Microsoft

ItalyNorth Cloud Region: best practice di onboarding e migrazione

Microsoft House
22 Gennaio 2024

Microsoft

Speakers

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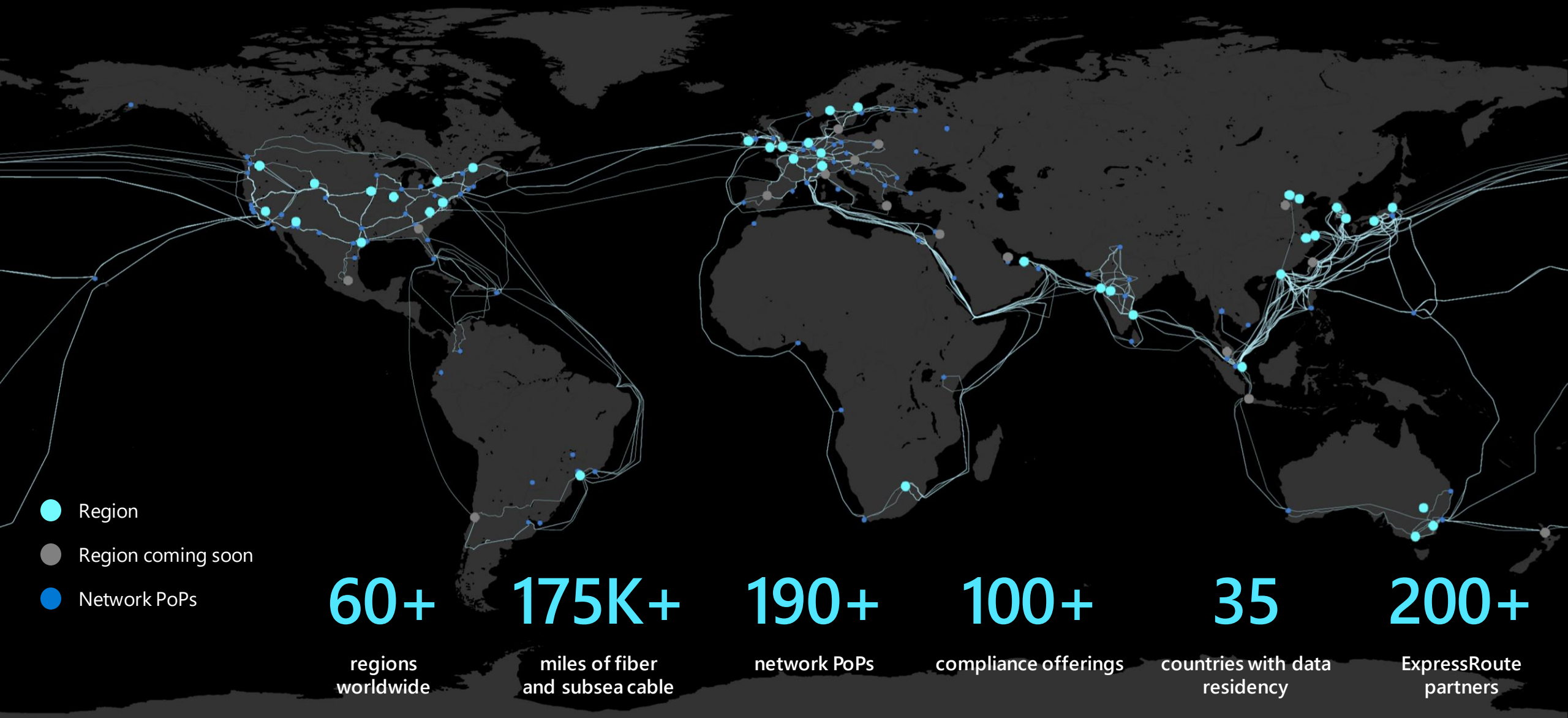
Cloud Solution Architect
Microsoft Italy

Agenda

- Region status
- Onboarding strategies
- What about Region Pair?
- Azure Resource Mover

More trusted capability than any provider



60+
regions worldwide

175K+
miles of fiber and subsea cable

190+
network PoPs

100+
compliance offerings

35
countries with data residency

200+
ExpressRoute partners

Welcome ItalyNorth!

1 Geography

1 Region

3 Zones

Data Residency and Sovereignty

Minimal latency of under 2 ms

VM Uptime SLA – 99.99 (4x9s)

Storage SLA 99.9999999999 (12x9s)

Fully Microsoft managed and operated

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Azure Availability Zones

When an Azure region supports Availability Zones, the region is composed of three physically-separated zones (each composed of one or more datacenters).

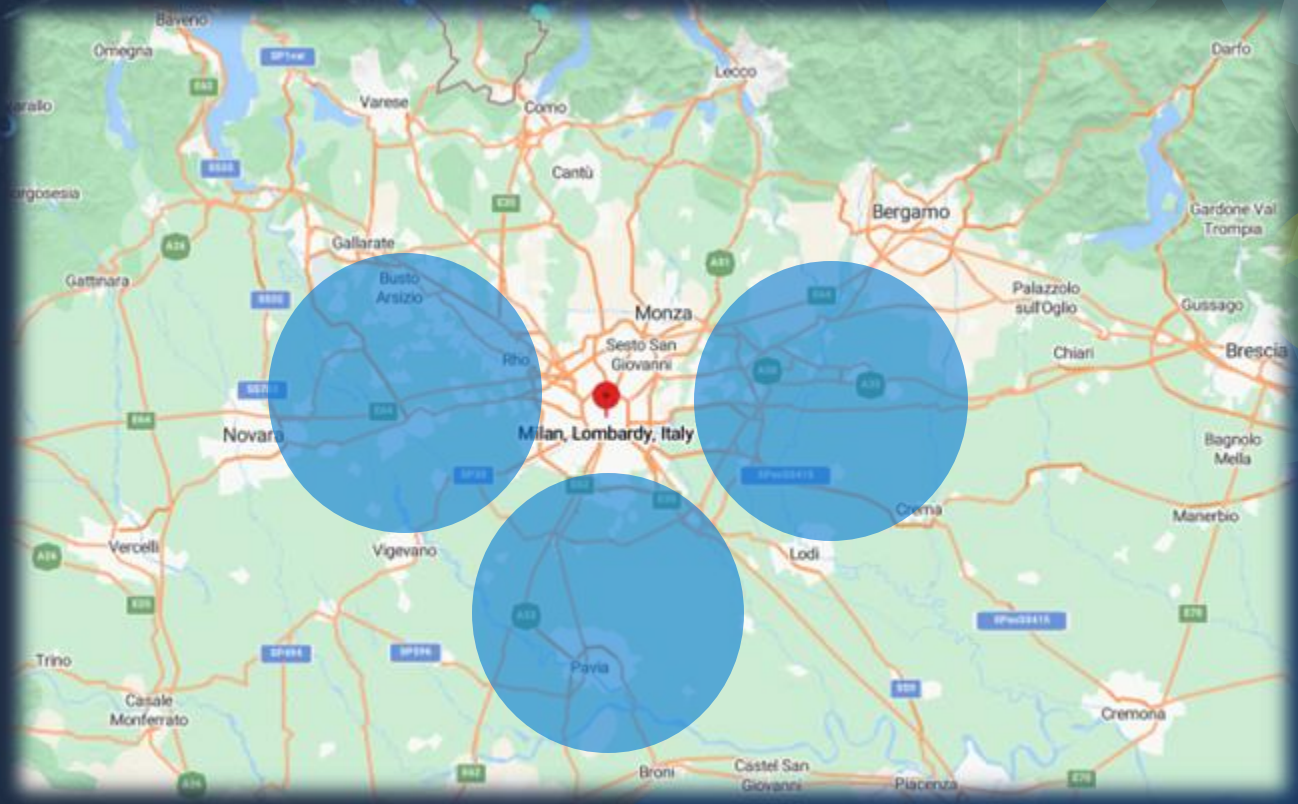
Each zone has completely independent power, cooling, and networking infrastructure

A facility-level failure (such as a datacenter outage) will affect only one Availability Zone within the region.

