

Delivering the FlexPod solution Microsoft & NetApp

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Microsoft

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Manager



Agenda

- Intro
- The Microsoft Private Cloud
- NetApp Agile Storage
- FlexPod for Microsoft Private Cloud

Cloud transformation



Cloud drivers



Agility



Economics



Innovation

Cloud attributes

Pooled resources

Enables scalability and dynamic provisioning



Elasticity

Enables resources to expand or contract based on demand



Self-service

Enables automated provisioning through a self-service portal



Usage-based

Enables usage-based resource metering



The Microsoft private cloud



All about
the app



Cross-platform
from the metal
UP



Foundation
for the future



Cloud on
your terms

The Microsoft private cloud



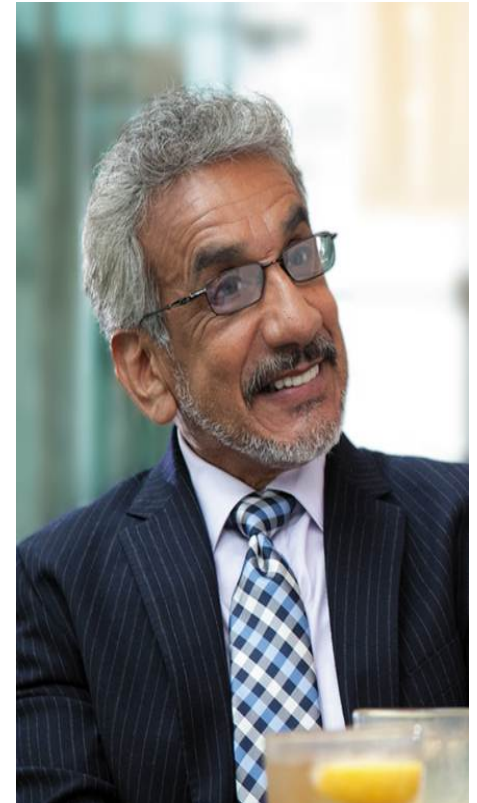
All about
the app



Cross-platform
from the metal
UP

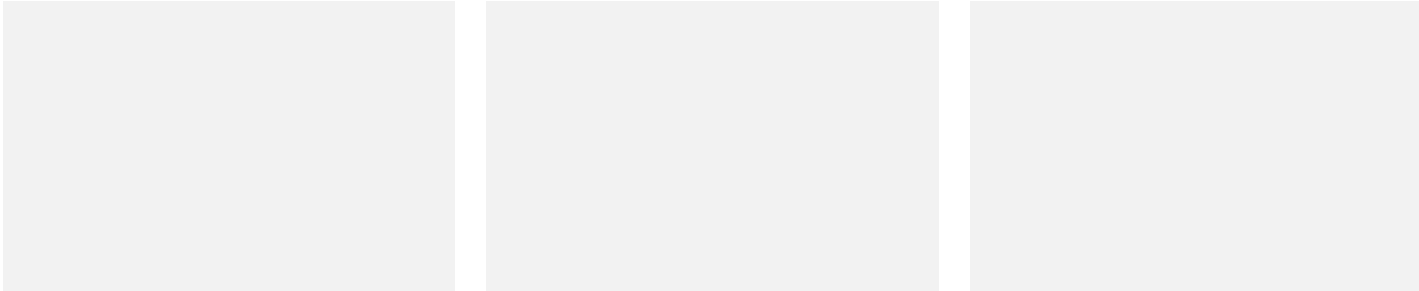


Foundation
for the future




Cloud on
your terms

All about the app




IT demands

Manage applications, not just infrastructure




Service templates
Server App-V

Deliver applications faster



