EDEM

Máster en Data Analytics | VI Edición

Azure Setup

Diego Guerrero

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Microsoft Azure
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Microsoft Azure

Why cloud services?

Key concepts and terms:

- High availability
- Disaster recovery
- Scalability
- Global reach
- Elasticity
- Customer latency capabilities
- Agility
- Predictive cost considerations
- Fault tolerance
- Security

Economies of scale

Microsoft Azure

- The concept of economies of scale is the ability to do things less expensively and more efficiently when operating at a larger scale in comparison to operating at a smaller scale.

- Cloud providers such as Microsoft (Azure), Google (GCP) , and Amazon Web Services (AWS) are very large businesses, and thus can leverage the benefits of economies of scale and then pass those benefits on to their customers.

CAPEX vs. OPEX

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Capital Expenditure (CapEx) : spend on physical infrastructure up front, deduct the expense from your tax bill.

- High upfront cost, value of investment reduces over time.

Operational Expenditure (OpEx): spend on services or products as needed and get billed immediately. Deduct the expense from your tax bill in the same year.

- No upfront cost, pay-as-you use.

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Consumption-based model

Users only pay for the resources they use

Cloud model comparison

Microsoft Azure

Public cloud:

- No CapEx. You don't have to buy a new server to scale up.
- Agility. Applications can be made accessible quickly, and deprovisioned whenever needed.
- Consumption-based model. Organizations pay only for what they use and operate under an OpEx model.

Private cloud:

- Control. Organizations have complete control over resources.
- Security. Organizations have complete control over security.

Hybrid cloud:

- Flexibility. The most flexible scenario. With a hybrid cloud setup, an organization can determine whether to run their applications in a private cloud or in a public cloud.
- Compliance. Organizations maintain the ability to comply with strict security, compliance, or legal requirements as needed

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Types of Cloud Services

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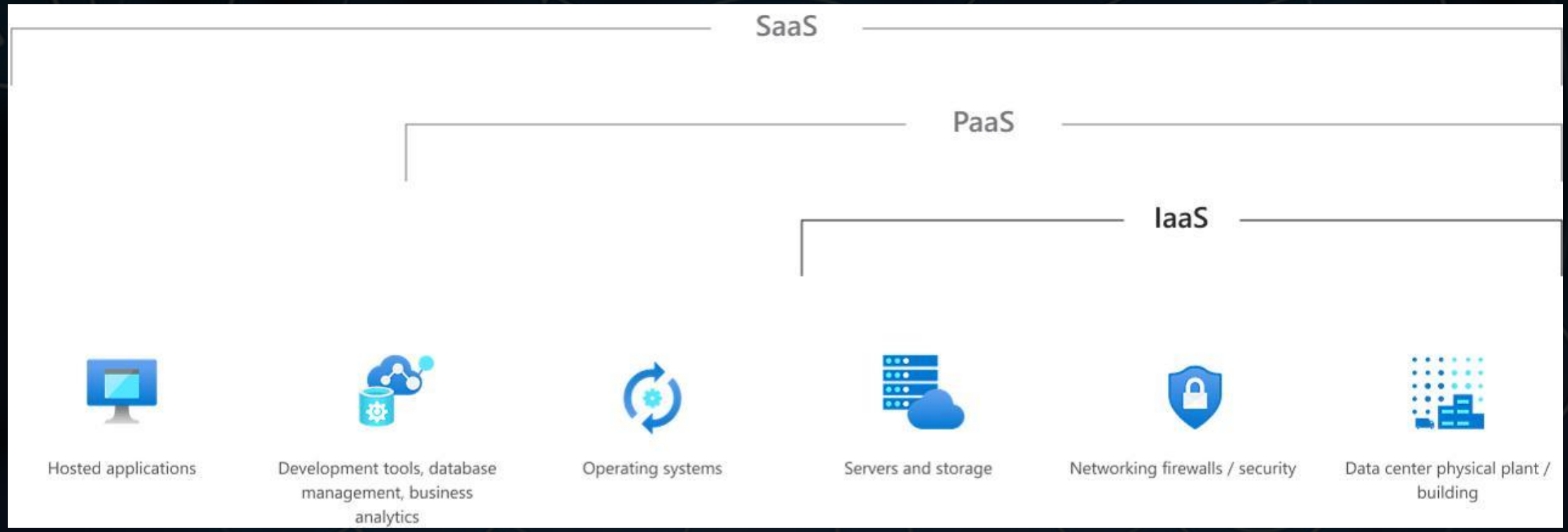

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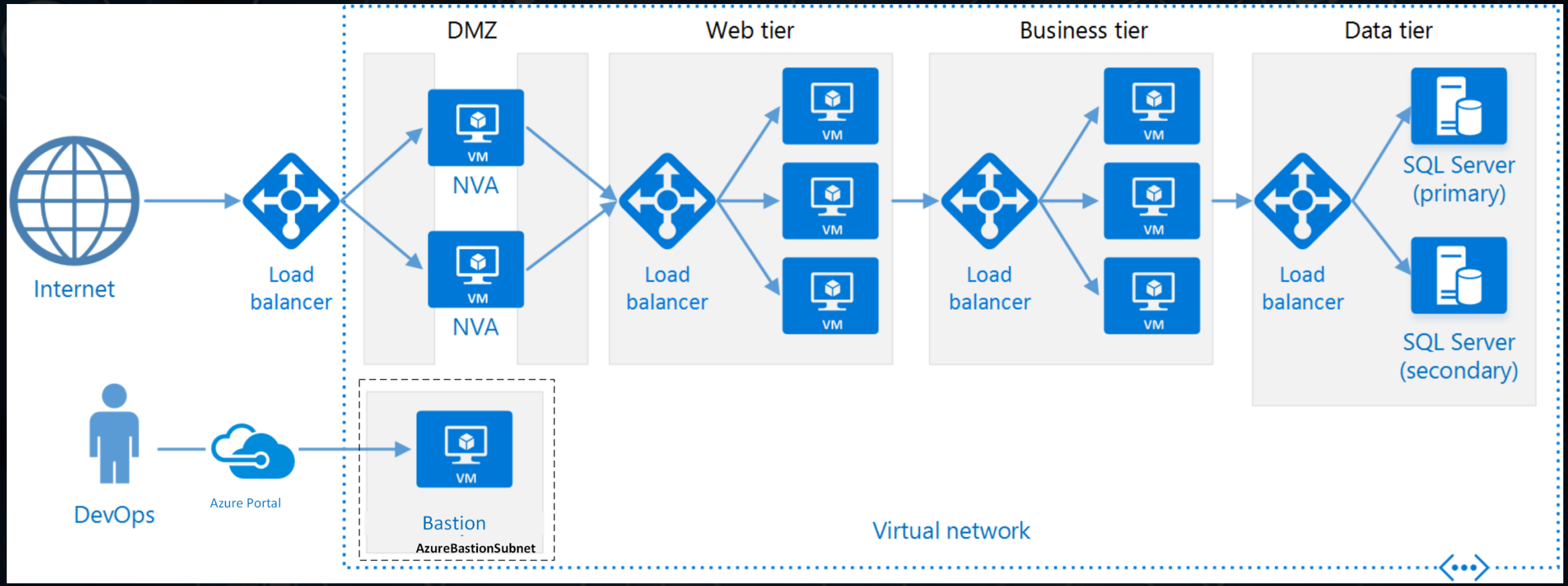
IaaS

