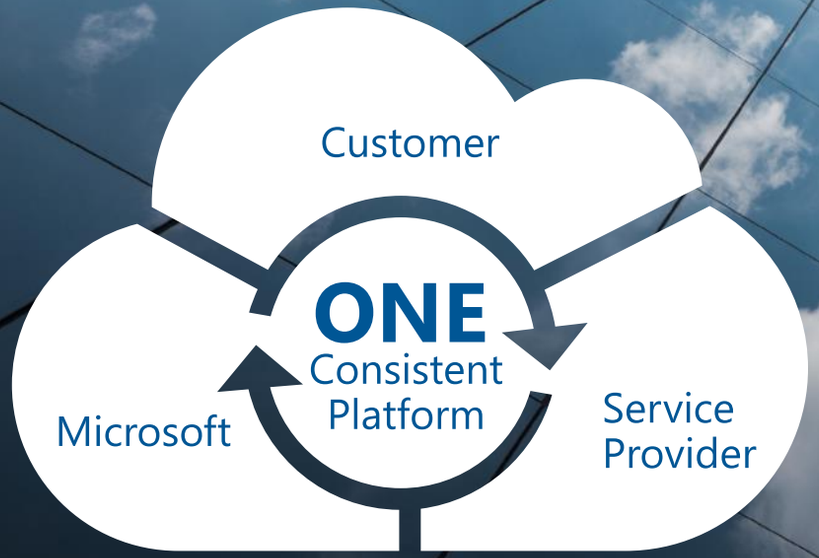
CloudOS

Ovidiu Pismac
MCSE Security, CISSP, MCSE Private Cloud, Server & Desktop Infrastructure
Microsoft Romania
ovidiup@microsoft.com

Microsoft's vision: Cloud OS



Enterprise-grade platform

Hybrid design

People-focused approach

Development Management Identity Virtualization Data

Microsoft Azure Cloud Leader on IAAS in Gartner

Microsoft Leader in PAAS

Figure 1. Magic Quadrant for Enterprise Application Platform as a Service, Worldwide

Source: Gartner (March 2015)

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Microsoft Azure Leader in Cloud Storage

Cl

Microsoft Azure Leader in Disaster Recovery as a Service

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Microsoft Azure Active Directory

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Microsoft Enterprise Mobility Suite -EMS

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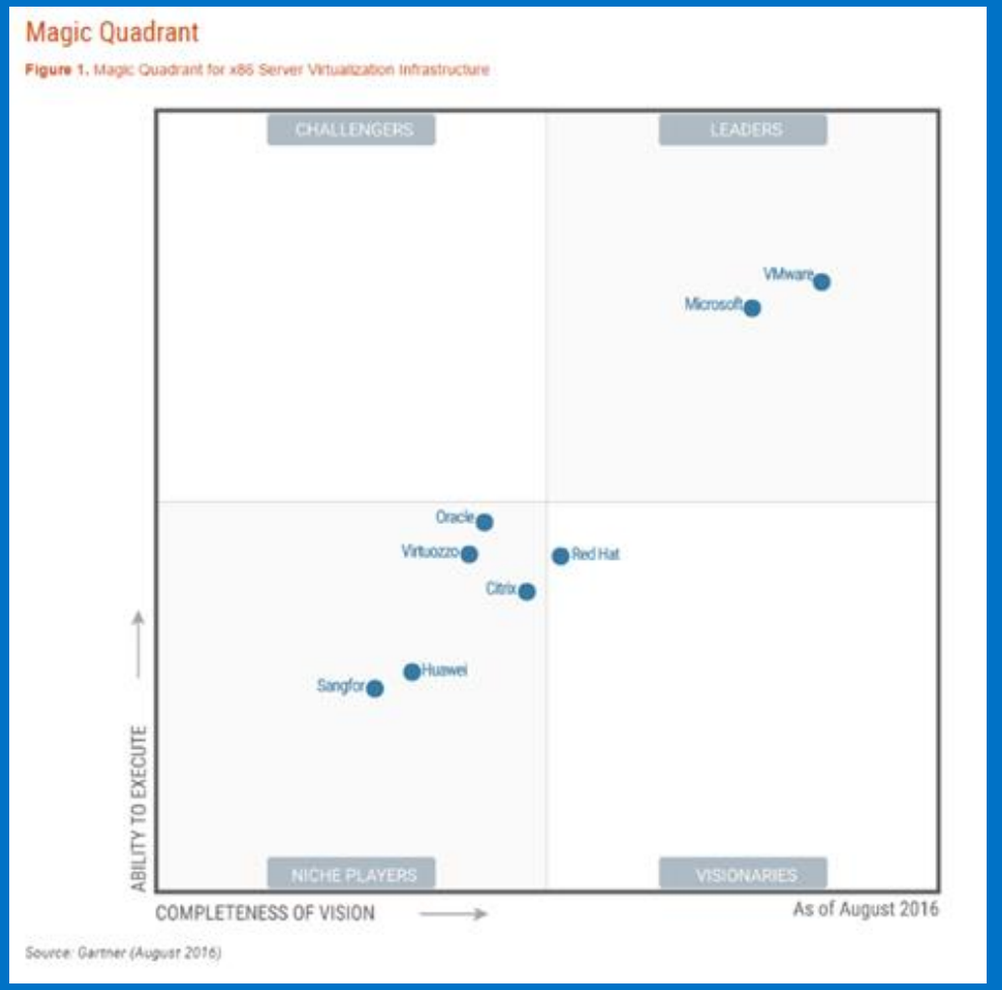
Microsoft is a leader in the Gartner 2016 x86 Virtualization Magic Quadrant



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Microsoft SCCM – Client Management Tools – leader for 11 years

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Microsoft & Gartner

	Leaders Quadrant			
Gartner MQs	Microsoft	amazon web services	salesforce	Google
Application Development Lifecycle Management	●			
Business Intelligence and Analytics Platforms	●			
Cloud Infrastructure as a Service (IaaS)	●	●		
CRM Customer Engagement Center	●		●	
Data Warehouse and Data Management Solutions for Analytics	●			
Disaster Recovery as a Service (DRaaS)	●			
Enterprise Application Platform as a Service	●		●	
Enterprise Content Management	●			
Horizontal Portals	●		●	
Identity as a Service (IDaaS)	●			
Mobile Application Development Platforms	●		●	
Operational Database Management Systems	●	●		
Public Cloud Storage Services	●	●		
Sales Force Automation	●		●	
Social Software in the Workplace	●		●	
Unified Communications	●			
Web Conferencing	●			
X86 Server Virtualization Infrastructure	●			

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Gartner client endpoint protection

Magic Quadrant

Figure 1. Magic Quadrant for Endpoint Protection Platforms

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System Center Endpoint Protection AV TEST

https://www.av-test.org/en/antivirus/business-windows-client/windows-10/december-2015/microsoft-system-center-endpoint-protection-4.8-154674/

The best antivirus software for Windows Client Business User

AV-TEST Product Review Report – Nov-Dec/2015 | Download as PDF | Back to overview

Microsoft

Version	4.8
Platform	Windows 10 (64 bit)
Report	154674
Date	Nov-Dec/2015

Website

Microsoft

System Center Endpoint Protection

During November and December 2015 we continuously evaluated 11 endpoint protection products using settings as provided by the vendor. We always used the most current publicly-available version of all products for the testing. They were allowed to update themselves at any time and query their in-the-cloud services. We focused on realistic test scenarios and challenged the products against real-world threats. Products had to demonstrate their capabilities using all components and protection layers.

Protection

Protection against malware infections (such as viruses, worms or Trojan horses)

More information

	November	December	Industry average
Protection against 0-day malware attacks, inclusive of web and e-mail threats (Real-World Testing) 140 samples used	96.3%	90.0%	97.9%
Detection of widespread and prevalent malware discovered in the last 4 weeks (the AV-TEST reference set) 14,658 samples used	99.6%	99.6%	99.9%
Protection Score			4.5/6.0

Performance

Average influence of the product on computer speed in daily usage

More information

	November	December	Industry average
Use cases: visiting websites, downloading software, installing and running programs and copying data Number of test cases	3 s		2 s
Performance Score			4.5/6.0

Usability

Impact of the security software on the usability of the whole computer (lower values indicate better results)

More information

	November	December	Industry average
False warnings or blockages when visiting websites 500 samples used	0	0	0
False detections of legitimate software as malware during a system scan 1,301,224 samples used	1	0	6
False warnings concerning certain actions carried out whilst installing and using legitimate software 40 samples used	0		0
False blockages of certain actions carried out whilst installing and using legitimate software 40 samples used	0		0
Usability Score			6.0/6.0

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System Center Endpoint Protection AV TEST

The best antivirus software for Windows Client Business User

AV-TEST Product Review and Certification Report – Mar-Apr/2016 | Download as PDF | Back to overview

Microsoft

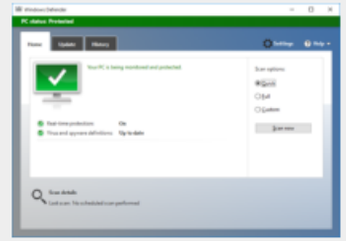
Version	4.8
Platform	Windows 10 (64 bit)
Report	161574
Date	Mar-Apr/2016

Website

Microsoft

System Center Endpoint Protection

During March and April 2016 we continuously evaluated 12 endpoint protection products using settings as provided by the vendor. We always used the most current publicly-available version of all products for the testing. They were allowed to update themselves at any time and query their in-the-cloud services. We focused on realistic test scenarios and challenged the products against real-world threats. Products had to demonstrate their capabilities using all components and protection layers.



Protection

Protection against malware infections (such as viruses, worms or Trojan horses)

More information

	March	April	Industry average
Protection against 0-day malware attacks, inclusive of web and e-mail threats (Real-World Testing) 164 samples used	88.9%	88.0%	97.0%
Detection of widespread and prevalent malware discovered in the last 4 weeks (the AV-TEST reference set) 22,795 samples used	99.5%	99.8%	99.0%

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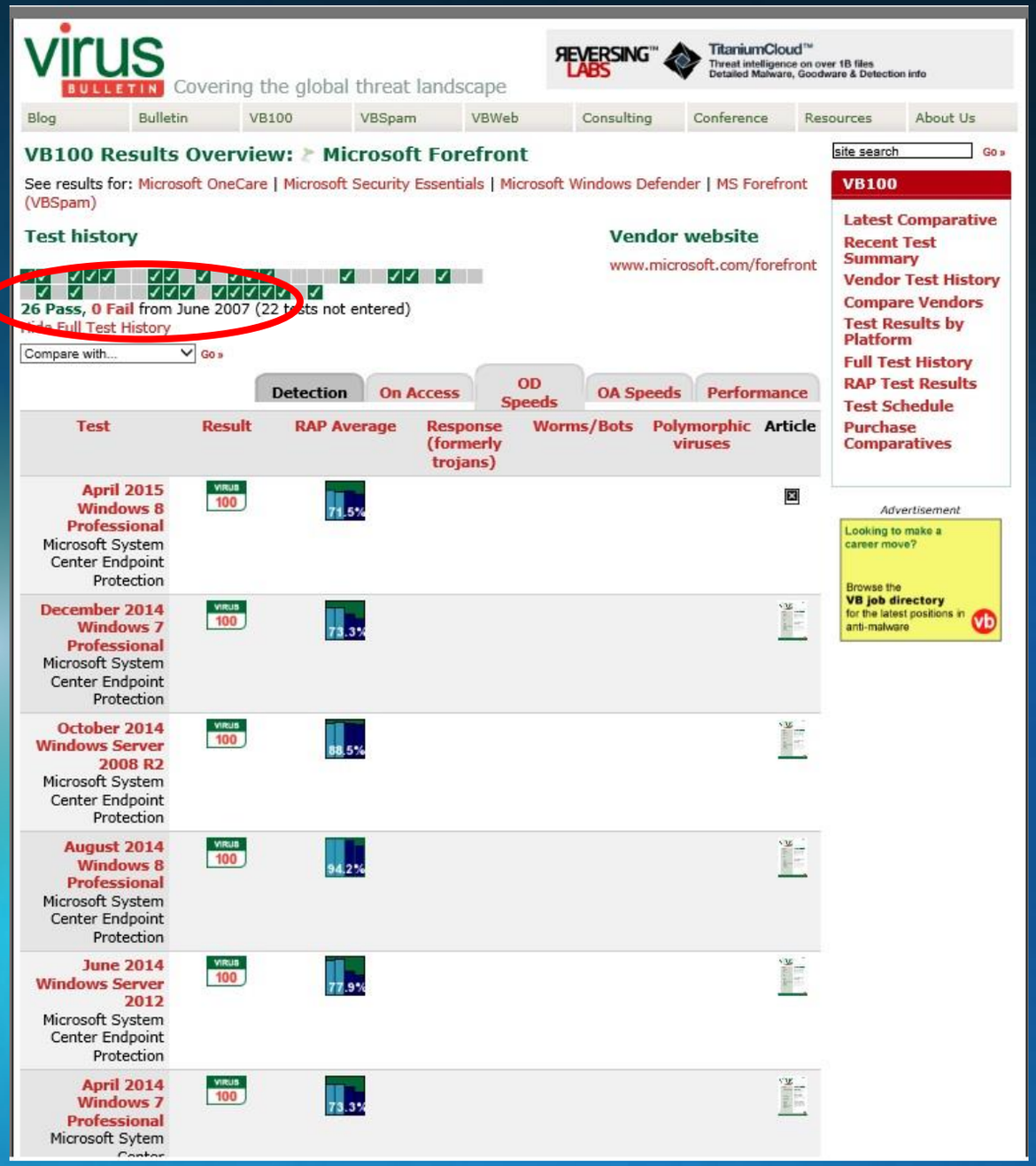
System Center Endpoint Protection VB100% from 2007- 2016

https://www.virusbulletin.com/testing/results/recent/vb100-antimalware/microsoft-ff



virus BULLETIN Covering the global threat landscape

REVERSING LABS TitaniumCloud™ Threat intelligence on over 1B files Detailed Malware, Goodware & Detection info

Blog | Bulletin | VB100 | VBSpam | VBWeb | Consulting | Conference | Resources | About Us

site search Go »

VB100 Results Overview: Microsoft Forefront

See results for: Microsoft OneCare | Microsoft Security Essentials | Microsoft Windows Defender | MS Forefront (VBSpam)

Test history

26 Pass, 0 Fail from June 2007 (22 tests not entered)

Hide Full Test History

Compare with... Go »

Vendor website

www.microsoft.com/forefront

Detection | On Access | OD Speeds | OA Speeds | Performance

Test	Result	RAP Average	Response (formerly trojans)	Worms/Bots	Polymorphic viruses	Article
April 2015 Windows 8 Professional Microsoft System Center Endpoint Protection	VIRUS 100	71.5%				
December 2014 Windows 7 Professional Microsoft System Center Endpoint Protection	VIRUS 100	73.3%				
October 2014 Windows Server 2008 R2 Microsoft System Center Endpoint Protection	VIRUS 100	88.5%				
August 2014 Windows 8 Professional Microsoft System Center Endpoint Protection	VIRUS 100	94.2%				
June 2014 Windows Server 2012 Microsoft System Center Endpoint Protection	VIRUS 100	77.9%				
April 2014 Windows 7 Professional Microsoft Sytem	VIRUS 100	73.3%				

VB100

- Latest Comparative
- Recent Test Summary
- Vendor Test History
- Compare Vendors
- Test Results by Platform
- Full Test History
- RAP Test Results
- Test Schedule
- Purchase Comparatives

Advertisement

Looking to make a career move?

Browse the **VB job directory** for the latest positions in anti-malware

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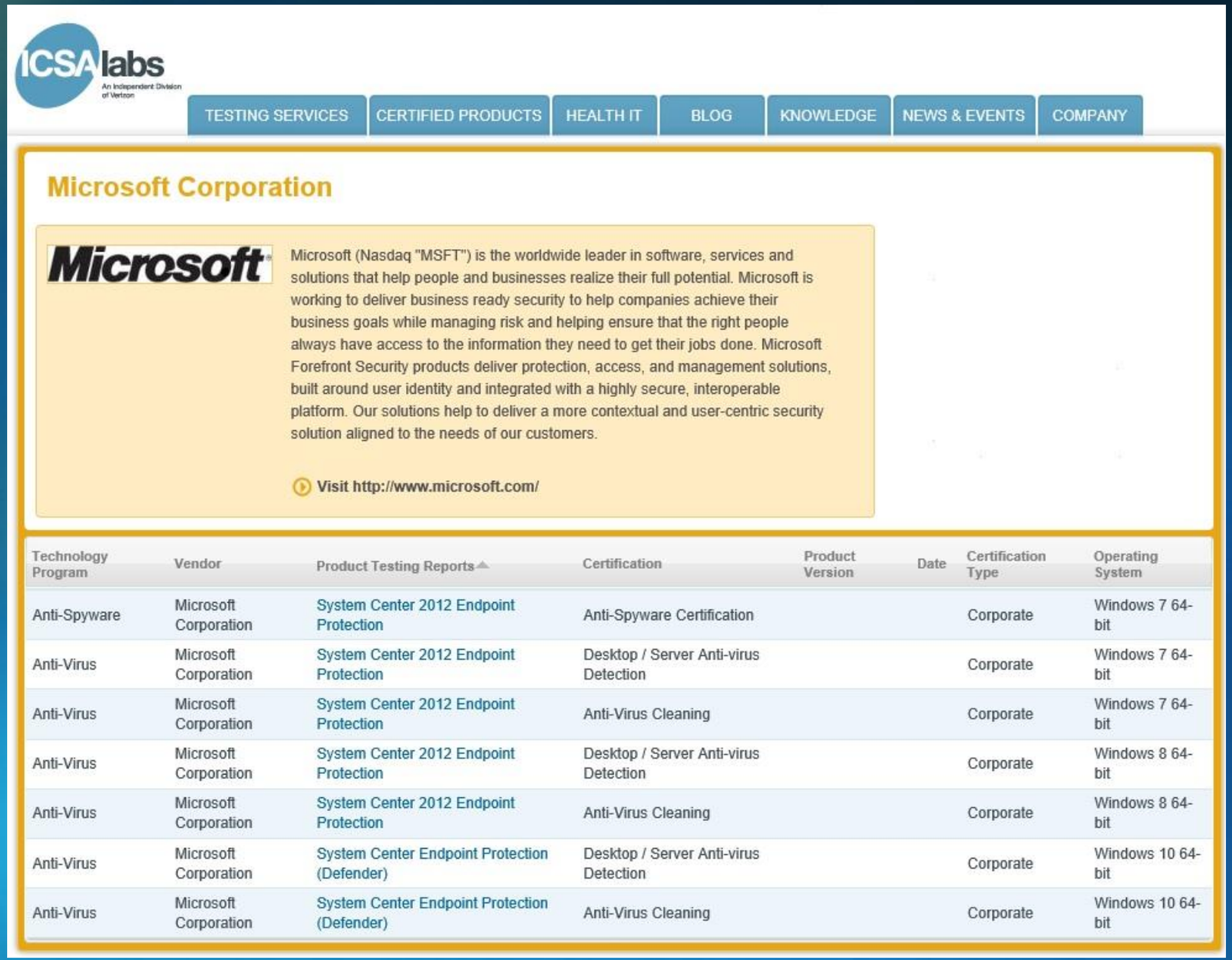
Endpoint Protection - ICSA Labs certified

https://www.icsalabs.com/vendor/microsoft-corporation



Technology Program	Vendor	Product Testing Reports	Certification	Product Version	Date	Certification Type	Operating System
Anti-Spyware	Microsoft Corporation	System Center 2012 Endpoint Protection	Anti-Spyware Certification			Corporate	Windows 7 64-bit
Anti-Virus	Microsoft Corporation	System Center 2012 Endpoint Protection	Desktop / Server Anti-virus Detection			Corporate	Windows 7 64-bit
Anti-Virus	Microsoft Corporation	System Center 2012 Endpoint Protection	Anti-Virus Cleaning			Corporate	Windows 7 64-bit
Anti-Virus	Microsoft Corporation	System Center 2012 Endpoint Protection	Desktop / Server Anti-virus Detection			Corporate	Windows 8 64-bit
Anti-Virus	Microsoft Corporation	System Center 2012 Endpoint Protection	Anti-Virus Cleaning			Corporate	Windows 8 64-bit
Anti-Virus	Microsoft Corporation	System Center Endpoint Protection (Defender)	Desktop / Server Anti-virus Detection			Corporate	Windows 10 64-bit
Anti-Virus	Microsoft Corporation	System Center Endpoint Protection (Defender)	Anti-Virus Cleaning			Corporate	Windows 10 64-bit