Three zones is the minimum to support quorum-based workloads (such as SQL, Service Fabric, or MongoDB)

A **latency-defined perimeter** dictates how far apart Availability Zones can be without compromising networking performance.

<= 2ms inter-Availability Zone RTT



Availability Zones

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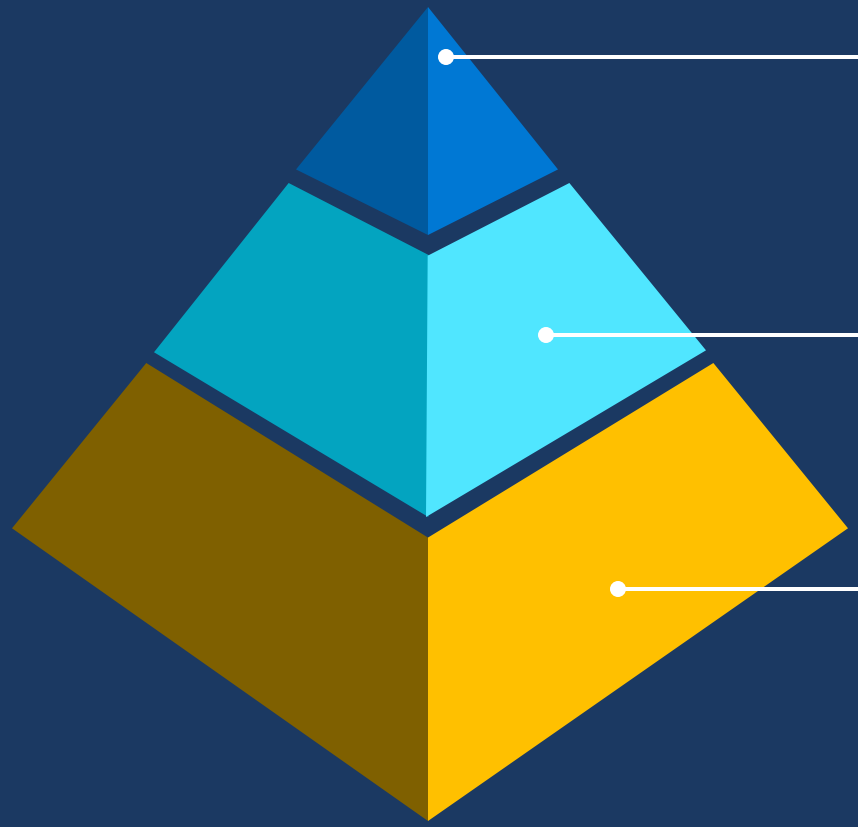
The Foundation of the Microsoft Cloud



