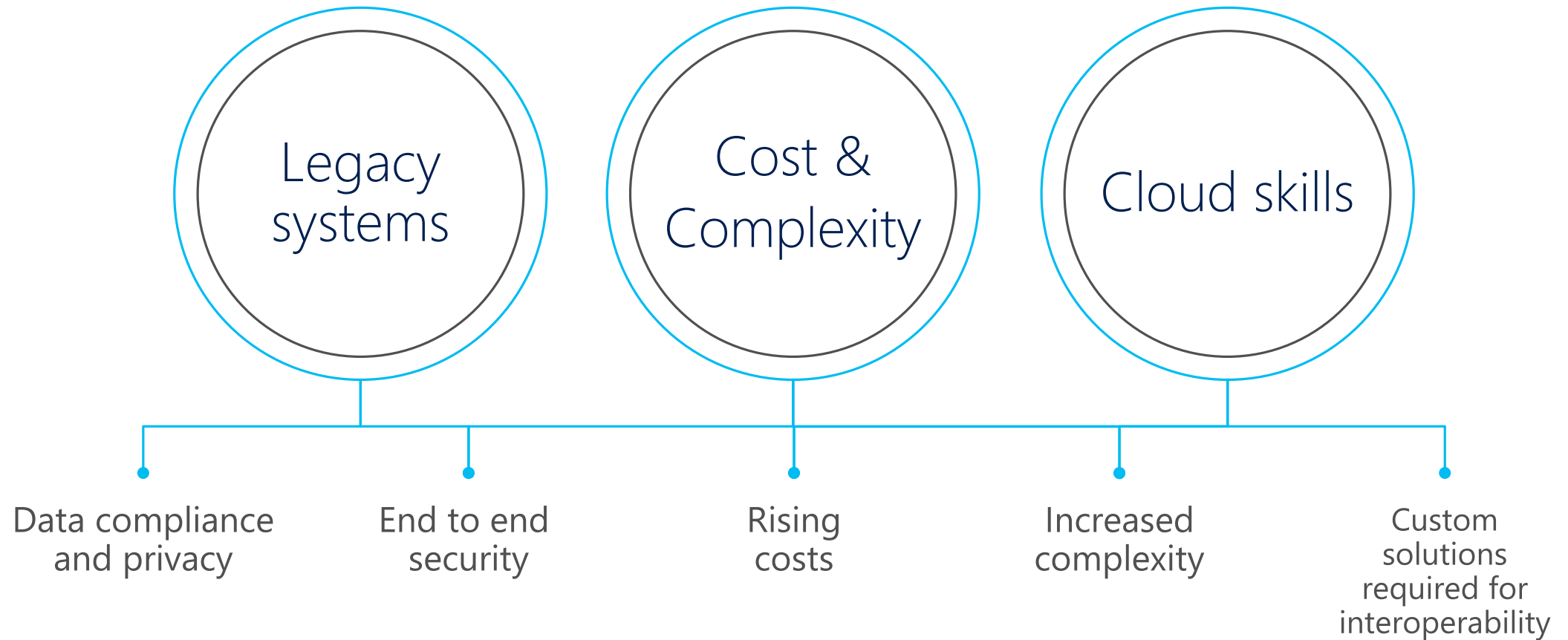


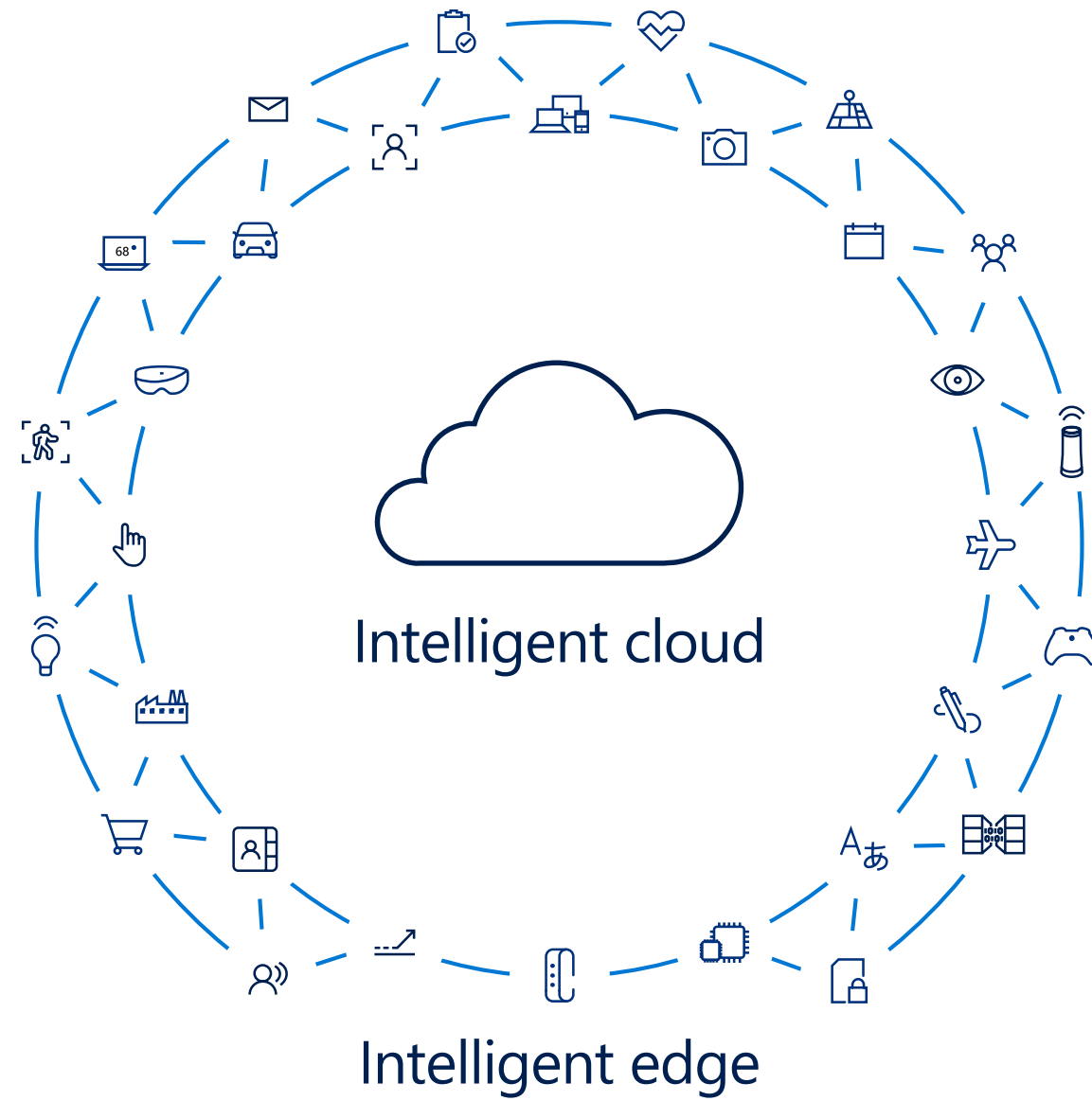


# Windows Server 2019

The operating system that  
bridges on-premises and cloud

# IT stress points





# Innovation Waves



## Enterprise Era

Windows Server 2003

### Hardware Innovation

- X86 Symmetric Multi-Processor (SMP) Servers
- Affordable servers for the masses

### Software Innovation

- Window Server 2003
- SQL Server 2005
- Exchange Server 2003

### Risk

- Y2K, SQL Slammer

## Datacenter

Windows Server 2008

### Hardware Innovation

- X64 Servers
