

flexmanage

Azure 101

- Microsoft Cloud presented by FlexManage
- Steven Combs

Introduction

- 20 years of IT consulting experience
- MCSA, P-TSP, NTP
- Infrastructure Consultant
- FlexManage is Microsoft Managed Partner

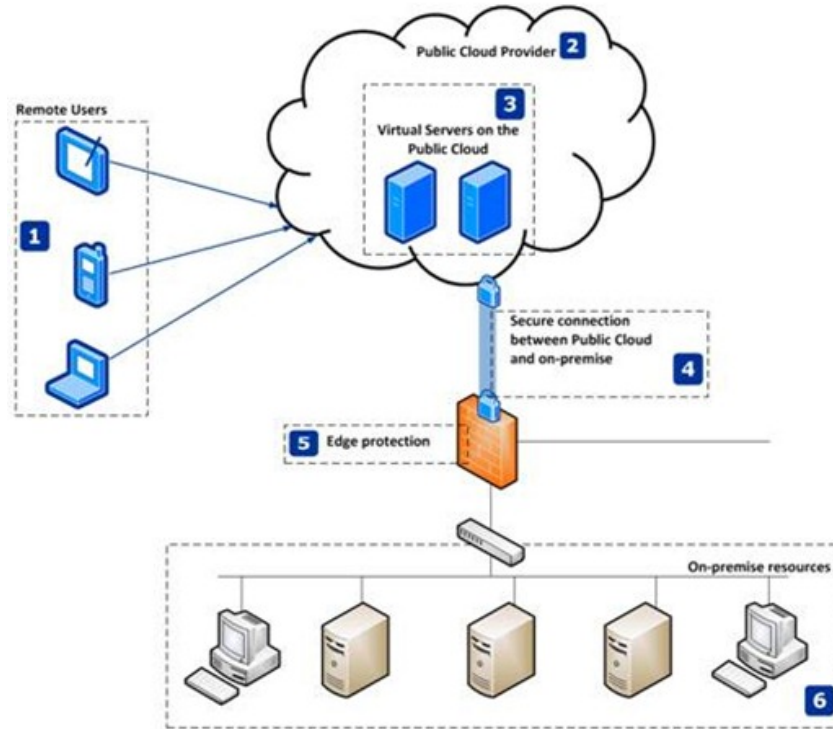
Agenda

- Question/Answer
- Cloud Overview
- Typical Architectures
- Networking
- Azure Overview
 - IAAS
 - PAAS
 - SAAS (not discussed)
- Disaster Recovery/Business Continuity
- Discussion

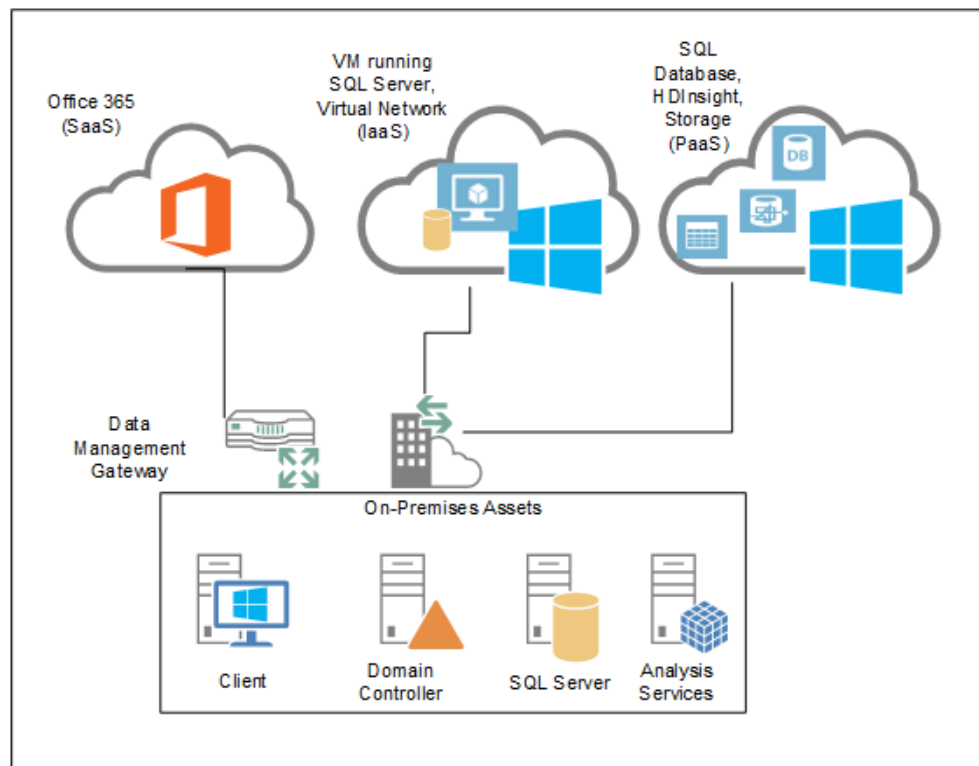
Questions/Answers for you

- How many of you have a formal “cloud” strategy?
 - If you don't, why not?
 - If you do, how much of your technology environment will be in the “Public Infrastructure Network (PIN)” in 18 months?
- How many of you have >20% of your technology “tones” in the cloud? (O365 does not count)
- What are the significant weakness/strengths in your opinion of the PIN?
- What business challenge brought you to this event?