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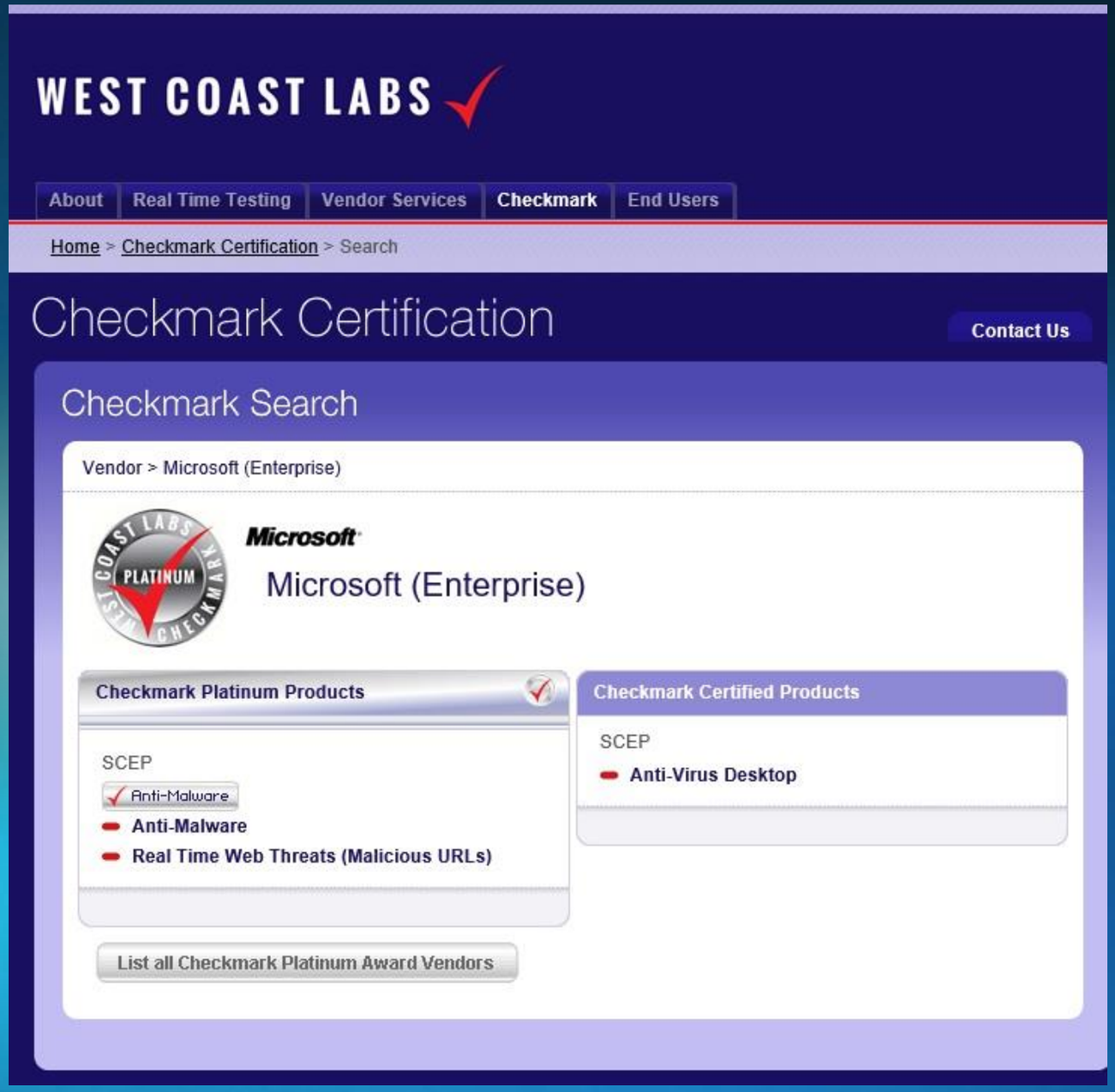
Endpoint Protection WestCoast Labs CheckMark certified

http://www.checkmarkcertified.com/enterprise/



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National Information Assurance Partnership

Common Criteria Certificate

is awarded to

Microsoft Corporation

for

Microsoft Windows 8 and Windows Server 2012

The IT product identified in this certificate has been evaluated at an accredited testing laboratory using the Common Methodology for IT Security Evaluation (Version 3.1) for conformance to the Common Criteria for IT Security Evaluation (Version 3.1). This certificate applies only to the specific version and release of the product in its evaluated configuration. The product's functional and assurance security specifications are contained in its security target. The evaluation has been conducted in accordance with the provisions of the NIAP Common Criteria Evaluation and Validation Scheme and the conclusions of the testing laboratory in the evaluation technical report are consistent with the evidence adduced. This certificate is not an endorsement of the IT product by any agency of the U.S. Government and no warranty of the IT product is either expressed or implied.

Date Issued: 2015-01-09

Validation Report Number: CCEVS-VR-VID10520-2015

CCTL: Leidos (formerly SAIC) Common Criteria Testing Laboratory

Assurance Level: PP Compliant

Protection Profile Identifier:
General-Purpose Operating System Protection Profile

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National Information Assurance Partnership

Common Criteria Certificate

is awarded to

Microsoft Corporation

for

Microsoft Windows 10

The IT product identified in this certificate has been evaluated at an accredited testing laboratory using the Common Methodology for IT Security Evaluation (Version 3.1) for conformance to the Common Criteria for IT Security Evaluation (Version 3.1). This certificate applies only to the specific version and release of the product in its evaluated configuration. The product's functional and assurance security specifications are contained in its security target. The evaluation has been conducted in accordance with the provisions of the NIAP Common Criteria Evaluation and Validation Scheme and the conclusions of the testing laboratory in the evaluation technical report are consistent with the evidence adduced. This certificate is not an endorsement of the IT product by any agency of the U.S. Government and no warranty of the IT product is either expressed or implied.

Date Issued: 2016-01-29

Validation Report Number: CCEVS-VR-VID10677-2016

CCTL: Leidos (formerly SAIC) Common Criteria Testing Laboratory

Assurance Level: PP Compliant

Protection Profile Identifier:
Protection Profile for Mobile Device Fundamentals Version 2.0

Original Signed By

Director, Common Criteria Evaluation and Validation Scheme
National Information Assurance Partnership

Original Signed By

Information Assurance Director
National Security Agency

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The value of the Microsoft Virtualization & management platform

Features

The features you need, native to the platform. No additional product/ licensing necessary

Technology

The same technology that supports Azure—supporting your business

Integration

Better together with other Microsoft technologies, such as Active Directory, SQL, Exchange, and SharePoint

Third-party

Linux support, along with many third-party vendors: SAP, Oracle, and others

Moving to Hyper-V is the first step to the Cloud with Azure and Azure Stack
Using System Center & Operations Management Suite for management at all three layers: physical, virtual and application

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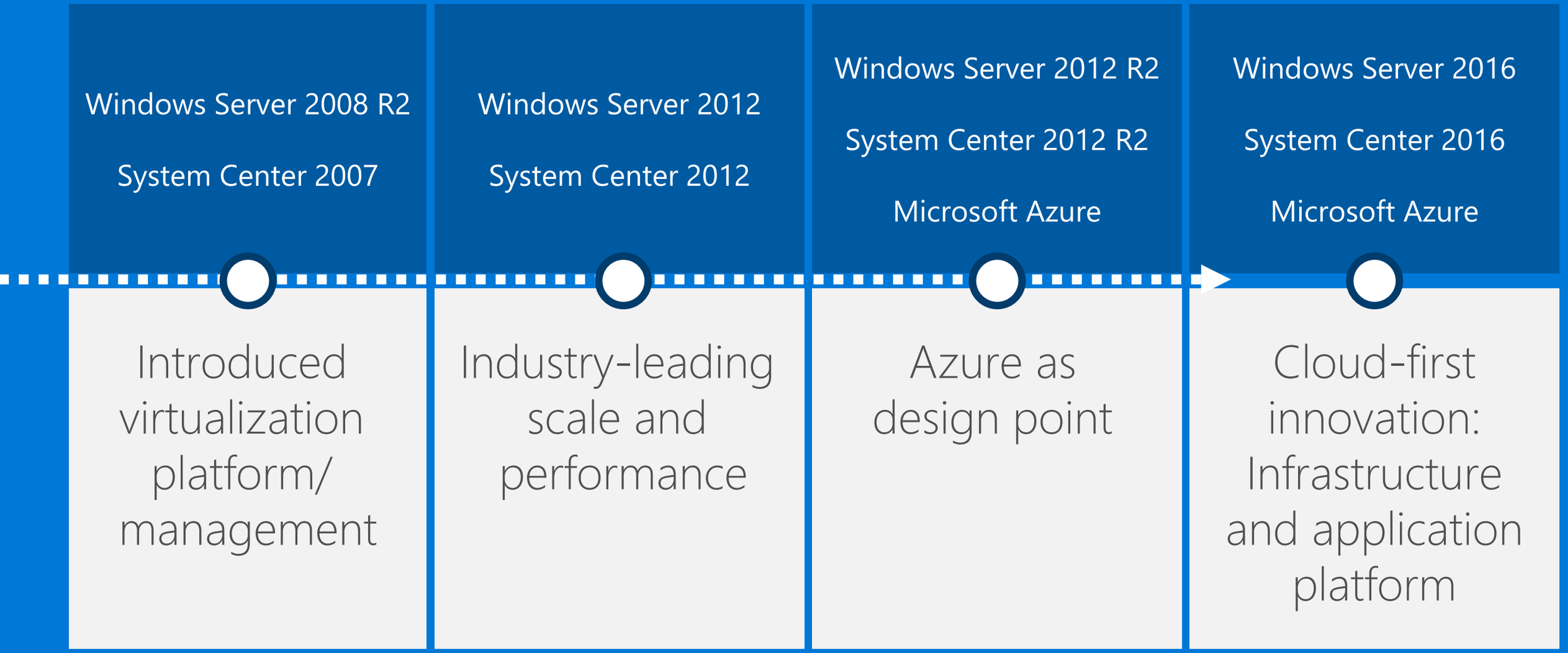
Hybrid Cloud Story



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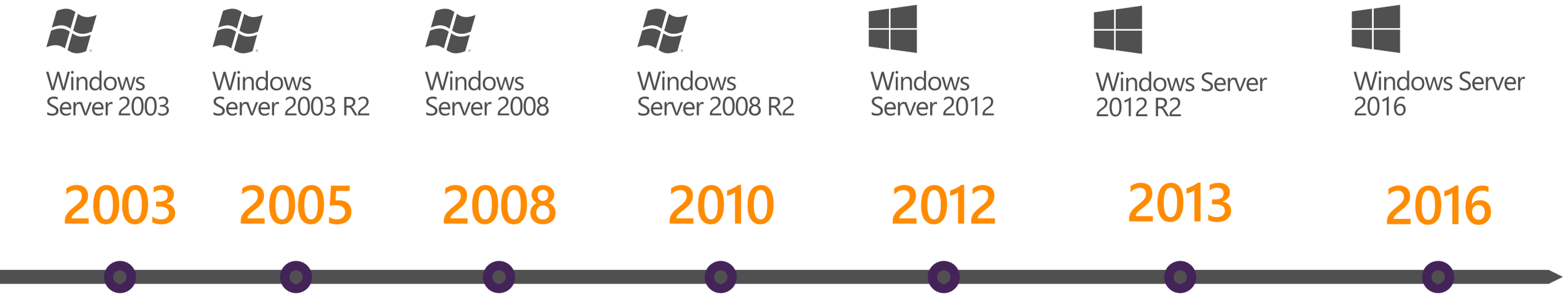
Release history and roadmap



Managed server infrastructure with robust web platform → Virtualization & management → Dynamic datacenter → Private cloud and the Cloud Platform → Cloud Platform

10 reasons you'll love Windows Server 2016

1. Active Directory
2. Security
3. Compute
4. Network
5. Storage
6. Remote Desktop Services (RDS)
7. Nano Server
8. Containers
9. PowerShell
10. Server Management Tools (SMT)

microsoft.com

10 reasons you'll love Windows Server 2016

SECURITY

2. Shielded VMs

Software Defined Datacenter

3. Compute
4. Network
5. Storage
6. Remote Desktop Services (RDS)

APPLICATION PLATFORM

8. Containers
9. PowerShell

MANAGEMENT

10. Server Management Tools (SMT)

Windows Server 2016 Security

Hyper-V (Fabric) Security

Protecting virtual machines

- ✓ Shielded VMs (Server 2012, 2016 guests)
- ✓ Guarded fabric attesting to host health
- ✓ Secure boot for Windows and Linux

Hyper-V platform

- ✓ Nano based Hyper-V host
- ✓ Virtualization Based security

Secure containers

- ✓ Hyper-V containers
- ✓ Containers hosted in a Shielded VM

Infrastructure and application security

Privileged Identity

- ✓ Credential Guard
- ✓ Just In Time administration
- ✓ Just Enough administration

Threat resistance

- ✓ Control Flow Guard
- ✓ Code Integrity (Device Guard)
- ✓ Built in anti-malware
- ✓ Nano Server reduces attack surface

Threat detection

- ✓ Enhanced threat detection

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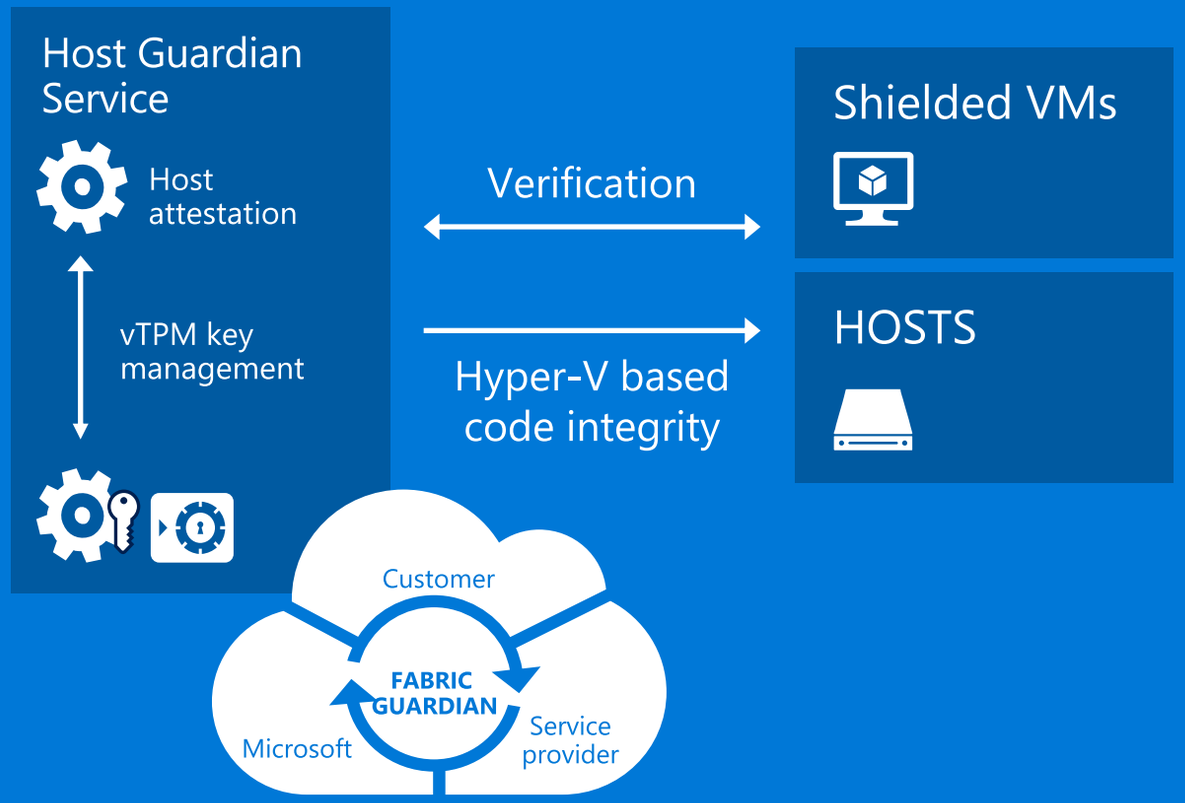
Protect virtual machines
Host Guardian Service

Spotlight capabilities

Host Guardian Service holds keys of the legitimate fabrics as well as encrypted virtual machines

Host Guardian Service runs as a service to verify if it is a trusted machine

Host Guardian Service can **live anywhere** even as a virtual machine



https://gallery.technet.microsoft.com/shielded-vms-and-guarded-98d2b045
https://blogs.technet.microsoft.com/datacentersecurity/2016/06/06/step-by-step-creating-shielded-vms-without-vmm/

Windows Server 2016 approach

Credential Guard

Prevents Pass the Hash and
Pass the Ticket attacks by protecting stored credentials through Virtualization based Security

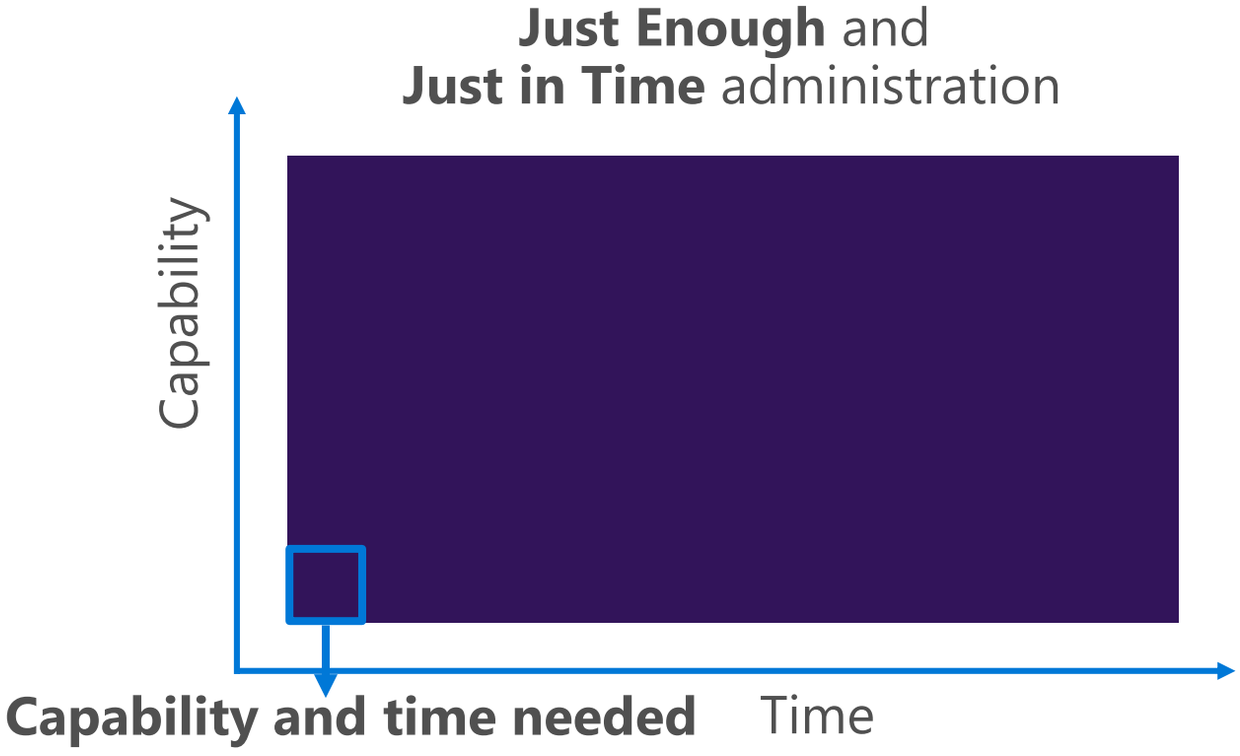
Just Enough

Administration Limits administrative privileges to the bare-minimum required set of actions (limited in space)