- Multi-Core Servers (2-4 cores per socket)
- VT, EPT Integrated Memory Controller

### Software Innovation

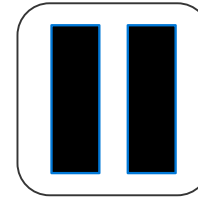
- Window Server 2008
- SQL Server 2008
- Exchange Server 2007
- SharePoint Server 2007

### Risk

- HIPAA, PCI, SOX

## Rise of cloud

Windows Server 2012



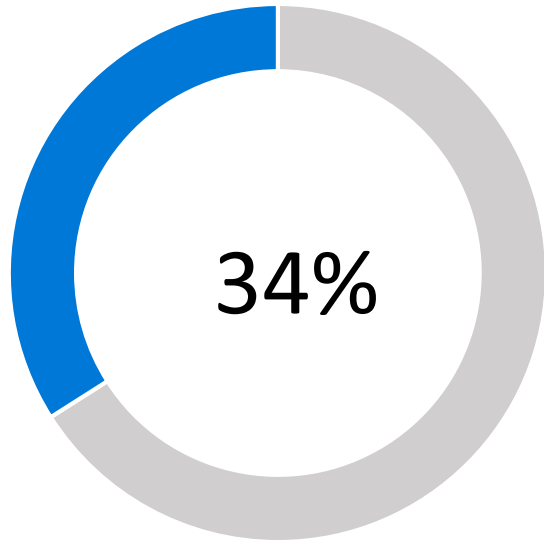
The rise of public cloud caused a *pause* in the Hardware refresh cycle while customers rationalized their cloud strategy.

## Now...

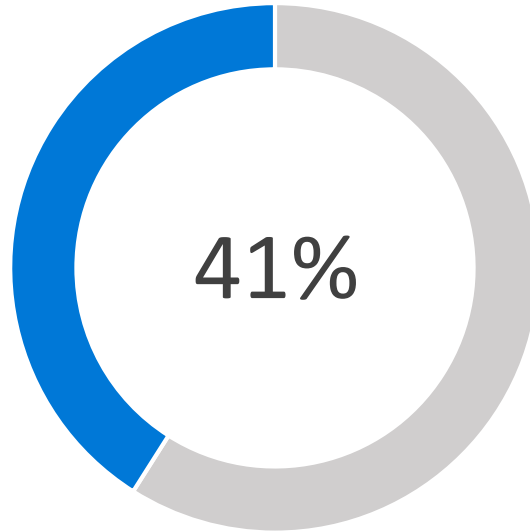
Customers have identified their strategy...

The strategy is hybrid...

