



HrOUG 2013
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Microsoft and Oracle: Partners in the Enterprise Cloud

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It's Raining Frogs!

"The two companies have decided to become friends in a way that's really good for their enterprise customers. Ultimately, any time the big software companies agree to work together, enterprises win."

JULIE BORT



**BUSINESS
INSIDER**

"Now, Hyper-V is clearly a near-first class citizen in Oracle's world and that alone is worth a headline."

BARB DARROW



 **GIGAOM**

A Time for Partnership



ORACLE®

A Time for Partnership

- Oracle software on Windows Server Hyper-V and Windows Azure
- Java fully supported in Windows Azure
- Oracle license mobility to Windows Azure
- Oracle offers Oracle Linux on Windows Azure



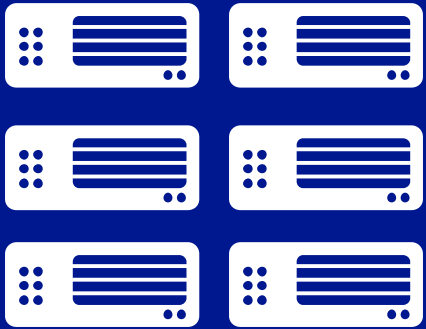
Microsoft

ORACLE

New Cloud Deployment Options

PRIVATE CLOUD

with
Windows Server Hyper-V



Extend Windows Server: Virtualize Oracle app and Database deployments

Migrate off unsupported hypervisors and standardize on Hyper-V

Use System Center for “single pane of glass” management of Oracle workloads on Windows across private, hybrid, and public cloud deployments

PUBLIC CLOUD

with
Windows Azure



Perform dev & test in the cloud for apps and databases

Extend datacenter capacity by scaling out the Oracle WebLogic tier of apps

Instantly spin up VMs with Oracle Database and WebLogic pre-installed

Public Cloud Licensing Options

1. **Bring your own license, build your own VM.**

Start a Windows Server or Oracle Linux virtual machine; install and configure software yourself.

2. **Bring your own license, use a pre-configured VM.**

Oracle offers pre-configured VM images with Oracle Linux, Oracle Database and Oracle WebLogic Server to make it simpler for you to get started. Microsoft will add pre-configured Windows Server based bring-your-own-license VM images soon.

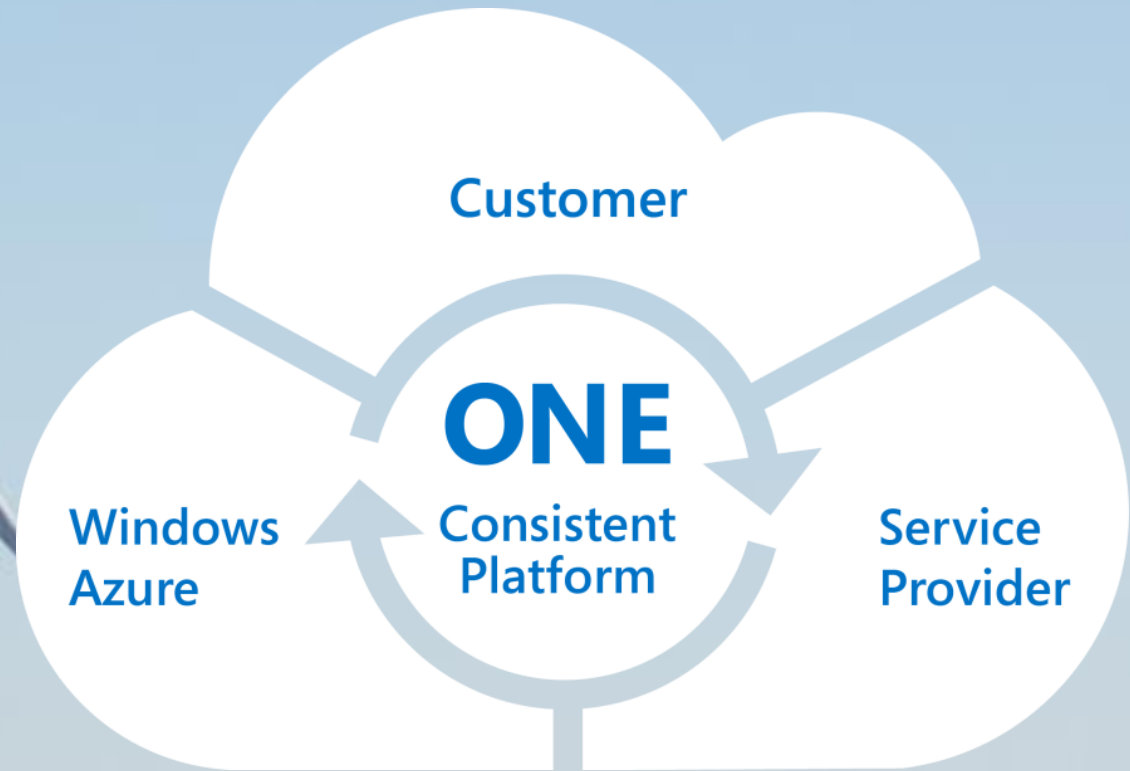
3. **Use a license-included VM image.**

Microsoft provides pre-configured, Windows Server based VM images that include licenses for Oracle Database, Oracle WebLogic Server, and Java Development Kit. Currently in preview. During preview, there is no charge for the Oracle license – you pay only for the associated Windows Azure usage.

Cloud OS Vision

Modern platform for the
world's apps

- transforms the datacenter
- unlocks insights on any data
- empowers people-centric IT
- enables modern business apps



Development

Management

Identity

Data

Virtualization

A photograph of a server room with rows of server racks. The racks are filled with server units, and the floor is covered with a patterned tile. A blue semi-transparent overlay is positioned on the left side of the image, containing white text. The text reads: "Private Cloud with Windows Server Hyper-V".

Private Cloud with Windows Server Hyper-V

Physical and virtual scalability

Massive scalability for the most demanding workloads

Hosts

- Support for up to 320 logical processors and 4TB physical memory per host
- Support for up to 1,024 virtual machines per host

Clusters

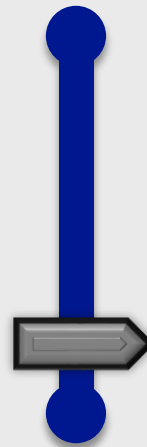
- Support for up to 64 physical nodes and 8,000 virtual machines per cluster

Virtual Machines

- Support for up to 64 virtual processors and 1TB memory per VM

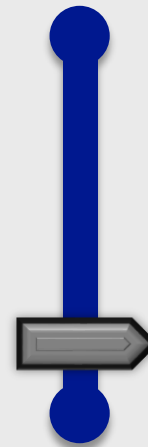
Enterprise Class Scale for Oracle Workloads