Simple Review of PIN Architecture

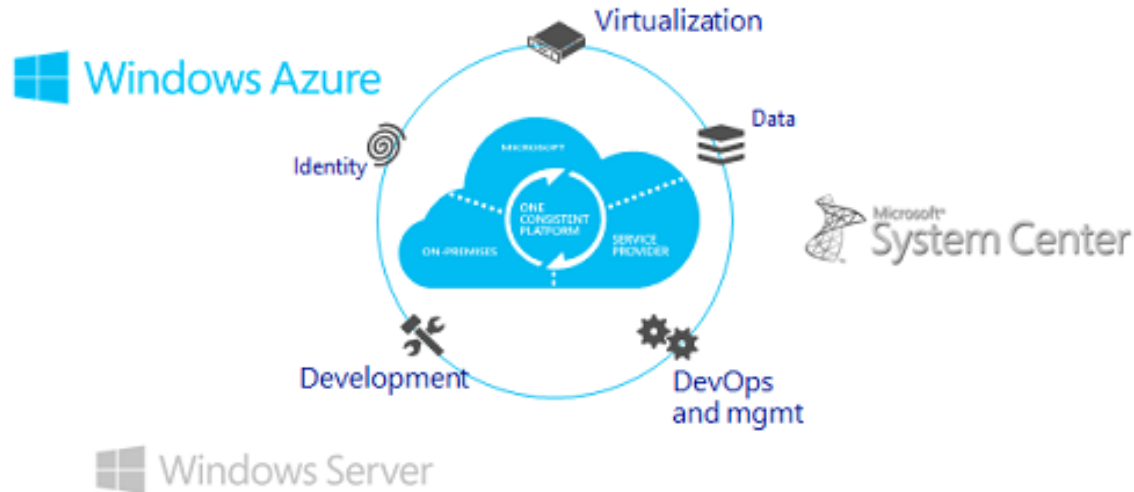


Azure Architecture

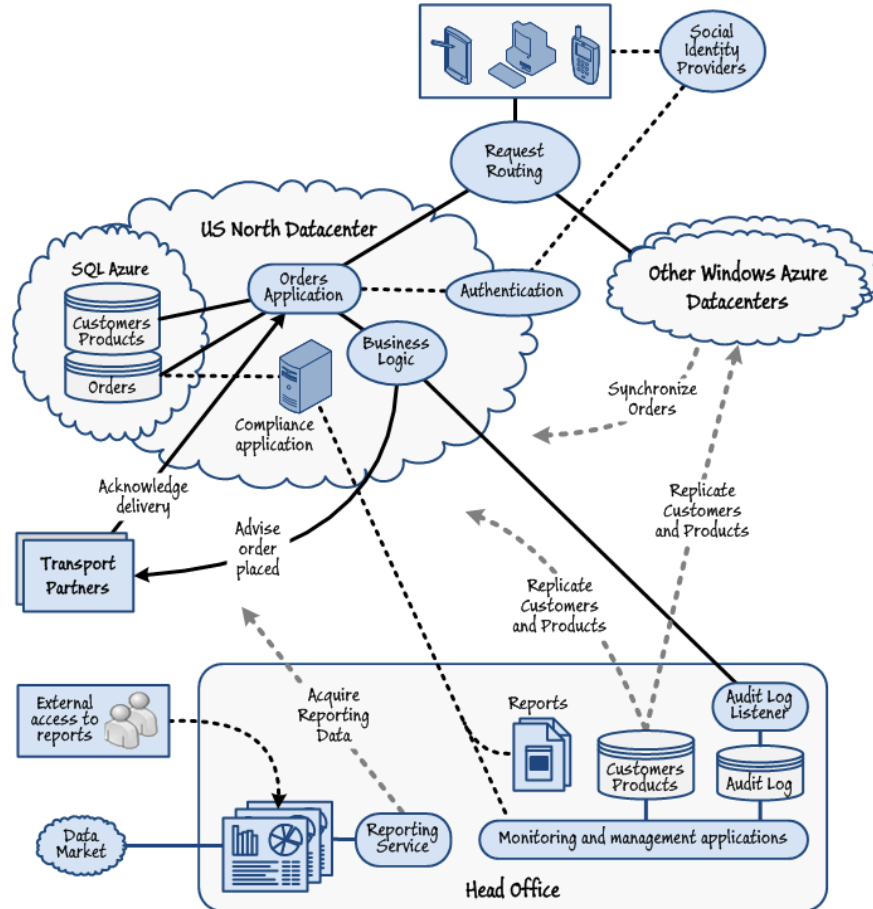


Azure Functionality Architecture

Microsoft "Cloud OS" Hybrid Solution



Azure Workflow Architecture



Networking

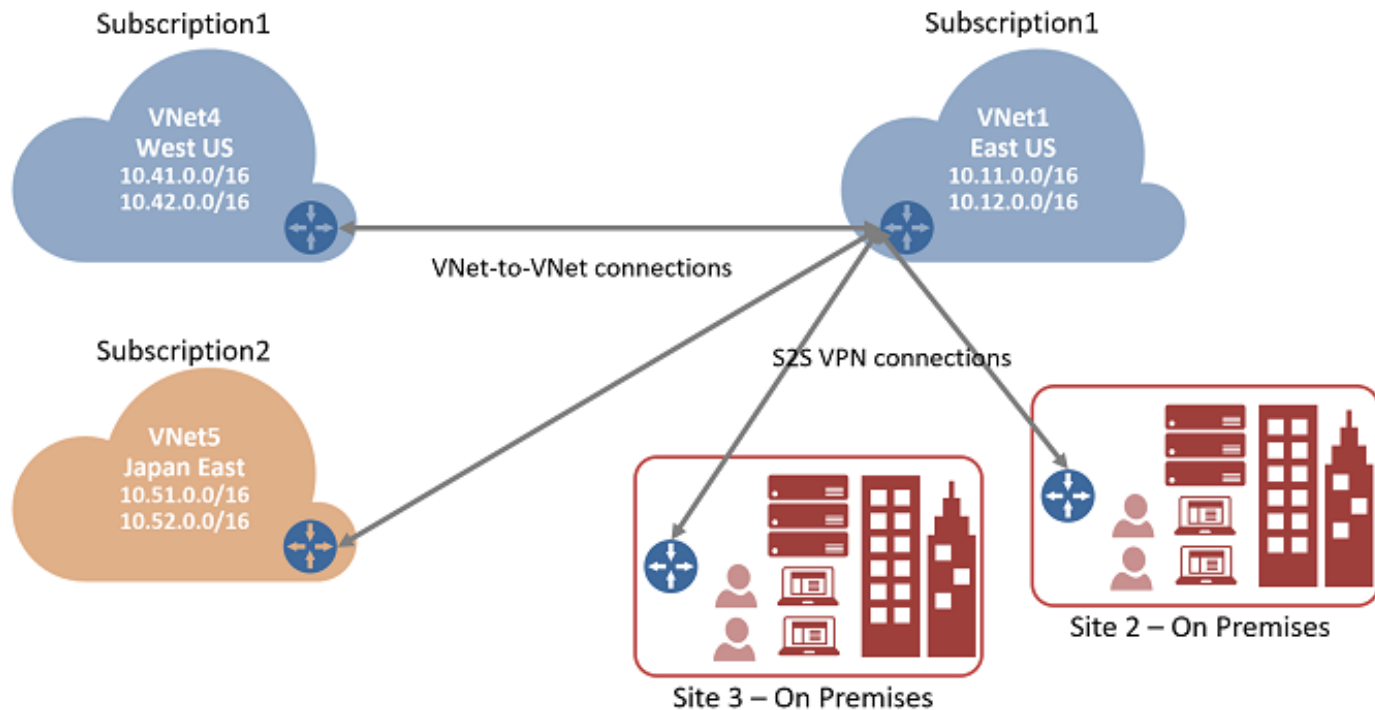
Internet/PIN Connectivity

- Connectivity to the PIN is the single weakest point of any cloud strategy
- The Connection should have the following characteristics
 - Sized for the need with 50% free
 - Scalable above max. throughput
 - Redundant (N+1)
 - Secure (VPN should be AES 256)
- Monitored by outside entity
- Suggested to minimize contracts to 24 months

