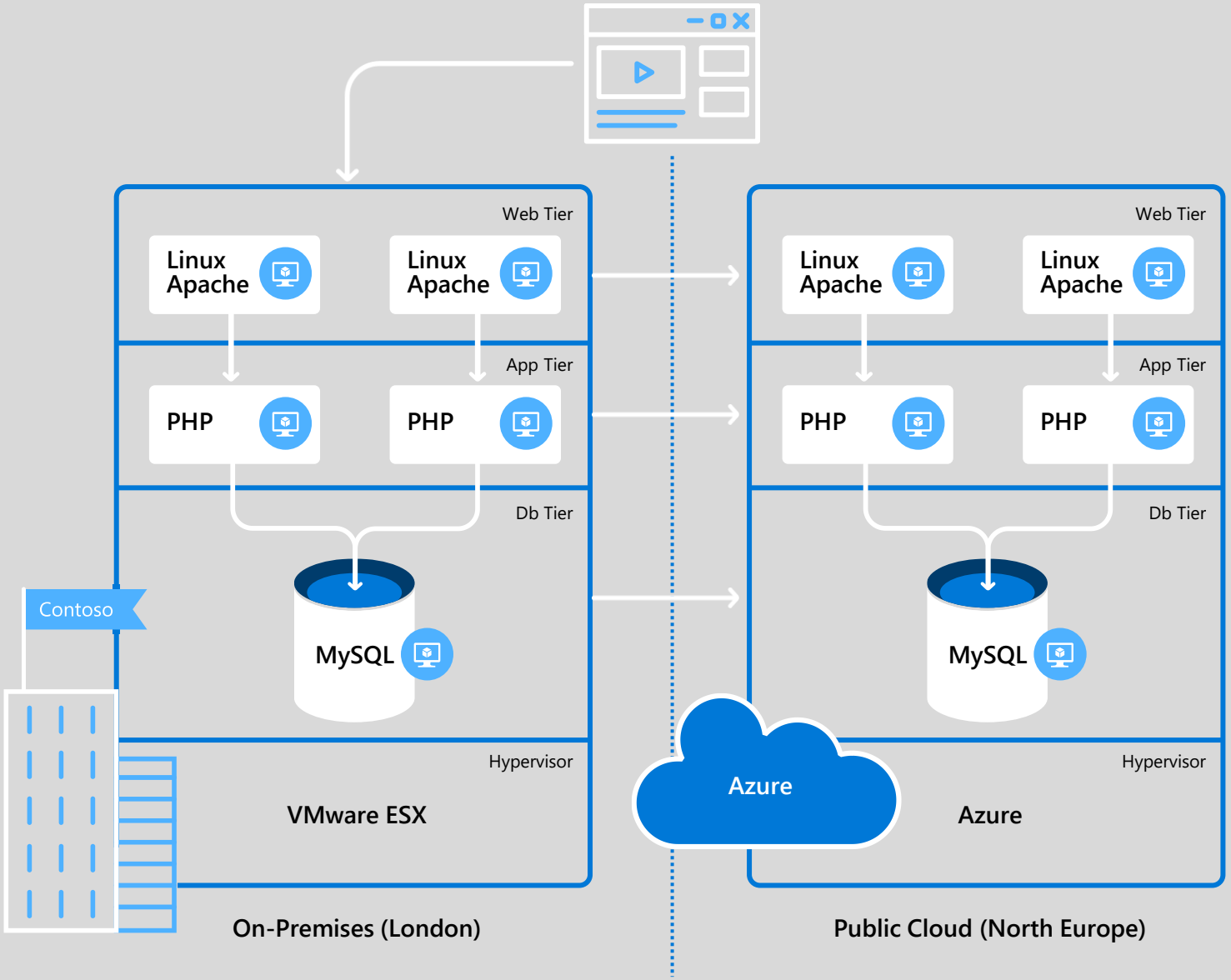
Minimize downtime with dependable recovery