320



Logical Processors

4TB



Physical Memory

Virtual CPU

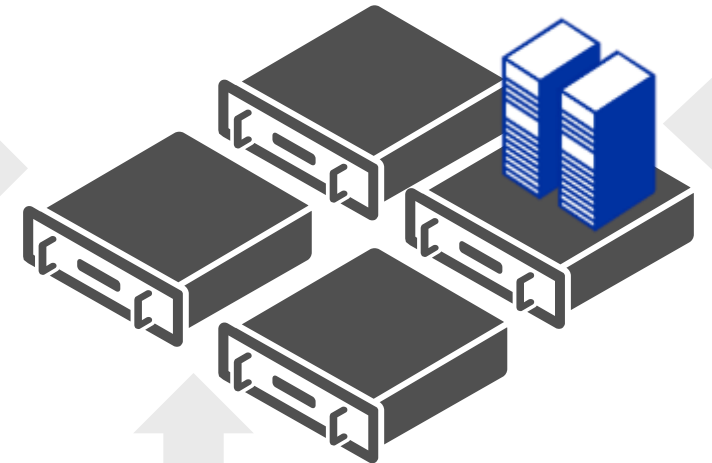


64

Virtual Memory



1TB



Cluster Nodes



64

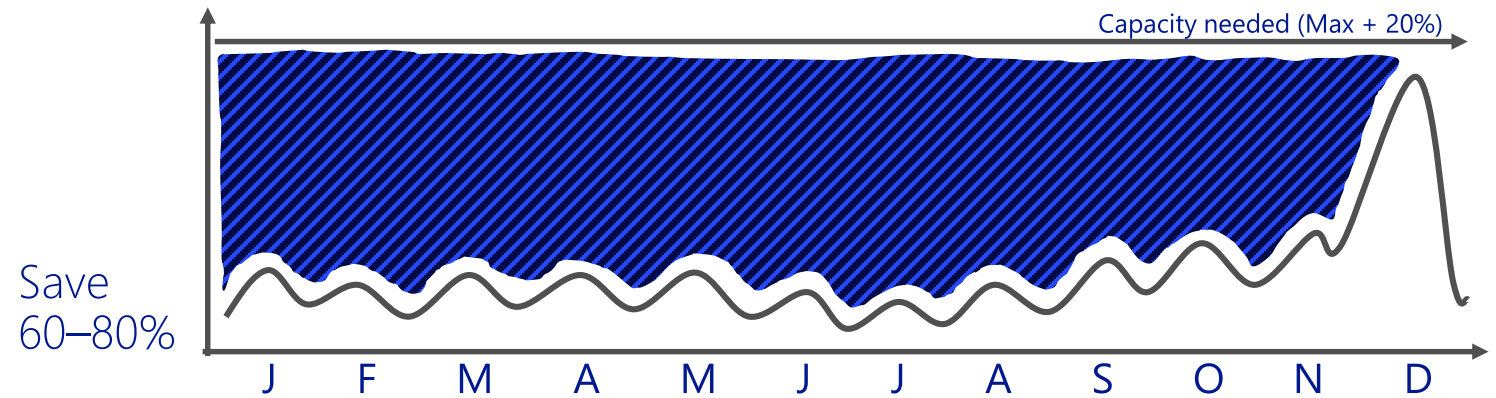
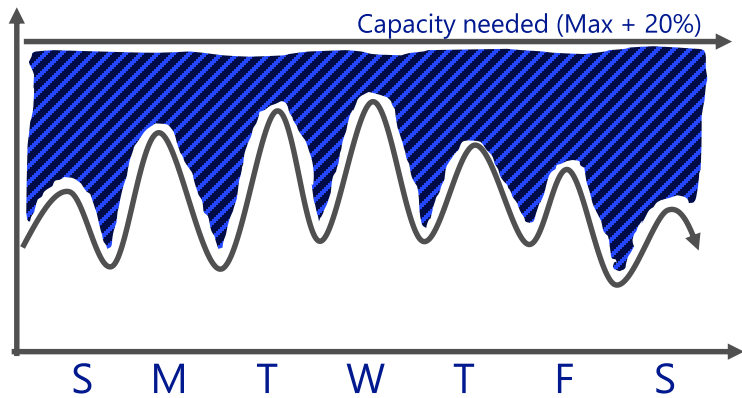
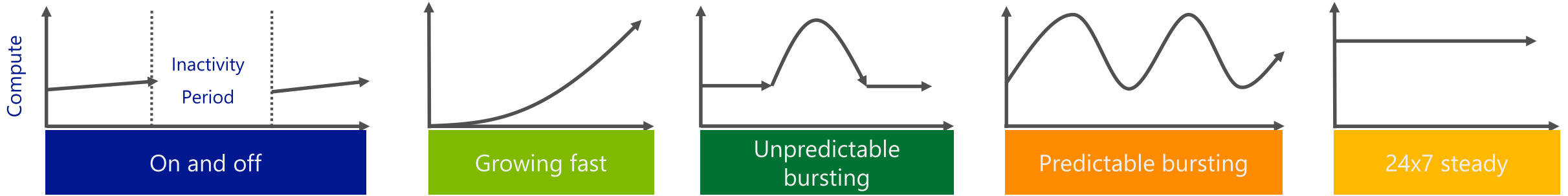
Spotlight Hyper-V capabilities

Scalability & Performance	Security & Multitenancy	Flexible Infrastructure	High Availability & Resiliency	Virtualization Innovation
Massive Scale	Extensible Switch	Live Migration	NIC Teaming	Generation 2 VMs
Virtual NUMA	ARP/ND Protection	LM with Compression	64 Node Failover Clusters	Enhanced Session Mode
64TB VHDX File Format	Virtual Port ACLs	LM over RDMA	Enhanced Guest Clustering	VM Auto Activation
Online VHDX Resize	Trunk Mode to VMs	Storage LM	Shared VHDX	
Offloaded Data Transfer	Network Traffic Monitoring	Shared Nothing LM	Virtual Machine Monitoring	
Virtual Fiber Channel	PVLANS	VM Live Cloning	Cluster Aware Updating	
vRSS & DVMQ	BitLocker Drive Encryption	Enhanced Linux Support	Priority & Affinity	
SR-IOV		Network Virtualization	Windows Server Backup	
Dynamic Memory		Multi-Tenant HNV Gateway	Windows Azure Backup	
Resource Metering			Hyper-V Replica	
Network QoS			Hyper-V Recovery Manager	
Storage QoS				

Public Cloud with Windows Azure



Computing patterns



Your application portfolio—what does it look like?