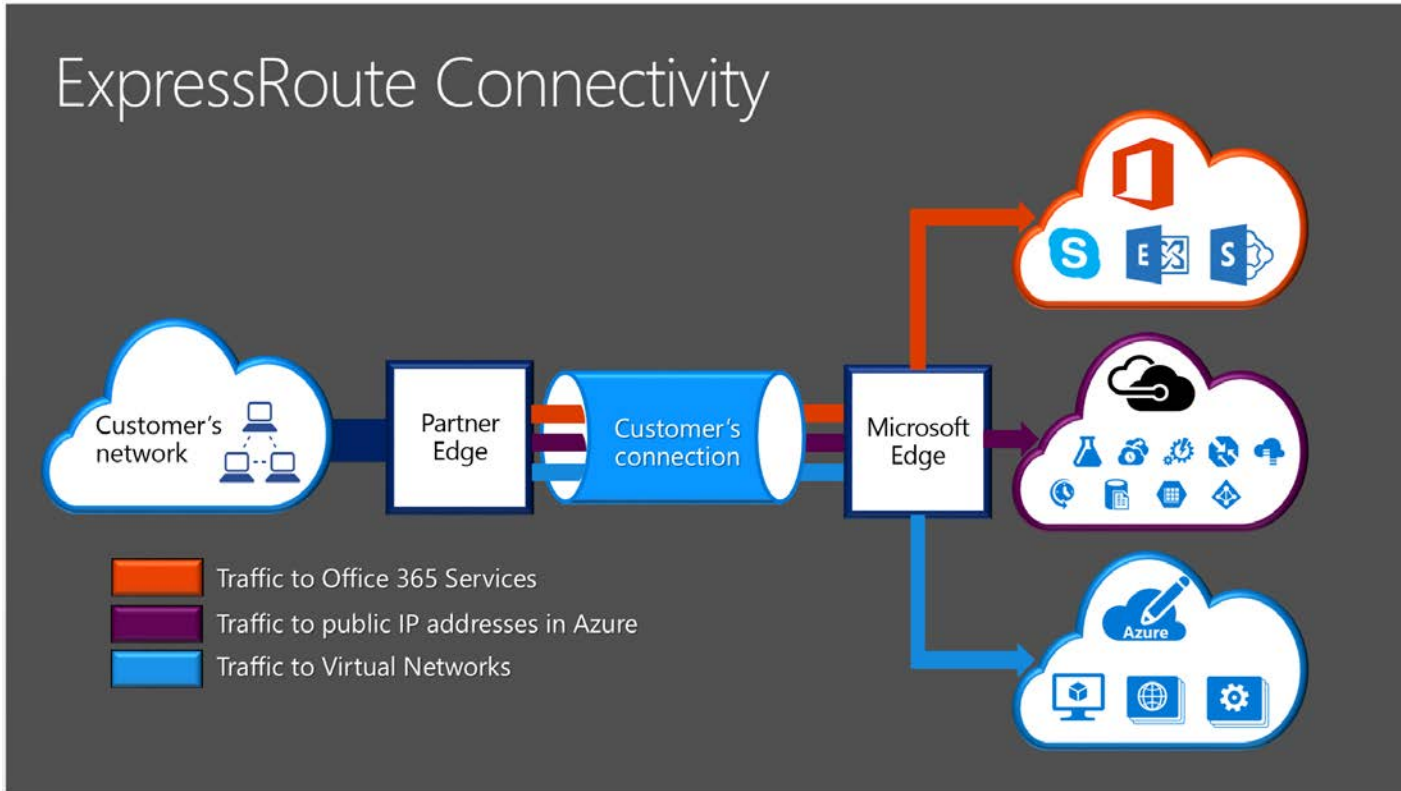
Azure VNets

- Think of them as VLANs
- IP Addresses: RFC 1918 can be used
- Public address available as part of service, but DHCP based
- Dedicated IPs have a cost (\$3 a month)
- Multiple Vnets can connect to Express route or VPN

VPN to Azure



Express Route to Azure



Azure Overview

General

Field Notes

- Azure is every changing as Microsoft builds more functions
- There are two portals: Classic & ARM ([Overview](#))
- Azure Account
- Azure Subscriptions
- EA Integration
- Azure Calculator: <https://azure.microsoft.com/en-us/pricing/calculator/>

Developer Services



 Visual Studio Team Services

 Azure DevTest Labs

 VS Application Insights*

 HockeyApp


 Developer Tools



 Azure Portal

 Scheduler

 Automation

 Log Analytics

 Key Vault








 Security Center*

Management & Security








Compute

-  Virtual Machines
-  Virtual Machine Scale Sets
-  Cloud Services
-  Batch
-  RemoteApp
-  Service Fabric
-  Azure Container Service









Web & Mobile

-  Web Apps
-  Mobile Apps
-  Logic Apps*
-  API Apps
-  API Management
-  Notification Hubs
-  Mobile Engagement
-  Functions*

Data & Storage

-  SQL Database
-  DocumentDB
-  Redis Cache
-  Storage: Blobs, Tables, Queues, Files and Disks
-  StorSimple
-  Search
-  SQL Data Warehouse*
-  SQL Server Stretch Database*