Microsoft Azure



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PaaS

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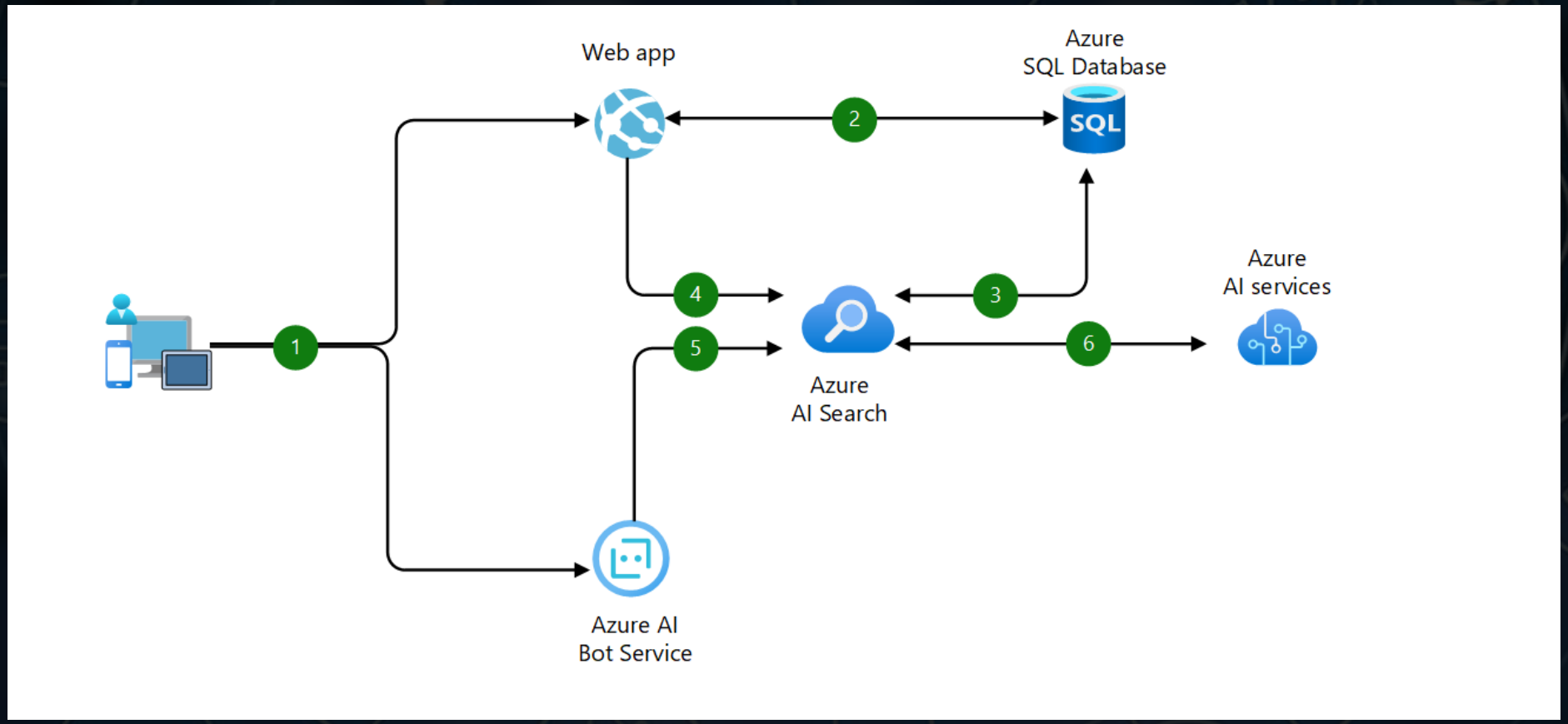