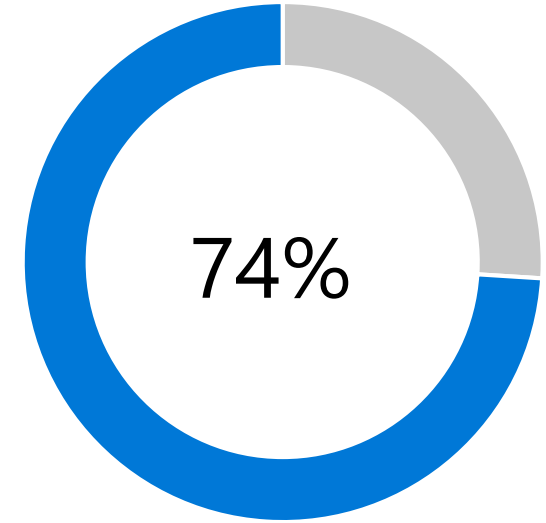
# SMB embracing hybrid cloud



34% SMBs are currently using the Hybrid Cloud



41% SMBs are considering Hybrid deployments as a future option



74% SMBs would consider Azure for Hybrid Cloud deployments

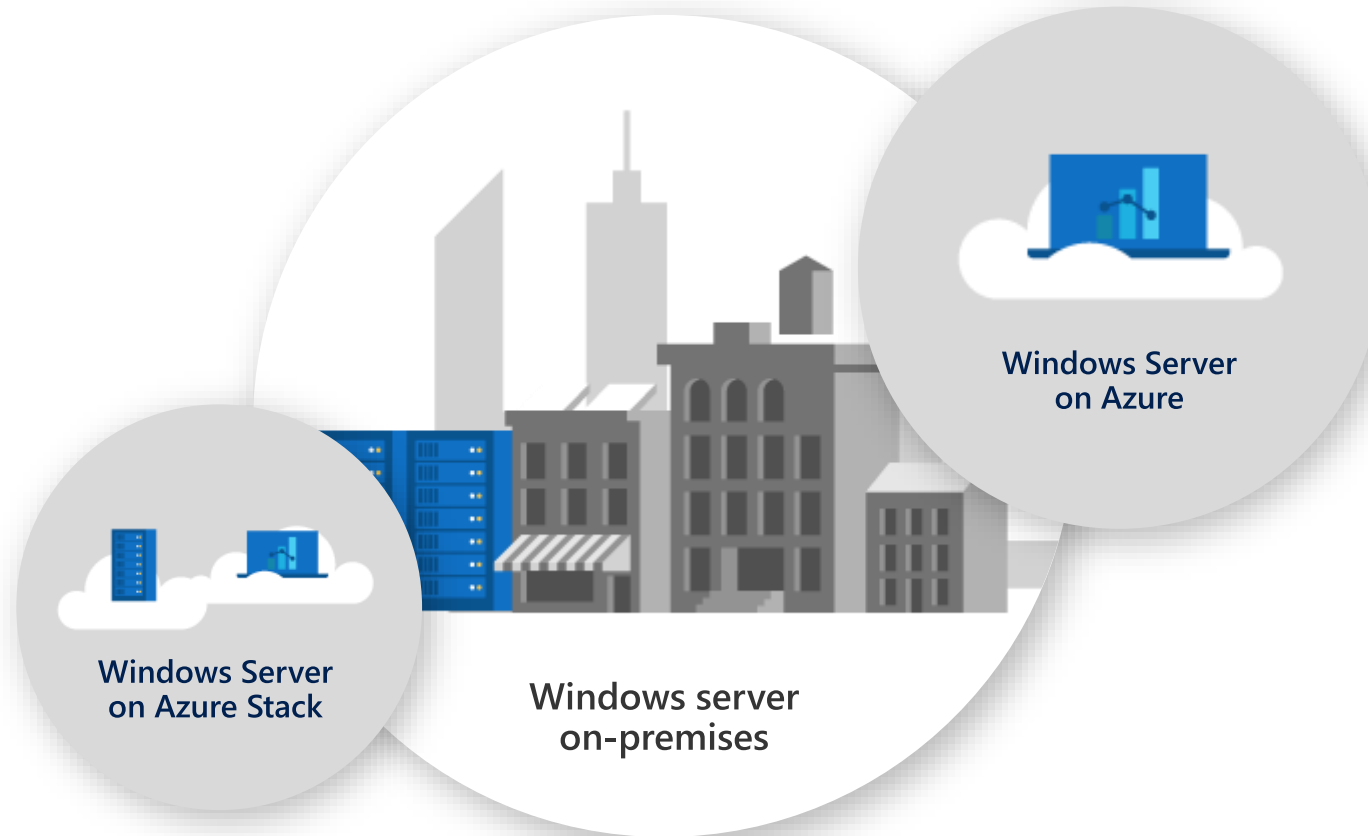
## Sources:

On-prem Hybrid Study - 2018



# Windows Server promise

Supporting you wherever you are



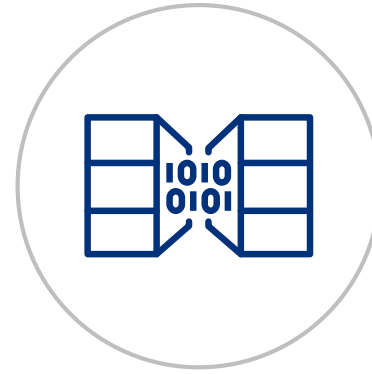
# Windows Server 2019



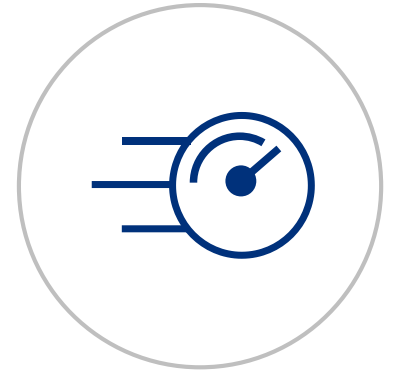
Enhanced  
security capabilities



Unique hybrid  
datacenter platform



Unprecedented  
hyper-converged  
infrastructure



Faster innovation  
for applications



# Windows Server 2019

## Enhanced security capabilities

---

Manage privileged identities

Secure the operating system

Secure virtualization fabric



# Enhanced security capabilities

Protect your datacenter with Windows Server 2019



## Manage privileged identities

Give administrators and system components just enough access privilege with Just Enough Administration



## Secure the operating system

Discover and address security breaches with Windows Defender Advanced Threat Protection

Help prevent host intrusion with Windows Defender Exploit Guard



## Secure virtualization fabric

Run Linux inside a protected virtual machine with Shielded VMs for Linux

Protect network traffic with the flip of a switch with Encrypted Subnets

# Comparison Matrix

## Enhanced Security Capability

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Enhanced Windows Defender (ATP)				•
Shielded VMs for Windows			•	•
Shielded VMs for Linux				•
HGS offline mode for shielded VM				•
VM Connect for shielded VMs				•
Cluster Hardening				•
SDN encrypted subnet				•
Just enough administration	◐	◐	•	•
Just in-time administration	◐	•	•	•
Credential Guard			•	•

# Comparison Matrix

## Enhanced Security Capability

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Control Flow Guard			●	●
Remote Credential Guard			●	●
Device Guard			●	●
Dynamic Access Control		●	●	●
App Locker	◐	●	●	●
Bit Locker	◐	◐	●	●