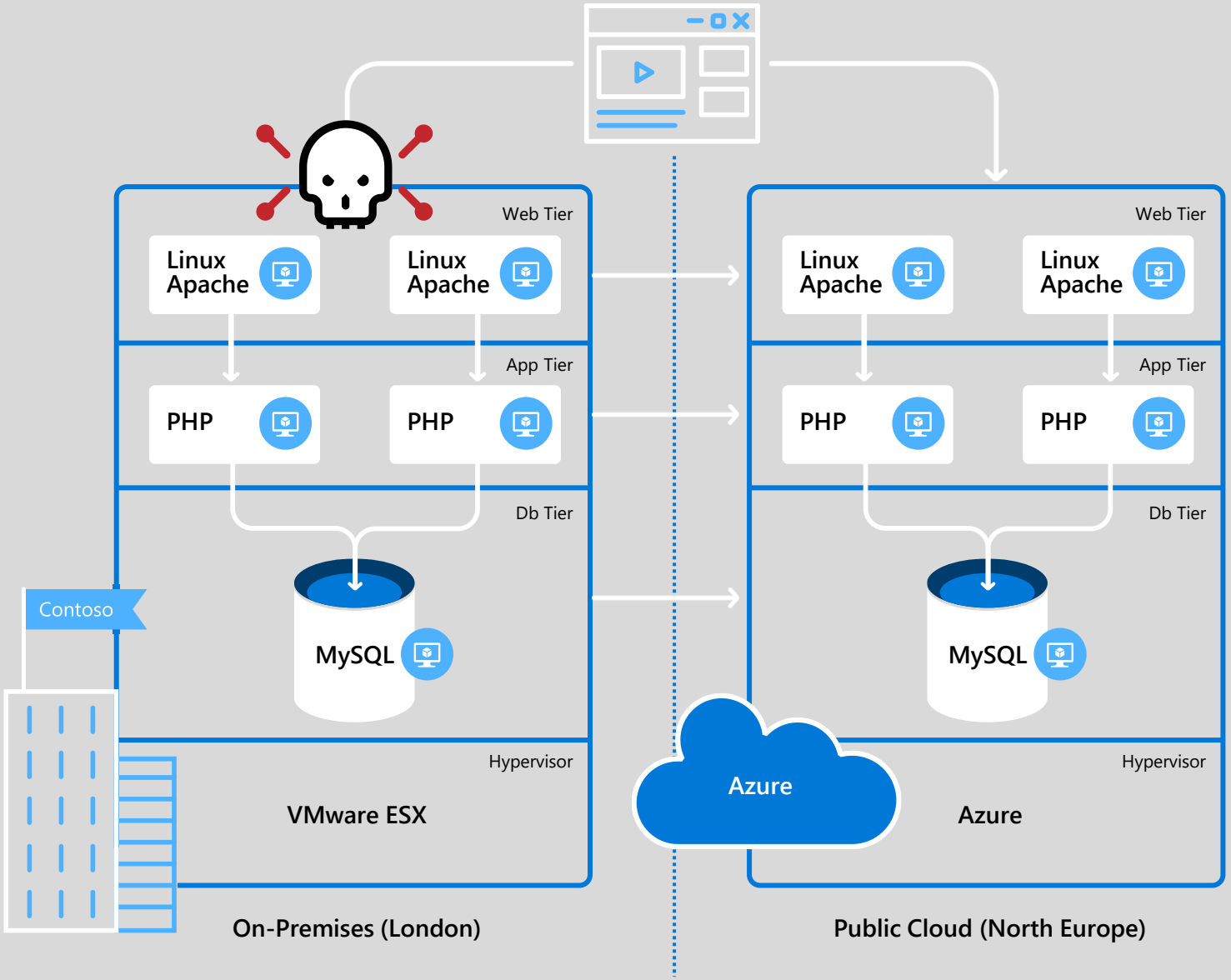
Heterogenous environment support

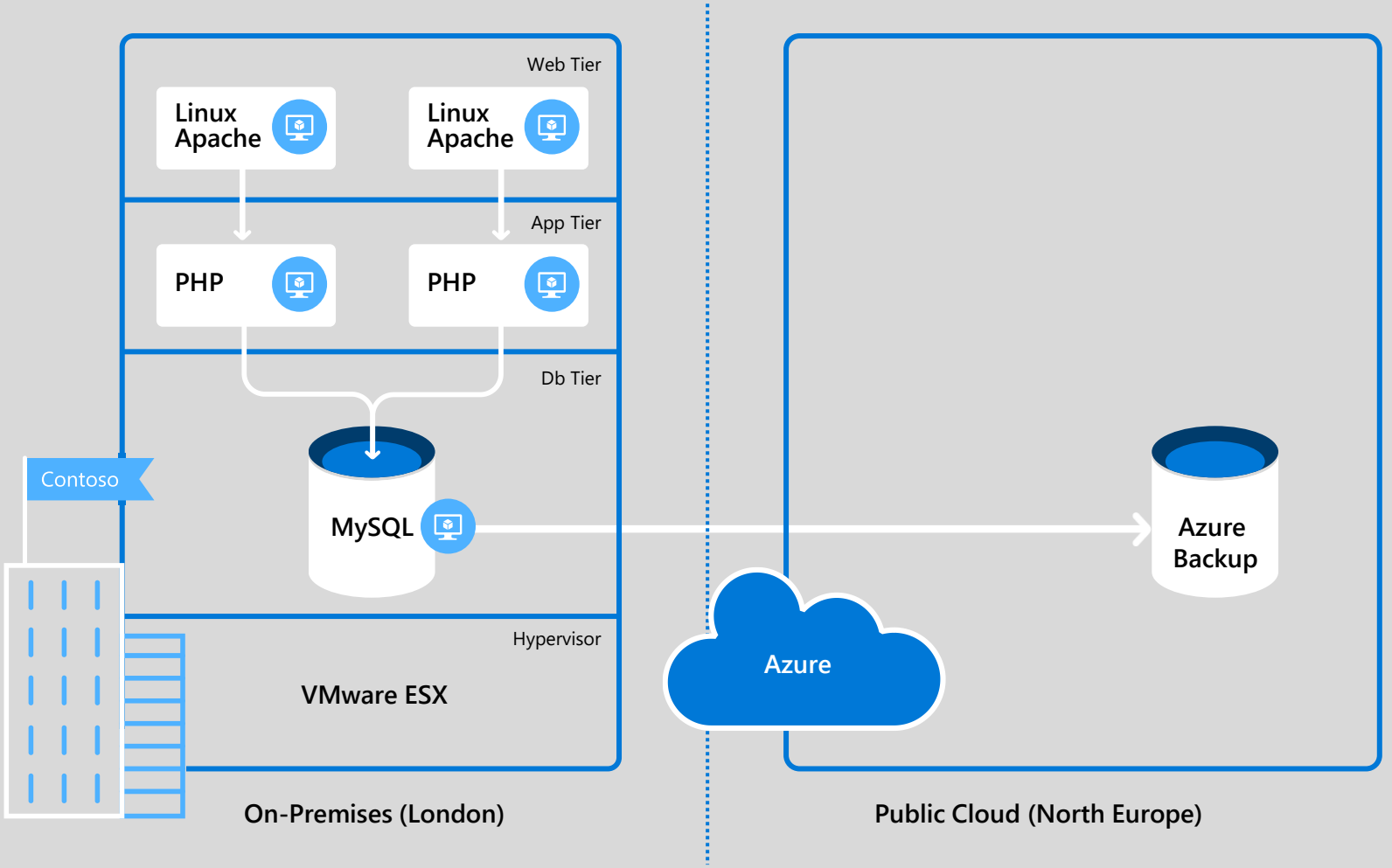