Analytics

-  Data Lake Analytics*
-  Data Lake Store*
-  HDInsight
-  Machine Learning
-  Stream Analytics
-  Data Factory
-  Data Catalog
-  Power BI Embedded*

Internet of Things & Intelligence

-  Azure IoT Suite
-  Azure IoT Hub
-  Event Hubs
-  Cortana Intelligence Suite
-  Cognitive Services*

Media & CDN

-  Media Services
-  Content Delivery Network

Identity & Access Management

-  Azure Active Directory
-  B2C*
-  Domain Services*
-  Multi-Factor Authentication

Hybrid Integration

 BizTalk Services

 Service Bus

 Backup

 Site Recovery

Networking

 Virtual Network

 ExpressRoute

 Traffic Manager

 Load Balancer

 Azure DNS*

 VPN Gateway

 Application Gateway

[Guidance](#) | [Status](#) | [Service Updates](#) | [Support Options](#)

* Preview Services | Version 2016.06.15.2 | Ideas, Bugs and Questions: @RicardoNiepel

English | German

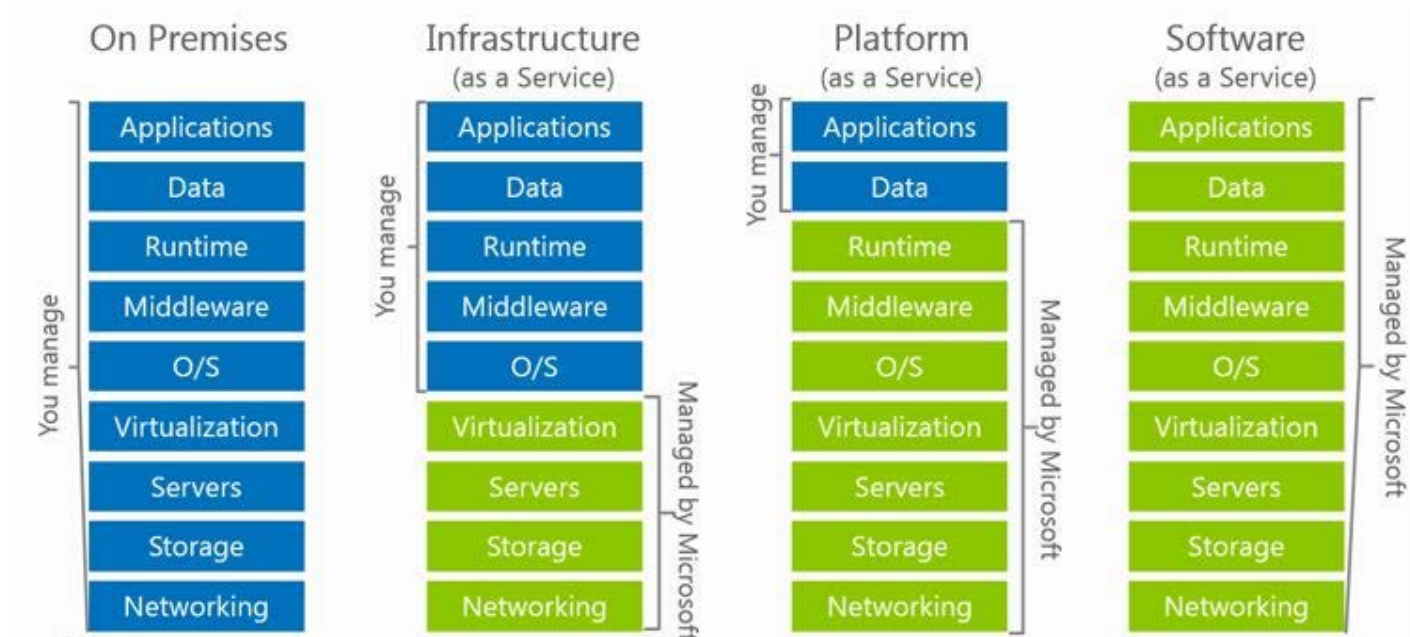
Azure regions

Azure is generally available in 30 regions around the world, and has announced plans for 8 additional regions. Geographic expansion is a priority for Azure because it enables our customers to achieve higher performance and it support their requirements and preferences regarding data location.