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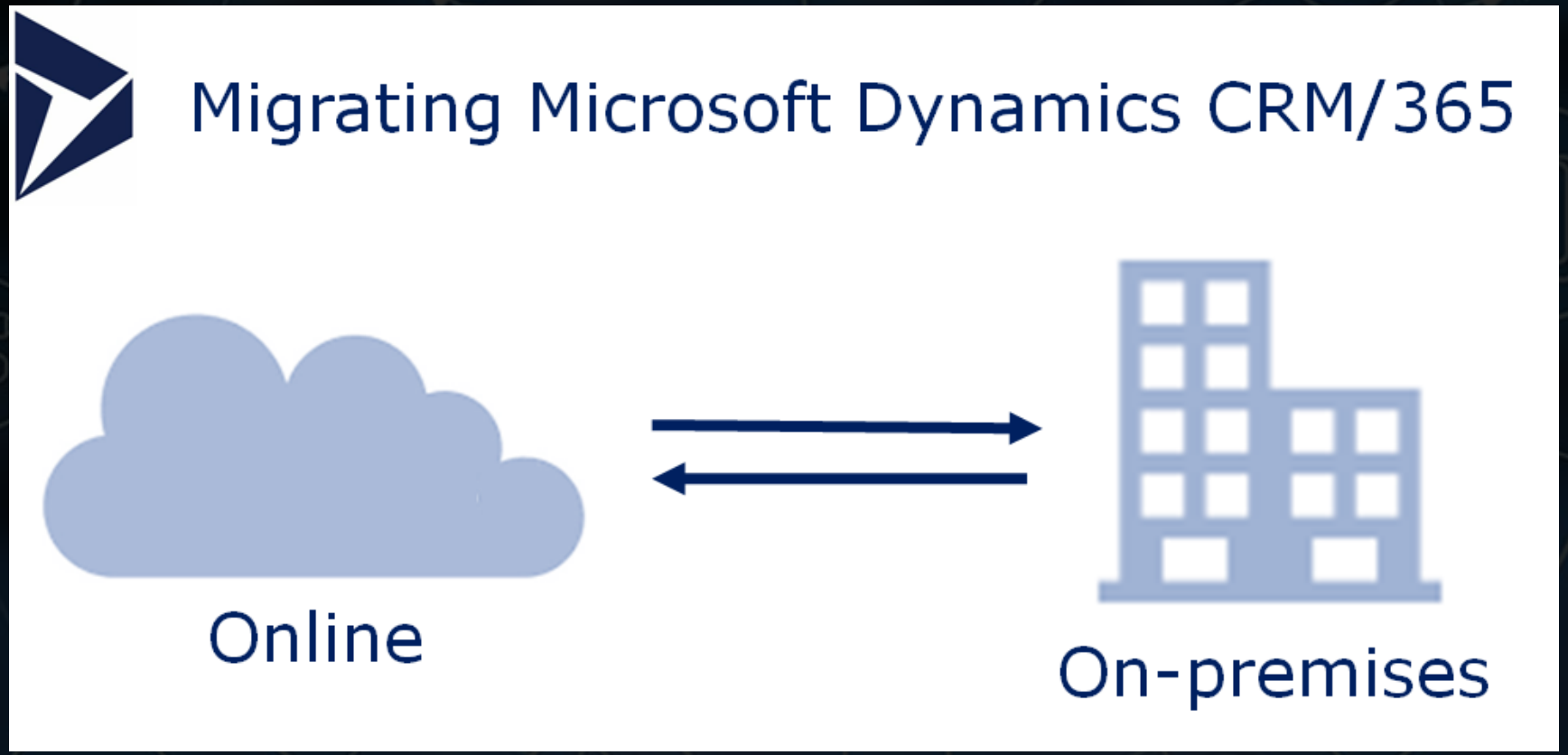
Microsoft Azure