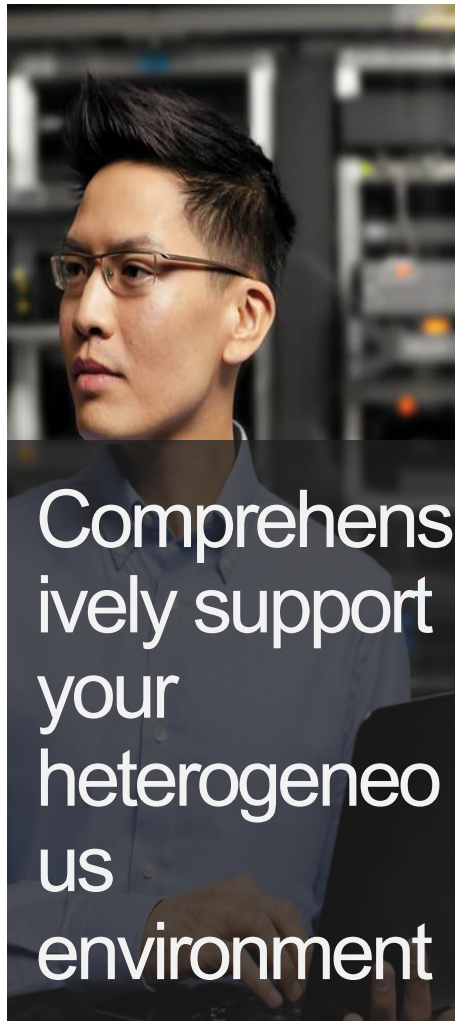
App Controller
Service templates

Keep applications up and running reliably



Operations Manager
System Center – Visual Studio connector

Cross-platform from the metal



Foundation for the future



IT demands

Deliver a flexible, highly-available infrastructure



Hyper-V Network Virtualization
Windows NIC teaming
Transparent Failover

Realize greater value from your investments



File and storage services
Storage spaces
Windows PowerShell 3.0

Scale to enterprise requirements



Hyper-V scale:
Support 320 logical processors,
64 virtual processors per VM,
64 TB virtual disk size

Cloud on your terms



IT demands

Empower application owners with a single management view



App Controller
Monitoring pack for Windows Azure applications

Provide on-demand capacity while retaining control



Virtual Machine Manager
IP mobility with Hyper-V Network Virtualization
Secure cross-premises connectivity

Leverage existing investments, infrastructure, and skill sets

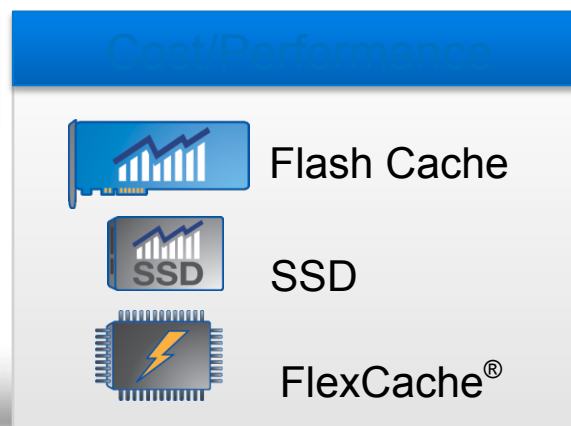
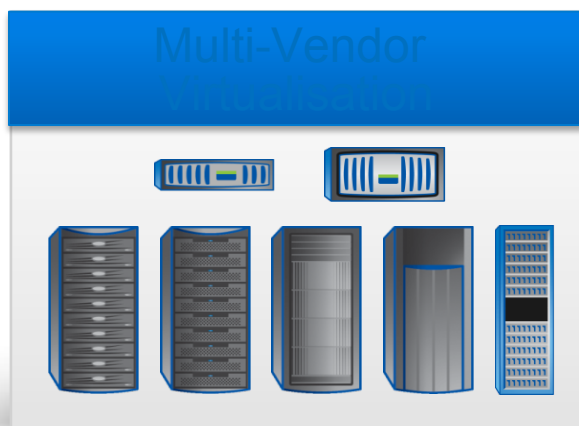
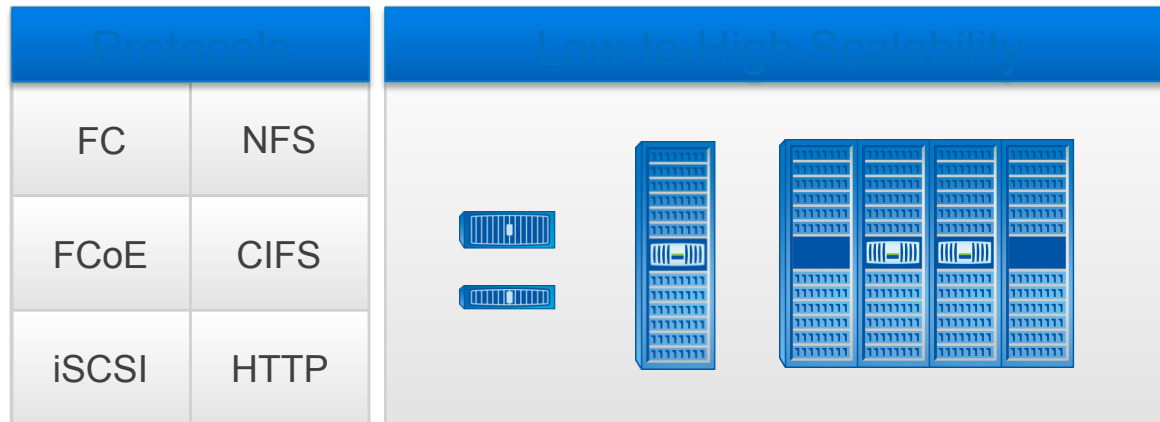