*Leader in Gartner DRaaS MQ

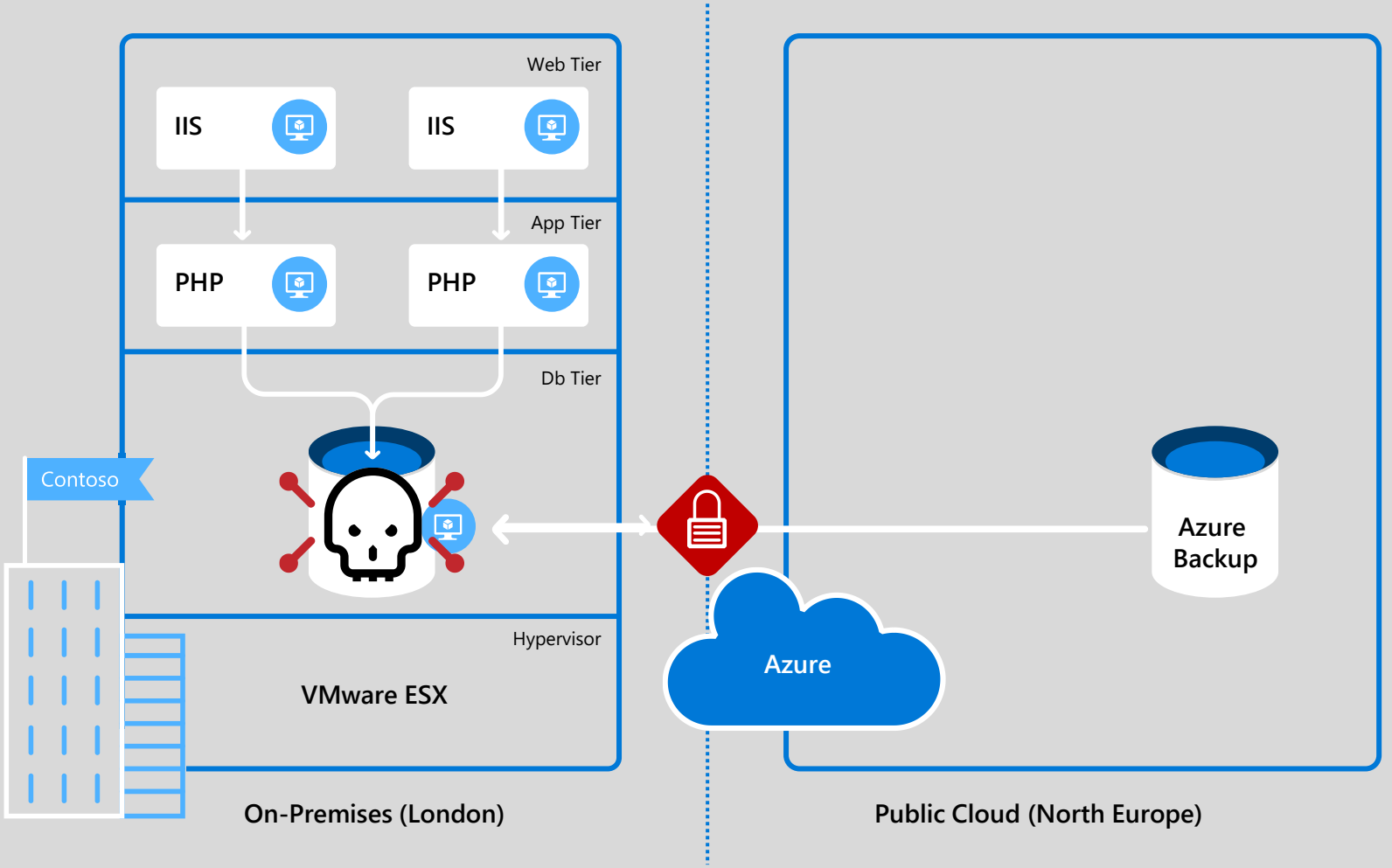


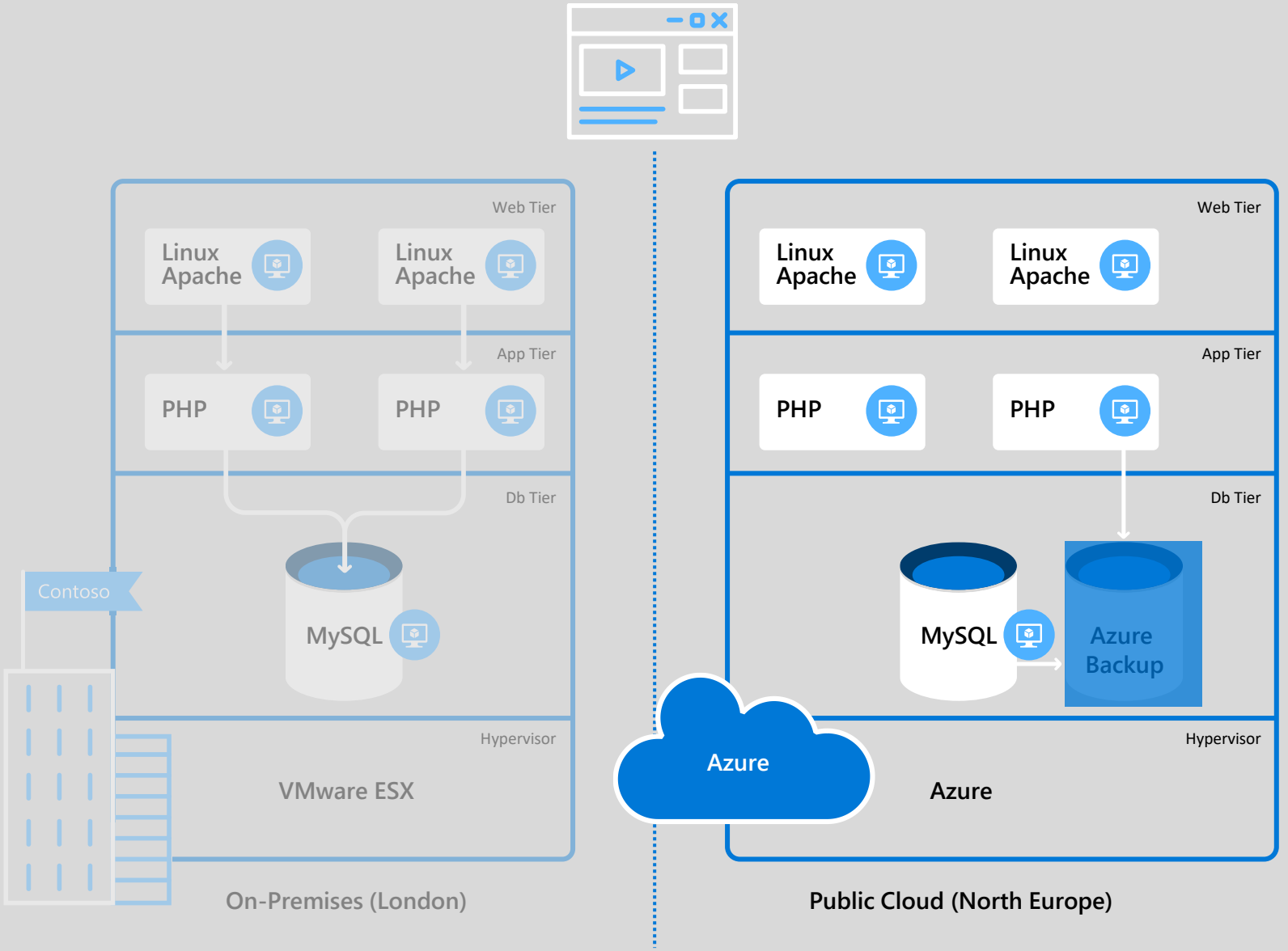