What is Windows Azure: Services

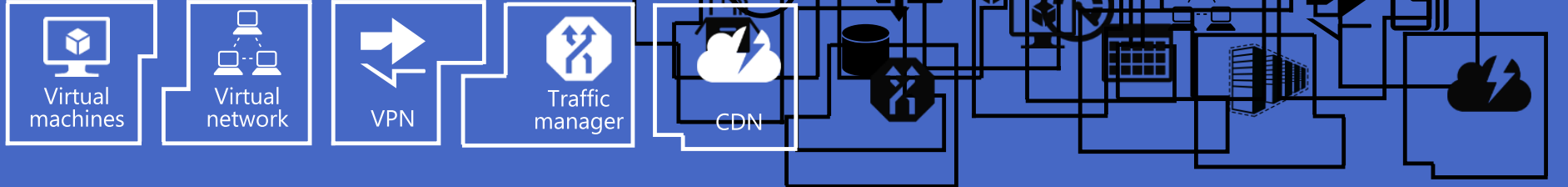
App services



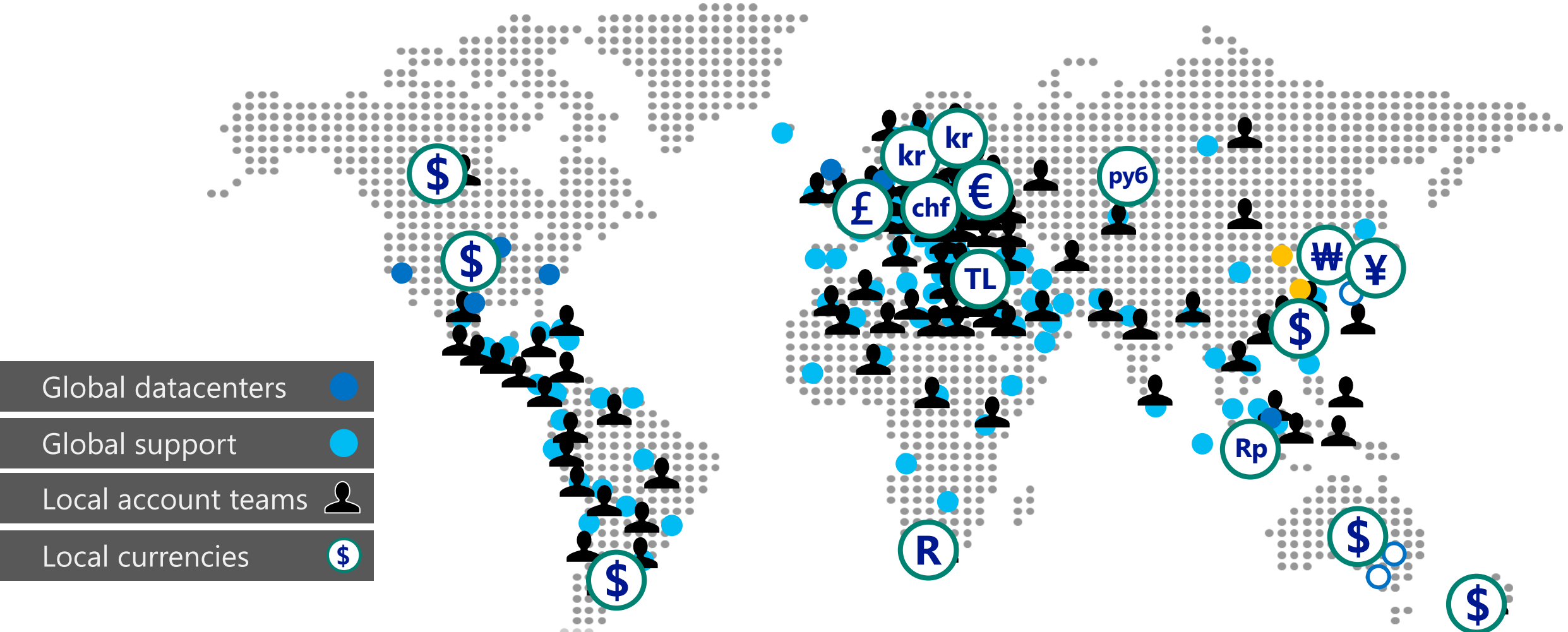
Data services



Infrastructure services



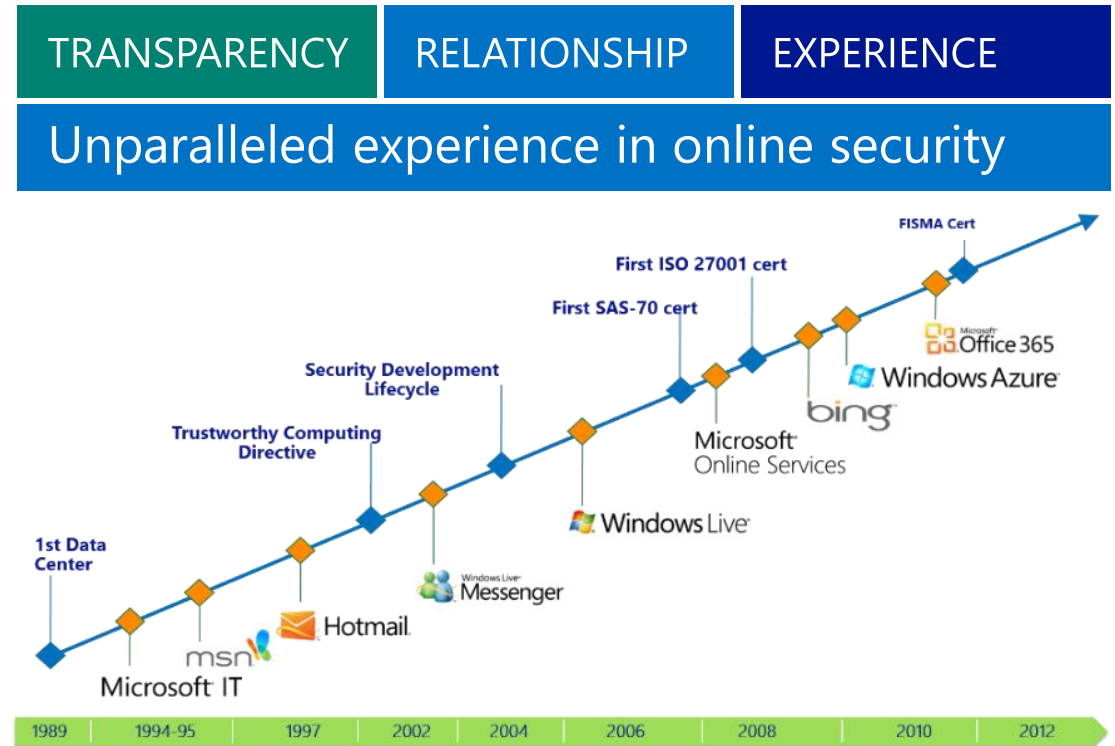
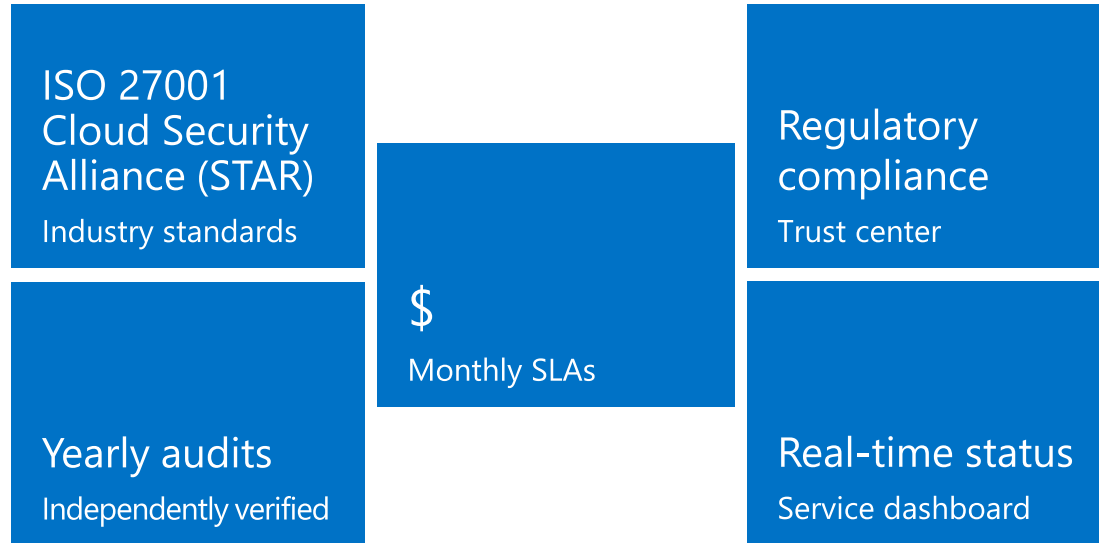
What is Windows Azure: Global Footprint