# Windows Server 2019

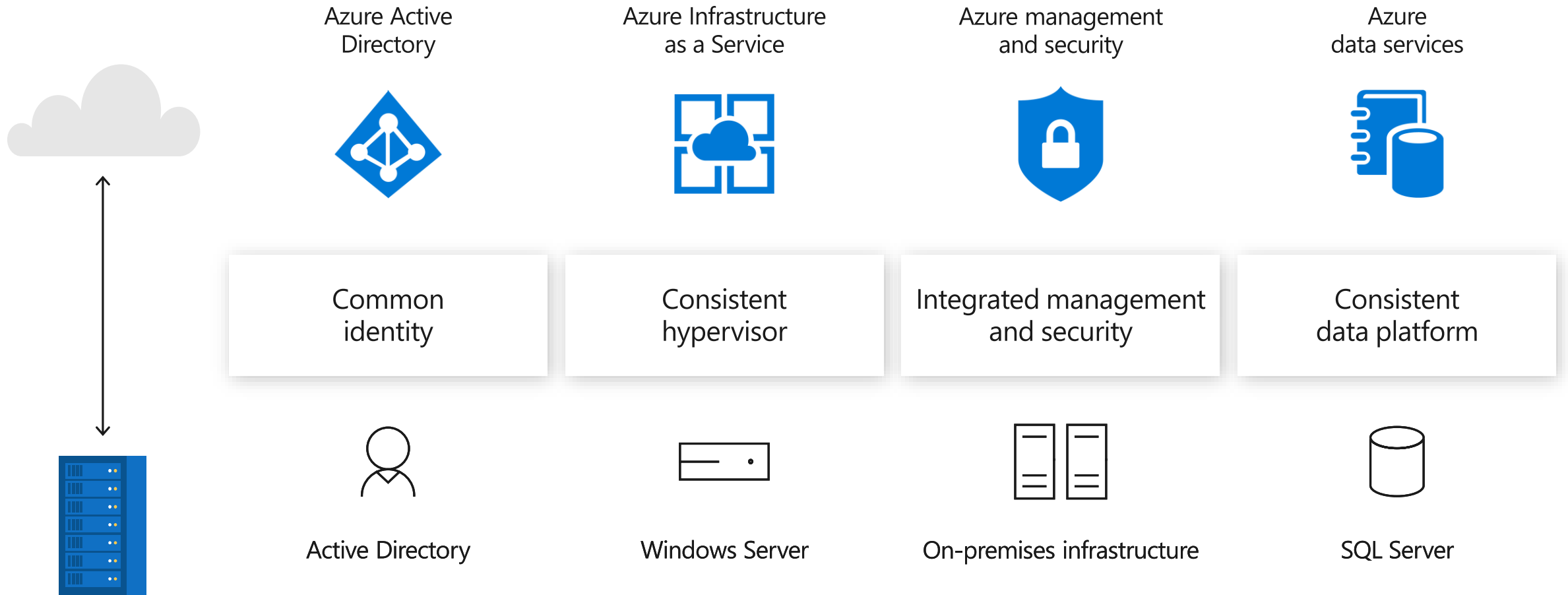
## Unique hybrid platform

---

Extend on-premises to the cloud

Add built-in hybrid management capabilities

# Hybrid consistency



# Hybrid platform

Maximize investments, gain new ones with Windows Server 2019



## Extend on-premises to the cloud

---

Maximize existing investments

Eliminate need to build custom solutions



## Add built-in hybrid management capabilities

---

Built-in Azure active directory integration

Azure backup, Azure site recovery and more

Storage migration services

Easier connection to Azure virtual networks

# Natively integrated Azure backup

## Windows admin center

Single browser-based view of Windows Server workloads running on-premises and in Azure

Seamlessly integrated with Azure services, simplifies setup and status checks

The screenshot displays the Windows Admin Center interface for Azure Backup. The left sidebar shows the 'Tools' menu with 'Backup (Preview)' selected. The main content area is titled 'Azure Backup' and includes a description: 'Protect your Windows Servers from corruptions, attacks or disasters by backing up your server directly to Microsoft Azure'. Below this, there are tabs for 'Overview', 'Recovery Points', and 'Jobs'. The 'Overview' tab is active, showing a summary of the backup configuration and status. Key information includes the Recovery Services Vault (DPMUR4Vault1hanjai), Backup and Retention schedule (Backup Policy), Subscription Name (741221e5-58fb-4b40-a9b0-a7a9374cd214), Latest Recovery Point (6/12/2018, 6:00:17 AM), Last Backup Status (Success), Next Scheduled Backup (6/12/2018, 5:30:00 PM), Oldest Recovery Point (6/7/2018, 1:47:36 PM), and Update Information (Up To Date). Below the summary, there are three sections: 'Jobs' (11 Jobs, 9 Success, 1 Failed, 1 Warning, 0 In Progress), 'Recovery Points' (8 Recovery Points, 7 Files and Folders, 1 System State), and 'Recent Jobs' (2 jobs completed). At the bottom, there is a 'Protected Items' table with columns for Name, Protection Status, Latest Backup Status, Latest Recovery Point, and Last Backup Duration.