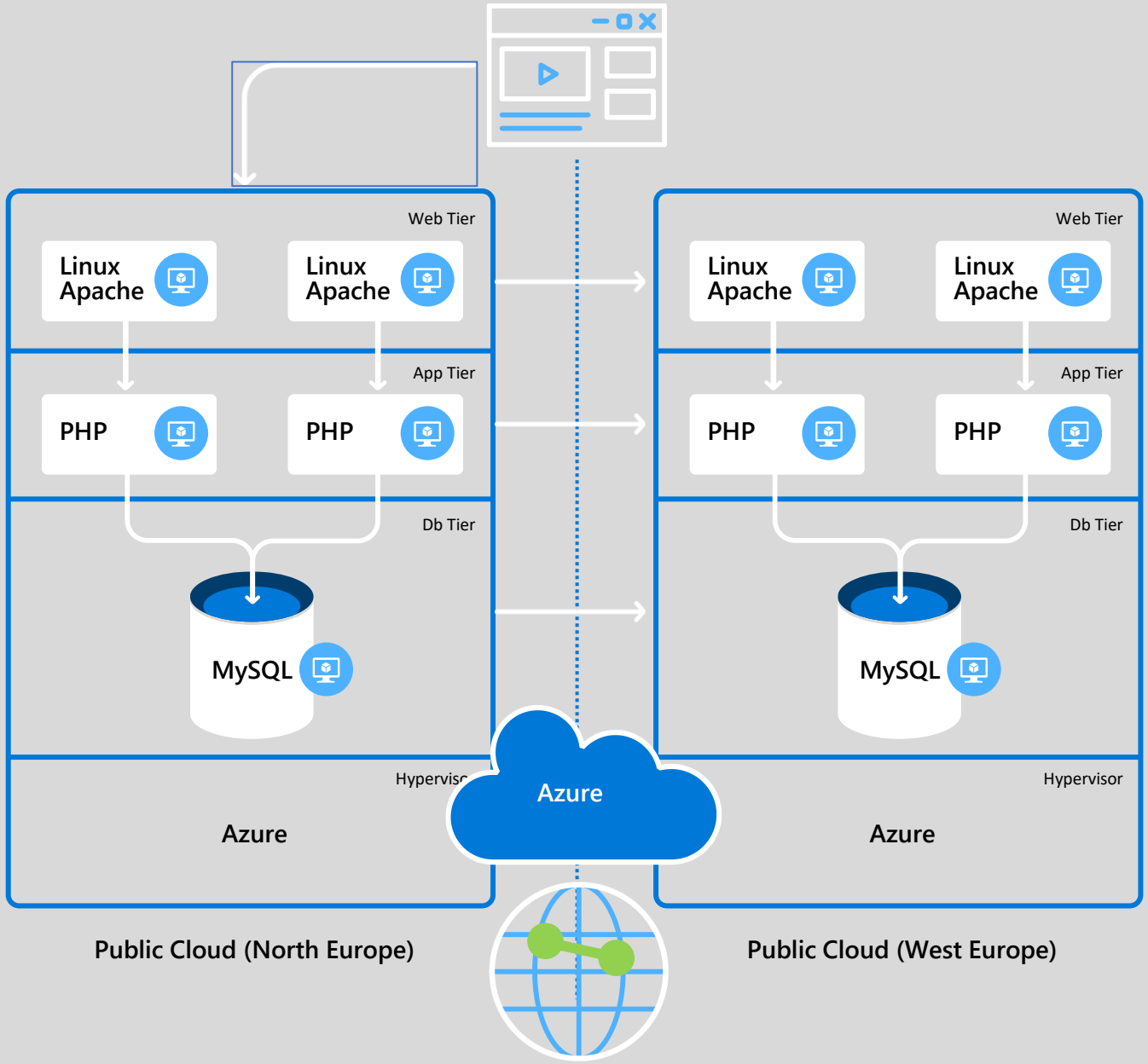






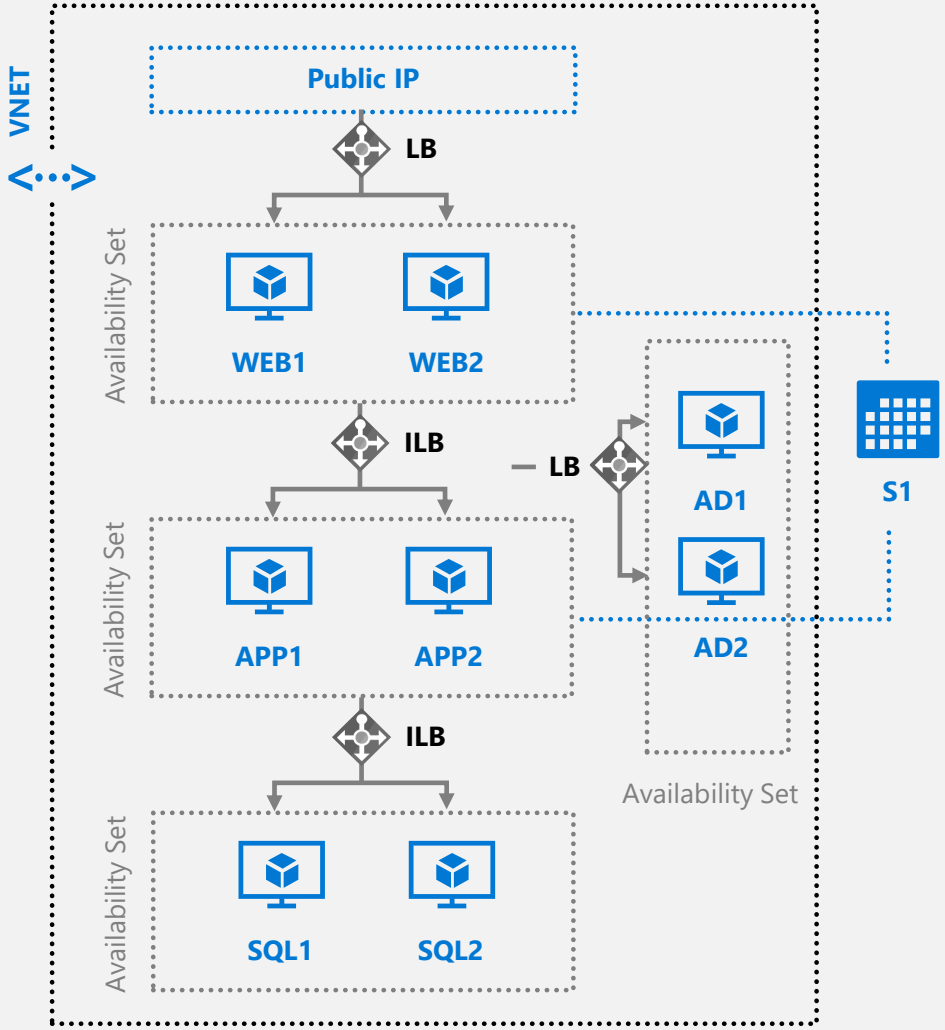




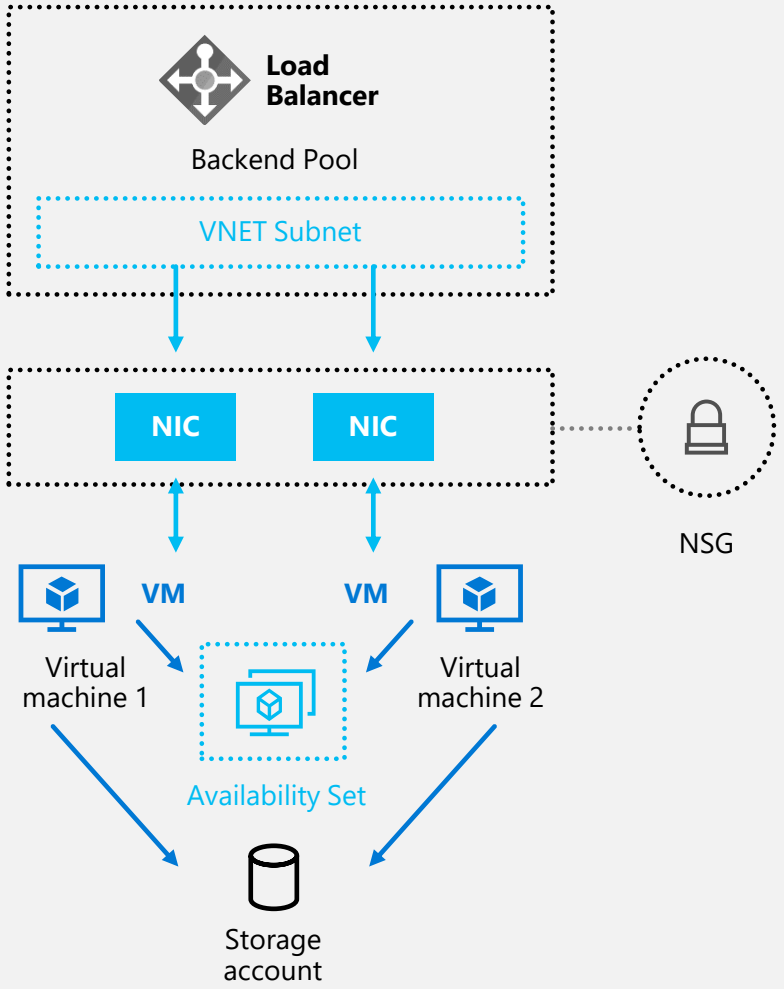


# Typical Azure application

- Multi-tiered with Availability Set
- Load balancers
- Public IP connectivity
- SQL Always On