Modern Work Customer Data Residency

Exchange Online, SharePoint Online, OneDrive for Business, and Teams

Business Applications

Dynamics 365, Power BI, PowerApps, and Power Automate

Azure Services

Foundational, Mainstream, and Strategic

Physical Data Centers

3 Availability Zones

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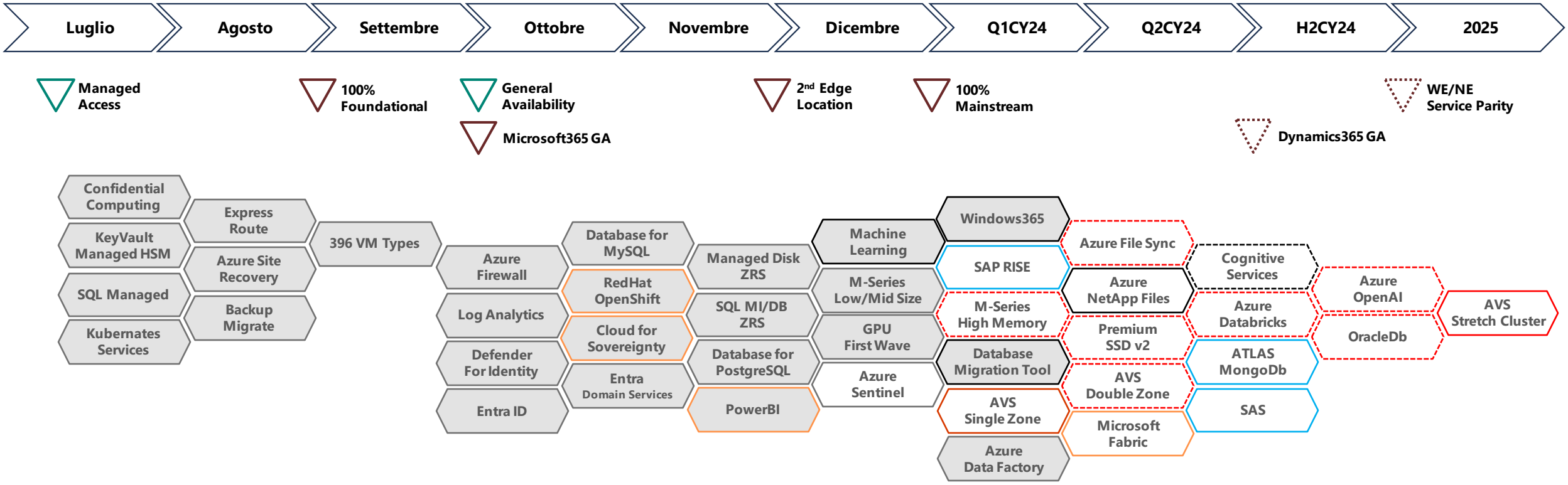
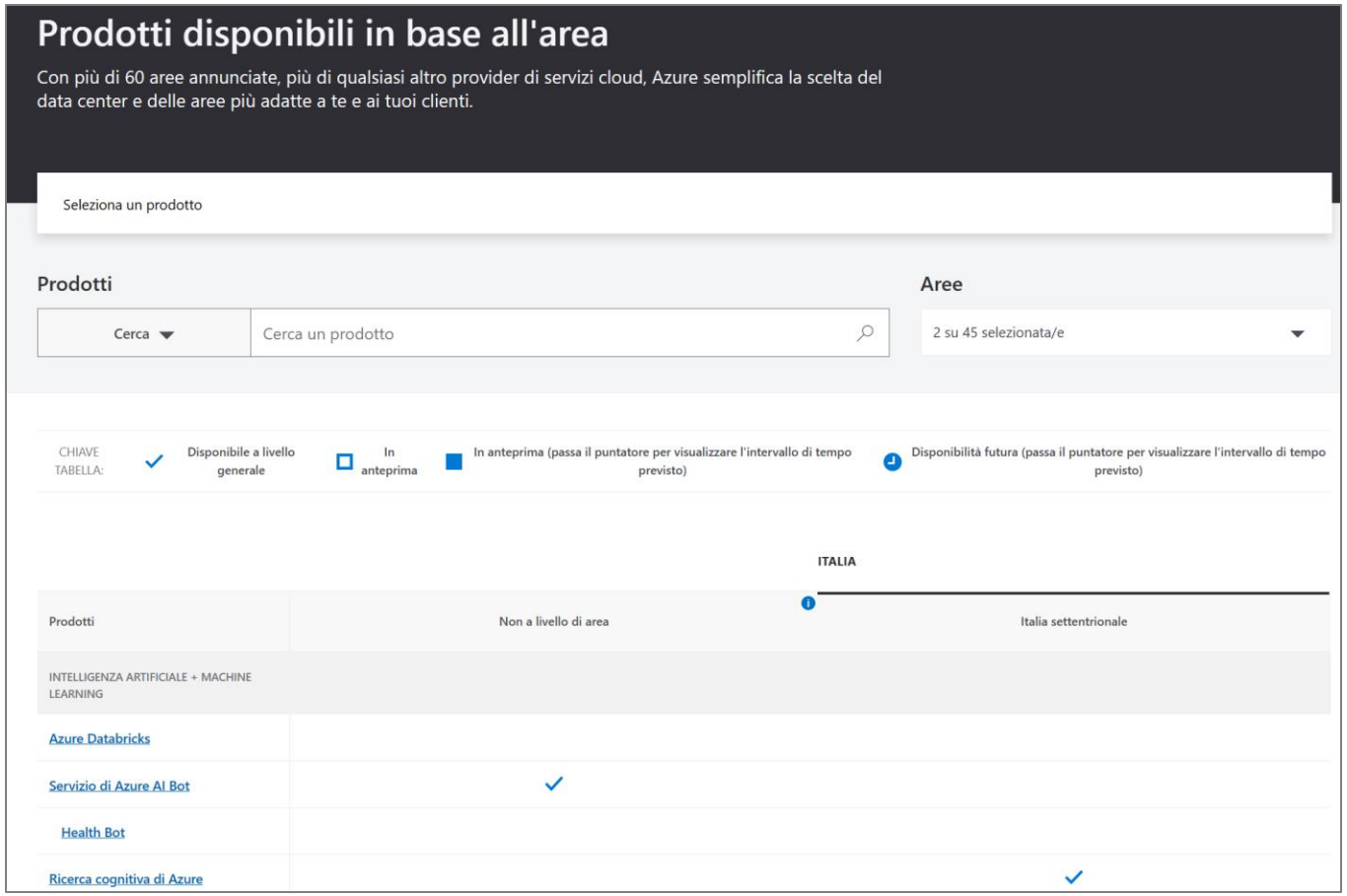
Service Availability Roadmap



Approved Workload
Escalation Ongoing
Branded Product
ISV Solution
------- Not Committed
Strategic Milestone
Available Service

Services Availability

https://azure.microsoft.com/it-it/explore/global-infrastructure/products-by-region/?regions=italy-north,non-regional&products=all



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Italy North Onboarding – Green field vs Brown Field

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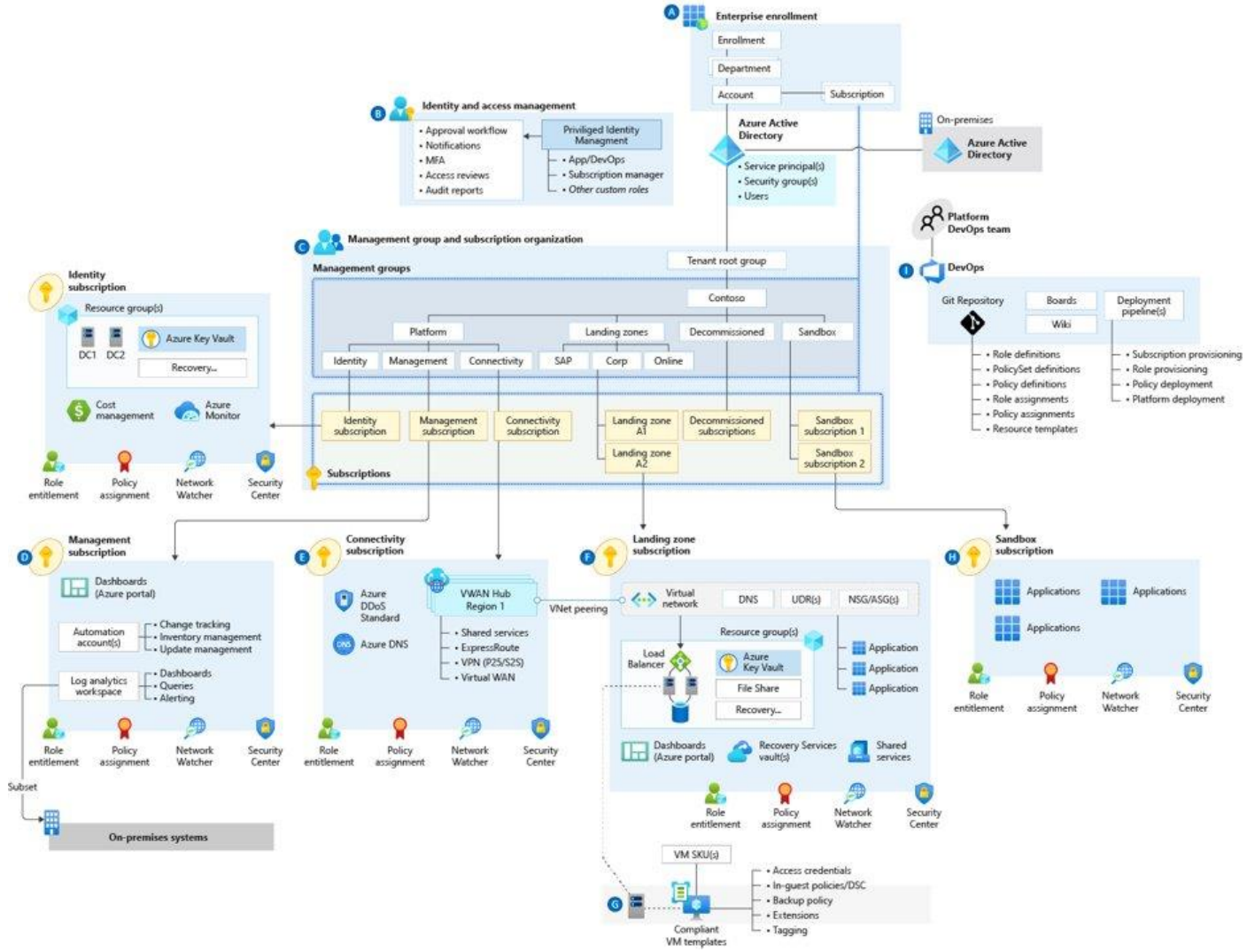
Enterprise Scale