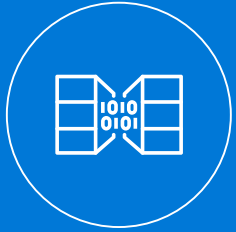
Name	Protection Status	Latest Backup Status	Latest Recovery Point	Last Backup Duration
E:\	Valid	Success	6/12/2018, 6:00:17 AM	00:00:50
System State	Valid	Success	6/11/2018, 6:48:25 AM	00:24:23



# Comparison Matrix

Unique Hybrid platform

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Storage Migration Service				•
Synchronizing File Servers to Azure		•	•	•
System Insights				•
Azure Network Adaptor				•
Enhanced AD Authentication				•
VM Protection	•	•	•	•



# Windows Server 2019

## Unprecedented hyper-converged infrastructure (HCI)

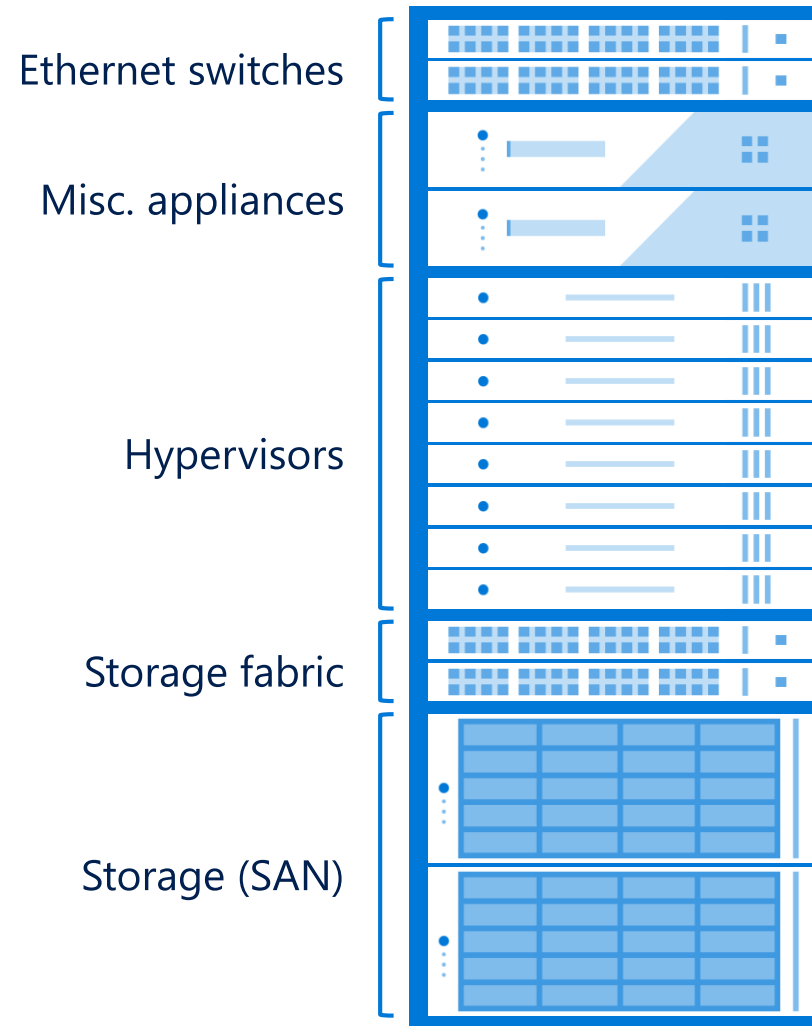
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Industry leading performance

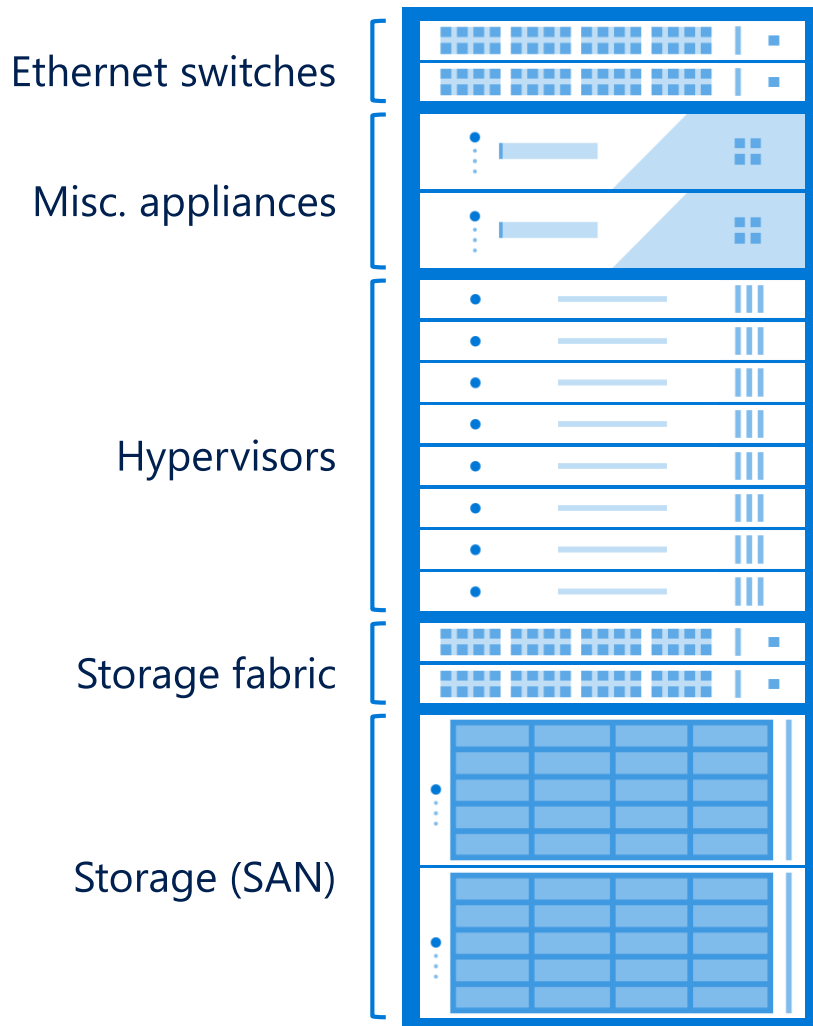
Microsoft-validated solutions ready to go