Just in Time

Administration Provide privileged access through a workflow that is audited and limited in time

JEA + JIT = limited in time & capability



Protecting Active Directory and Admin privileges

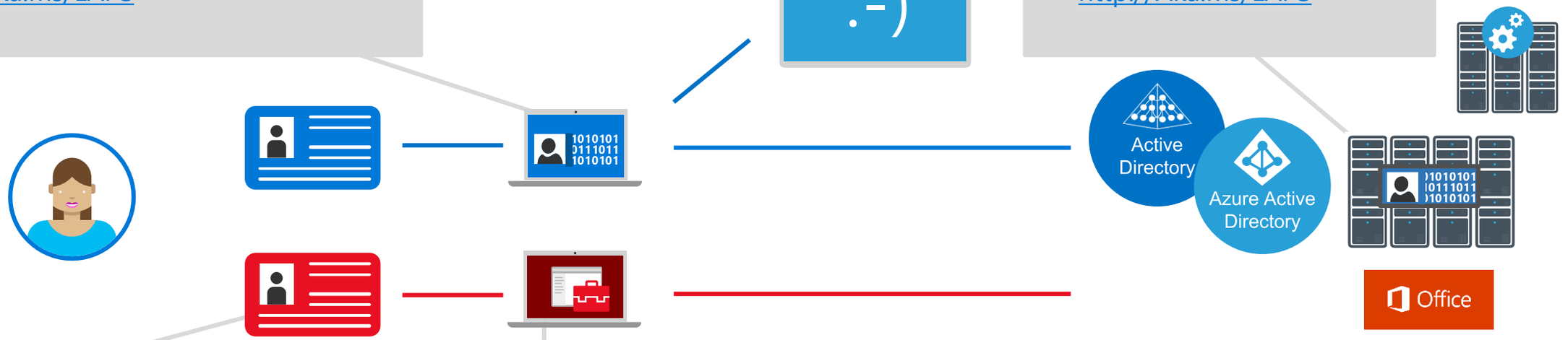
http://aka.ms/privsec

2-4 weeks | 1-3 months | 6+ months

First response to the most frequently used attack techniques

3. Unique Local Admin Passwords for Workstations
http://Aka.ms/LAPS

4. Unique Local Admin Passwords for Servers
http://Aka.ms/LAPS



1. Separate Admin account for admin tasks

2. Privileged Access Workstations (PAWs)
Phase 1 – Active Directory admins
http://Aka.ms/CyberPAW

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New deployment option: Nano Server

Just enough OS

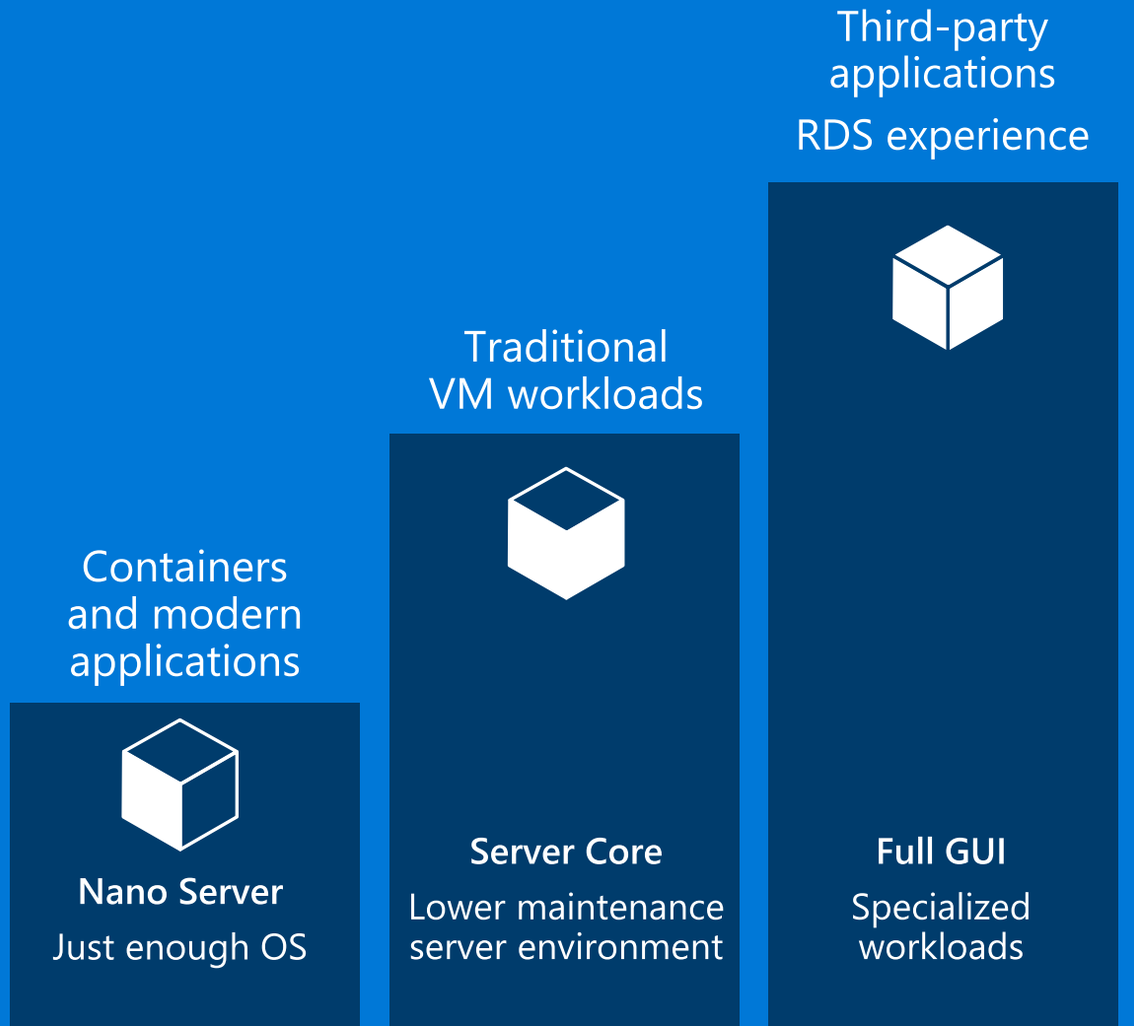
Optimized for modern applications

Higher density and performance

Reduced attack surface and servicing requirements

Next-gen distributed app frameworks

Interoperate with existing server applications



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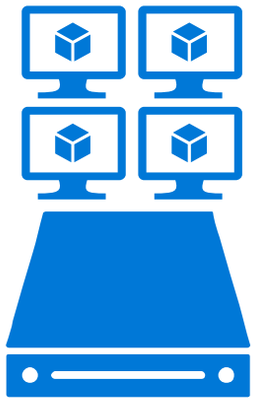
Windows Server 2016 Containers

A new approach to build, ship, deploy, and instantiate applications

Physical

Applications traditionally built and deployed onto physical systems with 1:1 relationship

New applications often required new physical systems for isolation of resources



Virtual

Higher consolidation ratios and better utilization

Faster app deployment than in a traditional, physical environment

Apps deployed into VMs with high compatibility success

Apps benefited from key VM features; i.e., live migration, HA

Physical/Virtual

Package and run apps within **containers**

Key Benefits

Further accelerate of app deployment

Reduce effort to deploy apps

Streamline development and testing

Lower costs associated with app deployment

Increase server consolidation

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Windows Server 2016 Hyper-V Capabilities

- Support for Nano Server
- Virtual Secure Mode
- Nested Virtualization
- VM Compute Resiliency
- Hyper-V Hot Add/Remove Fixed Memory
- Hyper-V Hot Add/Remove Virtual NICs
- Storage Quality of Service
- Production Checkpoints
- Hyper-V Aware Host Anti-Malware
- Multi-Level Storage Tiering
- Instant Fixed Disk Creation on ReFS
- VM Storage Resiliency
- Domain Less Clusters
- Cluster Upgrade & Cluster Node Quarantine
- Multi-Site Clustering
- Hyper-V Backup: Massive Scale Improvements
- Hyper-V Backup: Guest Cluster Support

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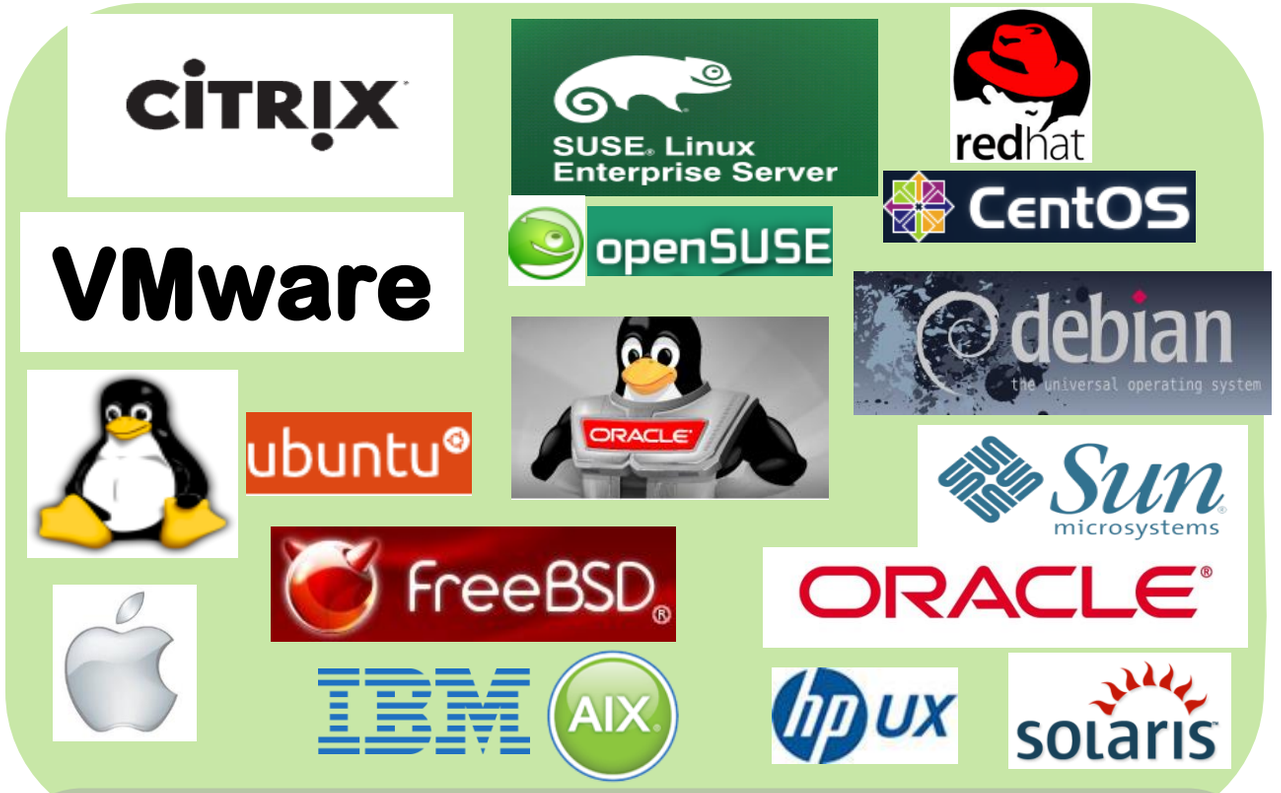
Microsoft and Interoperability



"DHMC runs both Windows Server as guest operating systems under Hyper-V, as well as Linux. To date, DHMC has virtualized Web servers, sites on Microsoft Office SharePoint® Server, reporting servers, medical applications, domain controllers, file and print servers, Citrix servers, and more."

Dartmouth Hitchcock Medical Center Case Study

Microsoft commitment to support Linux – Red Hat, CentOS, SUSE, Open Suse, Debian, Ubuntu, Oracle Linux and FreeBSD 10 on Hyper-V or Azure;

System Center supports administering non-Windows platforms: Linux: Red Hat, CentOS, SUSE, OpenSUSE, Debian, Ubuntu, Oracle Linux; Unix (IBM AIX, HP-UX, Oracle Solaris) and Mac OS X systems

System Center Virtual Machine Manager manages Hyper-V and VMware ESX servers

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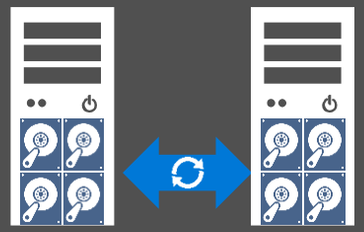
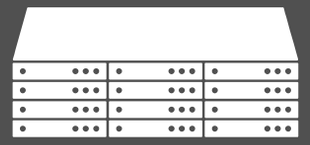
Software defined storage

- Flexible choices across a breadth of storage
- Not just bits, but also choice in integrated solutions
- Reduce storage costs

Hyper-Converged	SAN Alternative	Block Storage	File Based Storage	Cloud Fabric
				
Storage Spaces Direct	Storage Spaces	*Fibre Channel or iSCSI* SAN Partners	*SMB3* NAS	Microsoft Azure Stack/Object Storage

High performance storage, fraction of the cost

Storage Spaces Direct

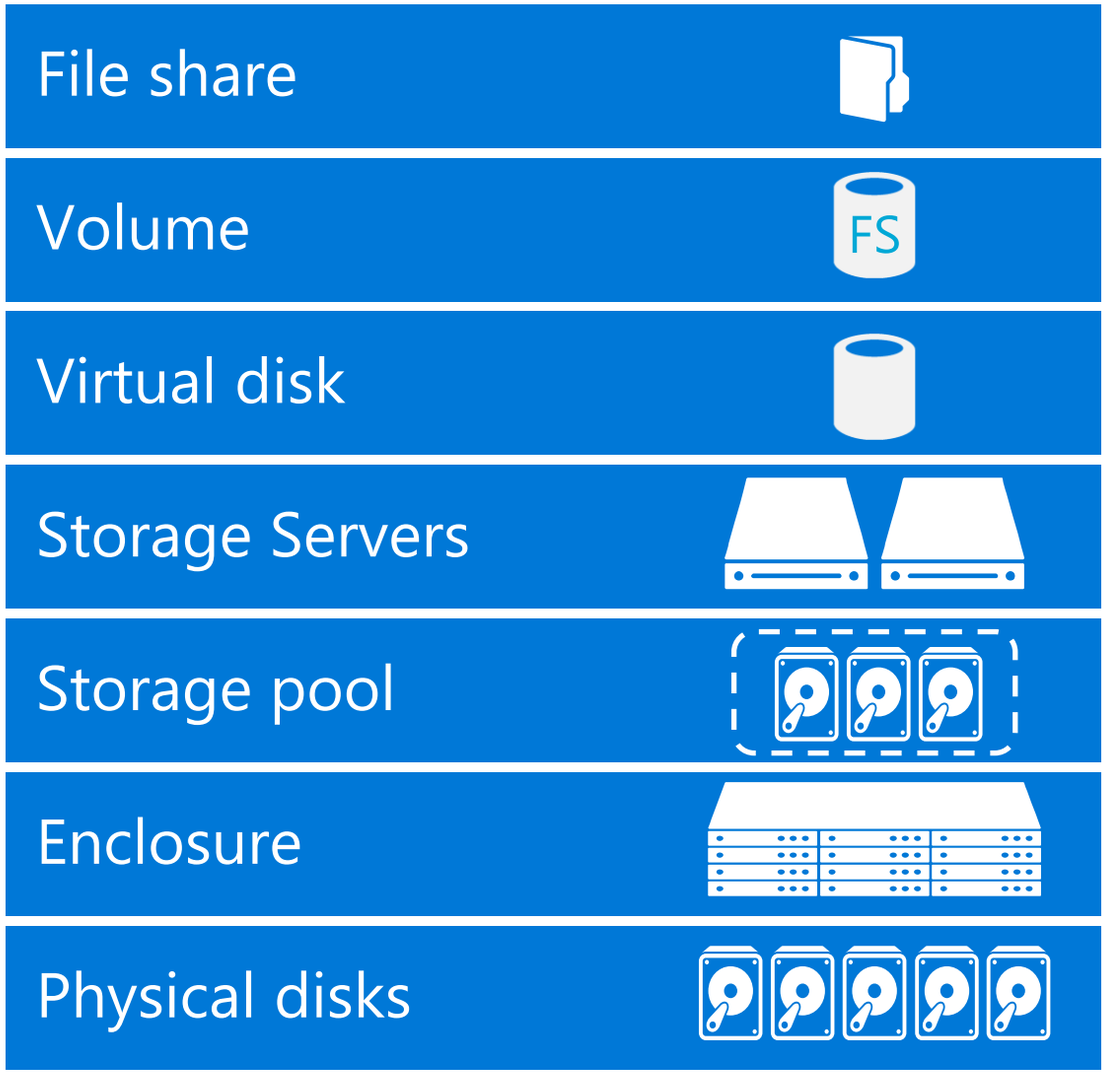
Use standard servers with local storage to build highly available and scalable software-defined storage

Storage Spaces Replica

Create affordable business continuity and disaster recovery among datacenters

Storage QoS

Prevent noise neighbors from impacting high priority workloads with a Storage QoS policy



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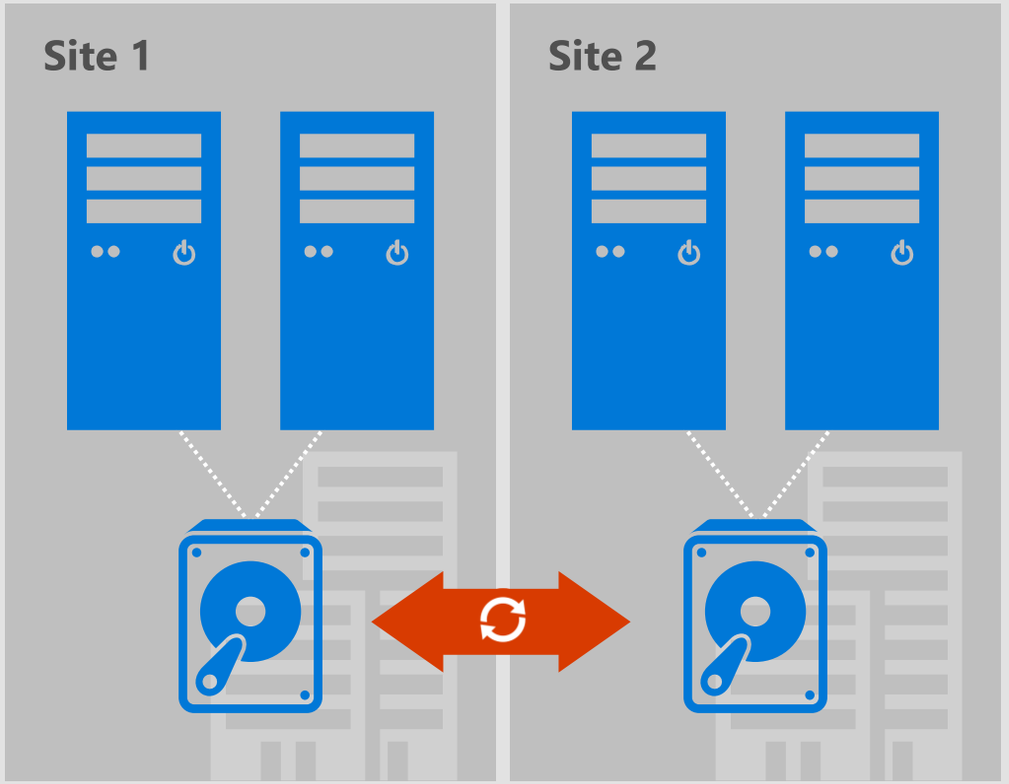
Storage Replica

Synchronous replication: Storage agnostic mirroring of data in physical sites with crash-consistent volumes ensuring zero data loss at the volume level.