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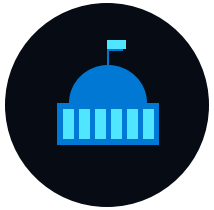
[Start with Cloud Adoption Framework enterprise-scale landing zones]

Design Areas – Enterprise Scale Green Field

Enterprise Enrolment & Entra ID Tenants

Business Continuity & Disaster Recovery

Identity & Access Management



Security, Governance & Compliance

Management Group & Subscription Organization

Management & Monitoring

Network Topology & Connectivity

Platform Automation & DevOps

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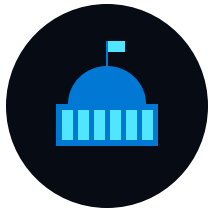
Design Areas – Brown Field Italy North

Network Topology & Connectivity



Security, Governance & Compliance

Business Continuity & Disaster Recovery

Regional Services Availability

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Networking

- Expand the networking
  - Plan the regional address space
  - Create the new hub
    - Firewall
    - Name resolution
    - Gateways

- **Can I reuse my Express Route circuit? → YES!**

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What about Region Pair?

- Newer Azure regions have no regional pair – No GRS
- Could I architect my DR inside the region?
  - Leverage ZRS for BC/DR
  - Azure Site Recovery offers inter-zone replica
  - ZRS could be easier to deploy and maintain

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Several services can perform replication to any target region

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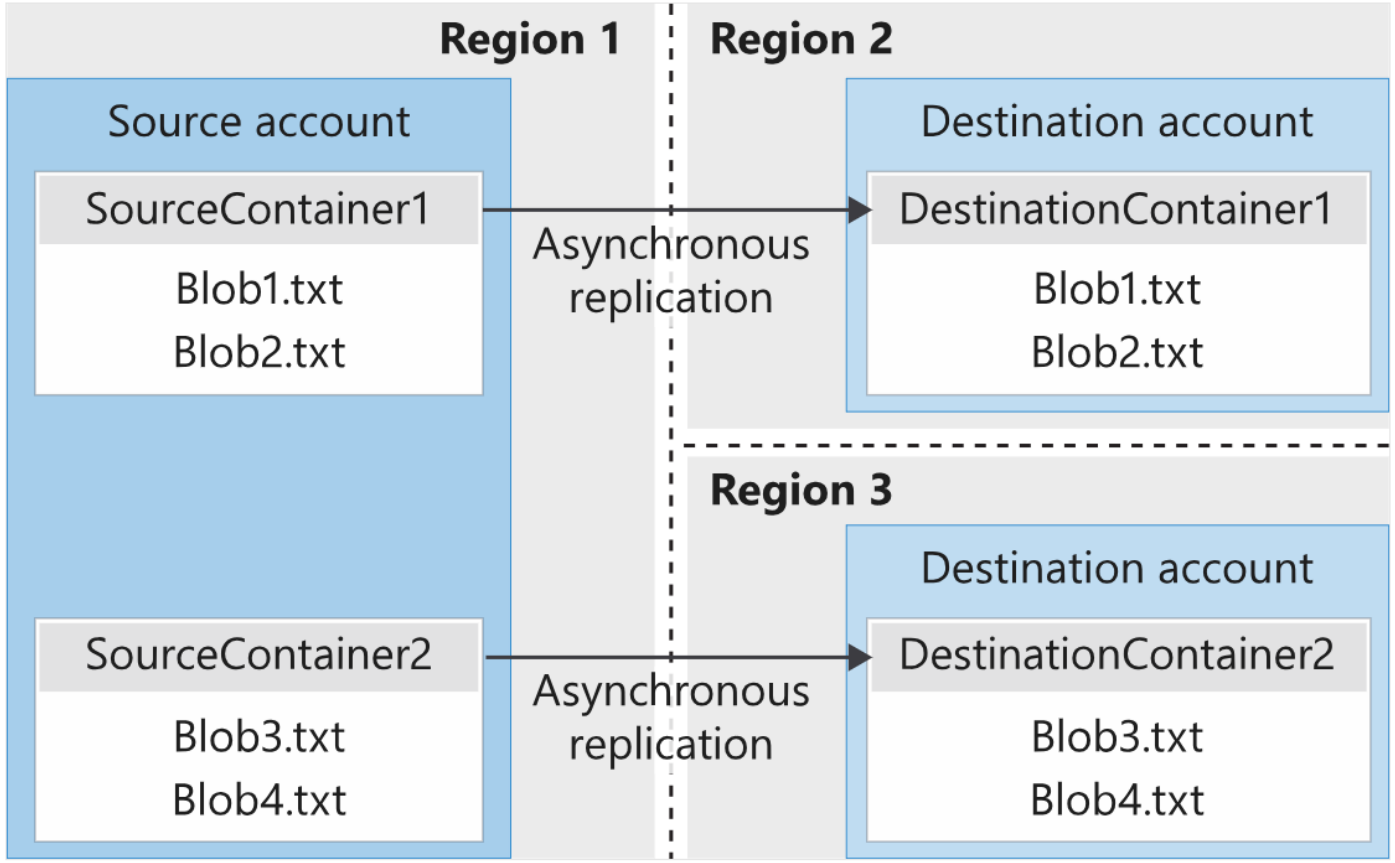
Disaster Recovery with unpaired regions

Blob Storage Object Replication



[Object replication overview - Azure Storage | Microsoft Learn]