SaaS



Shared Responsibility

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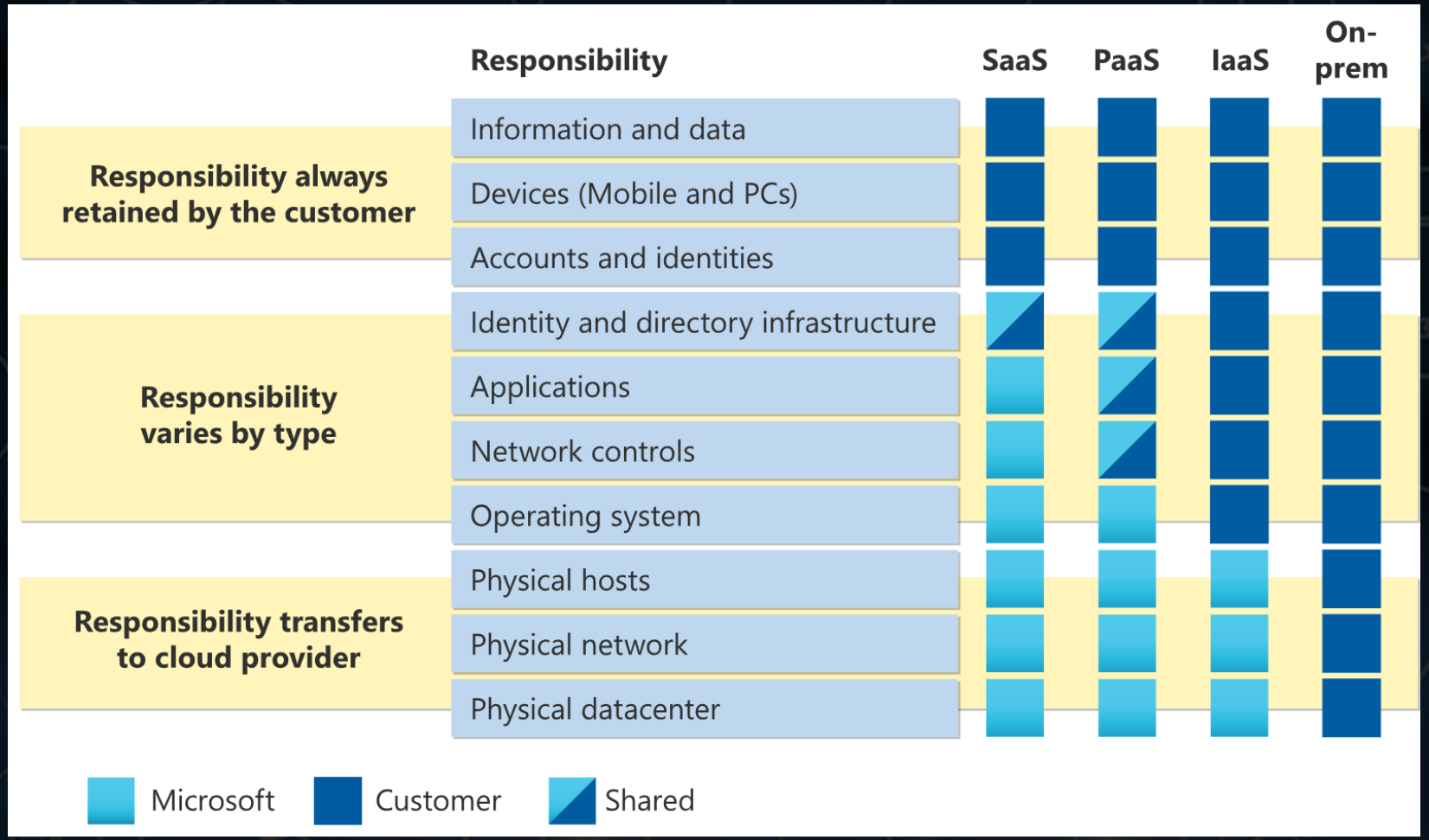
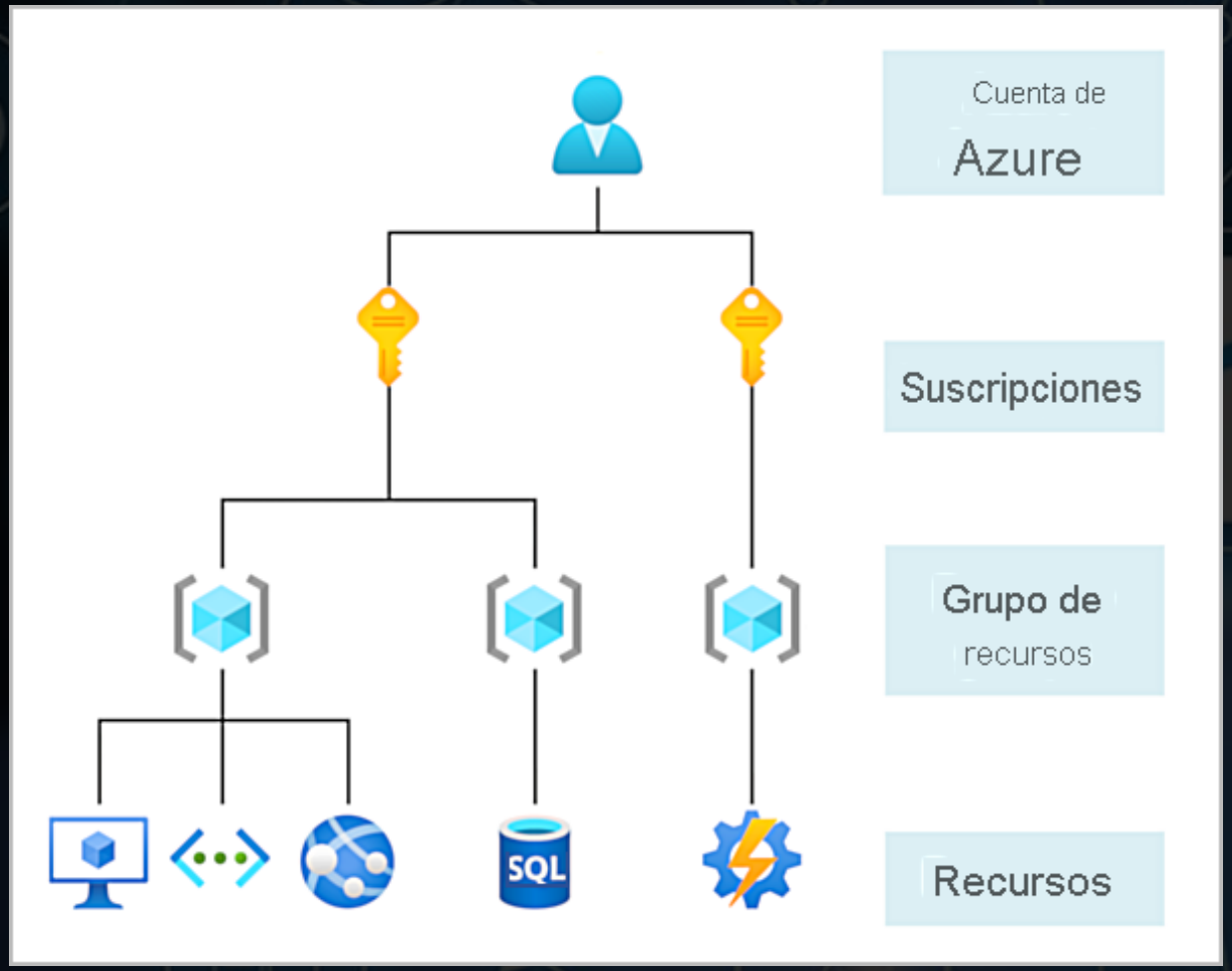


Architectural Components

Microsoft Azure



Basic Components

- Azure Account
- Subscriptions
- Management Groups
- Resource Groups
- Regions
- Availability Zones
- Resources