24 x 7 x 365 support. 76 markets worldwide. 7-10x the size of a football field.

280 years of combined industry experience in infrastructure, security, product dev, and global ops.

Secure and trustworthy

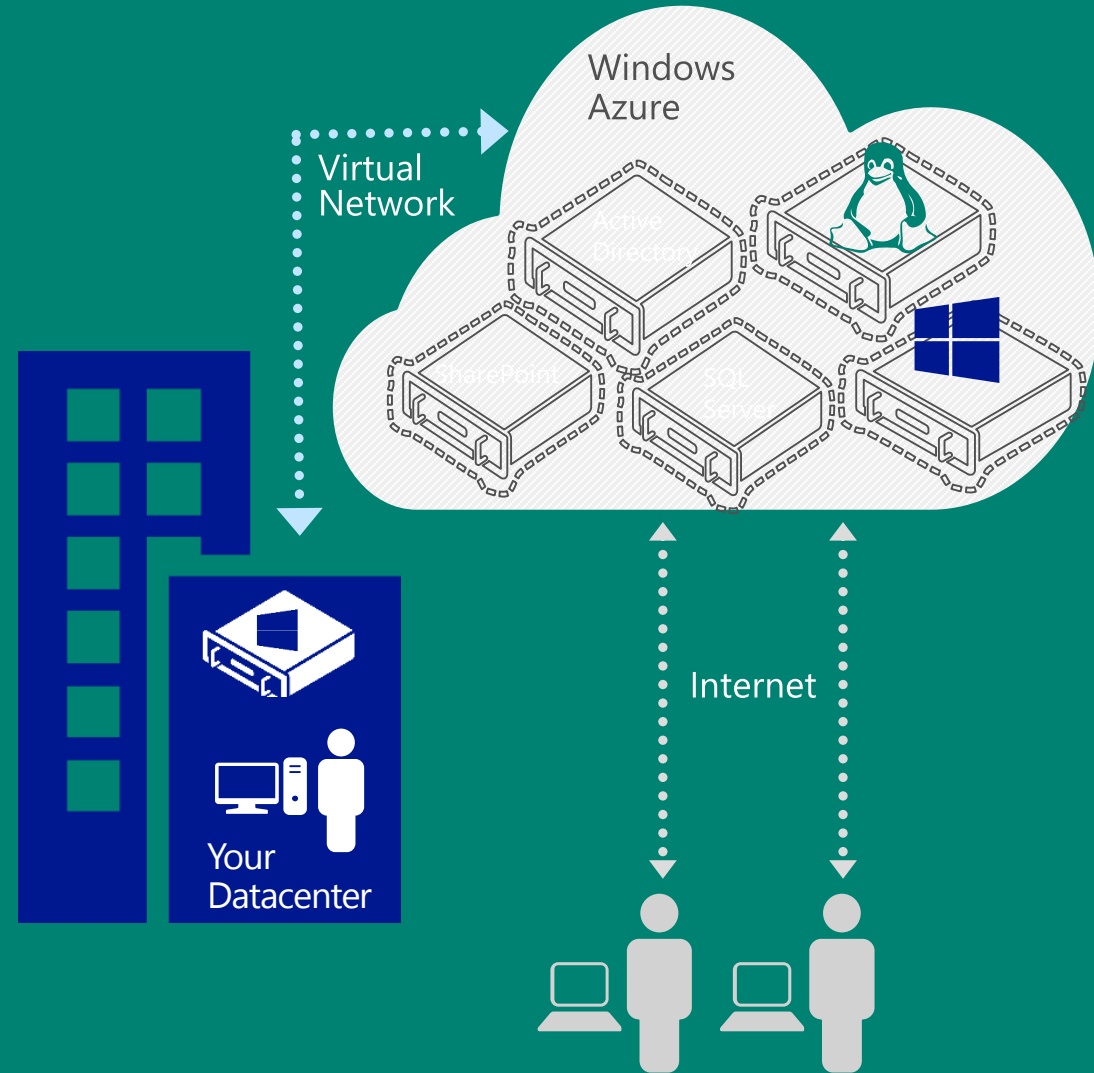


Today, we manage 200+ global services, running 24x7.

- 9.9B messages a day via Windows Live Messenger.
- 600M unique users monthly on Windows Live and MSN.
- 1 Petabyte+ of updates served monthly Windows Update.
- 5M LiveMeeting conference minutes per year.
- 200B+ authentications through Windows Azure AD.

Windows Azure Infrastructure Services

- Virtual Machines with on-demand scale and compute
- Spin up and tear down in minutes, no hardware provisioning
- Connect with on-premises Active Directory and domains
- Integrates Windows Azure Virtual Networks
- Use what you know, manage with System Center
- Integrates with Azure Platform, Apps, and Storage Services



A photograph of a server room with rows of server racks. The racks are filled with server units, and the floor has a circular pattern. A blue semi-transparent overlay is on the left side of the image, containing white text. The text reads "Windows Azure Portal Demo".