Increase resilience: Unlocks new scenarios for metro-distance cluster to cluster disaster recovery and stretch failover clusters for automated high availability.

Flexible: Server to server, cluster to cluster, and stretch cluster. Local disks, Storage Spaces Direct, clustered disks. NTFS, REFS, CSVFS. TCP, RDMA. Synchronous and asynchronous.

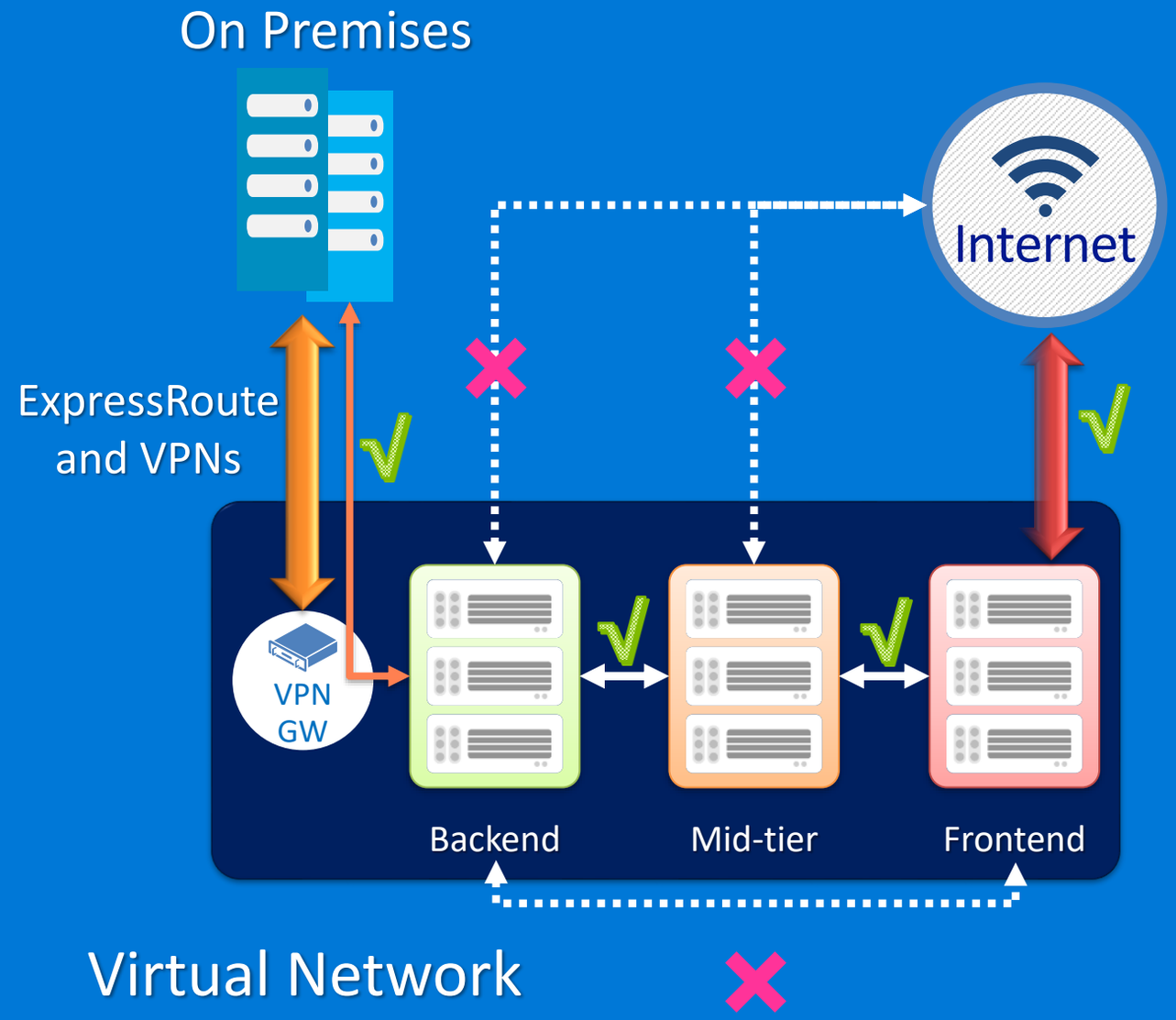
Streamlined management: Graphical management for individual nodes and clusters through Failover Cluster Manager and Azure Site Recovery. Full PowerShell and SMAPI support.



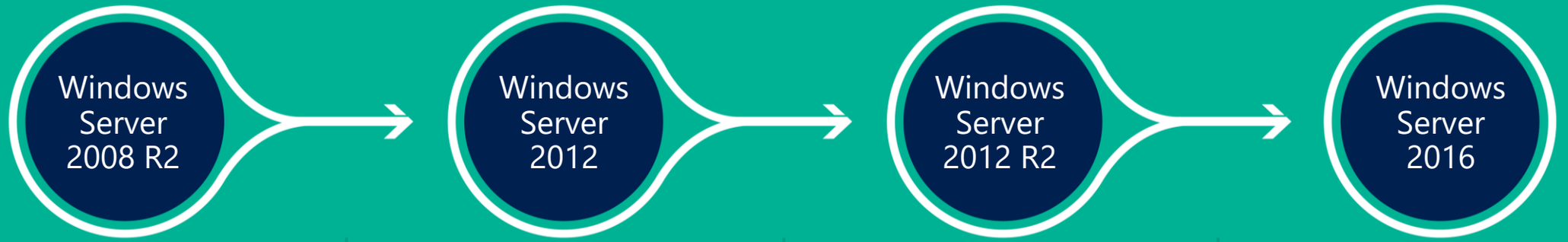
https://technet.microsoft.com/en-us/windows-server-docs/storage/storage-replica/storage-replica-overview#synchronous-replication

New Distributed Firewall and Load Balancer

- Segment network to meet security needs
- ACLs on both directions
- Can protect Internet and internal traffic
- Enables DMZ subnets
- Associated to subnets/VMs and now NICs
- ACLs can be updated independent of VMs



Windows Server 2016 RDS graphics virtualization evolution



RemoteFX vGPU

- Hyper-V integration
- DX 9 support

RemoteFX vGPU

- DX 11.0
- VM connect with vGPU
- GPU management

RemoteFX vGPU

- DX 11.1 support
- Higher video memory
- Up to 2560 x 1600 resolution
- Scale improvements

RemoteFX vGPU

- OpenGL 4.4 & OpenCL 1.1
- 1GB dedicated VRAM
- Up to 4k resolution
- Server VM support
- Improved performance

DDA

- Full API support*
- Native GPU driver support
- Maximum performance

*Verify card support for this configuration with GPU vendor

Next generation of hybrid cloud: Azure to your datacenter

Several new solutions that will continue to expand the industry's most complete cloud

Microsoft Azure Stack
a next-generation cloud infrastructure that brings Azure IaaS and PaaS capabilities to customers' datacenters

Windows Server 2016 & System Center 2016
the next versions of the popular application platform and management solutions

Microsoft Operations Management Suite
a new hybrid management solution that helps you manage your corporate workloads no matter where or what they run (i.e., AWS, OpenStack, Azure, VMware, Linux, Windows Server)

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Visibility – Solution Offerings

E2E on-premise monitoring experience

- ✓ End-to-end monitoring and diagnostics of infrastructure and workloads
- ✓ Alerts, notifications and other controls
- ✓ Strong native support, and incremental 3rd party
- ✓ Integrates with other on-premise systems

System Center

On-demand & hybrid monitoring experience

- ✓ Hybrid extensions (across on-premise and cloud)
- ✓ Transition between day-to-day monitoring and analytics driven diagnostics
- ✓ Better aligned to market requirements
- ✓ Wider and deeper health insights

System Center + Operations Management Suite (OMS)

Cloud-inspired & platform agnostic

- ✓ Data analytics
- ✓ Bottomless capacity and elastic scalability
- ✓ No infrastructure to maintain
- ✓ Innovations on-boarded at a faster rate

Operations Management Suite (OMS)

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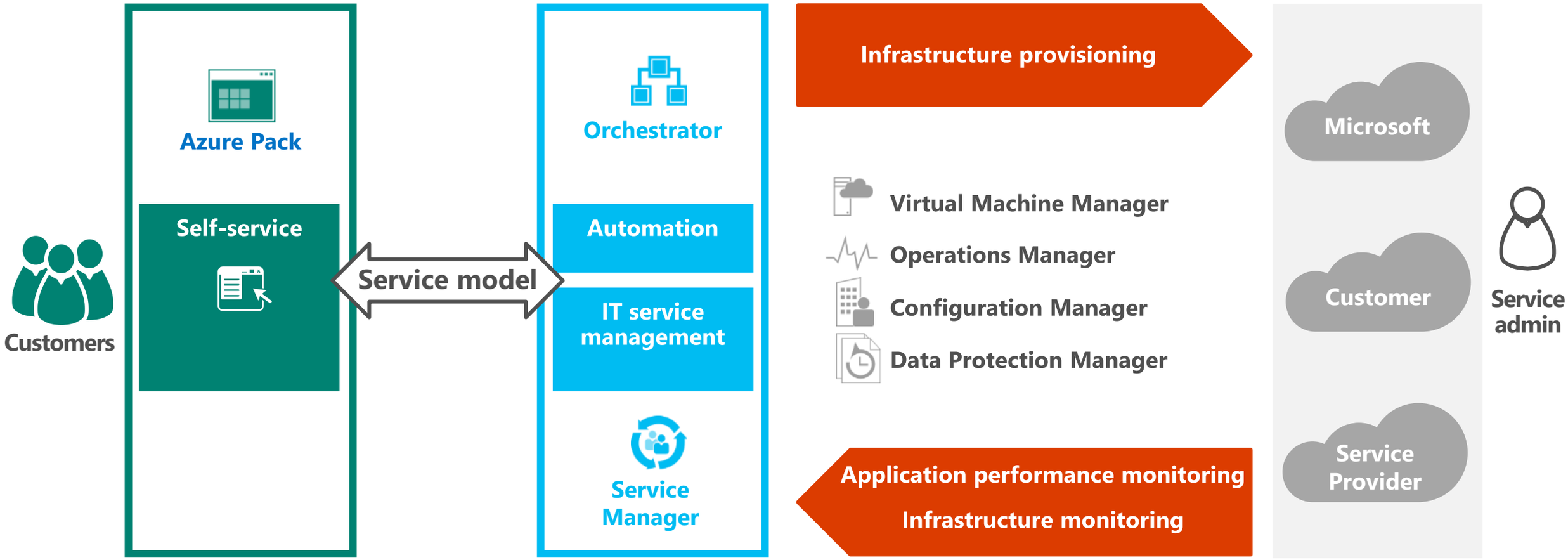
System Center

Unified management for the Cloud OS



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Why Microsoft for Management & Virtualization

Low TCO/High ROI

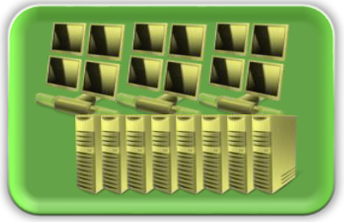
- Lower upfront investment costs
- Lower deployment, management,
- and maintenance costs
- Extends current IT investments

Datacenter to Desktop

- Full range of products and solutions
- Large partner ecosystem

The Platform You Know

- Single management platform
- Use the skills, tools, and processes you already know



End-to-End Management

- Physical, virtual machine and application management
- Interoperate with existing Microsoft infrastructure
- Easily manage a heterogeneous environment

Microsoft Partner Network

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Benefits of System Center

- control physical or virtual on-premise infrastructure
- control cloud infrastructures: Azure, Amazon etc.
- application performance monitoring - SCOM
- monitoring of services, applications, network devices –SCOM
- asset management, deployment of operating systems and applications, mobile device management, antivirus management, security configuration management – SCCM & Endpoint Protection
- backup on disk, tape and Azure for Microsoft and VMware - DPM
- Service Desk solution with incident management, problem management, change management, self service -Service Manager
- virtual datacenter management on-premise and cloud Virtual Machine Manager & SCOM
- orchestration and processes automatization & integration with VMware, HP Open View, IBM Tivoli, CA Unicenter, BMC, Linux/Unix, Symantec - Orchestrator

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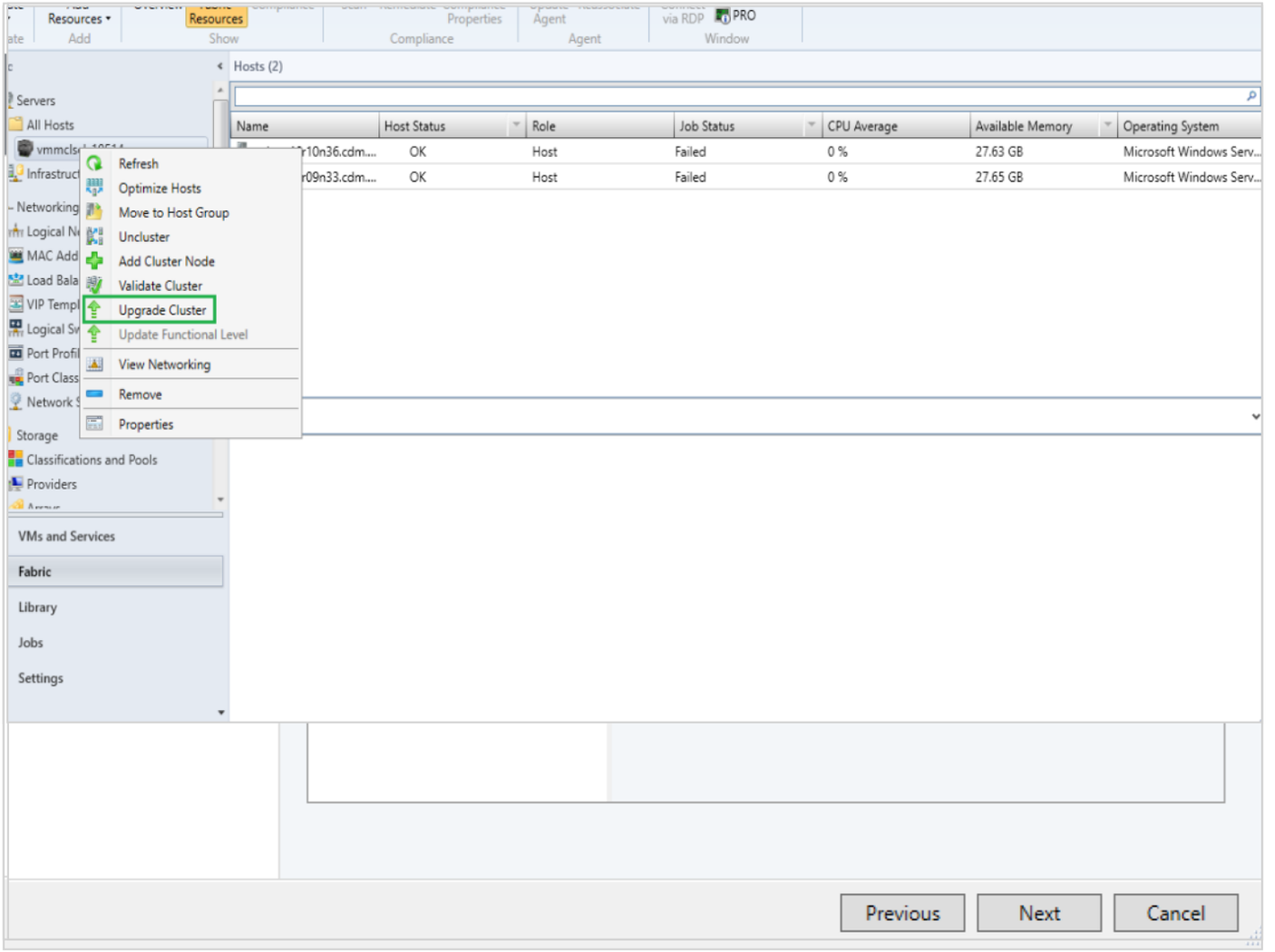
Virtual Machine Manager

Gain control and visibility of core infrastructure

Software-defined datacenter management – Continuously available file-based server application storage with shared storages through enhanced Scale-Out File Server management

Resource provisioning – Unify management by adding Microsoft Azure subscriptions to VMM and perform basic actions on Azure instances. Deploy Storage Spaces Direct, both in hyper-converged and disaggregated topologies. Centrally manage Hyper-V hosts, host clusters, and SOFS with VMM. Single point to manage multiple hypervisor platforms, including support for VMware ESX hosts and vCenter servers

Managing fabric resources and clusters – Centrally monitor end-to-end storage performance and create policies to meet quality of services.



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Operations Manager

Comprehensive infrastructure & application monitoring

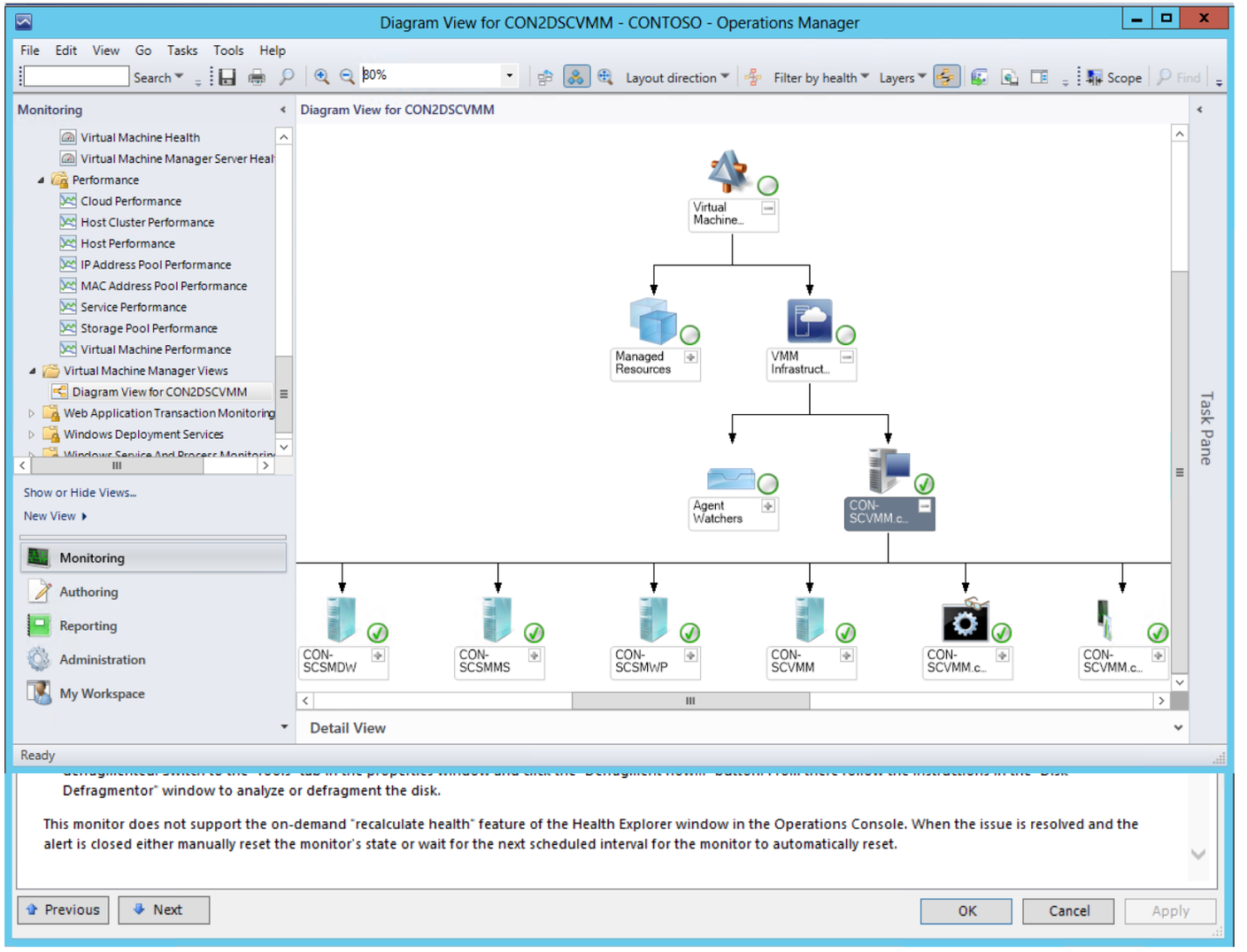
Rich dashboards – Monitors the key elements of the infrastructure: physical, virtual, hardware, software, and within applications and presents the key information through simple visual dashboards