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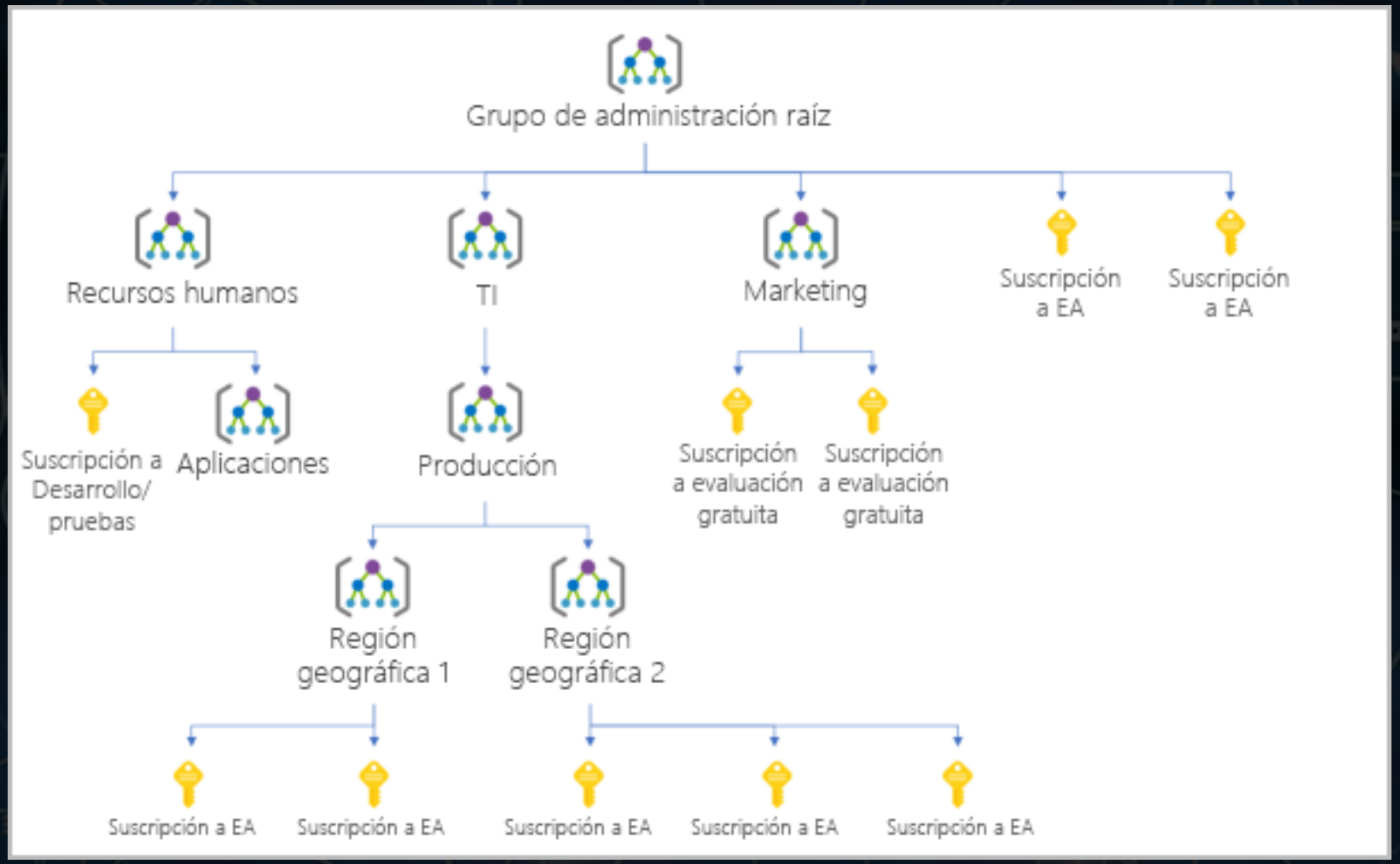
Management Groups

Microsoft Azure



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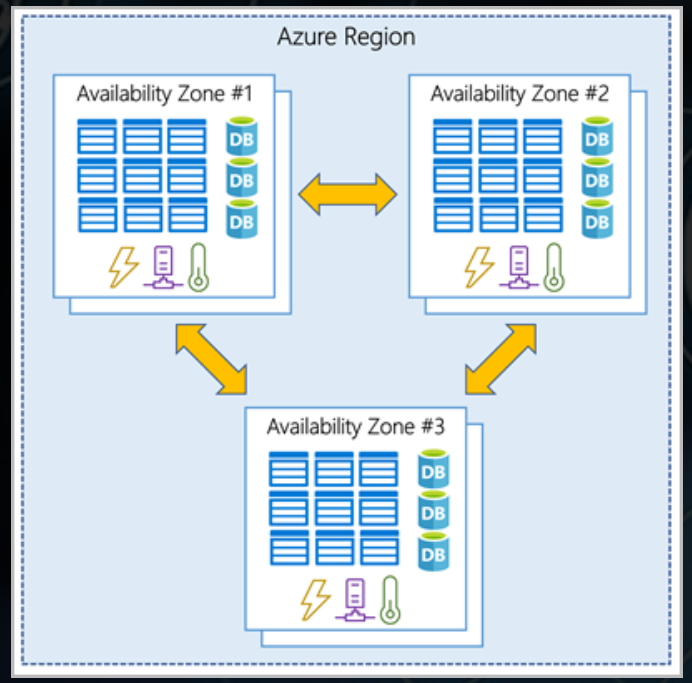
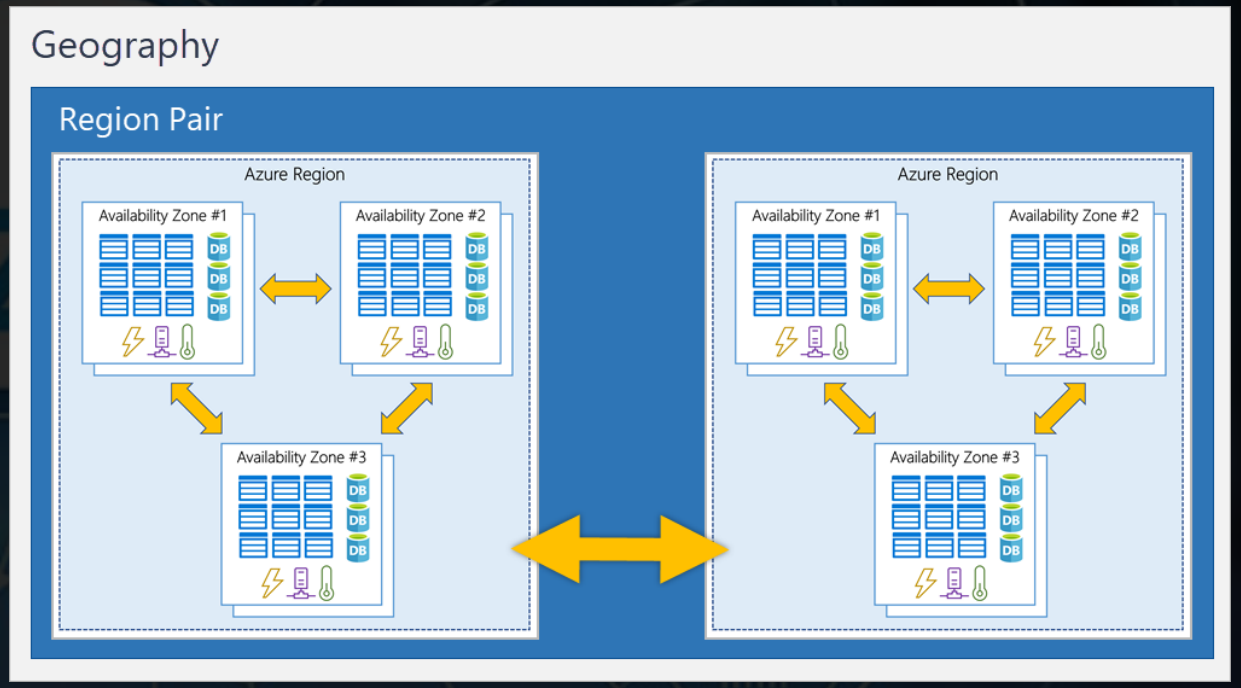
Regions / Availability Zones