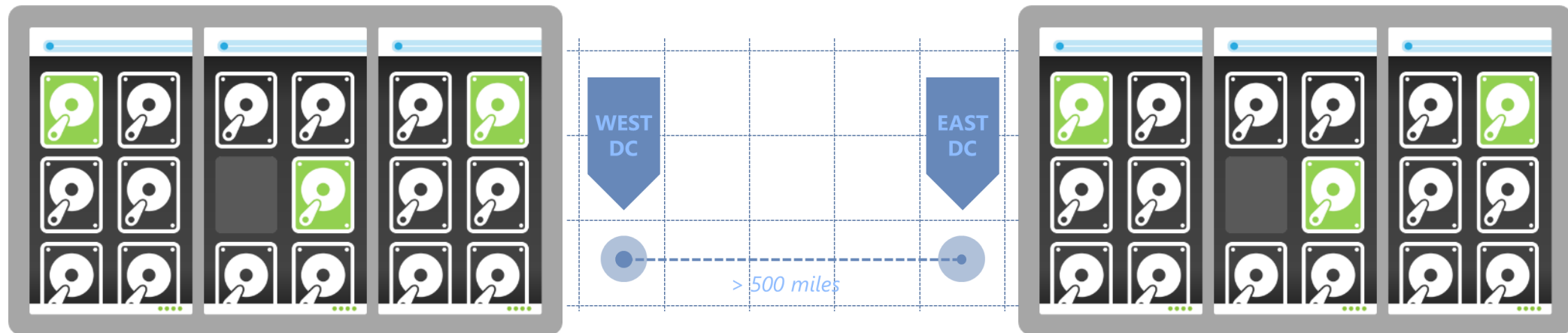
Windows Azure Portal Demo

Resilience and scale

Everything is designed to fail, because resources are plentiful.

- Multiple instances of applications and application services.
- Instances provide BOTH scale and resilience.
- Instances and no resource constraints make change and deployments easy.
- Anything can fail but apps/services continue to work.
- The platform monitors, manages, and recovers from failures.

An example: Windows Azure Storage



Windows Azure: Oracle Database

Develop & Test Scenario:

- Rapid provisioning of cost-effective infrastructure for developing & testing apps with Oracle databases
- Ease of setting up & testing of N-tier apps, integration with other services in cloud & hybrid scenarios
- Dev/test new or extend existing apps with cloud-based services (mobile services, service bus, etc)
- Test extending infrastructure (burst) into cloud for select workloads (batch processing, reporting, etc.)

Relevant Azure Features:

- Pre-configured images (Oracle Database, Oracle Linux, Oracle WebLogic Server, JDK and combinations) or bring-your-own
- Powerful monitoring & management features, cross-platform tools & automation
- Extend with additional service (SQL Azure, table & BLOB storage, service bus, etc.)
- Oracle-certified virtualized environment with Microsoft as single source of support

Considerations:

- Recommended database size <10GB for data on system disk
- Attach disk(s) for flexibility and improved performance
- Only standalone Oracle Database instances (no clustering)
- Configure & capture a customized image or deploy your own for rapid provisioning and automation
- Consider Virtual Networking to capture an IP & VPN for connectivity to on-premise datacenter
- Use special offers for MSDN subscribers for dev/test on Windows Azure

Caution:

- Oracle Database clustering (RAC for Oracle Database) is not currently supported
- Current disk limit ~500IOps max per disk (non-striped)

Windows Azure: Java & WebLogic

Develop & Test Scenario:

- Rapid dev/test of Java apps with a fully licensed Oracle-supported Java / JDK
- Test cloud & hybrid N-tier apps running WebLogic/Java; move on-prem & back
- Test new app/services/tiers (Java Azure SDK) & configurations without impacting current environment

Extend your Environment:

- Realize scale, lower costs by moving select Java/WebLogic apps to cloud (web and app server tiers)
- Ease of provisioning/configuring scale-out infrastructure for WebLogic clusters,
- Extend your existing apps / services with new features, add integrate with Azure services (mobile, service bus, media services, etc) & 3rd party solutions (NewRelic)

Relevant Azure Features:

- Pre-configured images (WebLogic, JDK, Oracle Database and combinations & Oracle Linux), bring-your-own VMs & WebLogic Java apps
- Easily scale out WebLogic clusters with additional VMs via portal, capturing managed VM images, cross platform tools & VM configuration / automation
- Official Oracle JDK v6 & v7, Windows Azure SDK for Java, Eclipse toolkit

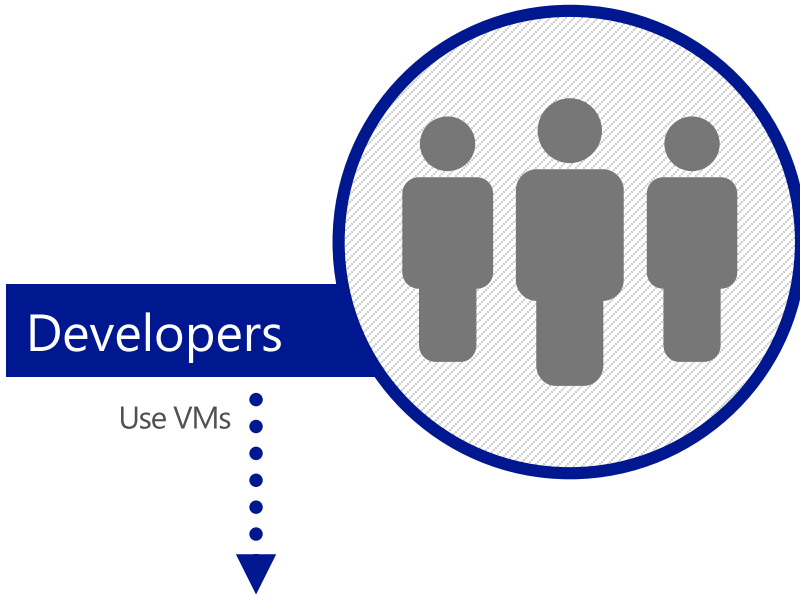
Considerations:

- JDKs in Windows Azure Oracle images are 64-bit
- Hybrid cloud for Java apps with Oracle Database (app server/web tiers in Azure, database on prem)
- Dynamic clusters (WLS 12c) for easy provisioning/mgmt
- Easily grow WebLogic cluster by capturing/deploying from a snapshot of your managed VM
- Automate creating/deploying managed VMs for WebLogic clusters with PowerShell/azure-cli & WLST
- Virtual Networking/subnets for multi-tier architecture & VPN for on-prem datacenter connectivity
- Integration with other Azure services (mobile services, message queues, etc) for net new or re-architected apps

Caution:

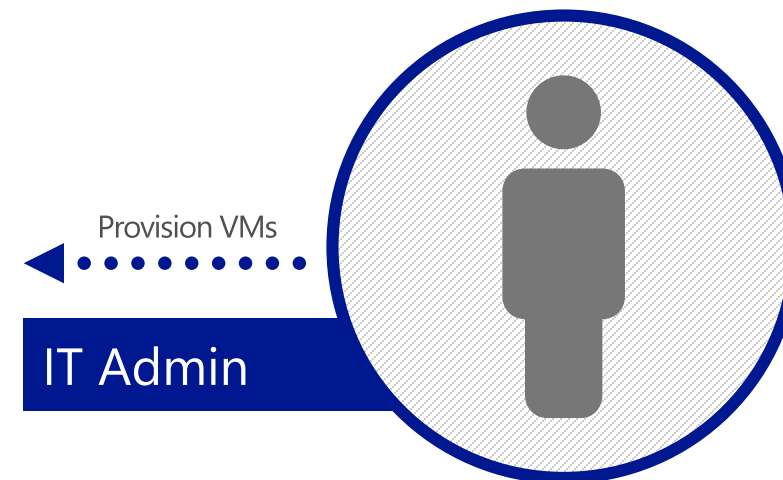
- UDP multicasting not supported, recommend WeLogic cluster size to be kept static at ≤ 10 managed servers
- IPv6 support in WebLogic Server not applicable to Azure
- Windows Azure cannot load balance multiple instances of WebLogic servers in a single VM