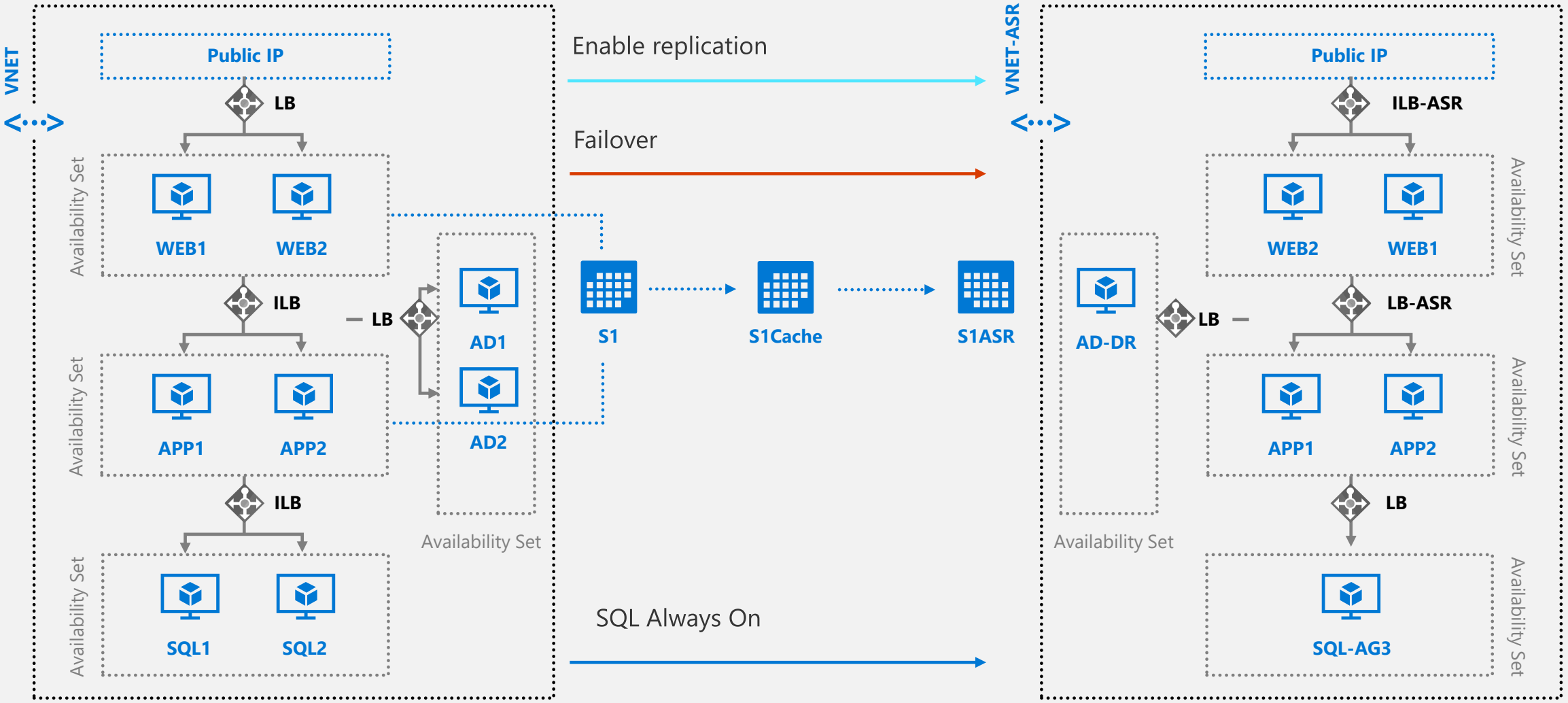


# Typical app deployment in Azure

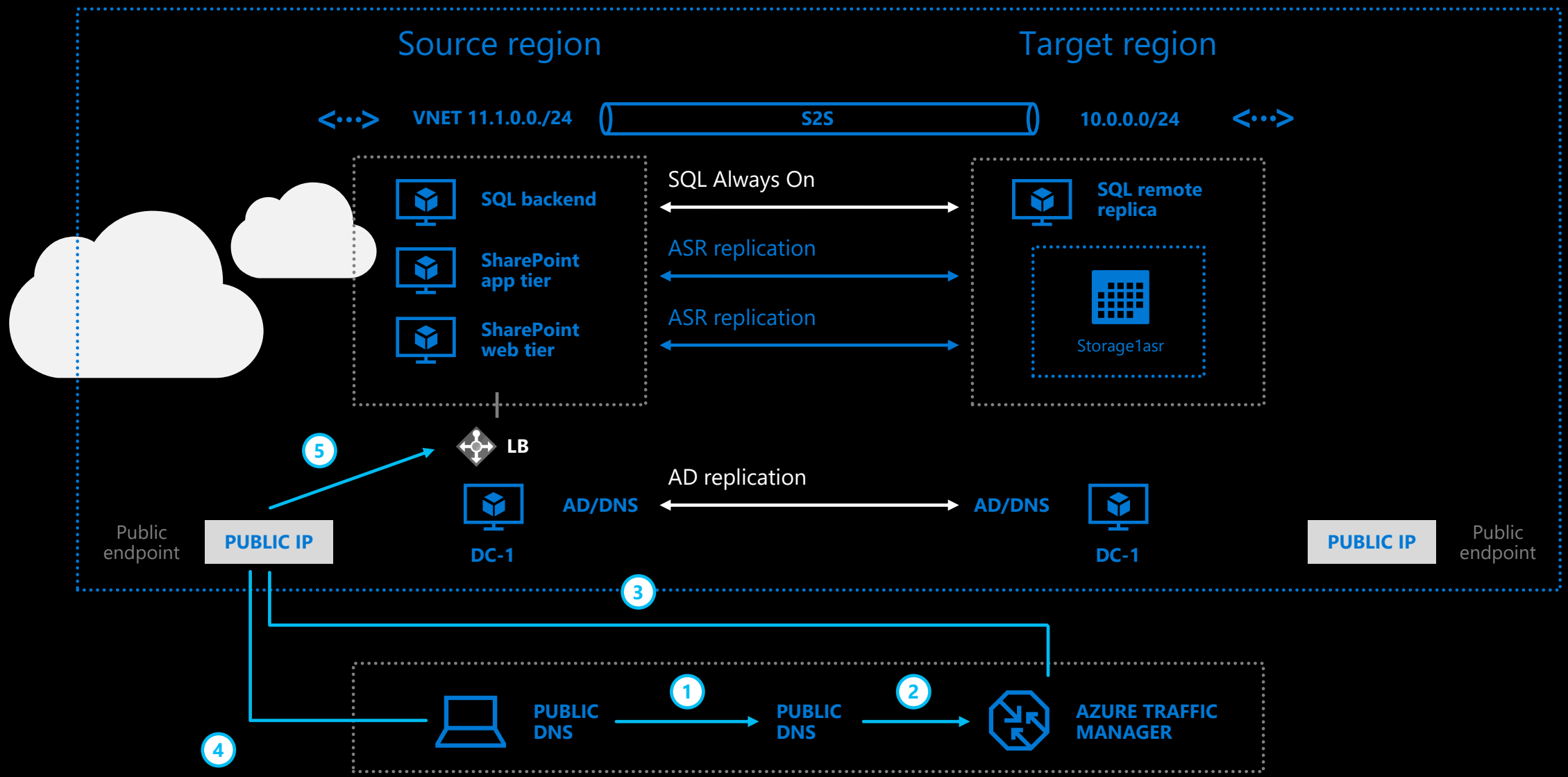



- Add load balancer using automation script
- Apply NSG using automation script
- Apply managed disk and HUB in replicated item properties
- Apply availability set in replicated item properties