Simplified management

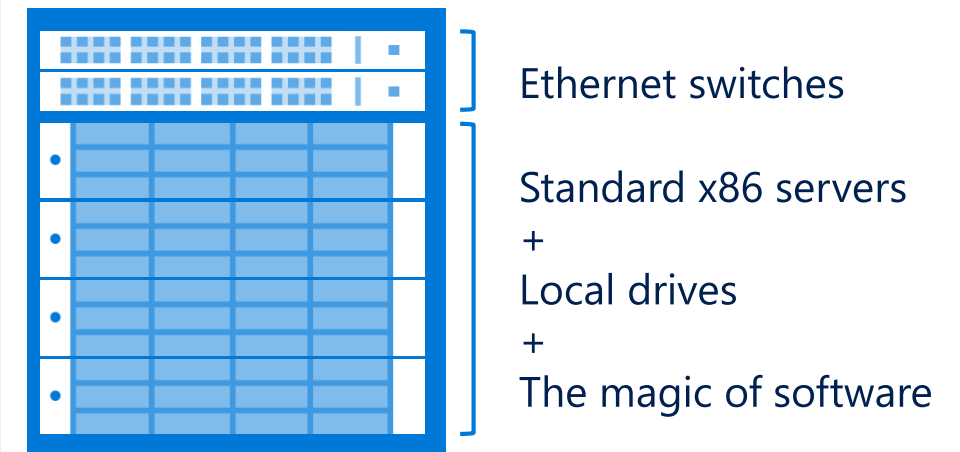
# Traditional infrastructure



# Traditional Infrastructure



# Hyper-converged infrastructure (HCI)



# Simplified HCI management

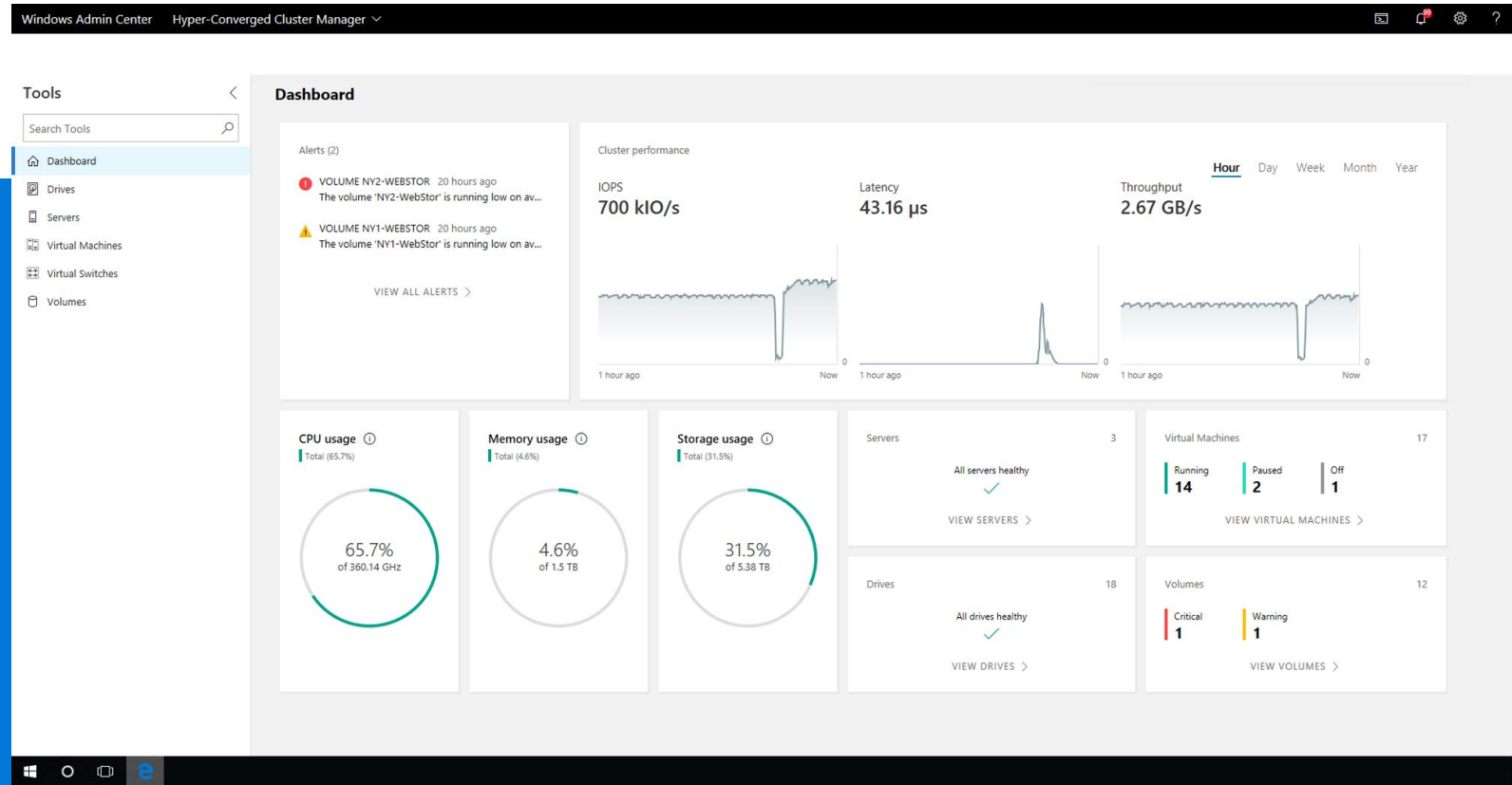
Windows admin center

Manage Windows  
Server HCI solutions for  
Windows Server 2016 or  
2019

Hybrid Cloud integration built-in

Extensible to partners

Fine-tune solution performance



# Evolution of Windows Server hyper-converged

## Hyper-V



Introduced in 2008,  
ten years ago!