Develop, test, run your apps

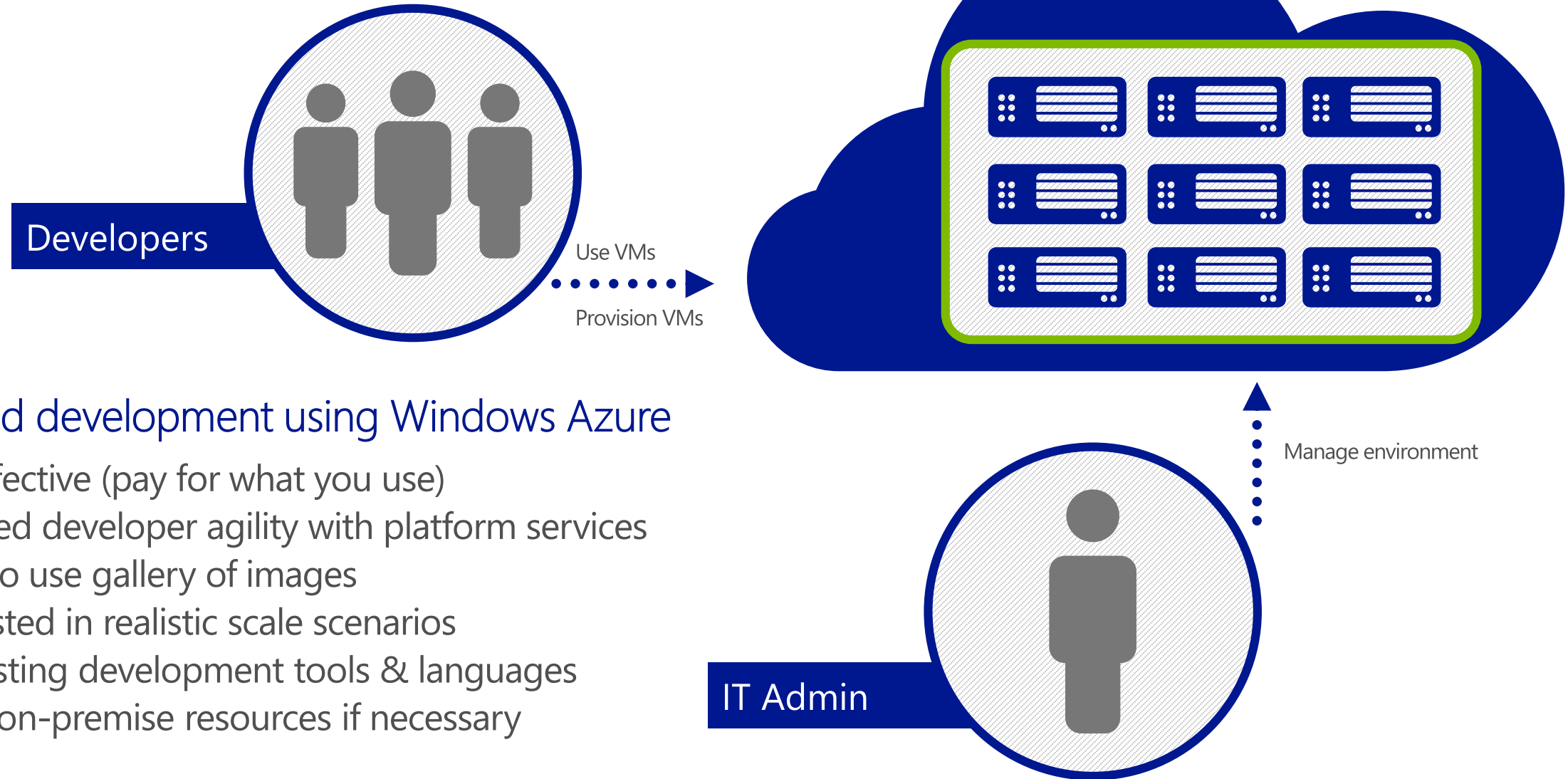


Test and development on-premises

- Limited hardware budget
- Limited software licensing
- Resource contention with VMs
- Compromised developer agility
- Realistic scale tests often challenging



Develop, test, run your apps



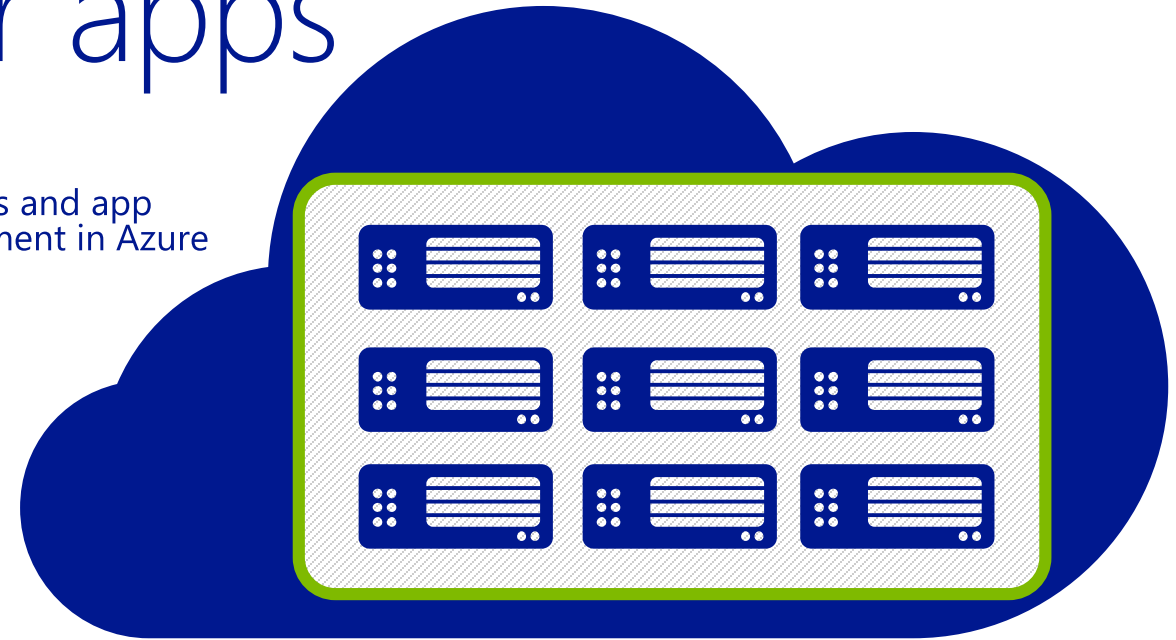
Test and development using Windows Azure