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Azure virtual networking

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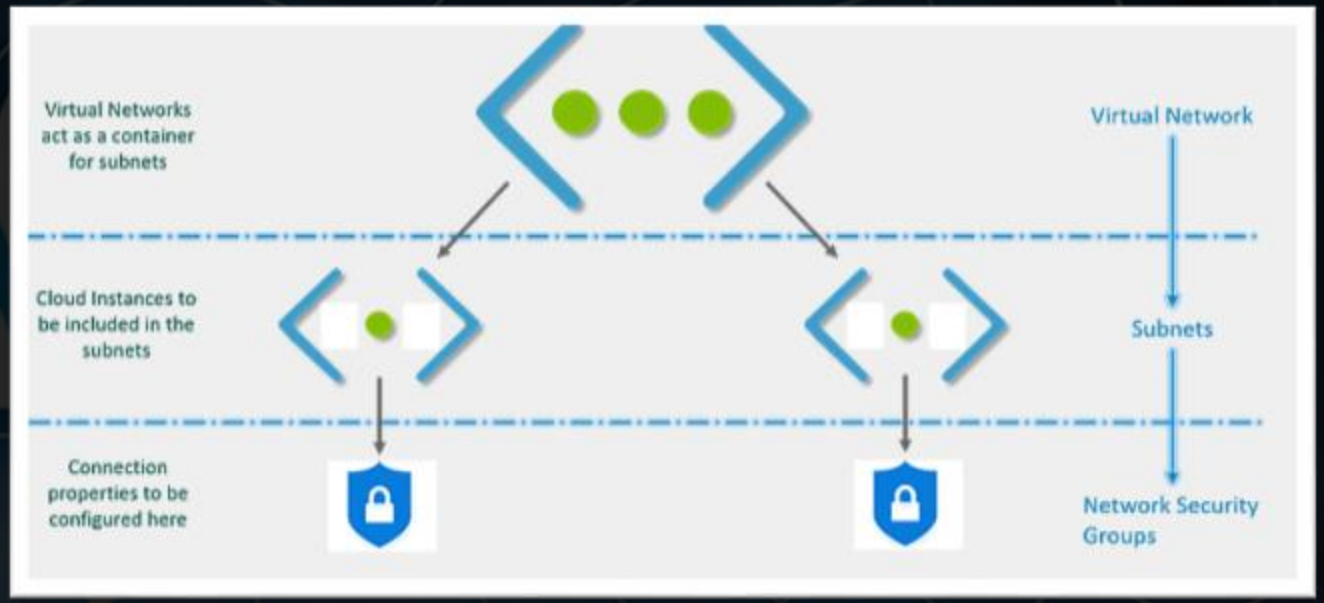
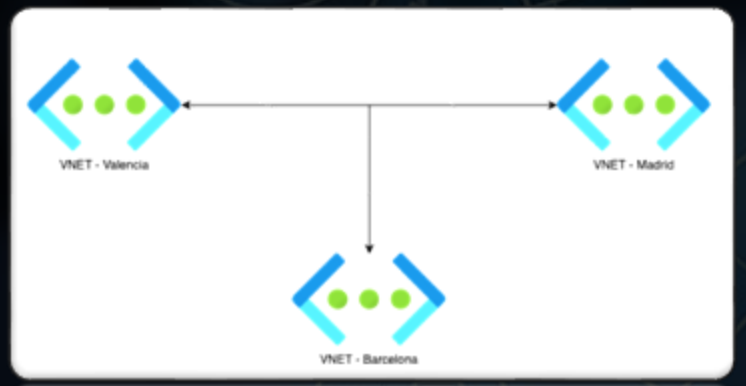
- Isolation and segmentation
- Internet communications
- Communicate between Azure resources
- Communicate with on-premises resources
- Route network traffic
- Filter network traffic
- Connect virtual networks