Foundation of our  
hyperscale Azure cloud

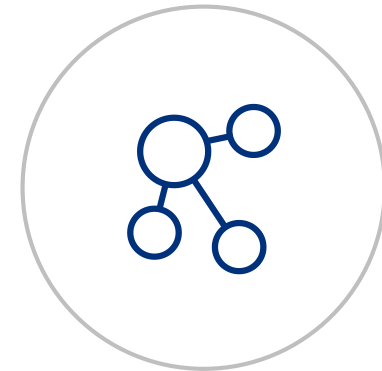
## Storage Spaces Direct



New in Windows  
server 2016

In development for 5+  
years at Microsoft  
Foundation of Azure Stack

## Software-defined Networking



New in Windows  
server 2016

Inspired by Azure

# Comparison Matrix

## Hyper Converged Infrastructure

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Unified Management				•
Storage Space		•	•	•
Enhanced Storage Spaces Direct			🔵	•
Mirror-accelerated parity			🔵	•
Storage Class Memory				•
Supports USB thumb drive				•
Storage Replica			•	•
Storage Quality of Service			•	•
Data Deduplication		🔵	•	•
Virtual Machine Storage Resiliency			•	•
Azure Witness for Cluster			🔵	•



# Comparison Matrix

## Hyper Converged Infrastructure

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Storage Health Monitoring			•	•
Cluster Wide Monitoring				•
Cluster Sets				•
Cluster OS rolling Upgrade			•	•
Mixed OS mode cluster		•	•	•
Site-aware failover clusters			•	•
Kernel Soft Reboot				•
Persistent memory support				•
Linux and Free BSD workload	◐	•	•	•
Hot add and remove for disk, memory and network		◐	•	
Network Controller			•	

# Comparison Matrix

## Hyper Converged Infrastructure

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Virtual Networking		•	•	•
Software load balancer (SLB)			•	•
Virtual network peering				•
Distributed firewall and micro-segmentation				•
Hybrid SDN gateways		•	•	•
Improved SDN gateway				•
Converged RDMA		◐	◐	•
IP address management (IPAM) and DNS		◐	◐	•
MultiPoint services role				•
RDS RemoteFX vGPU		◐	◐	
High-availability RDS connection broker		◐	◐	