- Cost effective (pay for what you use)
- Improved developer agility with platform services
- Ready to use gallery of images
- Ship tested in realistic scale scenarios
- Use existing development tools & languages
- Access on-premise resources if necessary

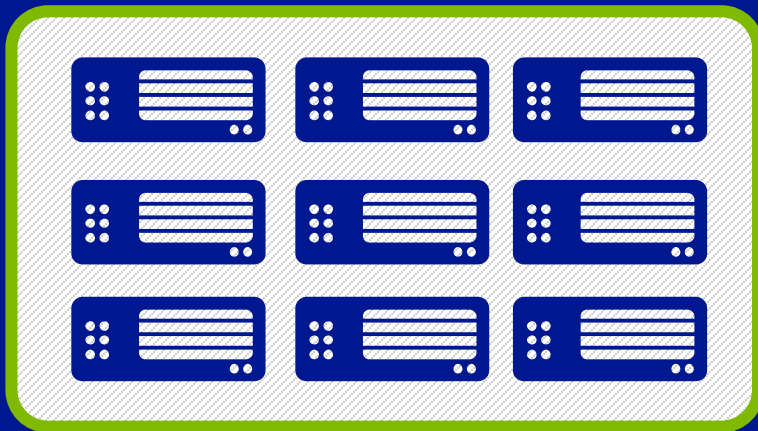
Develop, test, run your apps

Deploy anywhere
with no lock-in

Start VMs and app
development in Azure



Your Datacenter,
or Your Hoster



Production
environment

Easy VM portability

If it runs on Hyper-V, it runs
in Windows Azure

Extend your infrastructure

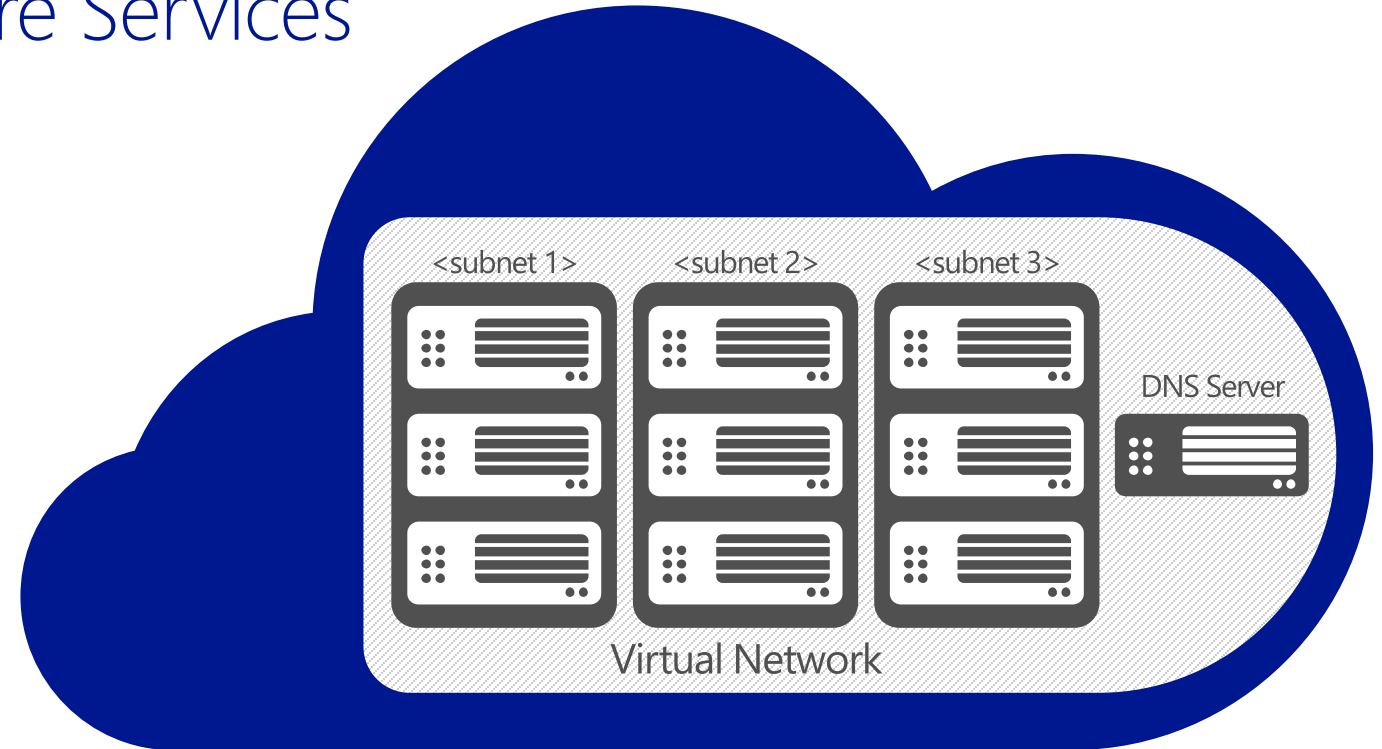
Windows Azure Infrastructure Services

Windows Azure Virtual Network

Logical isolation with control over network

Create Subnets, Private IP addresses

Bring your own DNS



Extend your infrastructure

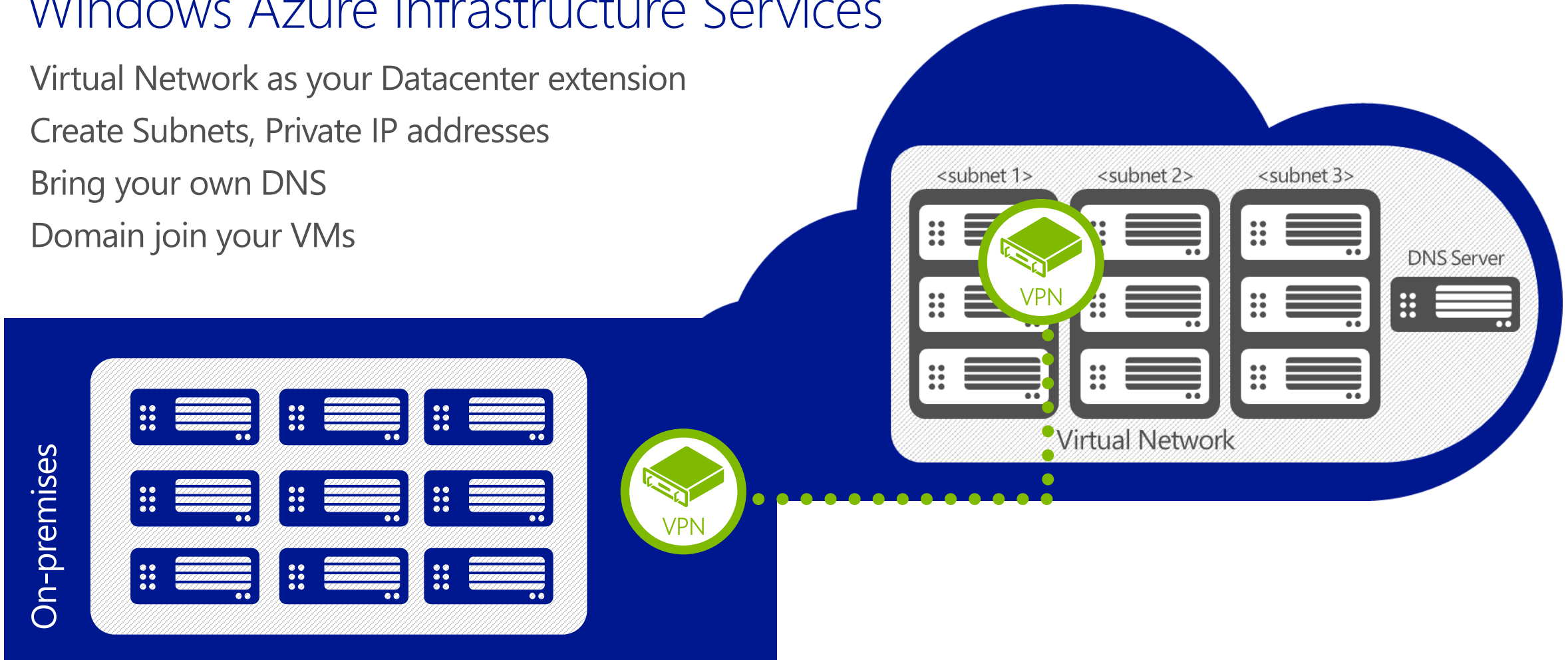
Windows Azure Infrastructure Services

Virtual Network as your Datacenter extension

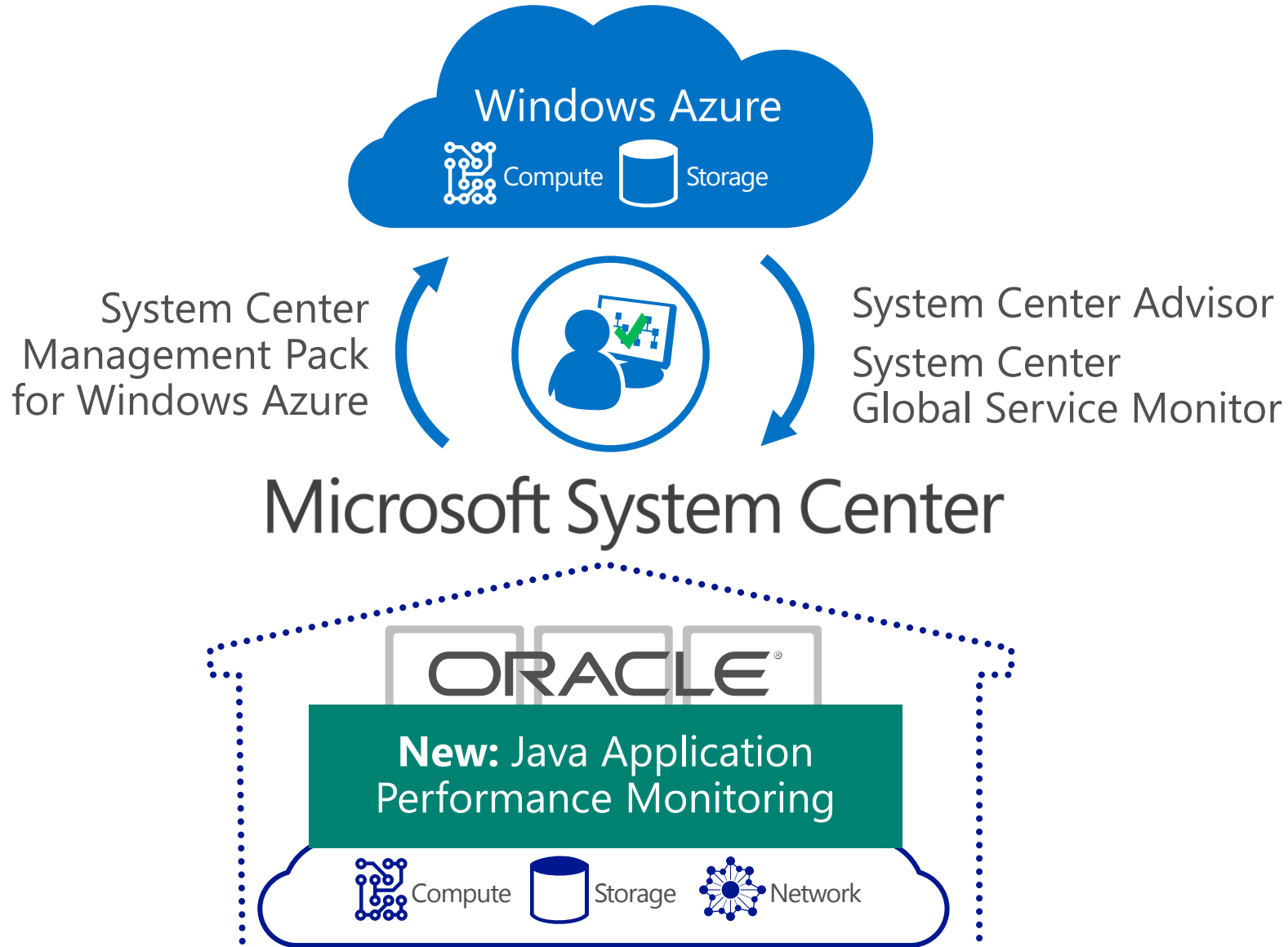
Create Subnets, Private IP addresses

Bring your own DNS

Domain join your VMs



Unified application management



Server and cloud momentum

Windows Azure named #1 in cloud storage performance in 2013 Nasuni cloud storage report