[Explore products per region](#) ▶



What is IAAS



Virtual Machines

- Windows 2008 R2 and up (no Windows 2003)
- Linux – Red Hat, Ubuntu, & Suse
- Templates are ready to go when building servers
- Pay for what you use – storage, proc & memory
- Servers are sized from 1 core & .75 Gb of RAM to 32 Cores & 448 Gb of RAM

Virtual Machines Samples

INSTANCE SIZE:						
A2	HDD	2 cores	3.5 GB RAM	135 GB disk	\$0.180/hr	▼
A0	HDD	1 cores	0.75 GB RAM	20 GB disk	\$0.020/hr	▲
A1	HDD	1 cores	1.75 GB RAM	70 GB disk	\$0.090/hr	
A2	HDD	2 cores	3.5 GB RAM	135 GB disk	\$0.180/hr	
A3	HDD	4 cores	7 GB RAM	285 GB disk	\$0.360/hr	
A4	HDD	8 cores	14 GB RAM	605 GB disk	\$0.720/hr	
A5	HDD	2 cores	14 GB RAM	135 GB disk	\$0.330/hr	◀
A6	HDD	4 cores	28 GB RAM	285 GB disk	\$0.660/hr	
A7	HDD	8 cores	56 GB RAM	605 GB disk	\$1.320/hr	
A8	HDD	8 cores	56 GB RAM	382 GB disk	\$1.466/hr	
A9	HDD	16 cores	112 GB RAM	382 GB disk	\$2.933/hr	▼
PRICING TIER:						
		2 cores	3.5 GB RAM	135 GB disk	\$0.180/hr	▼
F1	SSD	1 cores	2 GB RAM	16 GB disk	\$0.111/hr	▲
F2	SSD	2 cores	4 GB RAM	32 GB disk	\$0.222/hr	
F4	SSD	4 cores	8 GB RAM	64 GB disk	\$0.444/hr	
F8	SSD	8 cores	16 GB RAM	128 GB disk	\$0.888/hr	
F16	SSD	16 cores	32 GB RAM	256 GB disk	\$1.776/hr	
G1	SSD	2 cores	28 GB RAM	384 GB disk	\$0.670/hr	
G2	SSD	4 cores	56 GB RAM	768 GB disk	\$1.340/hr	
G3	SSD	8 cores	112 GB RAM	1536 GB disk	\$2.680/hr	
G4	SSD	16 cores	224 GB RAM	3072 GB disk	\$5.360/hr	
G5	SSD	32 cores	448 GB RAM	6144 GB disk	\$9.650/hr	▼

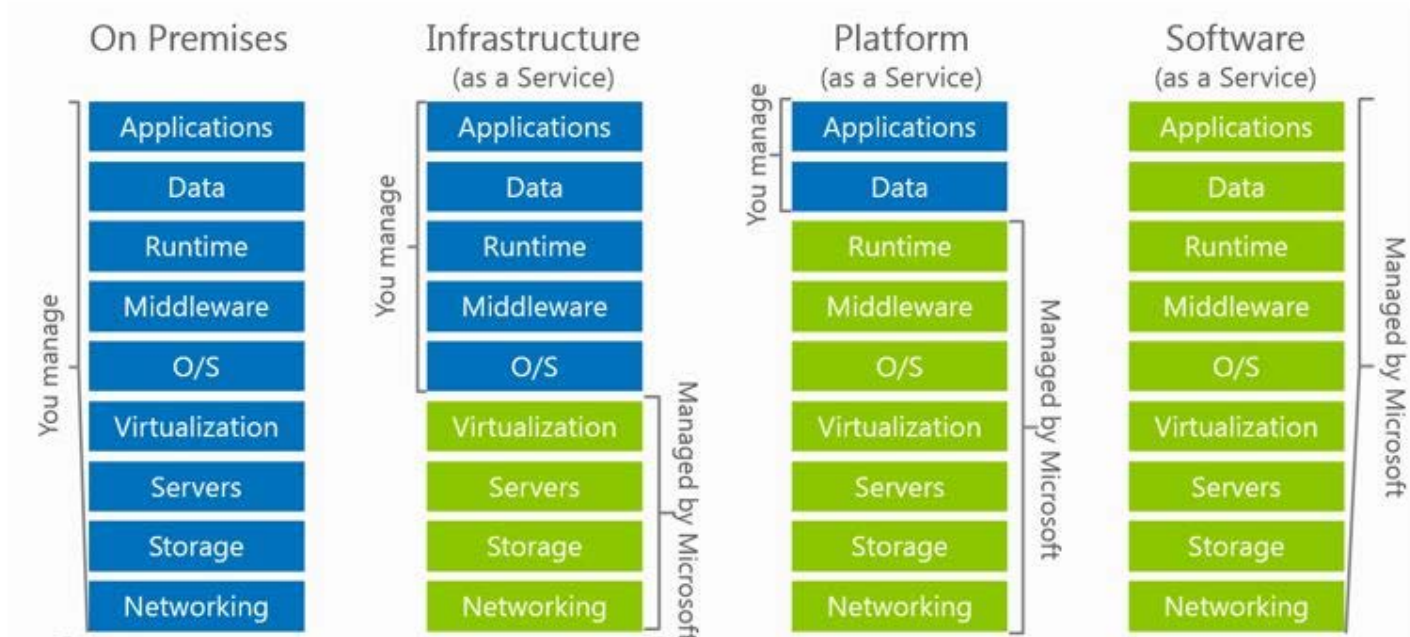
Storage Types

- Blob storage – bloc storage (typical San storage)
- File Storage – SMB 3.0 storage
- Disk Storage – disks for machines
- Table & Queue – SQL and messaging applications
- Redundant
 - LRS – Local only (3 copies)
 - ZRS– zone only (3 copies)
 - GRS – geographically dispersed (6 copies)