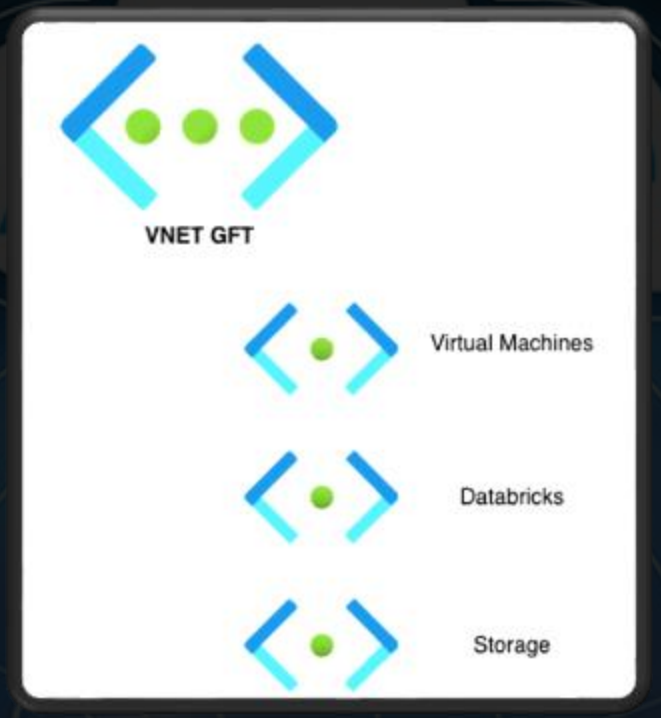
Azure virtual networking

Microsoft Azure

Virtual Network



Subnets



Network Security Groups

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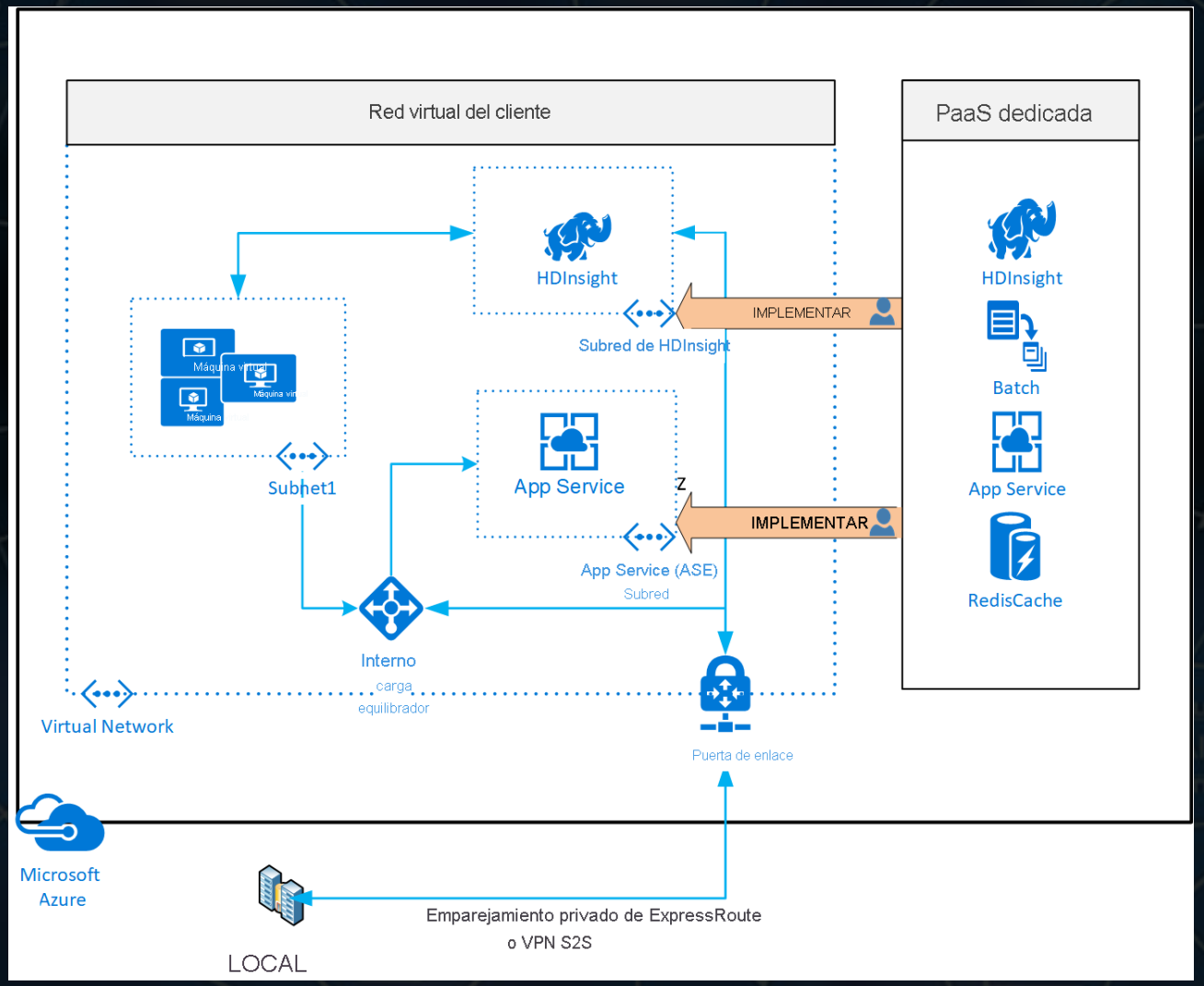
Azure virtual private network



Virtual Machines

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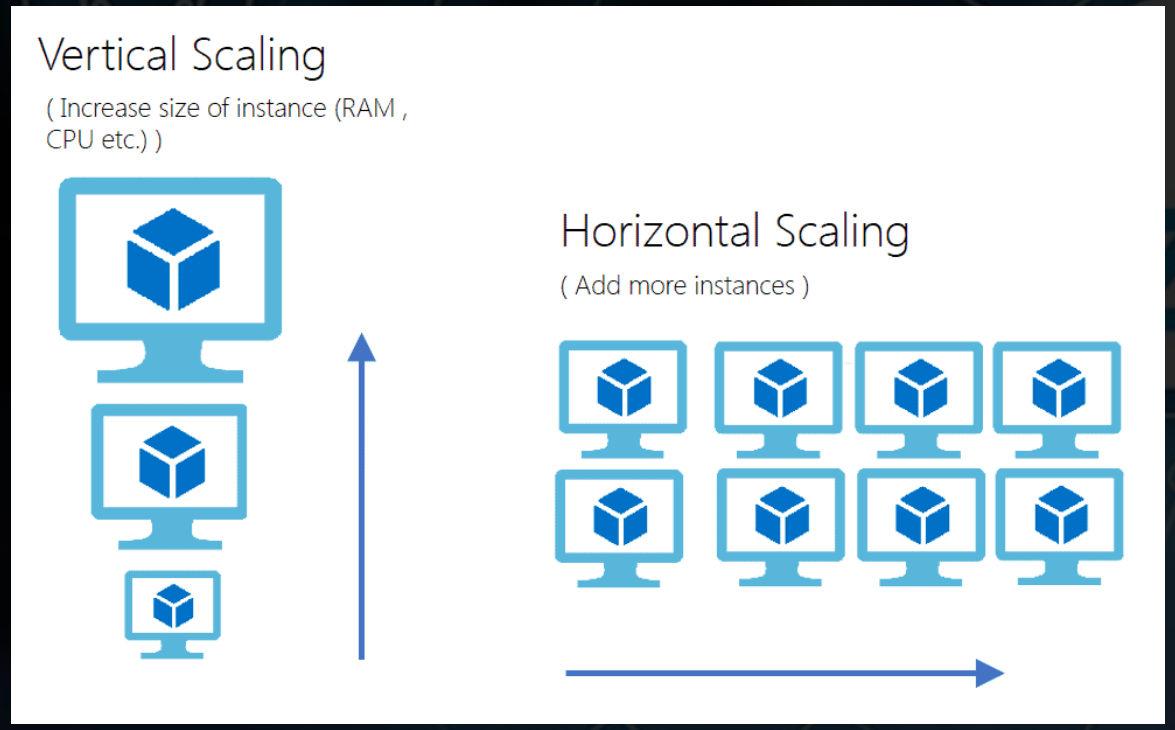
Scale Sets Availability Sets