Centralized alerting – OpsMgr collects information about monitored services and raises an alert if there's an issue

Topology views – Visualize key systems and applications across physical and virtual

Maintenance schedule – Schedule maintenance at a future time, schedule maintenance jobs, and view modes from a single screen

Extend OM with OMS – Configure assessment, alert management, and capacity planning by connecting OM with OMS



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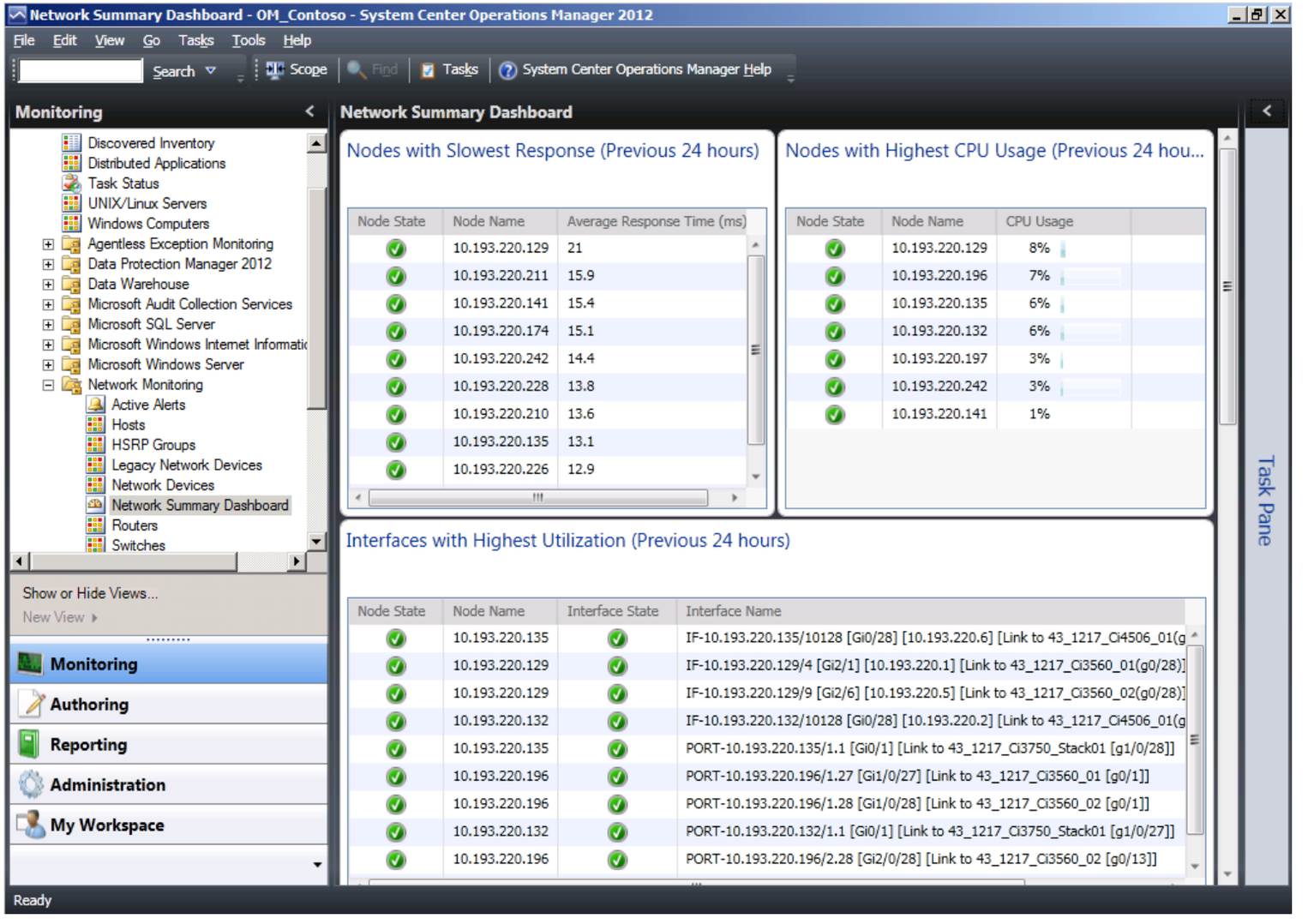
Network monitoring in Operations Manager

Advantages of System Center

Network Summary Dashboard – provides a view of important data for the nodes and interfaces of the network

Nodes – A node can be any device connected to a network. Nodes can be switches, routers, firewalls, load balancers, or any other networked device



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Extensibility via partners

Operations Manager management pack catalog representative partners

http://pinpoint.microsoft.com/en-US/category.aspx?catid=1&fpf=700004

Bridgeways	Oracle, DB2, Apache HTTP Server, others
NiCE	Oracle, DB2, Domino, BlackBerry Enterprise Server (BES)
E-View	AS/400
Veeam	VMware ESX

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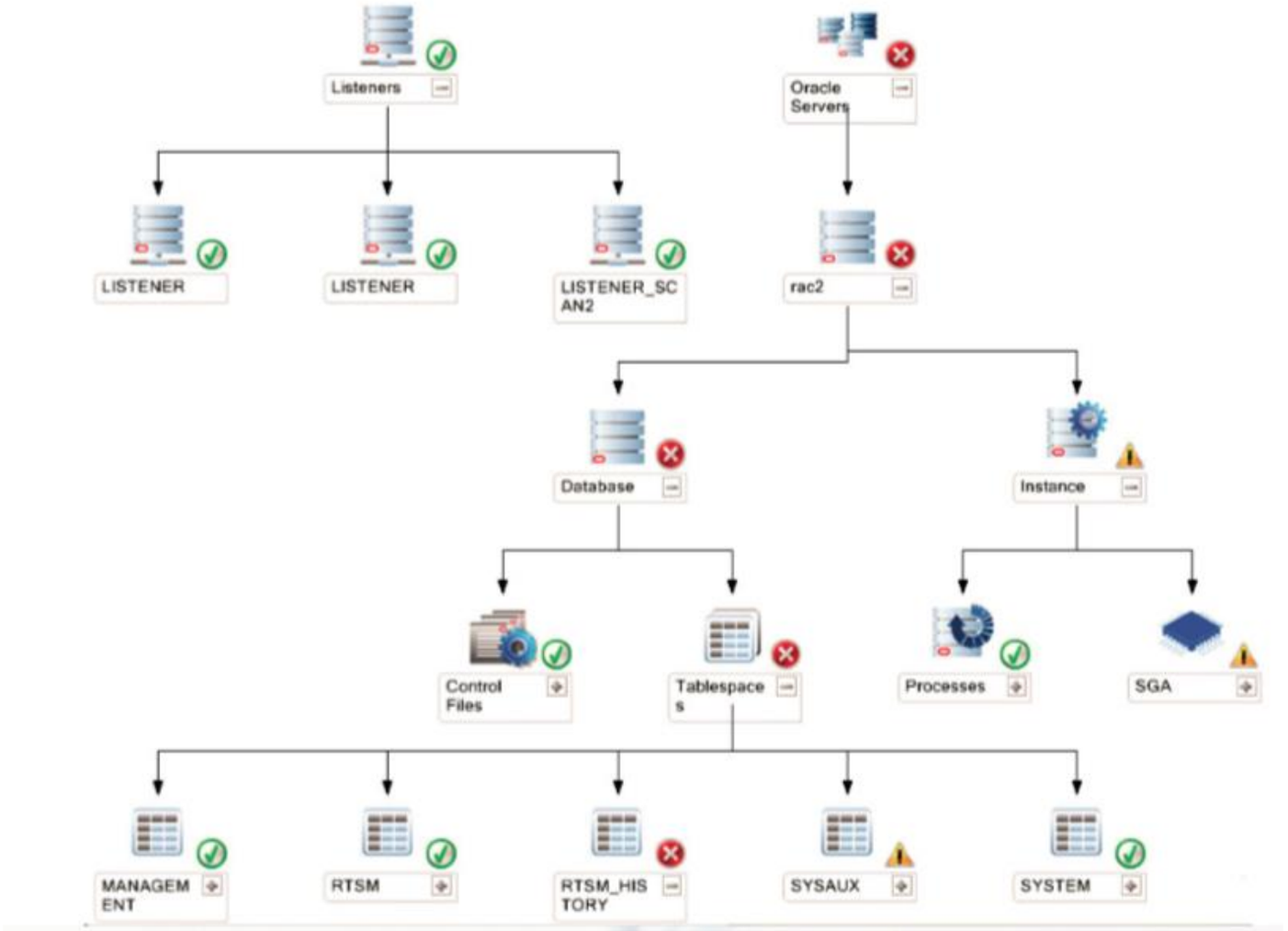
Extensibility via partners

Oracle monitoring

- Insight how memory, physical design and maintenance affect performance
- Monitor the entire Oracle environment (RAC)
- Understand and manage your Oracle environment like an ecosystem that is constantly changing in terms of physical design, transactions, and memory

You need 3rd party management pack



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Extensibility via partners

SAP monitoring

Flexible deployment options and configuration:
management pack's SAP connector can be installed and ran on:

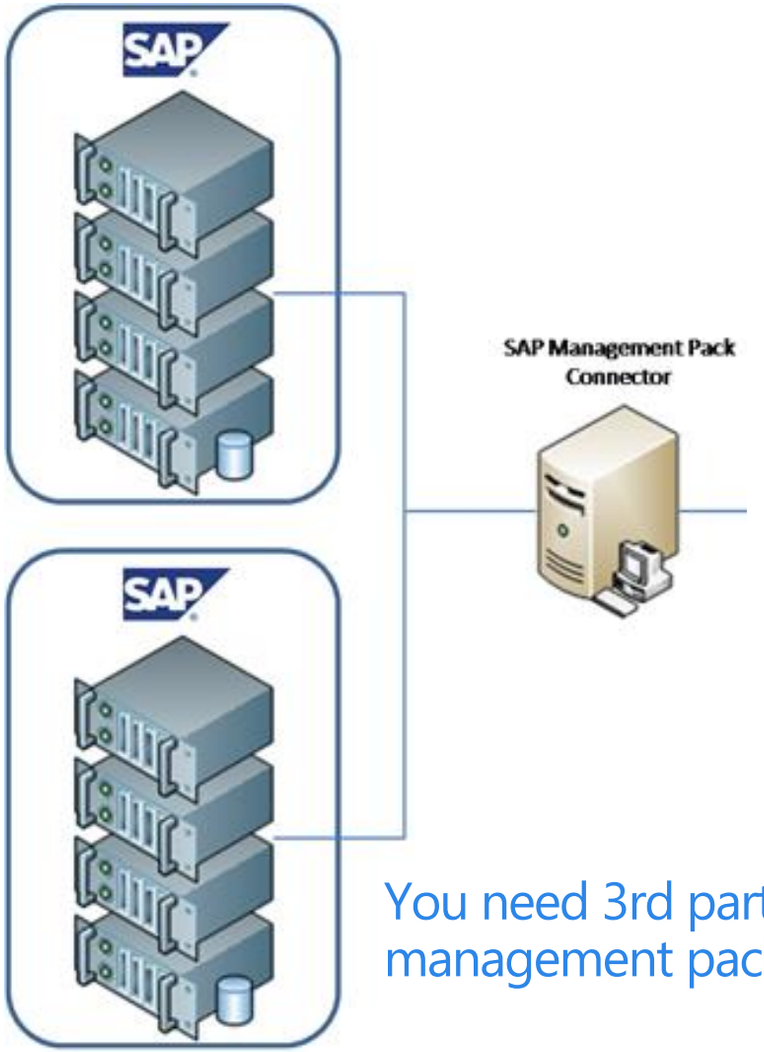
- SCOM Agent or management server machine
- One or more remote Windows servers
- Under the same active directory domain as the management server or outside the domain

Built-in failover functionality

- Automatic failover/restore
- Automatic configuration synchronization

Heterogeneous SAP support

Connect to SAP Systems running on any platform, be it Windows Server 2008, Unix, Linux, iSeries or zOS



You need 3rd party management pack

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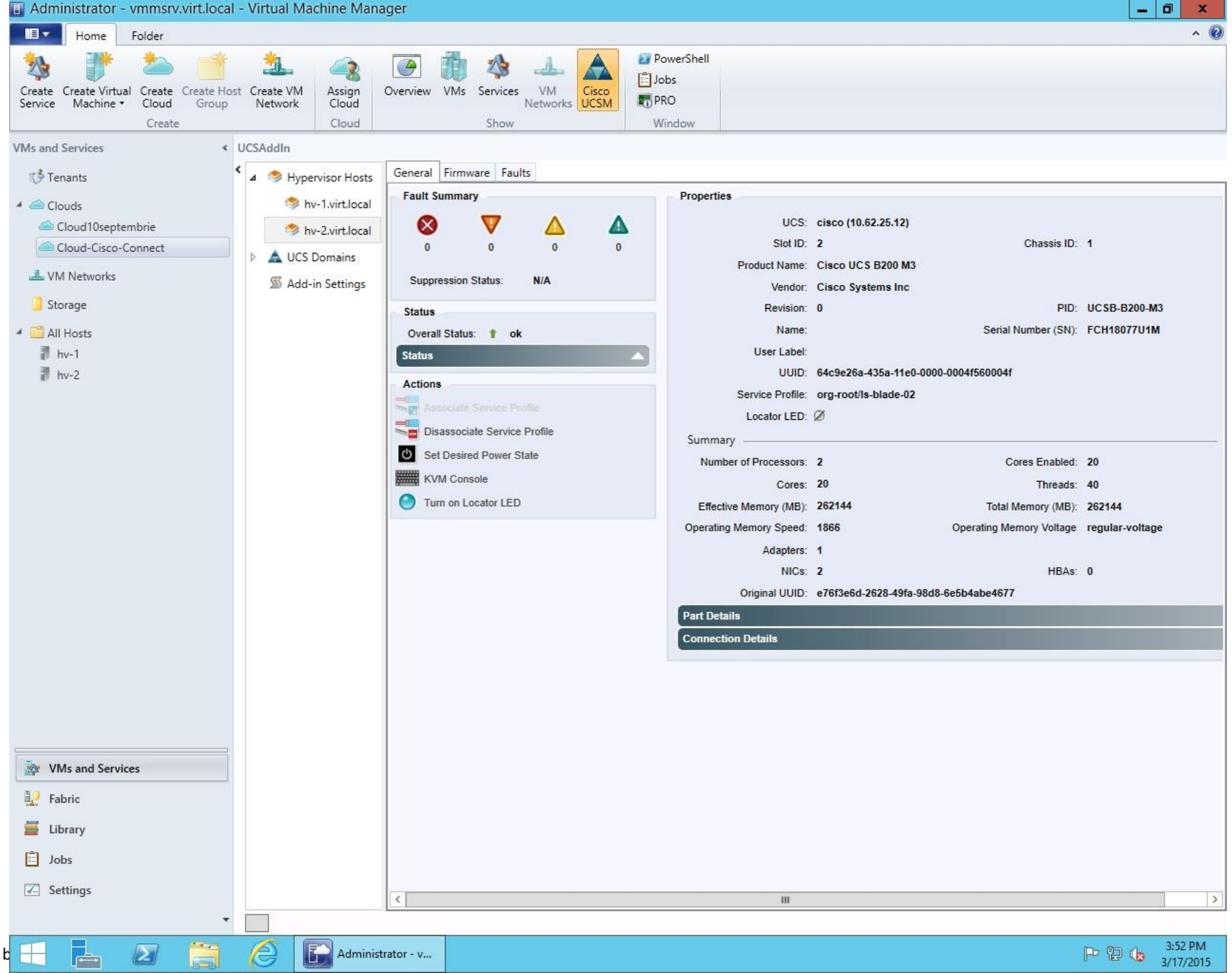

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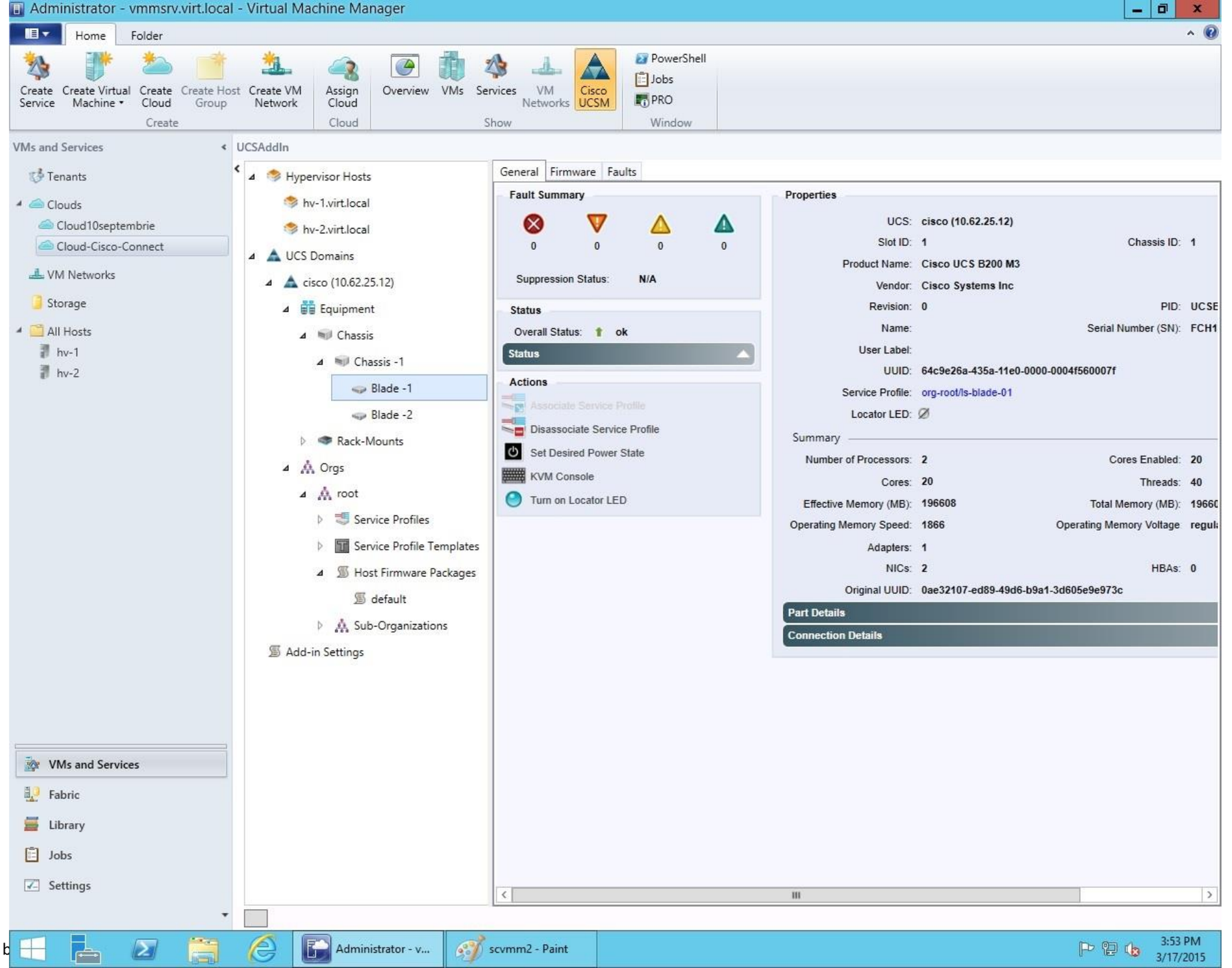