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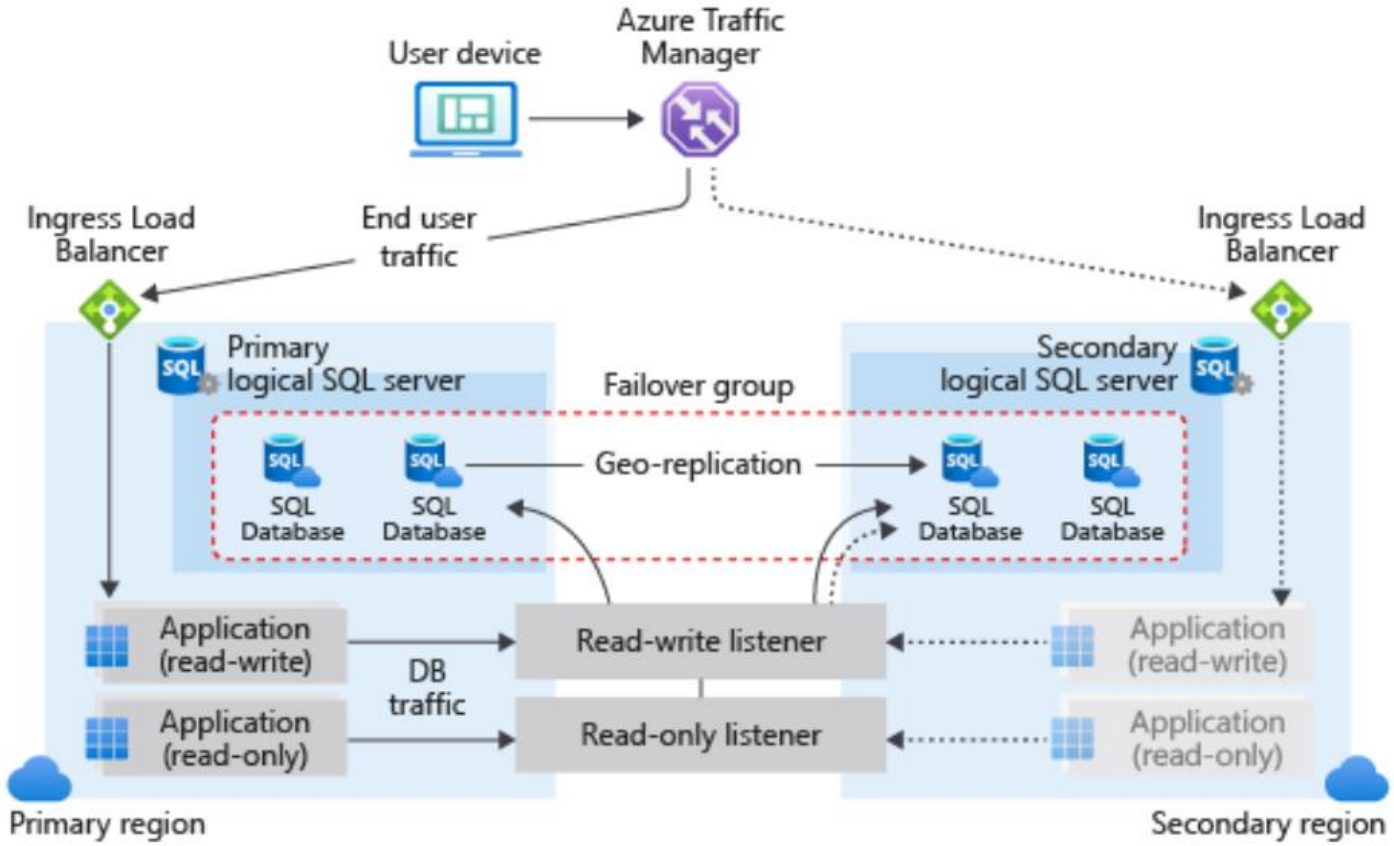
Disaster Recovery with unpaired regions

Azure SQL



[Active geo-replication - Azure SQL Database | Microsoft Learn]

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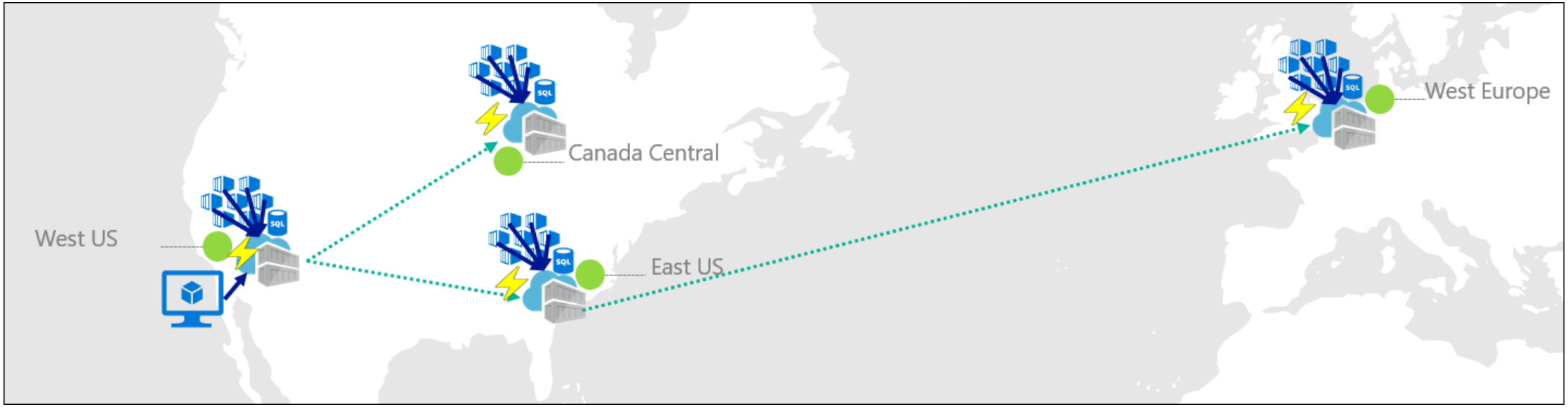
Disaster Recovery with unpaired regions

Container Registry Replication



[Geo-replicate a registry - Azure Container Registry | Microsoft Learn]

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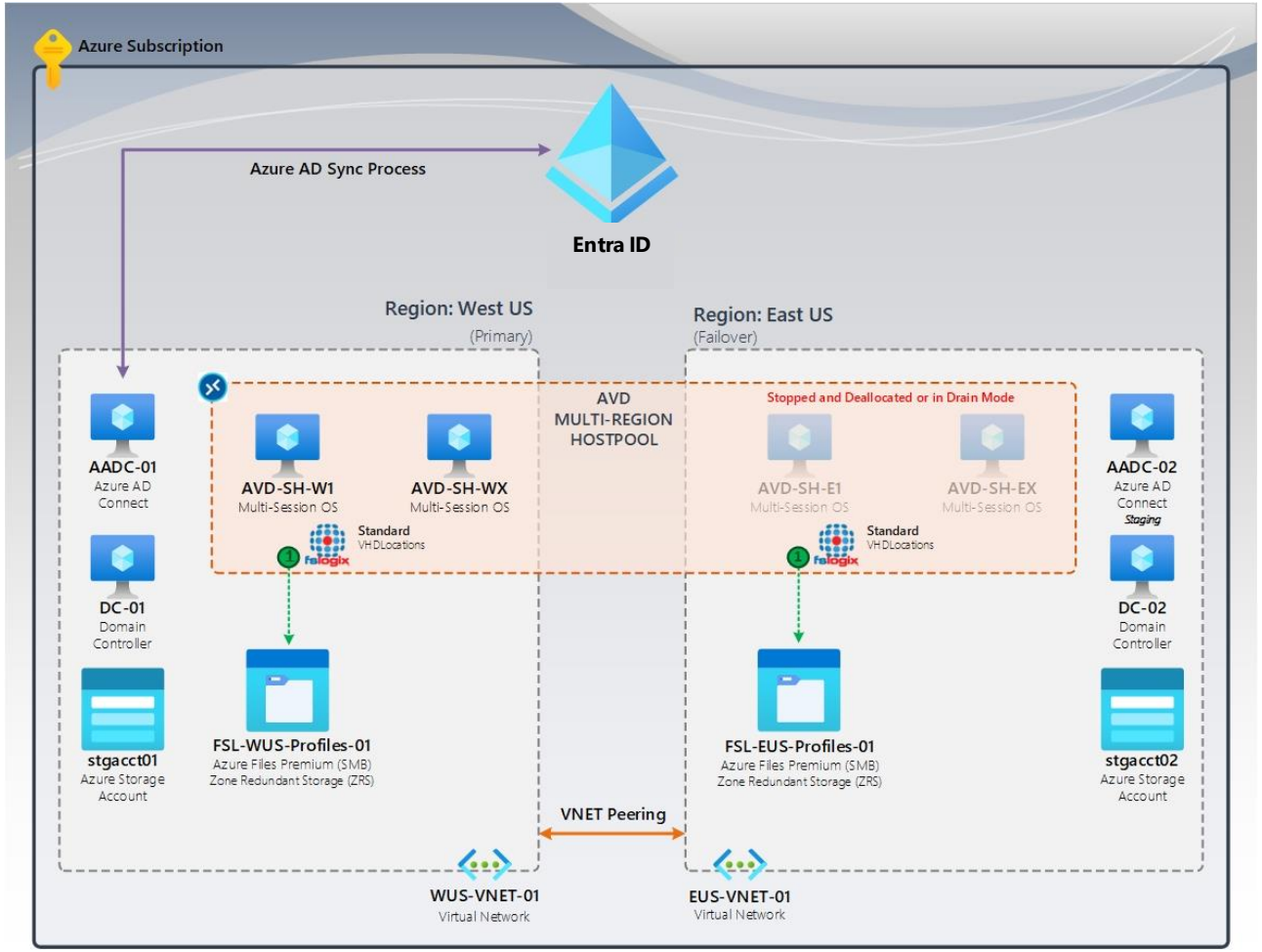
Disaster Recovery with unpaired regions