[Microsoft Azure VM Selector]

VMs are an ideal choice when you need:

- Total control over the operating system (OS).
- The ability to run custom software.
- To use custom hosting configurations.

VMs Resources

- Size (purpose, number of processor cores, and amount of RAM)
- Storage disks (hard disk drives, solid state drives, etc.)
- Networking (virtual network, public IP address, and port configuration)

Azure Virtual Desktop

Is a cloud-based virtual desktop infrastructure (VDI) that allows you to create and manage Windows desktops and applications on Azure

It provides a secure and scalable remote desktop experience for your employees, allowing them to access their applications and data from any device.

Benefits:

- Security
- Compatibility
- Scalability
- Cost savings

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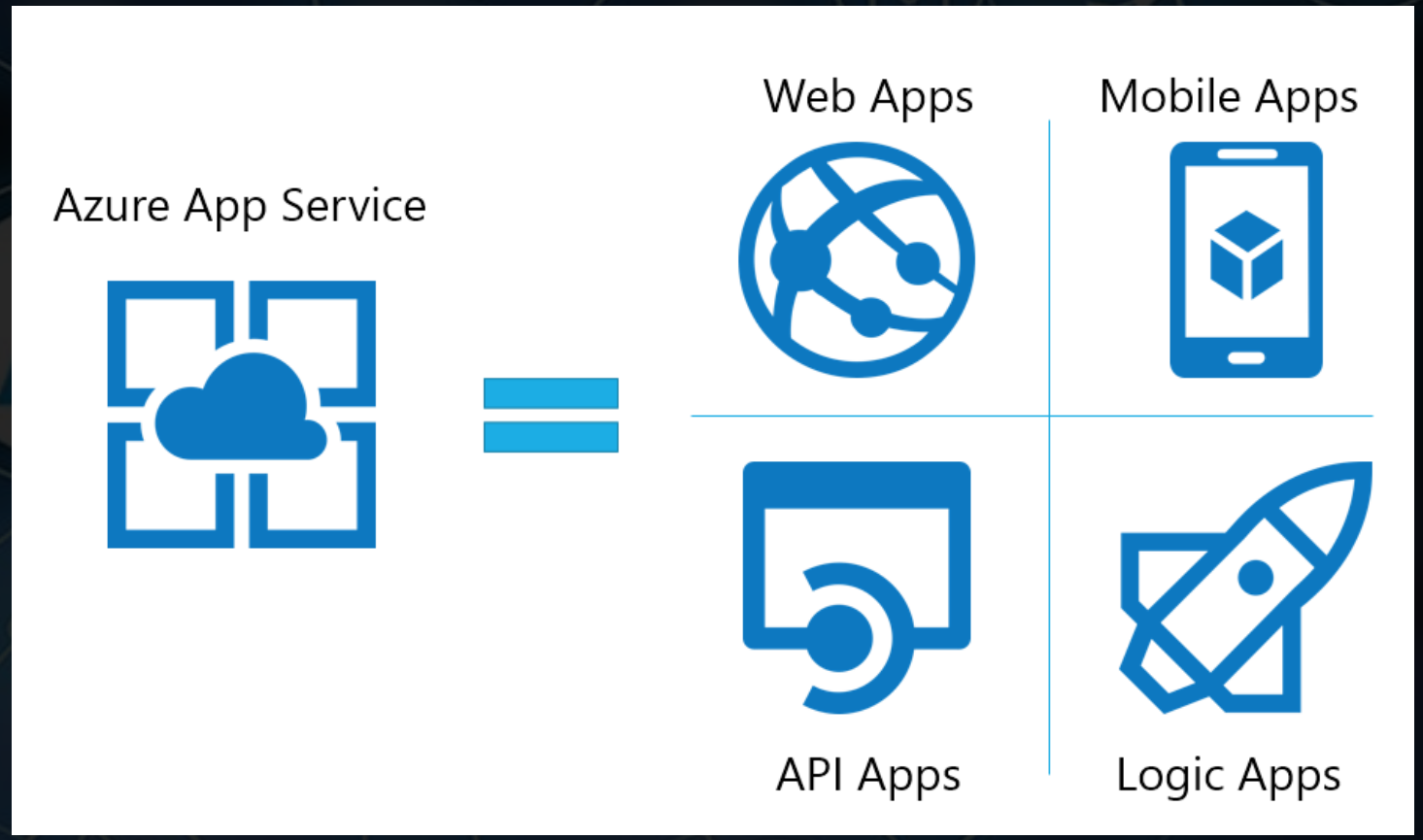
Azure App Service

Is a robust hosting option that you can use to host your apps in Azure

- Deployment and management are integrated into the platform.
- Endpoints can be secured.
- Sites can be scaled quickly to handle high traffic loads.
- The built-in load balancing and traffic manager provide high availability.



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¡Quiero más!

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Teaching Assessment