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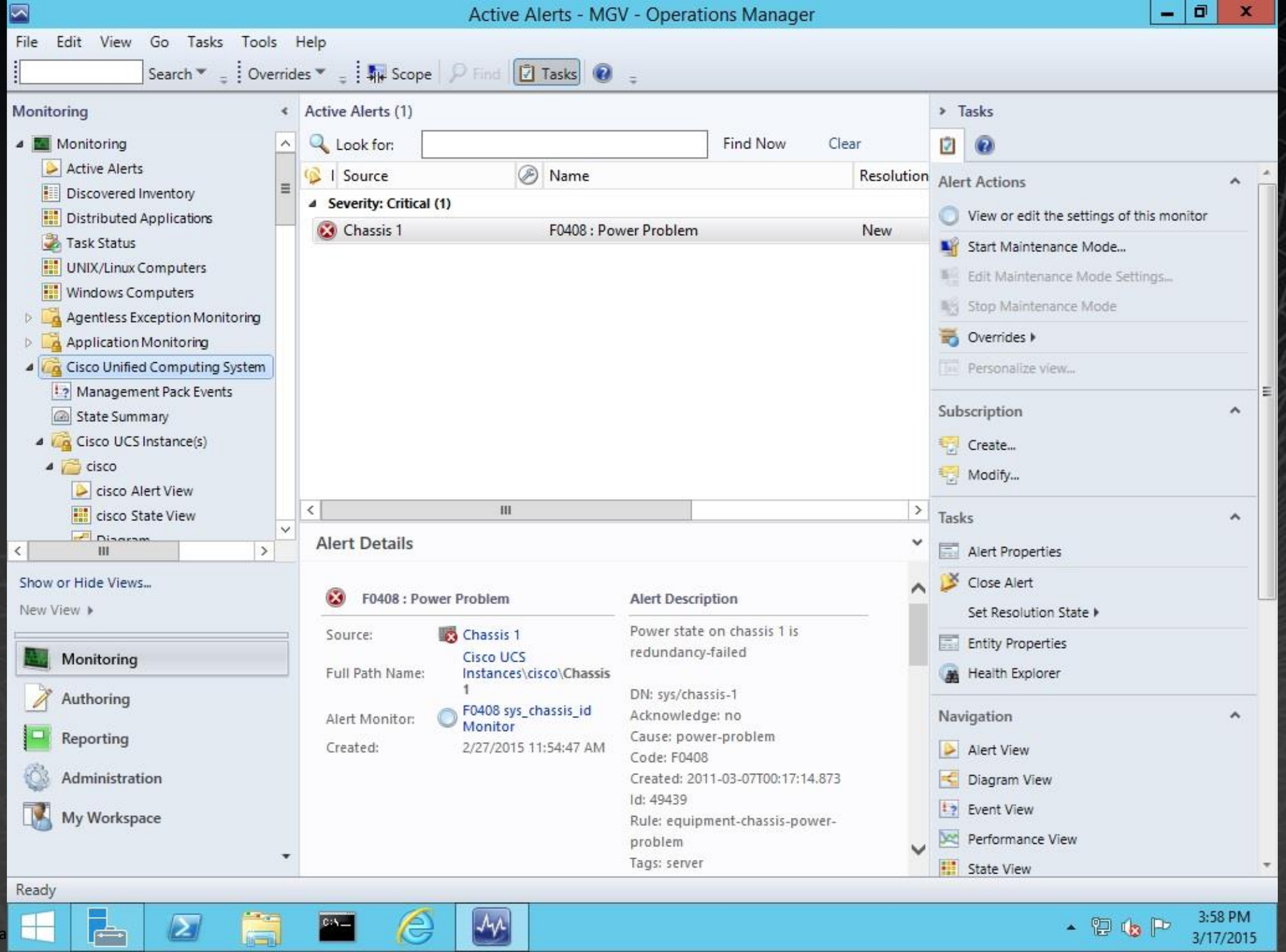

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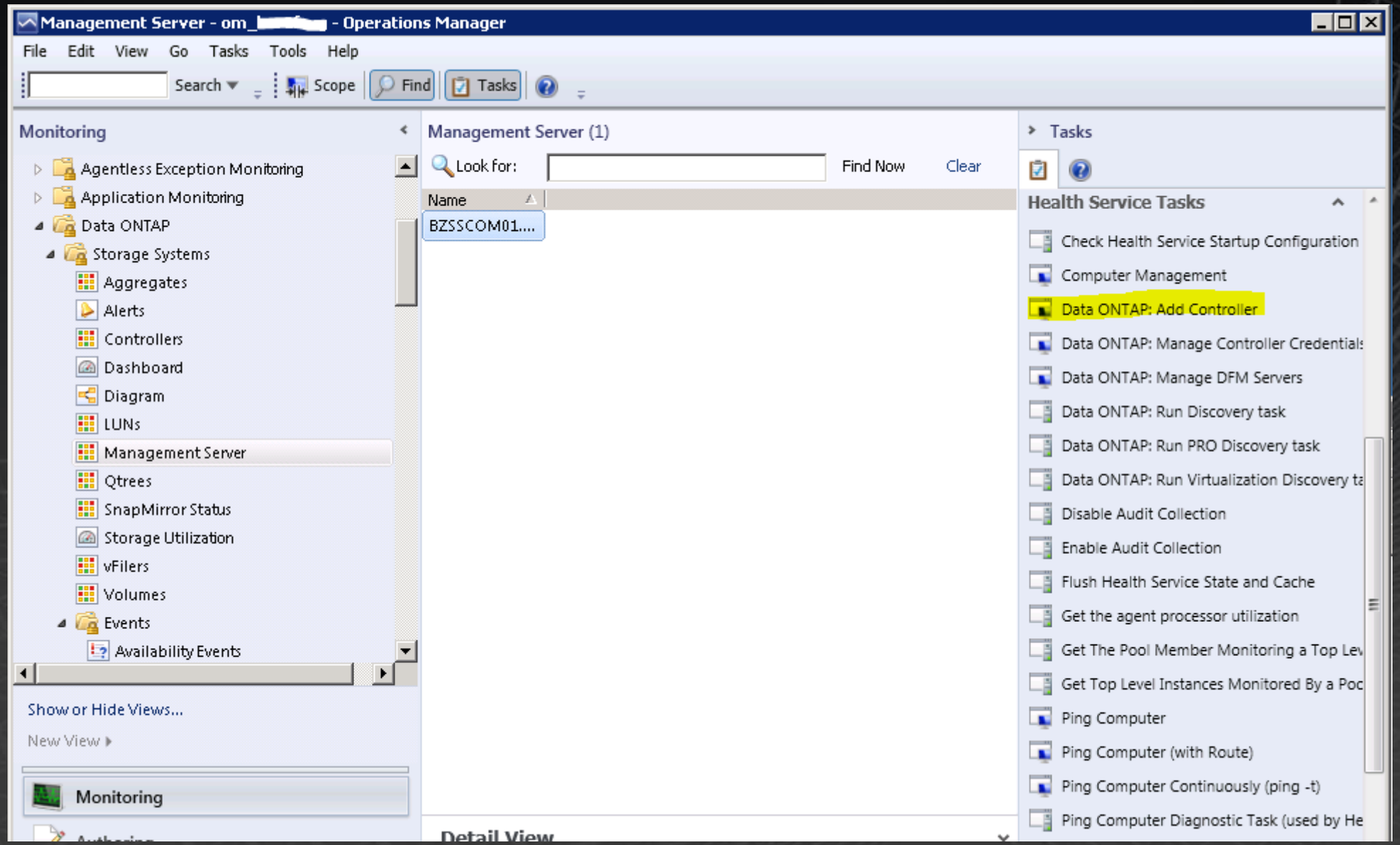
Storage Monitoring



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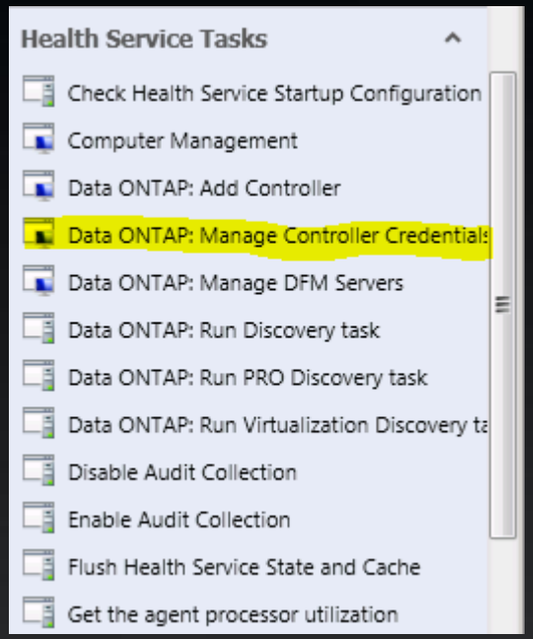

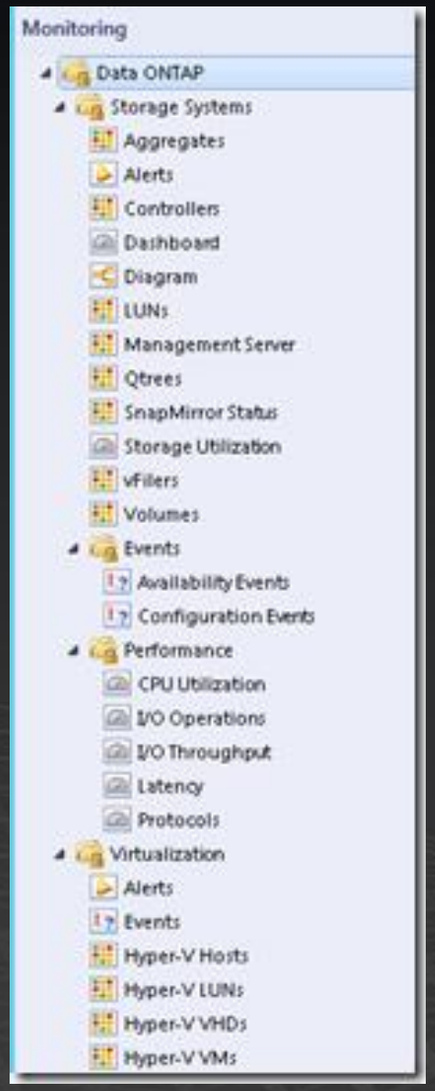

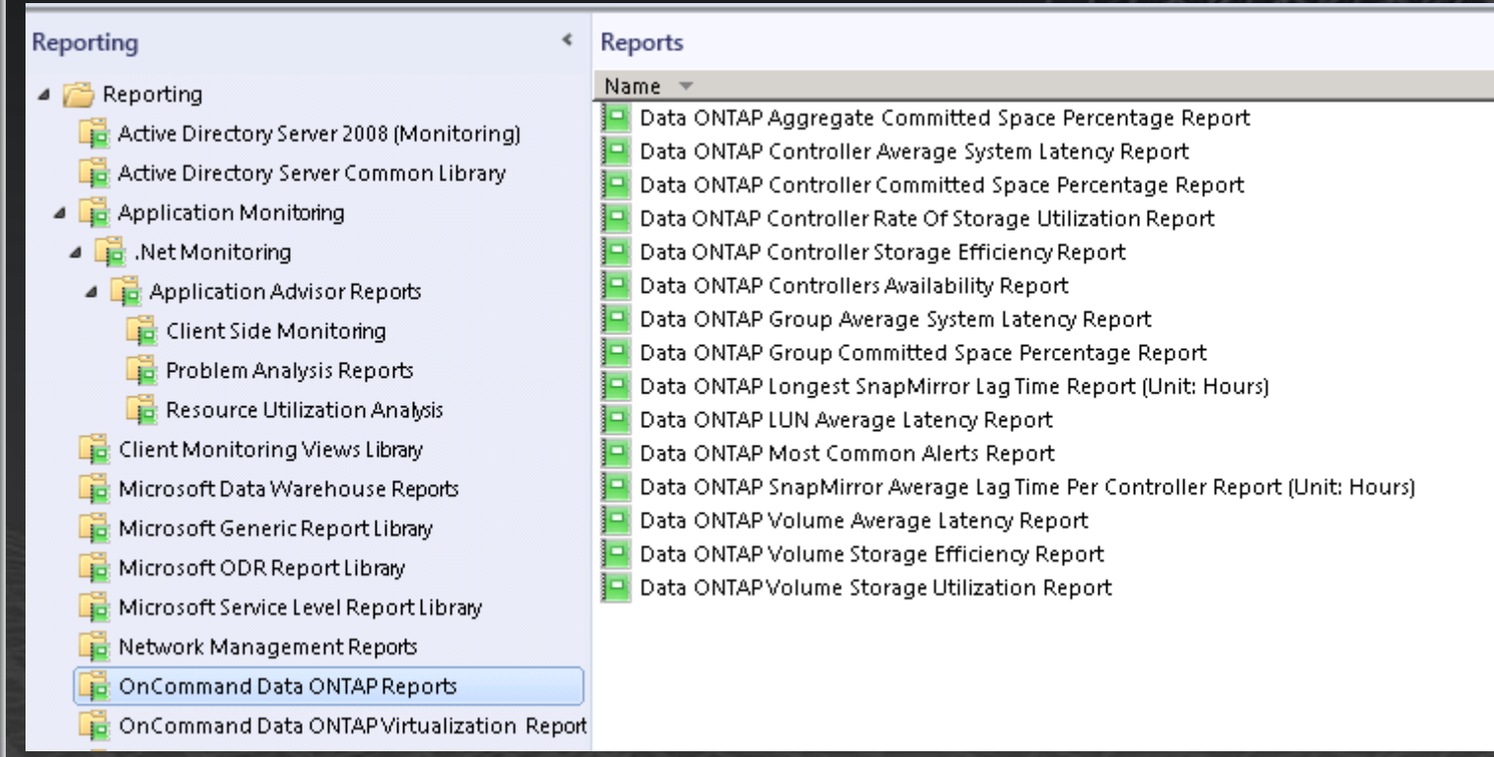

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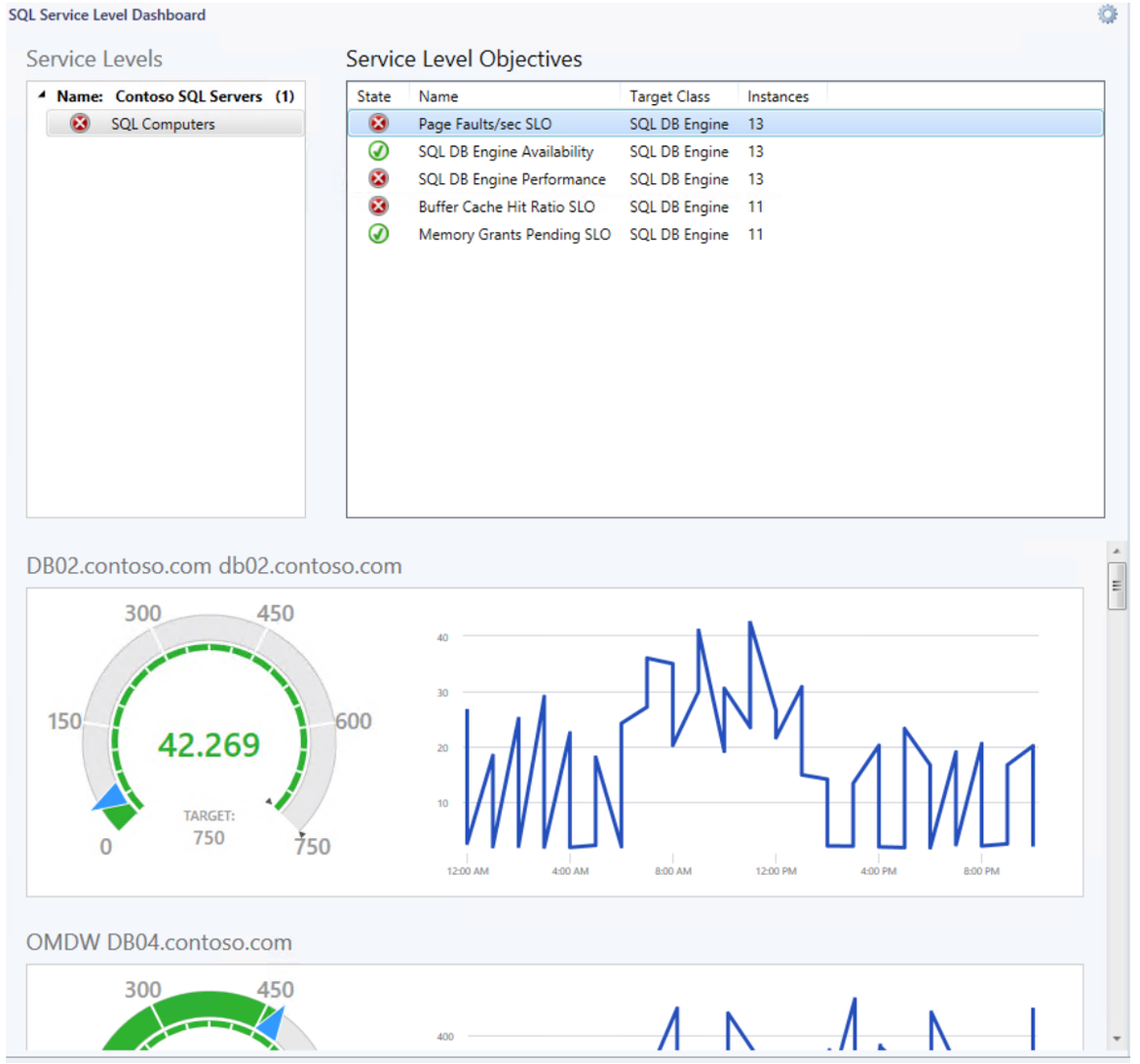
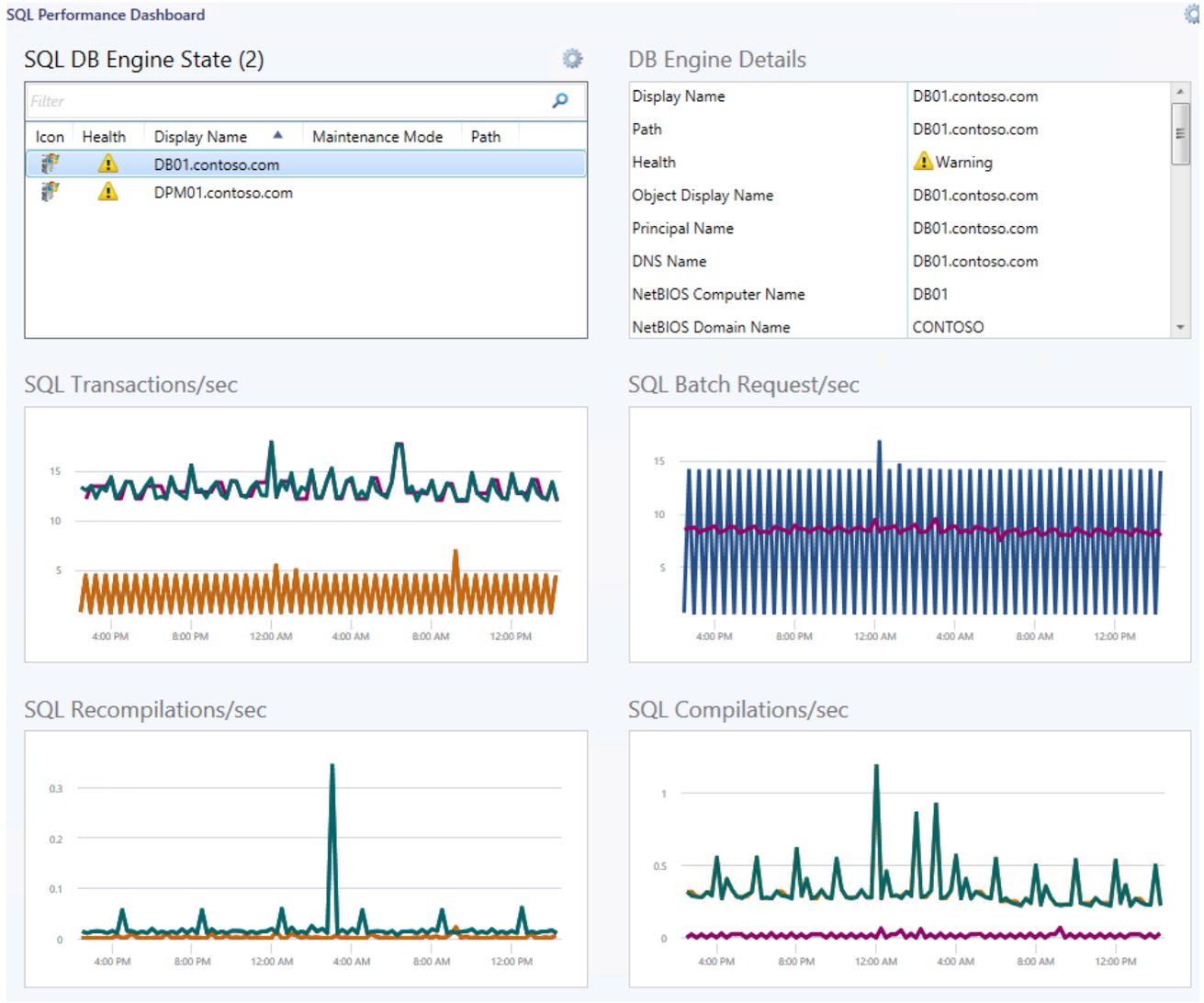
SQL and Microsoft apps monitoring