Azure Virtual Desktop – FSLogix Cloud Cache



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[Cloud Cache Overview - FSLogix | Microsoft Learn]

Do we have a service that cannot be geo replicate?

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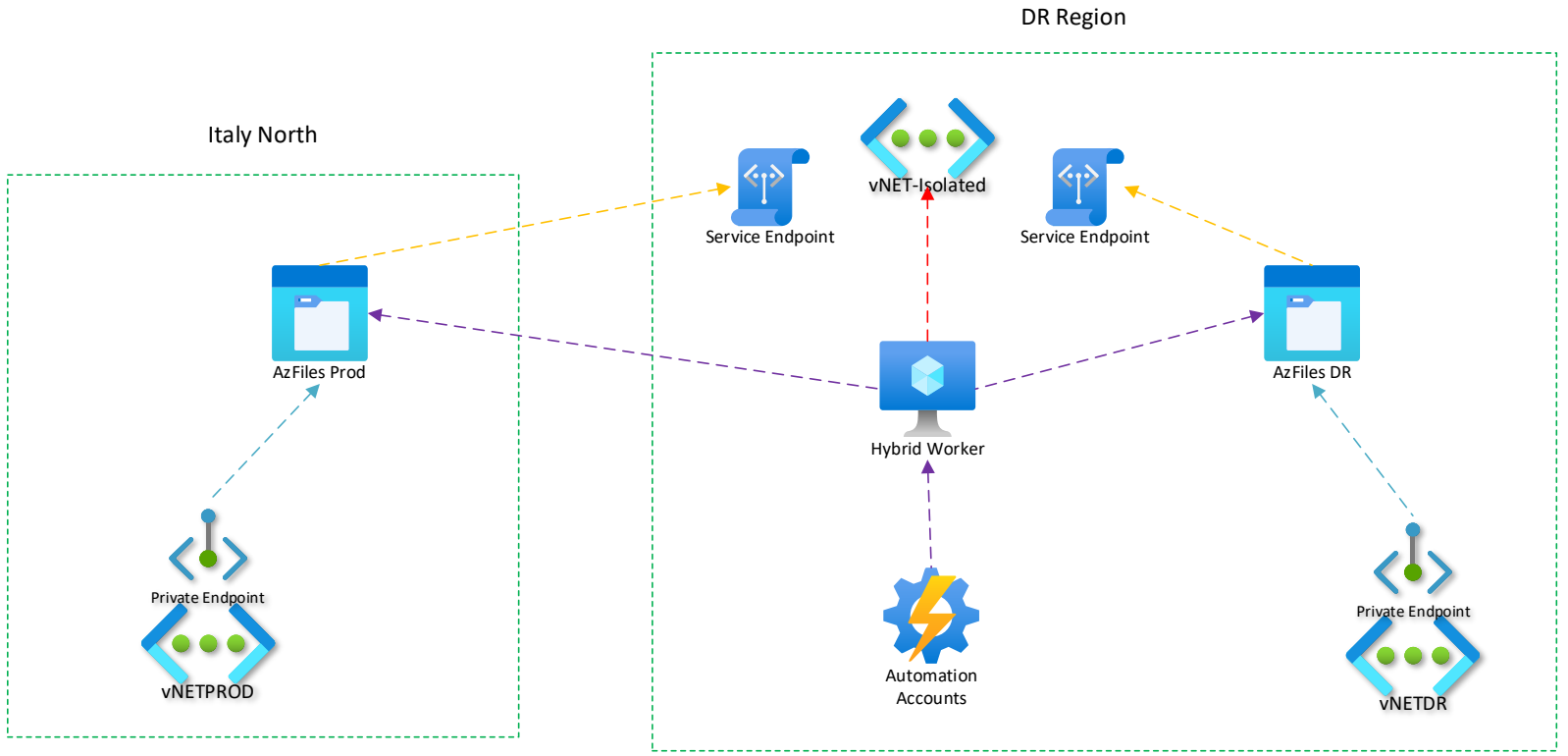
Disaster Recovery with unpaired regions

Storage Account – File share

Leverage Azure automation resources to architect replication processes.