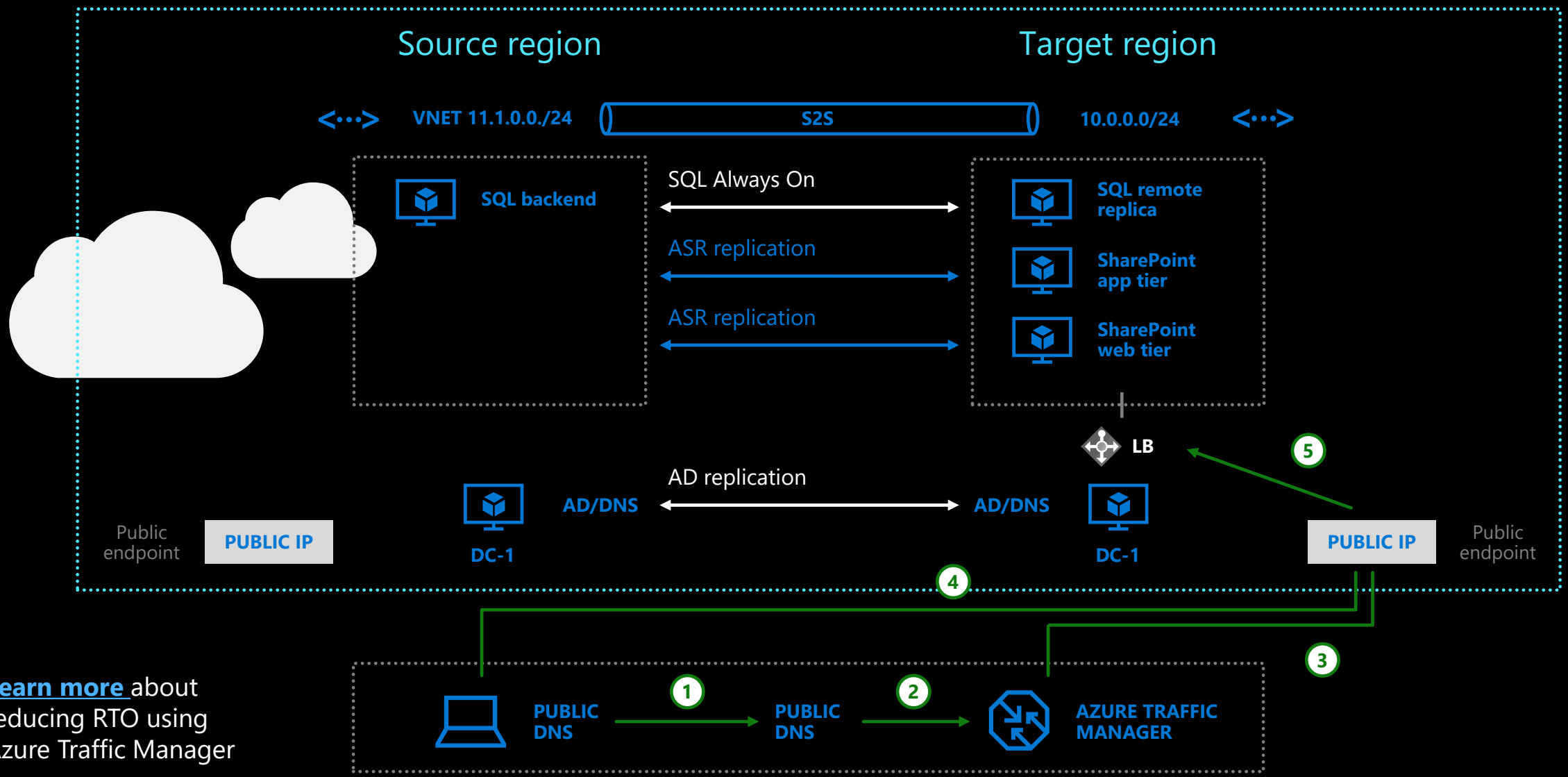
# Application-aware disaster recovery



# Failover

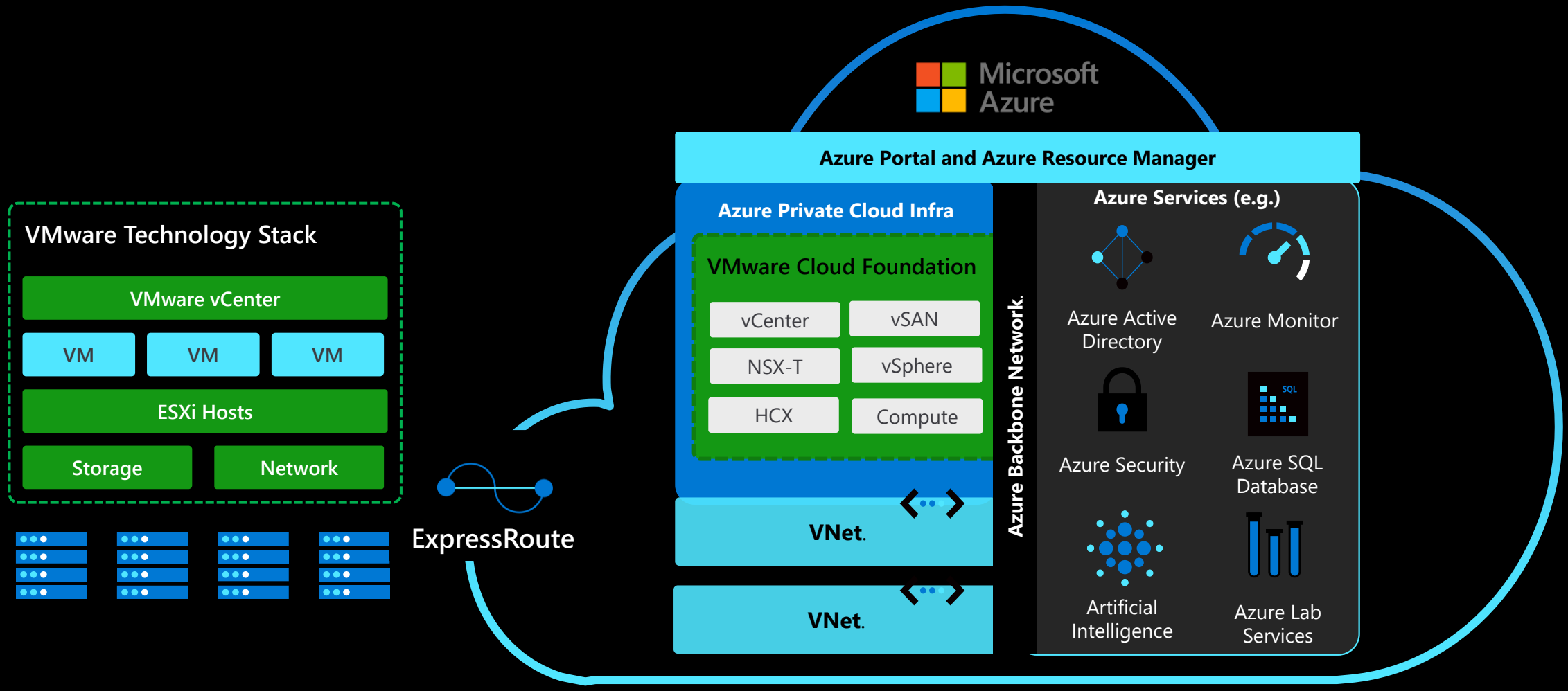

Source region
Target region
VNET 11.1.0.0./24
S2S
10.0.0.0/24
SQL backend
SharePoint app tier
SharePoint web tier
SQL Always On
ASR replication
ASR replication
SQL remote replica
Storage1asr
LB
AD replication
AD/DNS
AD/DNS
DC-1
DC-1
Public endpoint
PUBLIC IP
PUBLIC IP
Public endpoint
PUBLIC DNS
PUBLIC DNS
AZURE TRAFFIC MANAGER
1
2
3
4
5