Azure Overview

PAAS

What is IAAS



What is IAAS

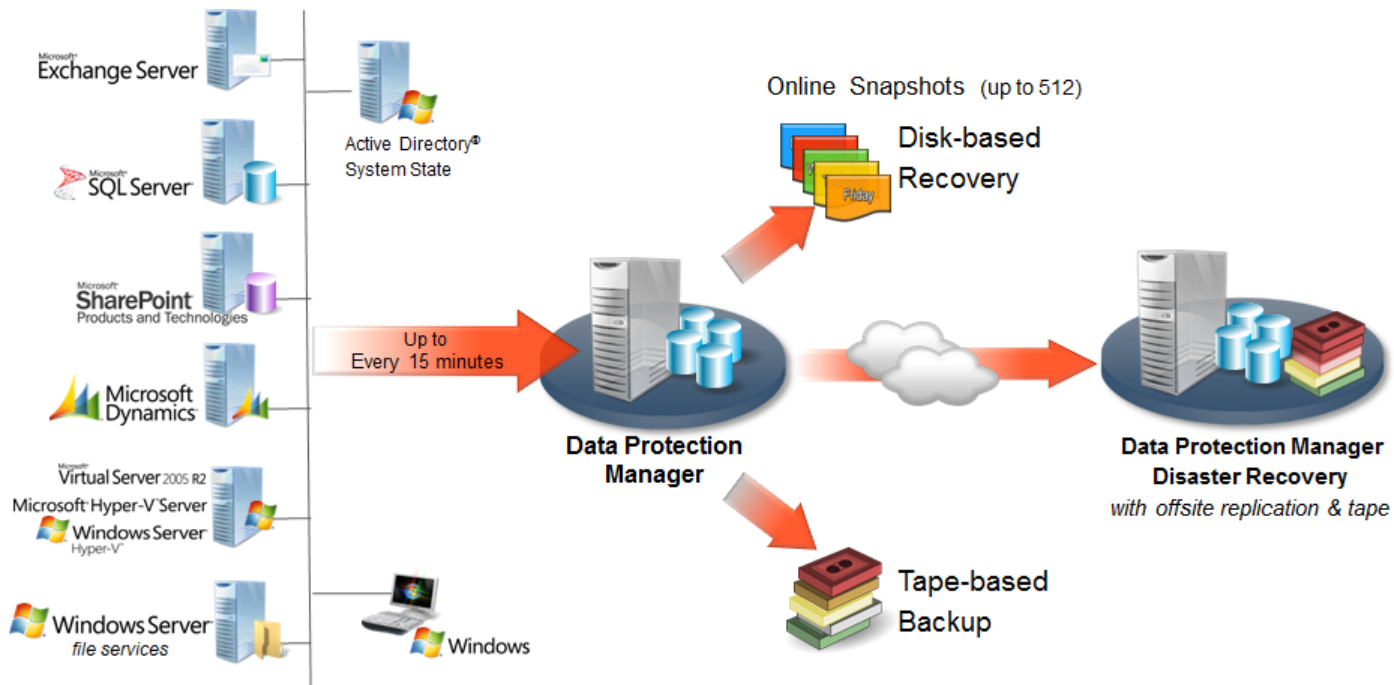


Platform as a Service

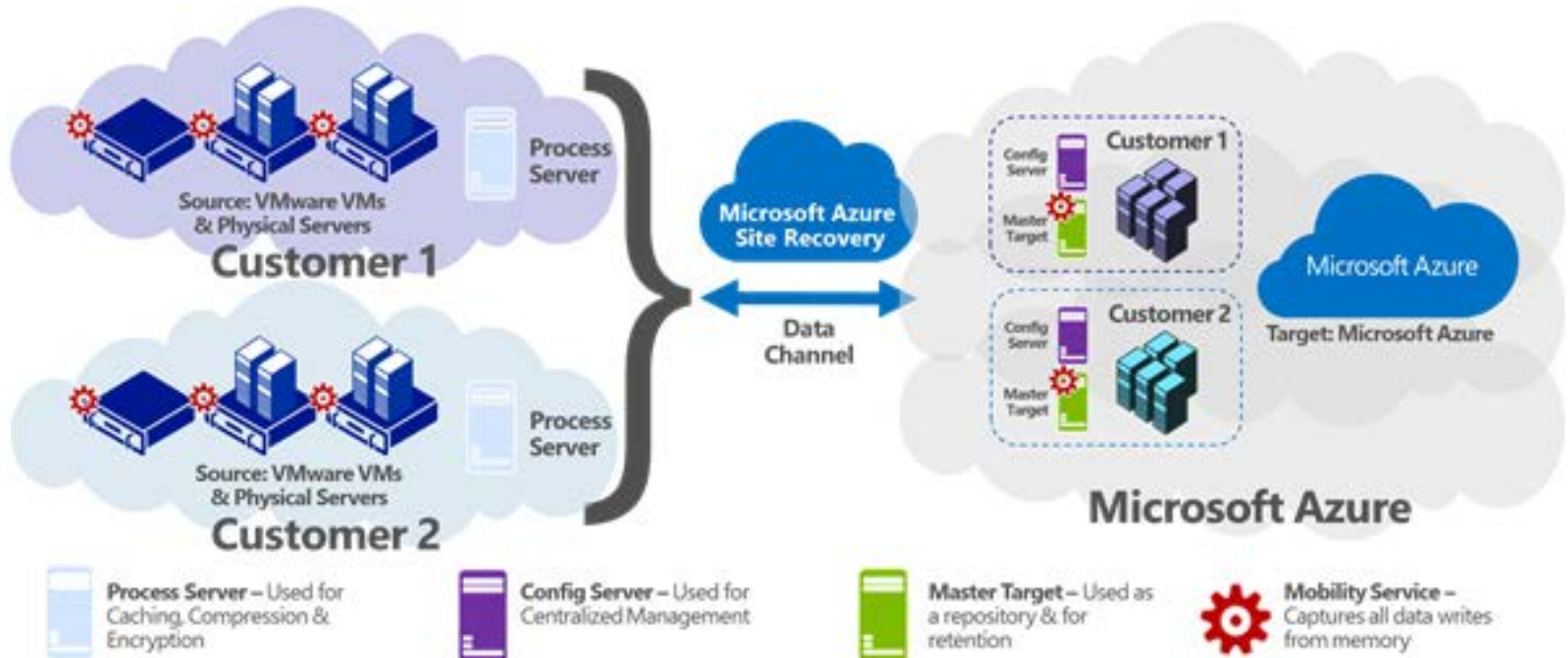
- Web Apps
- SQL Databases
- Mobile Apps
- Azure Active Directory/AADSync/ADFS
- Power BI
- SQL Warehousing
- Search

Azure Overview DR/BC

Data Protection Manager



Site Recovery



Details on ASR

- Works with VMM, HyperV and Vmware
- Orchestration is part of the package
- 15 min RPOs are possible
- Critical networking is built before failover
- Simple server in Azure on ASR is about \$27 a month

Azure Overview Security

Security Review

- Dual Factor Authenticaion
- Access Control Lists (ACL) - @ subscription, server & Vnet
- Azure Security Center

TRUST CENTER

Improved Compliance Customer controls expanding these technologies across various services (Archiving, Auditing, Data Loss Prevention, E-discovery)

Access to Azure compliance controls and customer dashboard for compliance

View customer-relevant reports – ISO, SOC Audit reports, notifications about updates, regulatory changes, etc.