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Java EE monitoring-supported platforms

	Supported JEE application servers	Supported operating systems matrix				
		RHEL	SLES	Solaris	AIX	Windows
IBM Websphere	6, 7, 8	✓	✓		✓	✓
Oracle WebLogic	10gRel3, 11gRel1, 12cR1	✓	✓	✓		✓
Redhat JBoss	4, 5, 6, EAP 6, 7, WildFly 8	✓	✓			✓
Apache Tomcat	5, 6, 7, 8	✓	✓			✓

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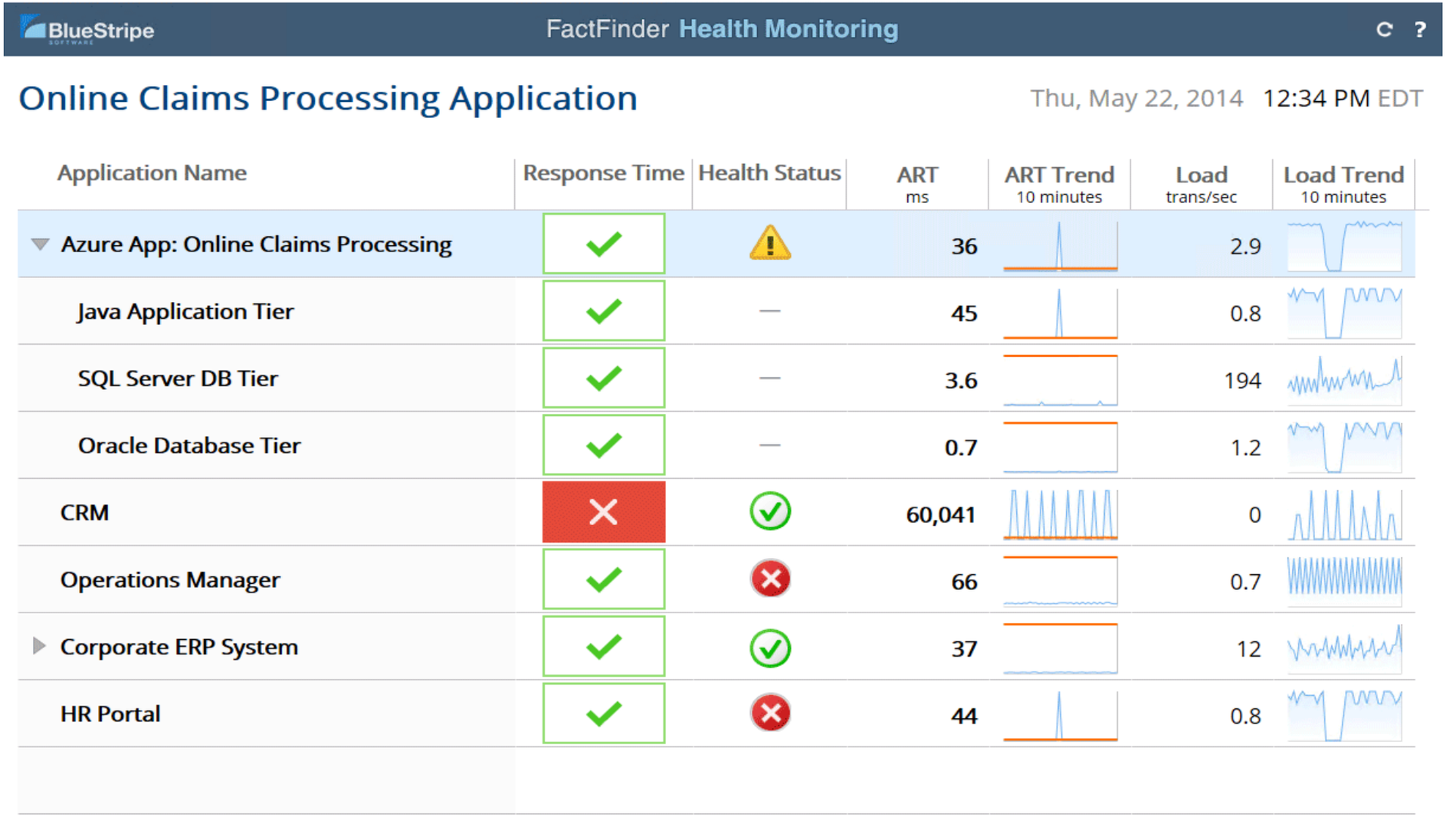
Application visibility across datacenter and clouds

Microsoft acquired BlueStripe – to be integrated in System Center and Operations Management Suite



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Service Manager

IT Service Management with System Center integration

IT Service Management – Service Manager provides incident, problem, change, & release management. Service & request offerings, along with SLA Management, are also in the box

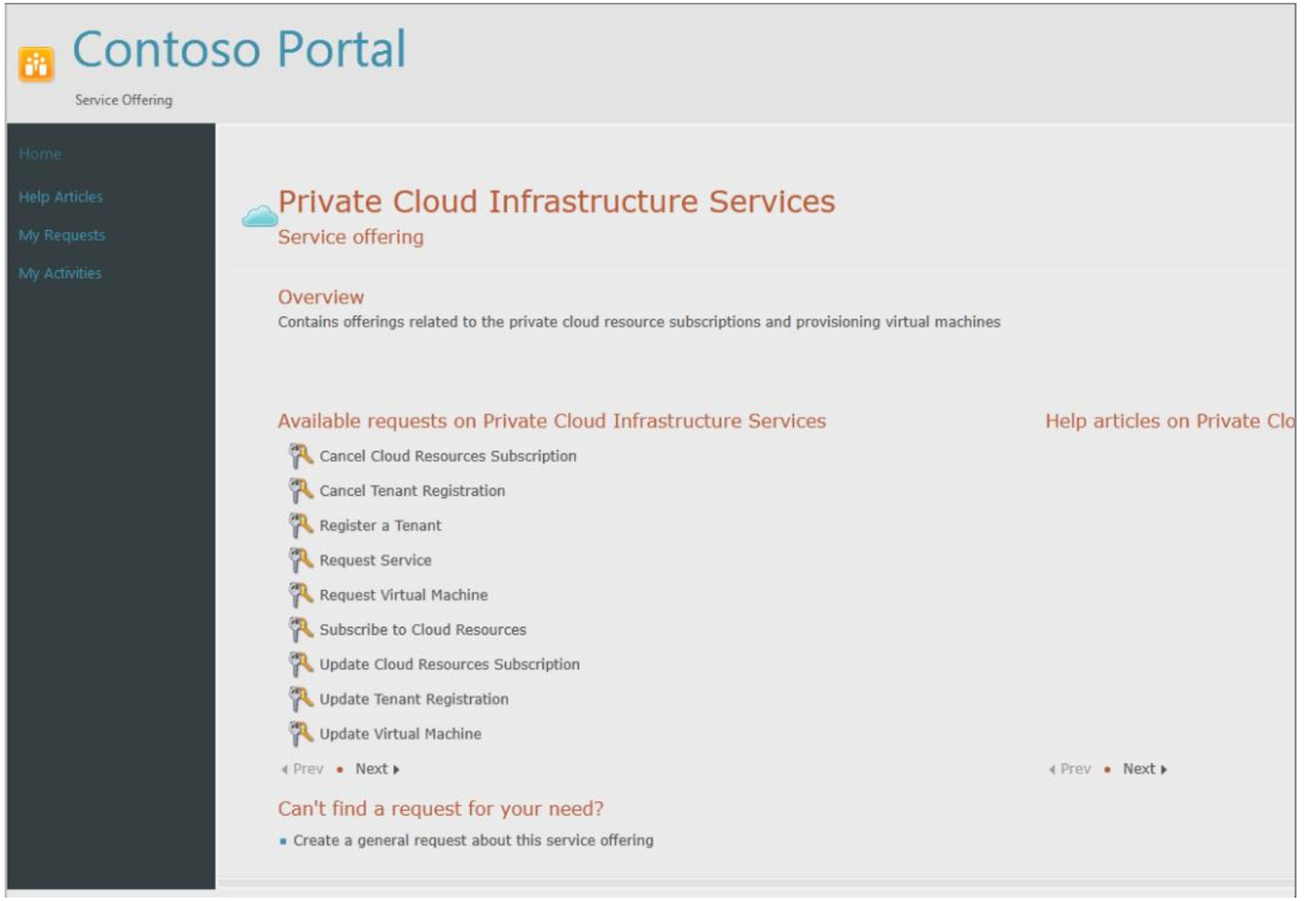
ITaaS – Rich Self Service Portal based on SharePoint providing role-based access to the service catalog

Integration – Connectors simplify and streamline integration between Service Manager and other System Center components

Business intelligence – Powerful data warehouse for rich, integrated reporting

Cloud Services Process Pack – Free download providing pre-built service requests, request offerings, and runbooks

Online meetings – Connect, share, and schedule meetings online with Skype for Business and Lync



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Data Protection Manager

Centralized protection for key VMs and applications

Workloads – DPM protects key workloads, at a granular application level, up to every 15 minutes

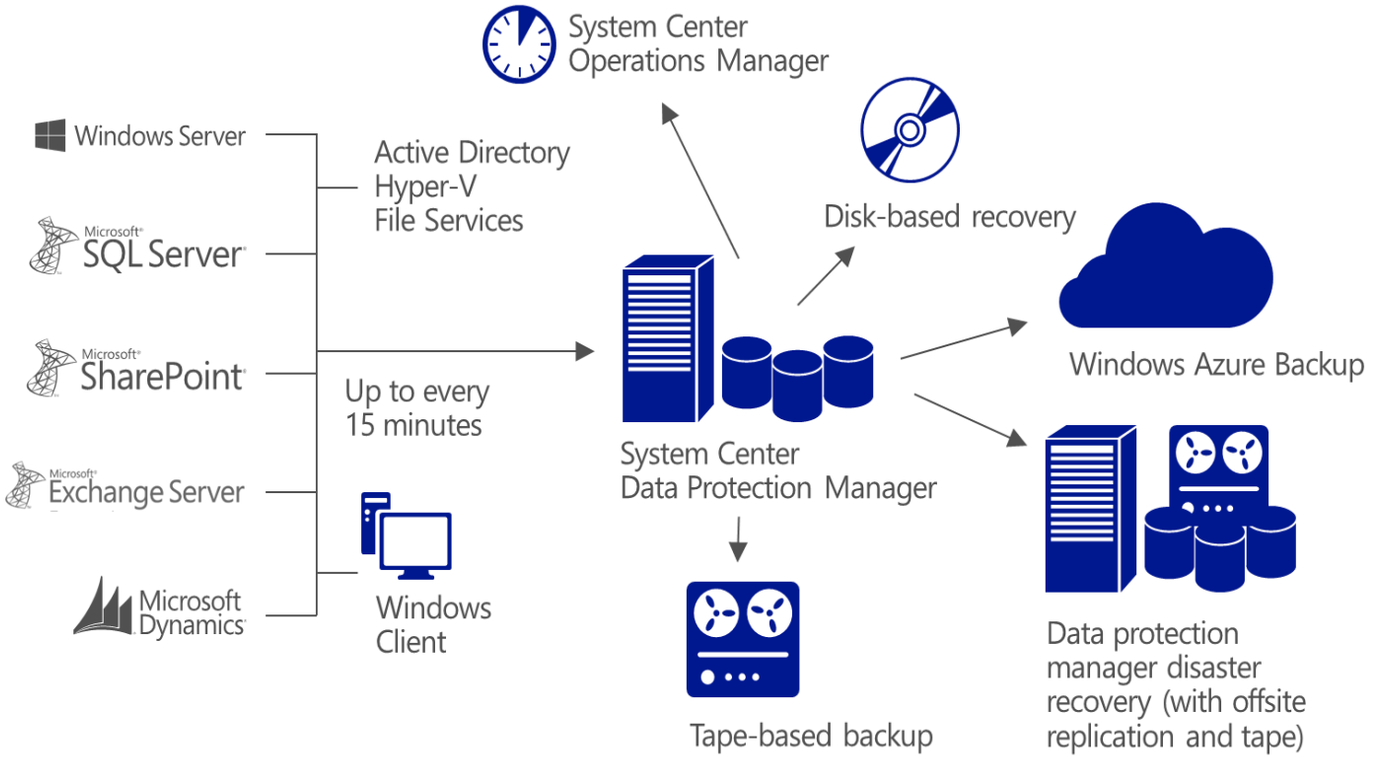
Disk/Tape/Azure – DPM supports protecting short-term to disk, long-term to tape, and Azure for cloud backup

Centralized – With integration with OpsMgr, the central console enables management of all DPM servers from a single location

Scalable – 800 VMs per DPM server, parallel backups, page-file exclusion, Live Migration support

Mixed mode clusters – Protect data in mixed mode clusters during upgrade without interruptions

Encrypted VMs – Backup Virtual TPM enabled VMs VHDs/VHDXs encrypted with BitLocker



DPM 2012 R2 with Update Rollup 11 (25 August 2016) – backup for VMWare 5.5 and 6.0!!!

https://blogs.technet.microsoft.com/dpm/2016/08/26/four-simple-steps-to-backup-vmware-vms-using-sc-dpm/

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Why OMS?

It's simple

A single portal for all your management tasks. No infrastructure to maintain.

Time to value

Onboard fast. No content to create. Connects to your on-premises datacenter.

Easy to integrate

Add new servers, or connect to your existing management tools within minutes.

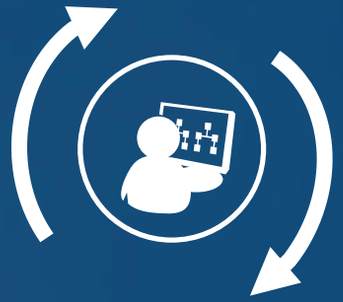
Hybrid and open

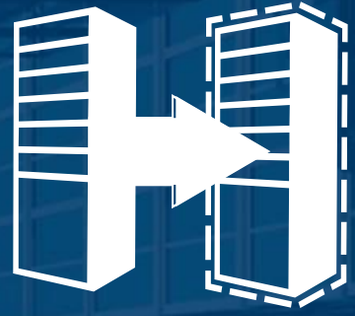
Manage workloads across Windows and Linux, hybrid and public clouds, Azure and AWS.

Extend System Center

Complements your System Center investment to unleash new management scenarios.

OMS Solutions





Log analytics	Automation	Availability	Security
Gain visibility across your hybrid enterprise cloud	Orchestrate complex and repetitive operations	Increase data protection and application availability	Help secure your workloads, servers, and users

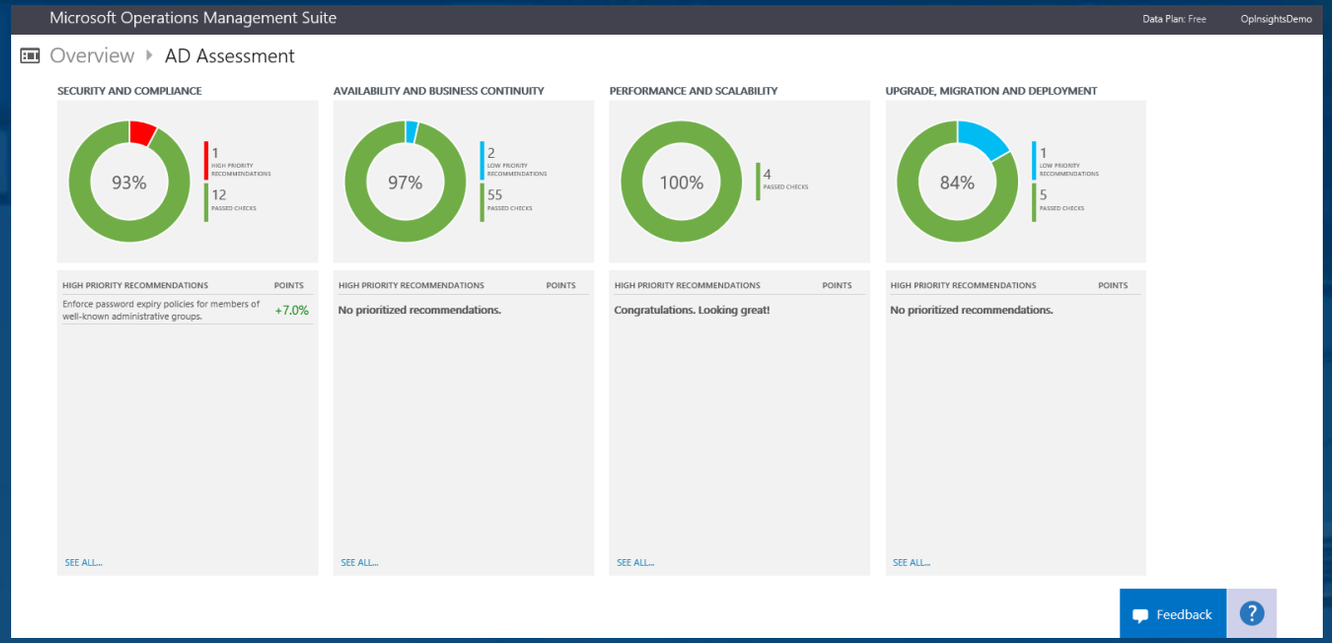
Assessments	Security and best practices assessments: AD, SQL , malware, change tracking, audit

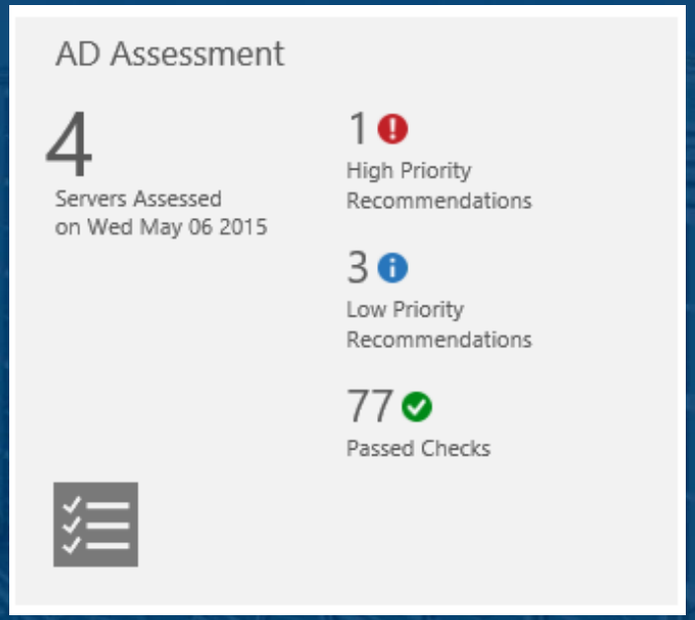
Solution Packs

Active Directory Assessment

Using best practices and data collection, identify potential issues

- Security and Compliance
- Availability and business continuity
- Performance and security
- Upgrade, migration and deployment