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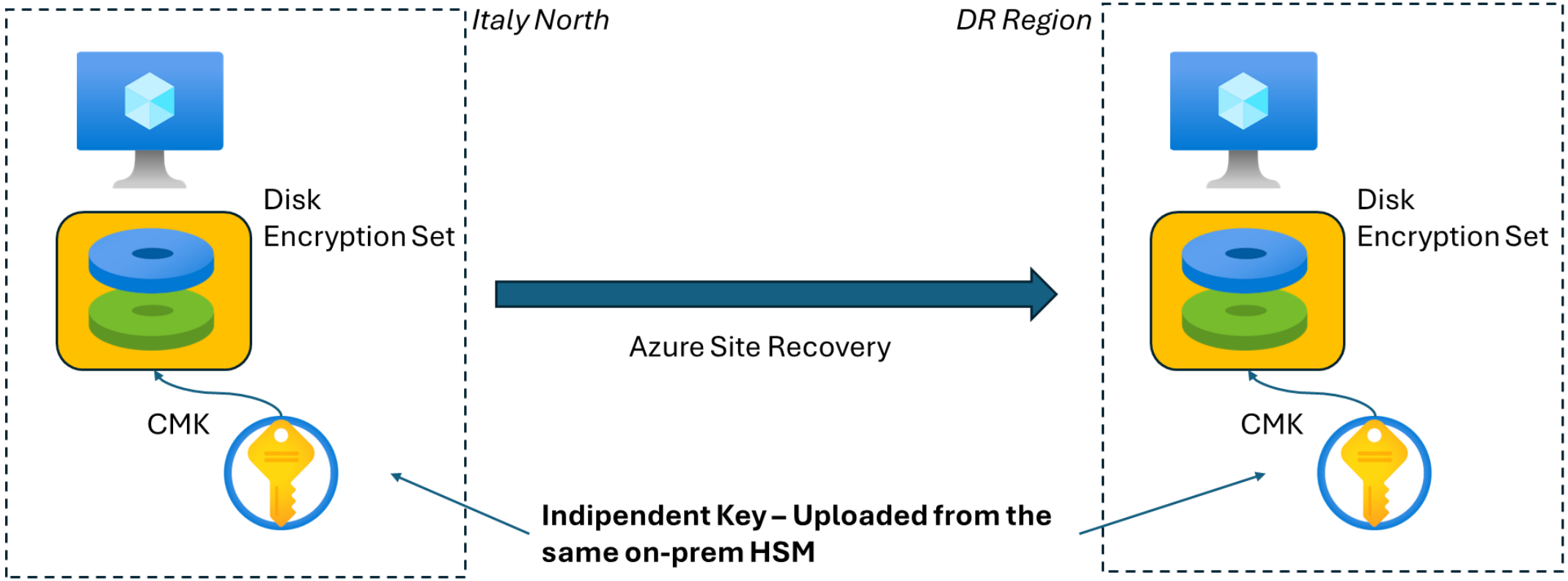
Disaster Recovery with unpaired regions

Key vault Replication

My requirements could be satisfied without KV GRS?



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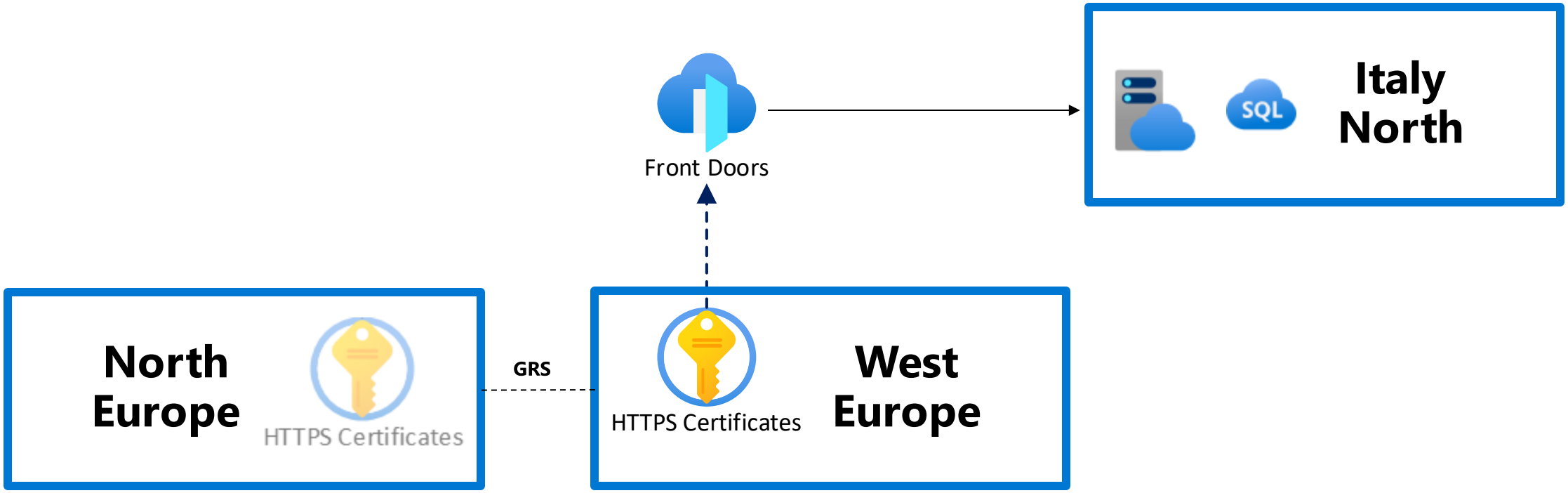
Disaster Recovery with unpaired regions

Key vault Replication

Global services, as Frontdoor, could continue leveraging a KV in a region with built-in pair.



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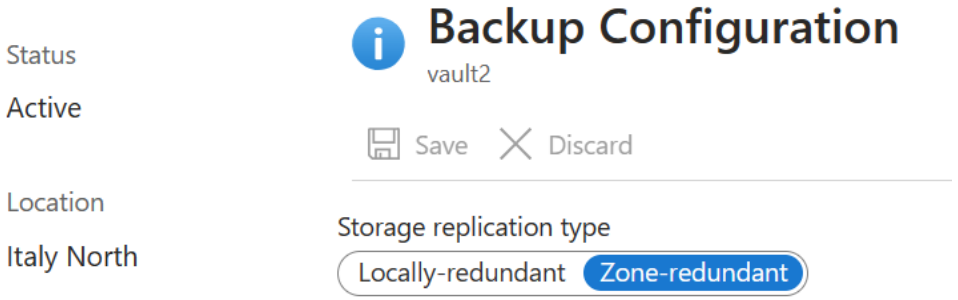
Disaster Recovery with unpaired regions

Azure Backup

Native backup solutions rely on storage replication features to achieve GRS



Use ZRS or third-party service!

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How can I move my existing workloads?

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Azure Resource Mover (Region to Region)

- Azure VMs and associated disks (Azure Spot VMs are not currently supported)
- Encrypted Azure VMs and associated disks.
- NICs
- Availability sets
- Azure virtual networks
- Public IP addresses (Public IP will not be retained across regions)
- Network security groups (NSGs)
- Internal and public load balancers
- Azure SQL databases and elastic pools