# After failover




**Learn more** about reducing RTO using Azure Traffic Manager

# Running VMware natively on Azure



# Extend your BCDR strategy with our trusted partners

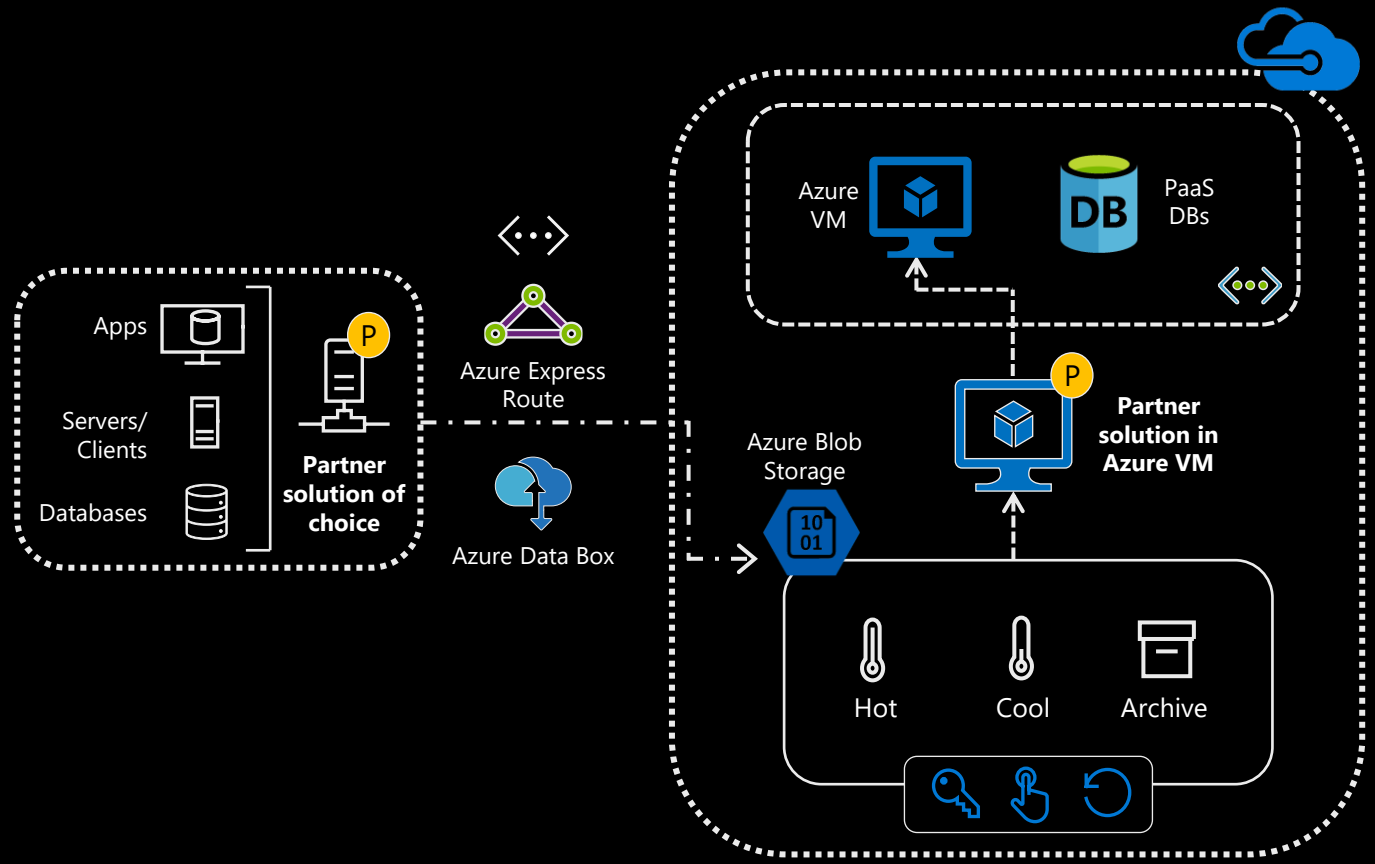
Backup data/apps to Azure as an offsite

Store cost-effectively in Azure Storage

Use Azure as a cost-effective DR site

Migrate and protect in Azure

Stay compliant




Our trusted partner ecosystem

COMMVAULT rubrik VEEAM VERITAS Zerto and many more...

# Learning Paths / Whiteboarding

**Protect your on-premises infrastructure from disasters**
https://docs.microsoft.com/en-us/learn/modules/protect-on-premises-infrastructure-with-azure-site-recovery/

**Protect your virtual machines by using Azure Backup**
https://docs.microsoft.com/en-us/learn/modules/protect-virtual-machines-with-azure-backup/

**Design your site recovery solution in Azure**
https://docs.microsoft.com/en-us/learn/modules/design-your-site-recovery-solution-in-azure/

**Backup and restore your Azure SQL database**
https://docs.microsoft.com/en-us/learn/modules/backup-restore-azure-sql/

**Whiteboarding – Disaster Recovery Microsoft Azure**
Disaster Recovery in Microsoft Azure - YouTube

# Resources Disaster Recovery

**Azure Site Recovery for Azure VMware Solution VMs**

- Setup Azure Site Recovery for Azure VMware Solution VMs - Azure Site Recovery | Microsoft Docs
- https://aka.ms/asr-deployment-planner

**Disaster recovery of on-premises Hyper-V VMs to Azure**

- Set up Hyper-V disaster recovery using Azure Site Recovery - Azure Site Recovery | Microsoft Docs

**Disaster recovery of on-premises VMWare to Azure**

- Prepare Azure for on-premises disaster recovery with Azure Site Recovery - Azure Site Recovery | Microsoft Docs

**Business continuity and disaster recovery (BCDR) considerations for Azure Virtual Desktop**

- BCDR for Azure Virtual Desktop - Cloud Adoption Framework | Microsoft Docs
- Azure Virtual Desktop disaster recovery plan | Microsoft Docs

# Resources Disaster Recovery

**On-demand Capacity Reservation**
https://docs.microsoft.com/en-us/azure/virtual-machines/capacity-reservation-overview

**Azure backup documentation**
https://docs.microsoft.com/en-us/azure/backup/

**Azure site recovery documentation**
https://docs.microsoft.com/en-us/azure/site-recovery/

**Partner solutions**

- Backup and disaster recovery for apps - Microsoft Azure Well-Architected Framework | Microsoft Docs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