Windows Server Hyper-V a leader in the Gartner 2013 x86 Virtualization Magic Quadrant

Windows Azure used by 50% of the Fortune 500

Double digit quarterly growth for Microsoft System Center

EQUIFAX

Telefonica

 **ancestry.com**



Menzies
AVIATION





Getting started:

Evaluate our Microsoft software and services at msft.it/trycloudos

Use the Oracle Self Service Kit to manage Oracle on Windows Server
<http://aka.ms/orclssk>

Try Oracle software on Windows Azure at
www.windowsazure.com/oracle

Learn how to use Oracle images on Windows Azure at
<http://go.microsoft.com/fwlink/?linkid=321002&clid=0x409>

Take technical training at
www.microsoftvirtualacademy.com

The Blog Files

Articles from Microsoft

- [Partners in the Enterprise Cloud](#)
- [Oracle's Mission-critical Software and Microsoft's Enterprise-grade Cloud](#)
- [Deploy Pre-configured Oracle VMs on Windows Azure](#)

Articles from Oracle

- [Oracle and Microsoft Expand Choice and Flexibility in Deploying Oracle Software in the Cloud](#)
- [Oracle and Microsoft Windows Azure](#)
- [Oracle and Microsoft: Partners in the Enterprise Cloud](#)



Thank You