ISO/IEC 27018

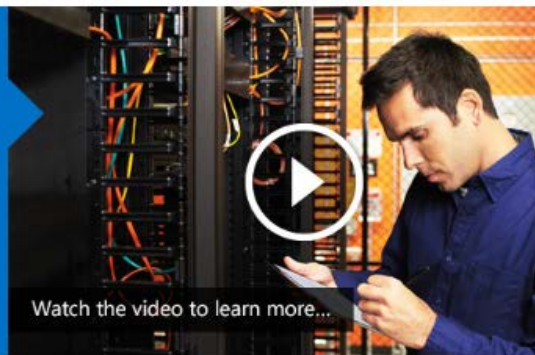
Microsoft is the only cloud provider to adhere to the ISO/IEC 27018 code of practice, covering the processing of personal information by cloud service providers.

Office 365 Trust Center

Security. Compliance. Privacy.

Learn how we, as an industry leader in cloud productivity services, are continually taking steps to maintain your trust in Office 365.

Our commitment to the area of trust is explained through the five pillars of the Trust Center.



Watch the video to learn more...

Your privacy matters

- Your data is not used for our advertising.
- We enable you to collaborate but also give you the ability to control information sharing.
- You own and retain all rights to your data in Office 365.

[Learn more](#)

Leadership in transparency

- You know where your data resides.
- We are transparent about who can access your data and under what circumstances.
- If you choose, we keep you updated about changes to data center locations and other audit information.

[Learn more](#)

Discussion