Support for Windows Azure Virtual Machine VM portability: On-premises to Windows Azure
Visual Studio and .NET

NetApp Agile Storage



Unified: Much More than Multi-Protocol



Unified Management

- Same tools & processes: learn once, run everywhere
- Integrated data management
- Integrated data protection



Hardware is Merely a Means



Ontap-v VSA



X - YTB

FAS2000



68 - 272TB

FAS3200



480TB - 1.9PB

FAS6200



2.4 - 2.9PB

V-Series



Virtualize 3rd
Party Arrays

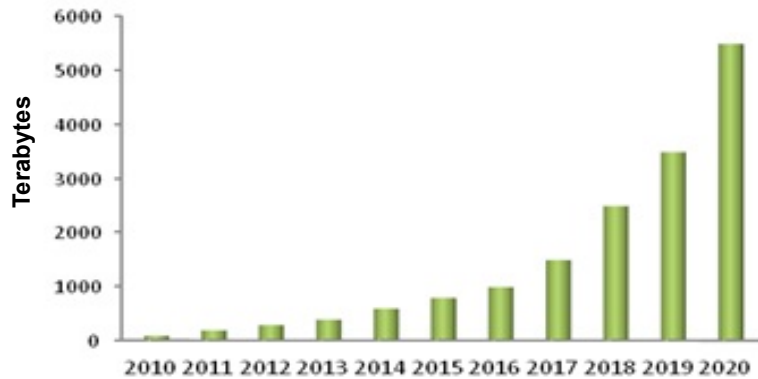
- Natively multiprotocol
- Architectural repeatability
- Operational consistency



NetApp® Storage Portfolio

Relentless Data Growth

A Decade of Monumental Growth*

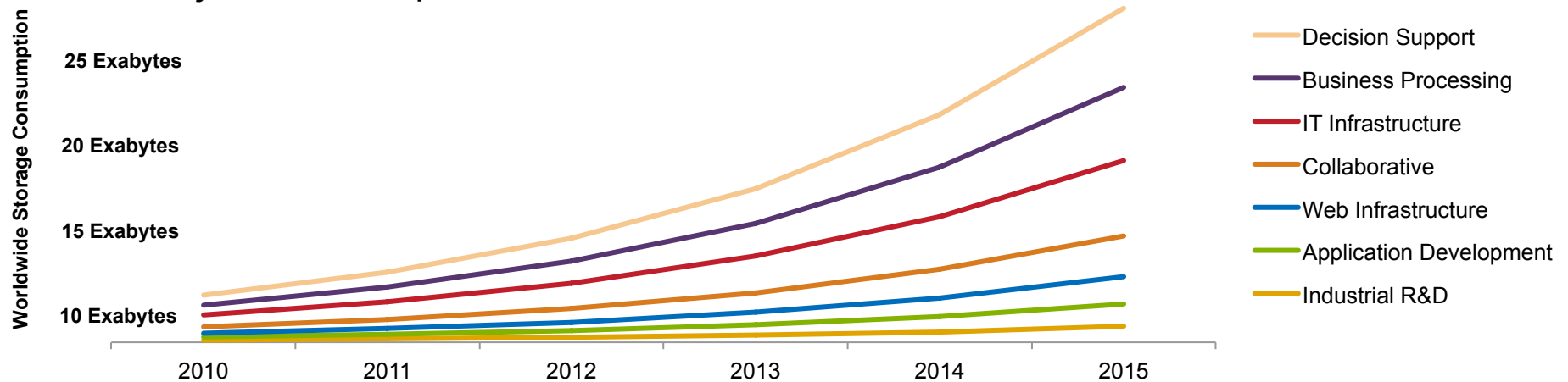


If you were storing 100TB of online data in 2010, you will store:

- 1.1 PB in 2016 (11x)
- 2.5 PB in 2018 (25x)
- 5.8 PB in 2020 (58x)