https://learn.microsoft.com/en-us/azure/resource-mover/overview

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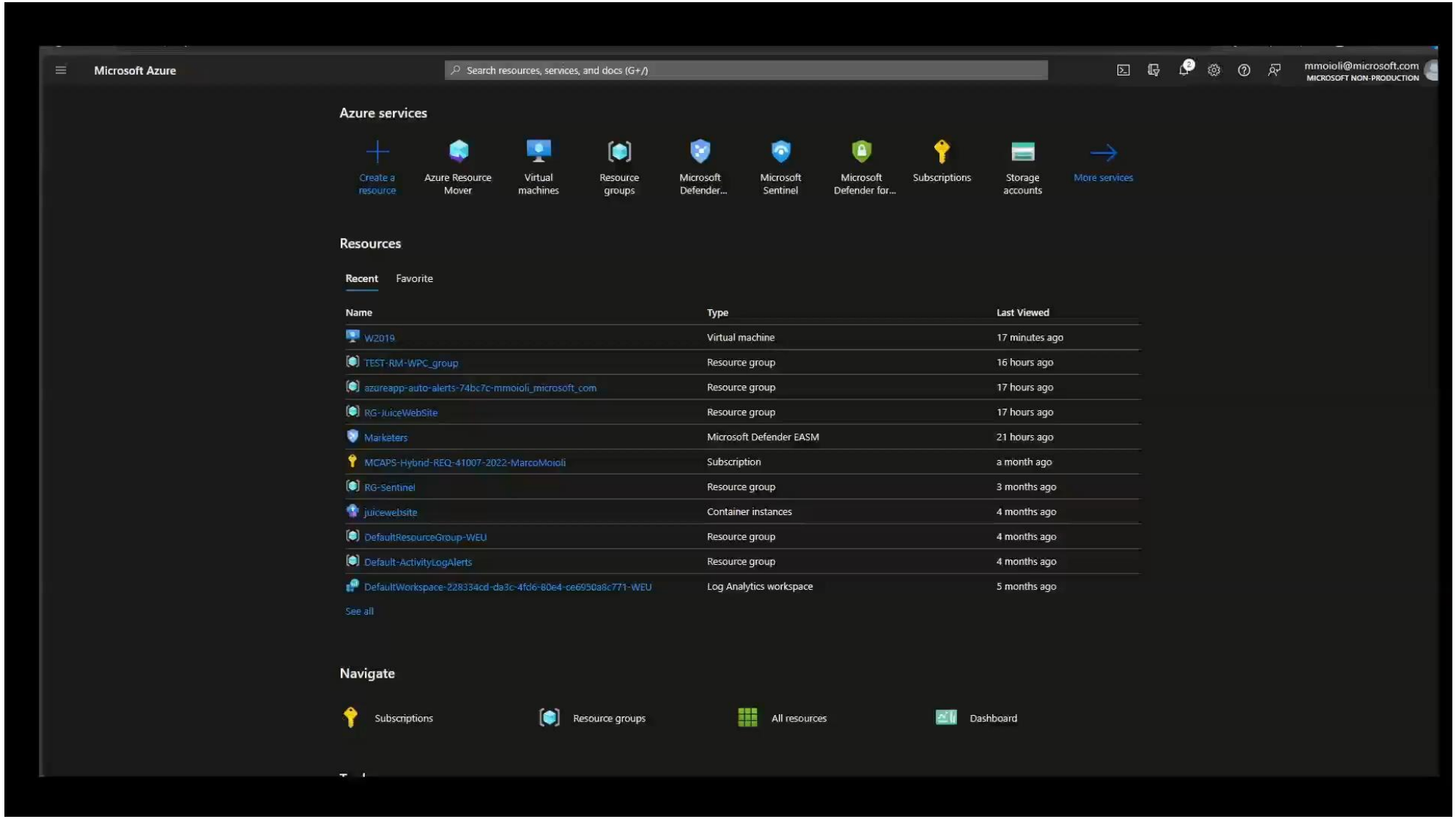
Azure Resource Mover - Demo



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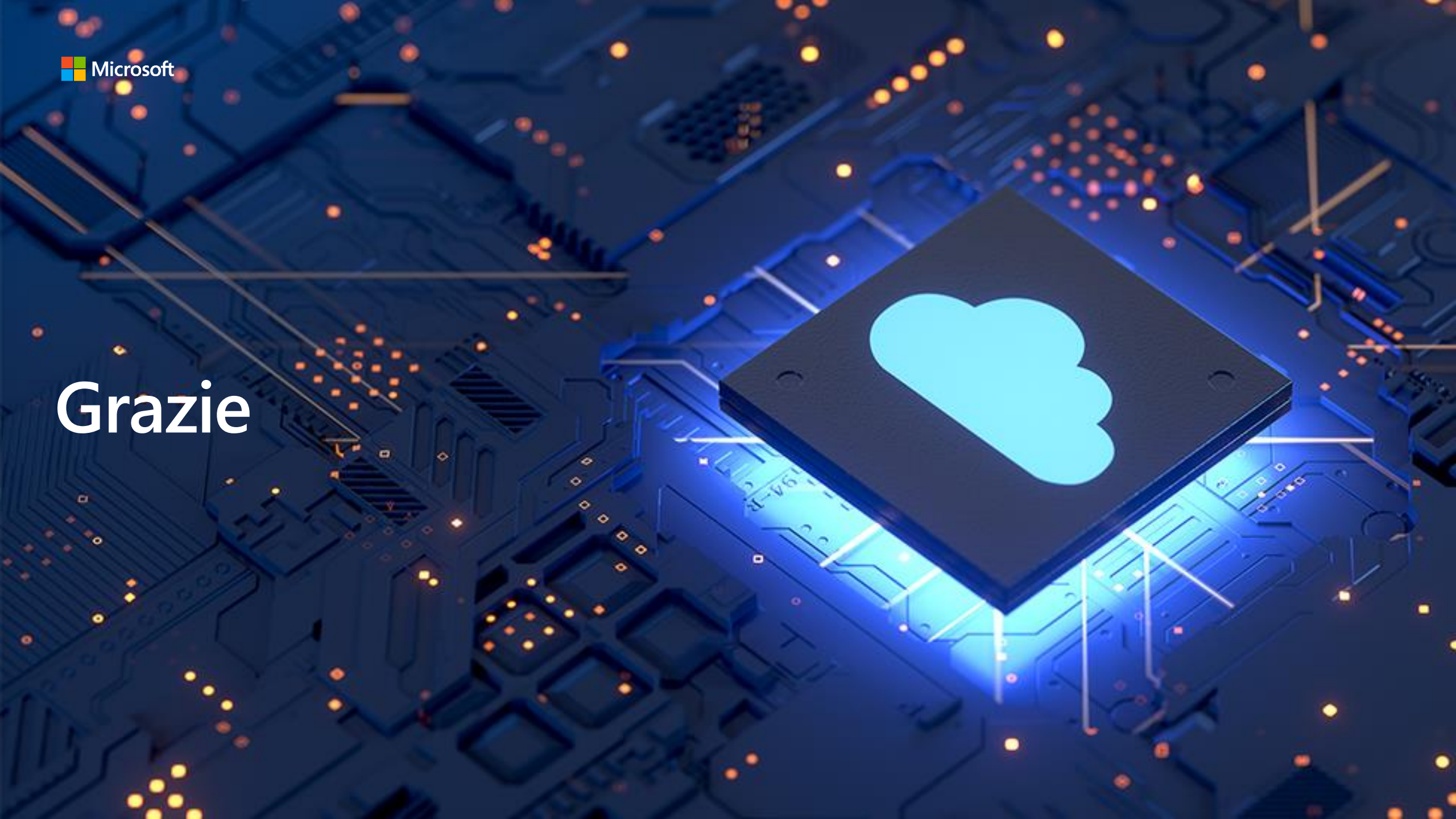
Grazie