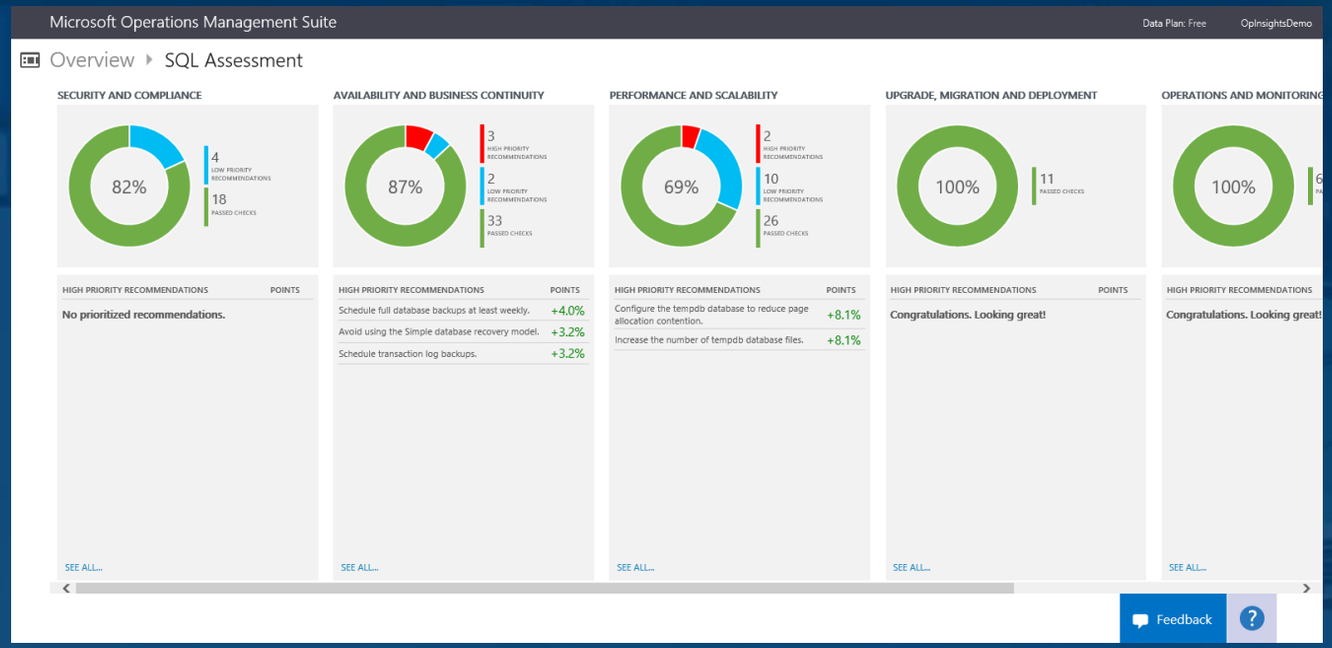


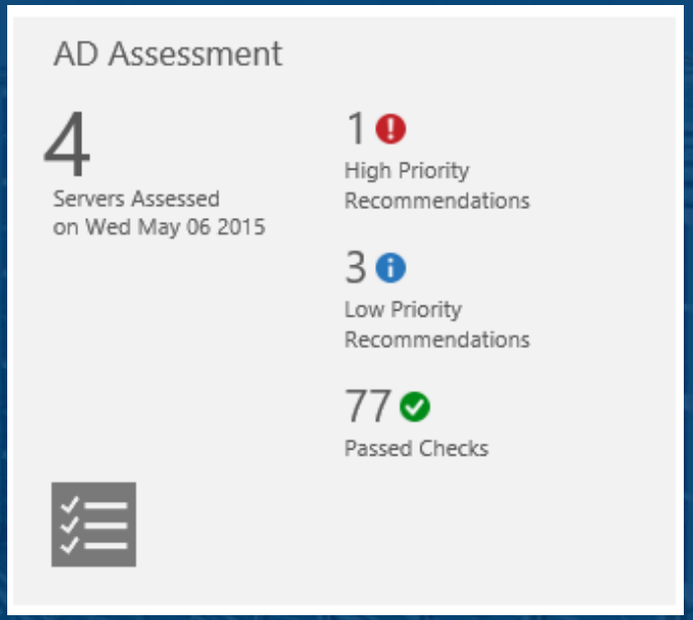
Solution Packs

SQL Server Assessment

Using best practices and data collection, identify potential issues

- Security and Compliance
- Availability and business continuity
- Performance and security
- Upgrade, migration and deployment
- Operations and monitoring
- Change and configuration



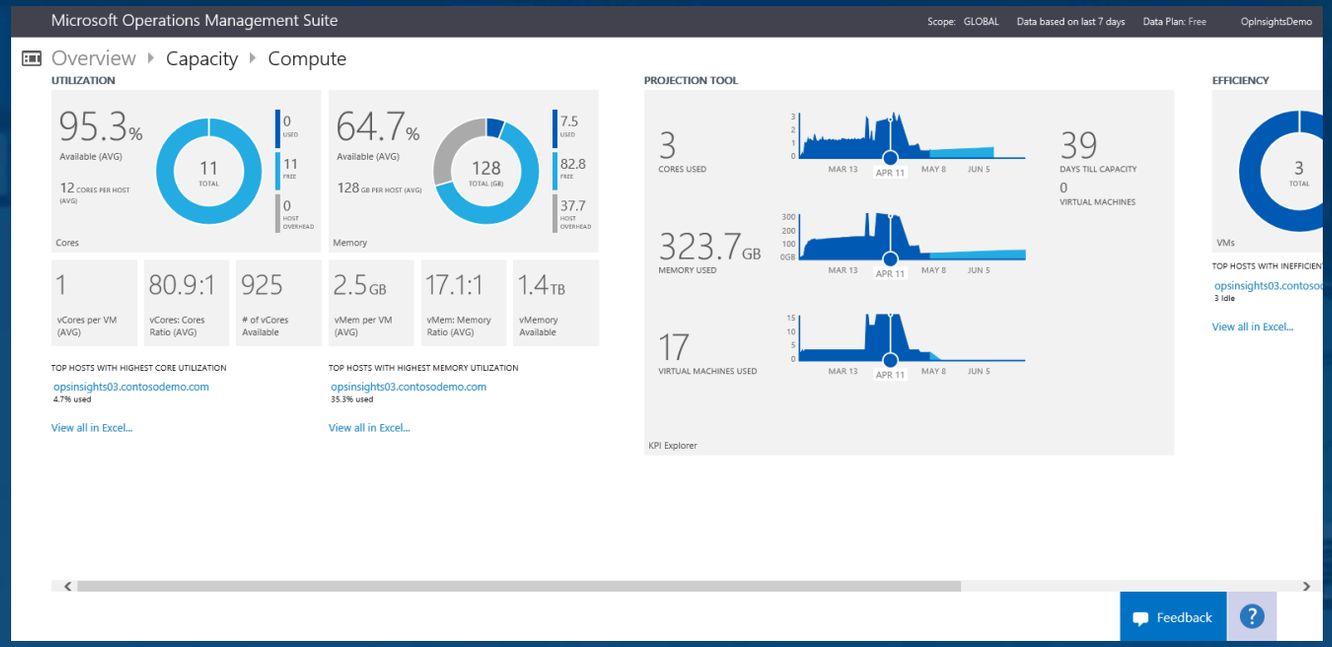


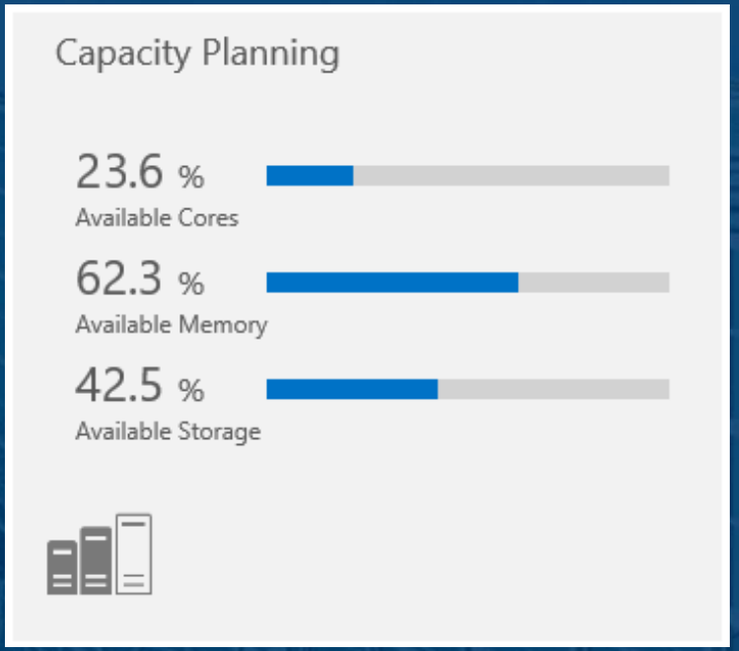
Solution Packs

Capacity planning

Plan for future capacity and trends using historical data

- VM utilization and efficiency
- Compute projection
- Storage utilization

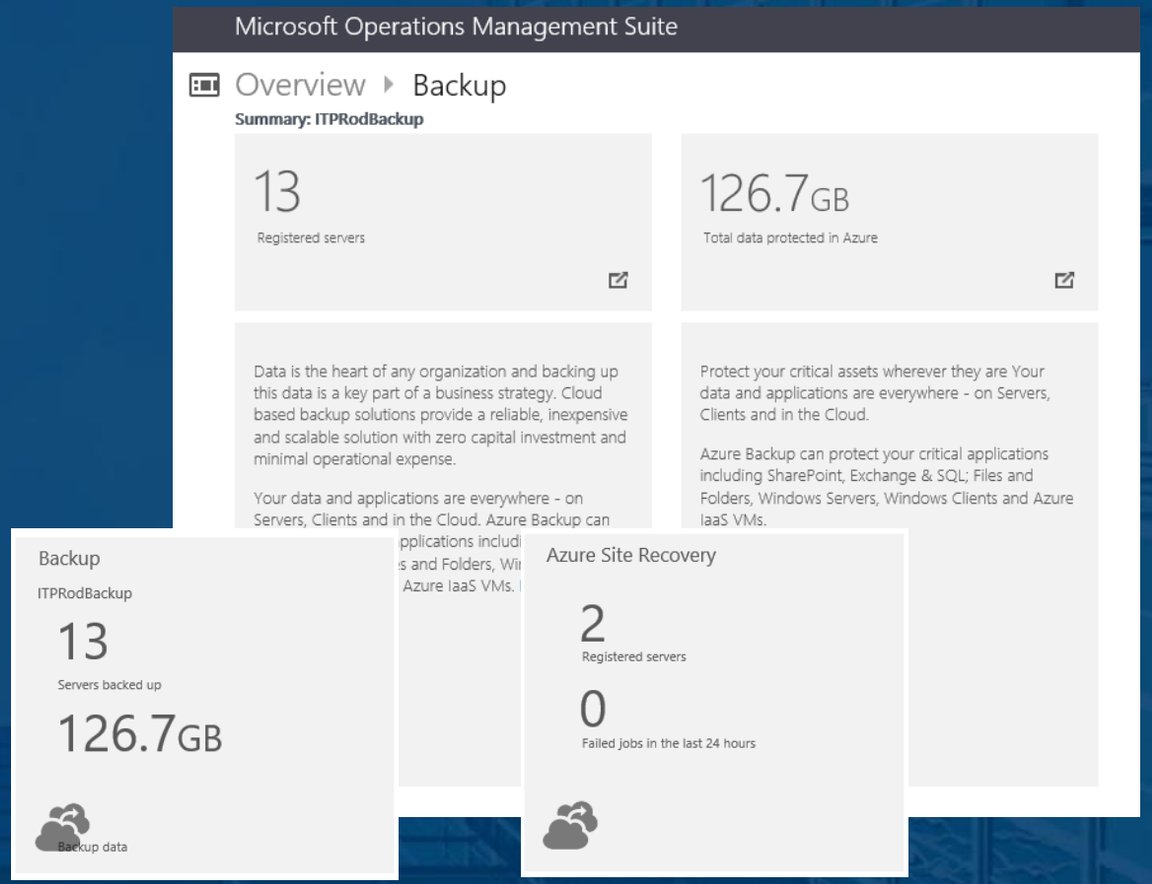




Protect and extend your datacenter

With Azure Site recovery and Azure Backup

- Automated virtual machine replication
- Protect your critical systems and applications
- Customize disaster recovery plans with easy-to-manage disaster recovery points
- Migrate from physical and virtual to Azure
- Access new scenarios including cloud bursting and dev/test



Azure Backup Server

Centralized protection for key VMs and applications

Workloads – Azure Backup Server protects key workloads, at a granular application level, up to every 15 minutes.

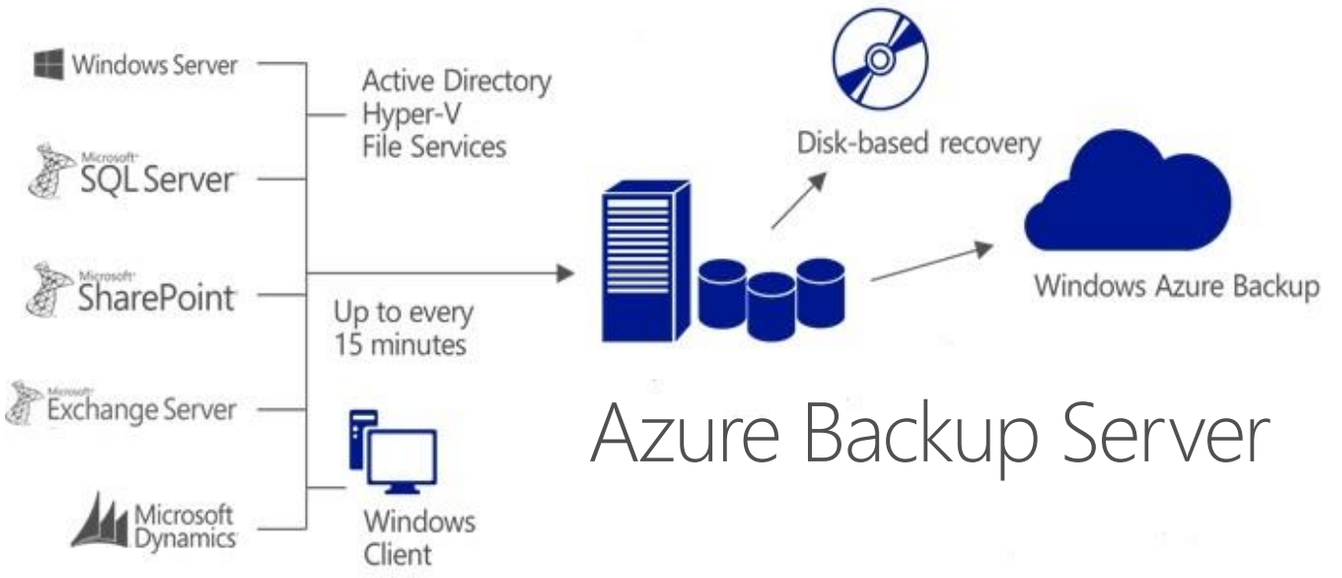
Disk/Cloud – Azure Backup Server supports protecting short-term to disk, and long-term to cloud.

Centralized –integration with Operations Management Suite, the central console enables management of servers from a single location.

Azure Integration – Azure Backup Server supports archiving data up to Windows Azure

Low-Cost DR

Scalable – multiple VMs per Azure Backup server, parallel backups, page-file exclusion, Live Migration support



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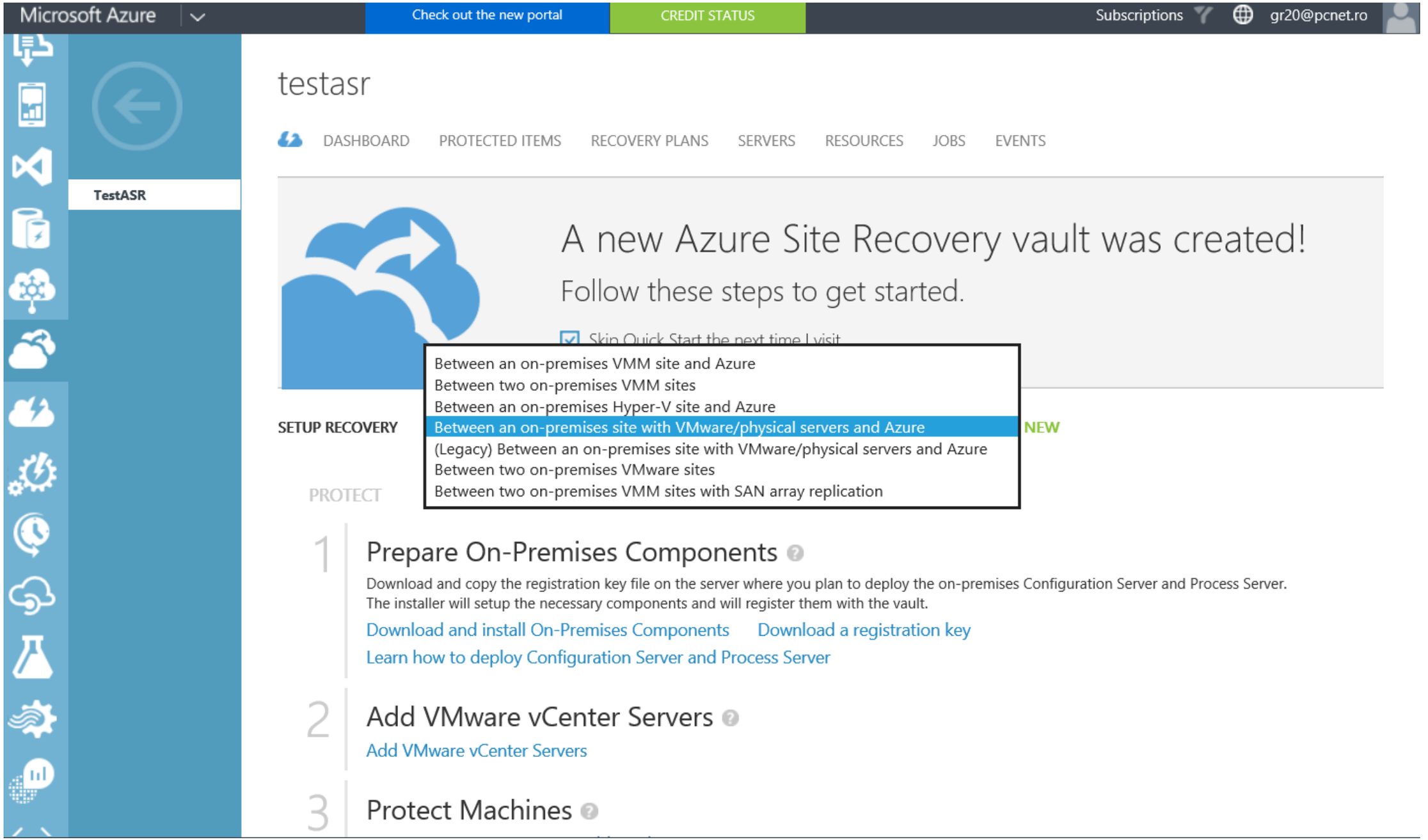

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System Center + OMS

Better Together

Monitoring

Provisioning

Protection

- ✓ Centralized log repository
- ✓ Efficient server discovery and agent deployment
- ✓ Web based alert management
- ✓ VM capacity planning and management
- ✓ Integrated disaster recovery for VM workloads
- ✓ Cloud backup and long-term retention

… & many more to come!

Classified as Microsoft General by ovidiup@microsoft.com