# Windows Server 2019

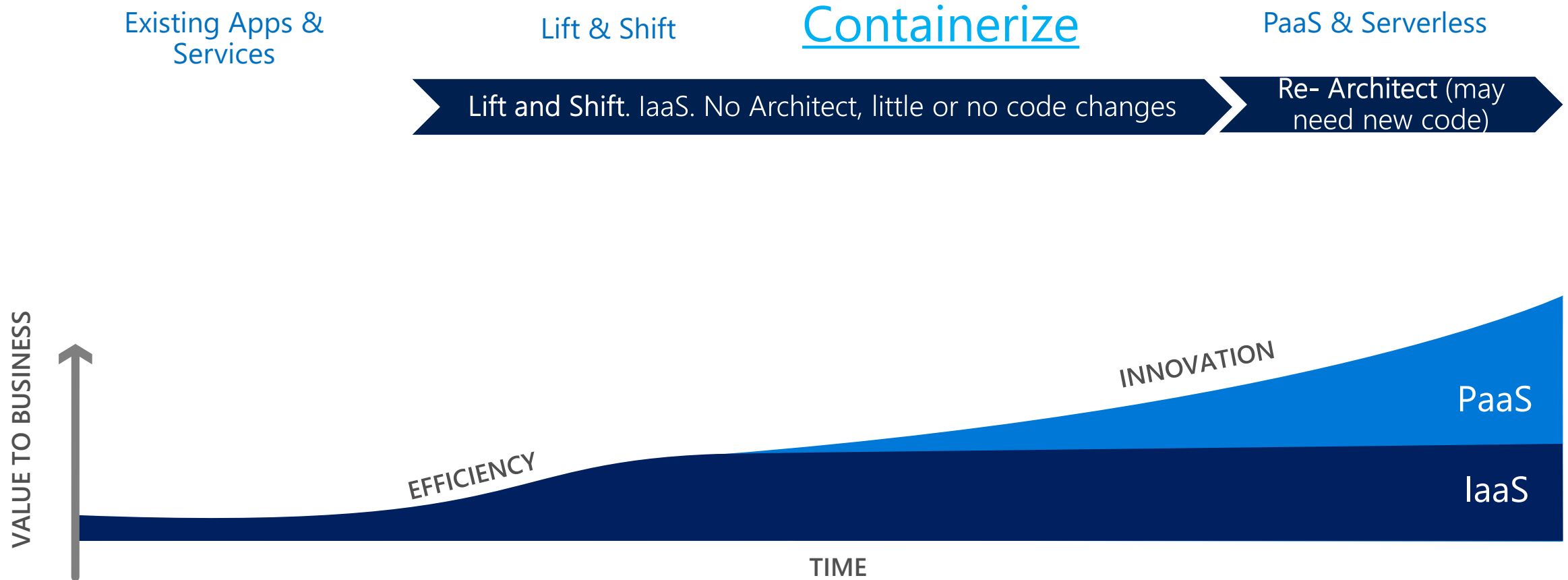
## Faster innovation for applications

---

Improved container support

Improved Linux support

# The more you modernize, the higher the ROI



# Containers



Ultra-Portable

Run Anywhere



Agile

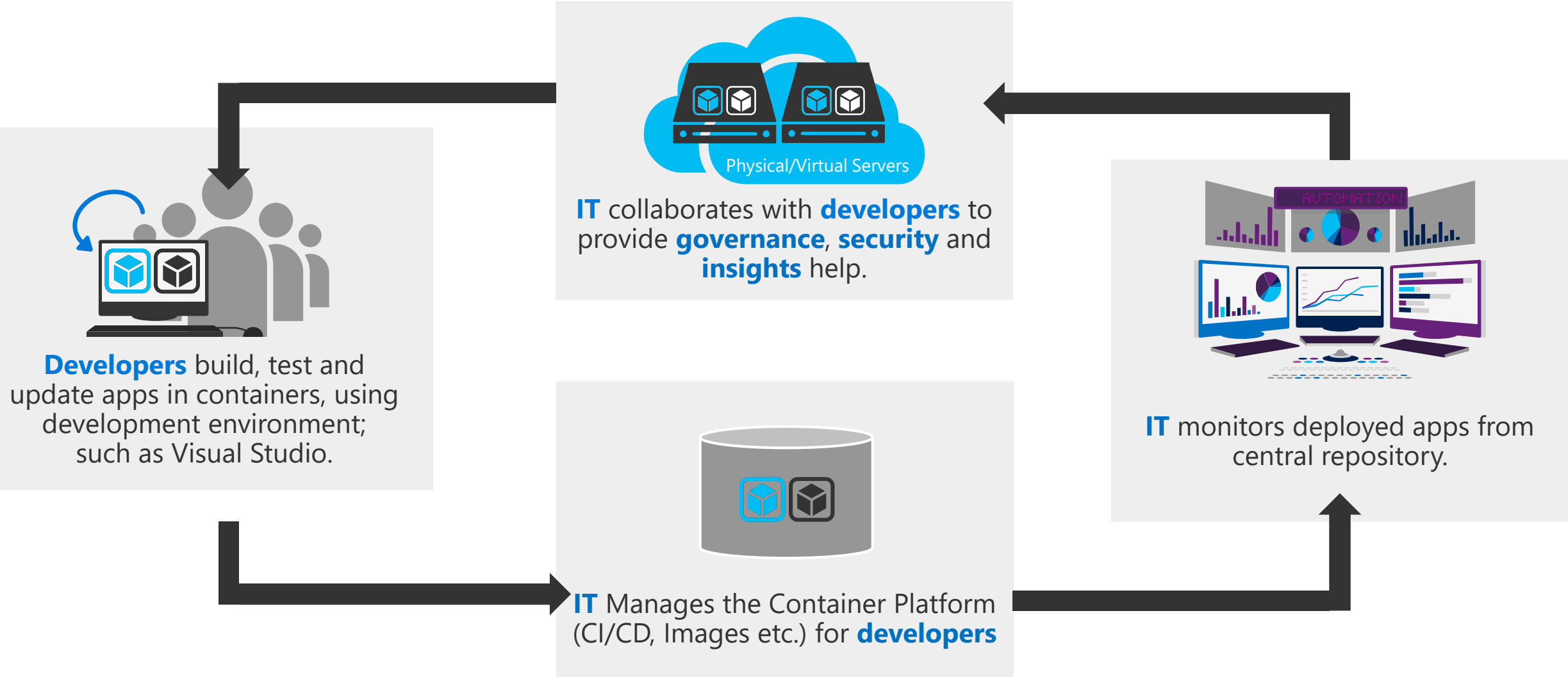
Microservices



Rapidly Scale

Fast deployment

# New Apps: IT DevOps drives Governance, Security & Insights



# Faster innovation for applications

Enable developers and IT pros to build and refactor apps faster



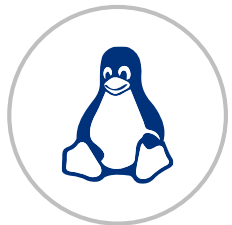
## Improved container support

---

Kubernetes support—improvements to compute, storage and networking components of a Kubernetes cluster

Red Hat open-shift container platform

Optimized images for Server Core and Nano Server



## Improved Linux support

---

Linux containers on Windows host

Support for tools such as open SSH, Curl, Tar

Windows Subsystem for Linux



# Comparison Matrix

Faster Innovation for Applications

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Linux Containers				•
Windows Server Containers			•	•
Server Core base container image				•
Nano Server base container image			•	•
Server Core Features on Demand				•
Kubernetes platform support				•
Group Managed Service Accounts (gMSA)		◐	◑	•
Windows Subsystem on Linux				•
Hyper-V isolation			•	•

# Comparison Matrix

Faster Innovation for Applications

Feature	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019
Azure Service Fabric for Windows Server		•	•	•
PowerShell 5.1	•	•	•	•
PowerShell Desired State Configuration (DSC)	•	•	•	•
Visual Studio Code	•	•	•	•
NET Core	•	•	•	•

# Windows Server 2019 Feature Differentiation

## Standard and Datacenter editions

- Deliver enhancements to core Windows Server functionality.
- Enable developers to create cloud native apps and modernize traditional apps using containers and micro-services
- Increase security and reduce business risk with multiple layers of protection built into the operating system

## Datacenter Edition

- Continues to enable high density virtualization
- Adds advanced software-defined datacenter capabilities
- Adds advanced software-defined storage capabilities

	Datacenter Edition	Standard Edition
Core Windows Server functionality	•	•
Hybrid integration	•	•
Hyper-converged infrastructure	•	
OSes*/Hyper-V containers	Unlimited	2*
Windows Server containers	Unlimited	Unlimited
Host Guardian Service	•	•
Storage Replica	•	•
Shielded Virtual Machines	•	
Software defined networking	•	
Software defined storage	•	

# Windows Server 2019 editions

Editions	Description	Licensing model	CAL requirements
Windows Server 2019 Datacenter	For highly virtualized datacenter and cloud environments.	Core based	WS CAL
Windows Server 2019 Standard	For physical or minimally virtualized environments.	Core based	WS CAL
Windows Server 2019 Essentials	For small businesses with up to 25 users and 50 devices.	Processor based	No CAL required

# Get started

Contact or visit Dustin today to get more information about Windows Server 2019

Sweden:

Web: [www.dustin.se/brands/microsoft](http://www.dustin.se/brands/microsoft)

Customer Service Sweden: 08-553 44 000

Denmark:

Web: [www.dustin.dk/brands/microsoft](http://www.dustin.dk/brands/microsoft)

Customer Service Sweden: 70 13 70 40

Norway:

Web: [www.dustin.no/brands/microsoft](http://www.dustin.no/brands/microsoft)

Customer Service Sweden: 21 04 40 30

Finland:

Web: [www.dustin.fi/brands/microsoft](http://www.dustin.fi/brands/microsoft)

Customer Service Sweden: 030-623 85 01