* Based on industry average 50% annual growth

Projected Enterprise Workload Growth 2010-2015



Source: IDC Multi-Client Study, Storage Workloads 2011, September 2011

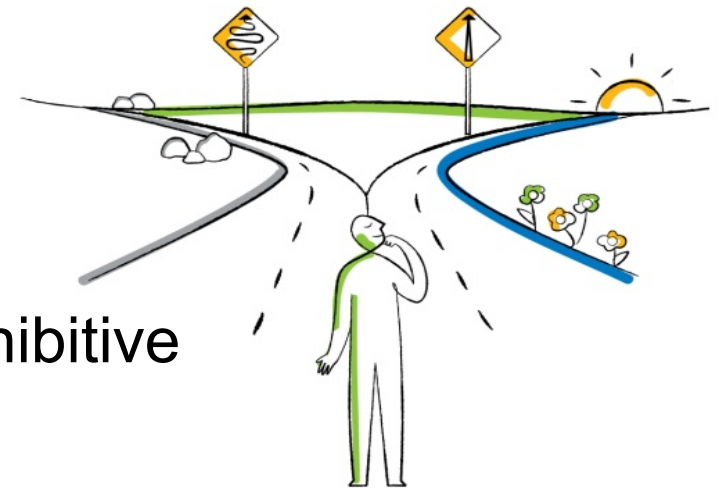
Today's Opportunity and Challenges

Data Growth Impact On Business

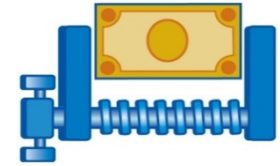
- Unleashes new business innovation
- Enables new products and services
- Becomes a competitive advantage

Data Growth Impact On IT

- Becomes harder to manage at scale
- Constant growth becomes cost prohibitive
- Rapid growth makes it harder for IT to say “yes” to the business



Storage Efficiency



Benefit: Cost containment in an era of monumental growth

Low-cost components

- SATA drives
- RAID-DP[®]
- Flash Cache

Data reduction

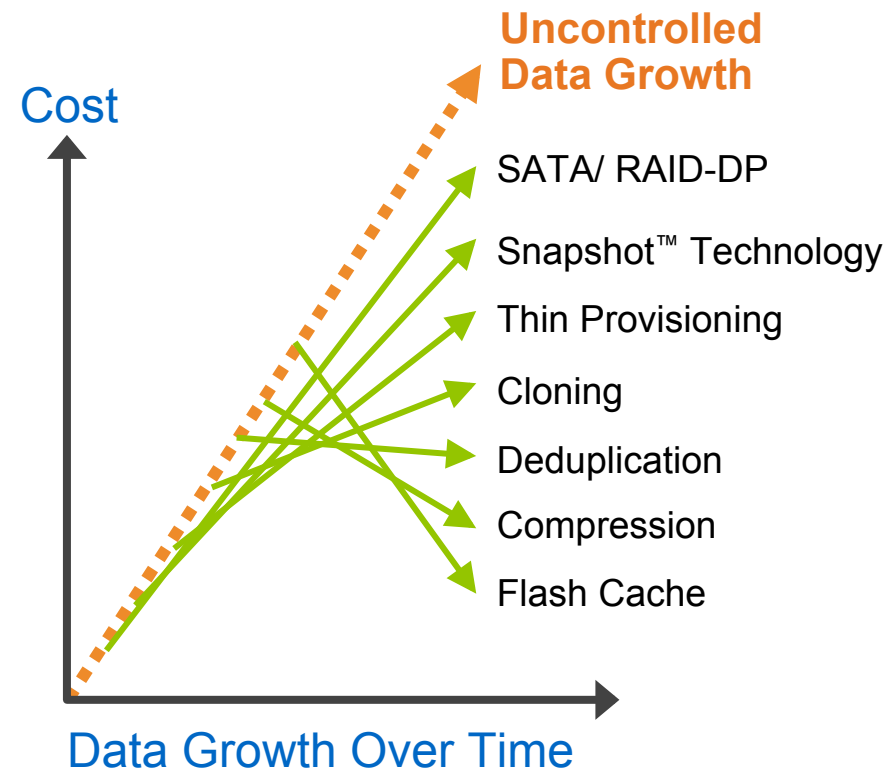
- Deduplication
- Compression

Increased utilization

- Thin Provisioning
- Unified architecture

Fewer full copies

- FlexClone[®]
- Deduped backup



Virtualization Guarantee*



“We now see an average of 83% reductions in redundant data on our Virtual Environment.”

- Jonathan Davis, Duke Institute for Genome Sciences and Policy

- 50% less with NetApp systems
- 35% less on your existing systems

Use NetApp for your virtual environments, and we guarantee* you will use less storage

How To Participate

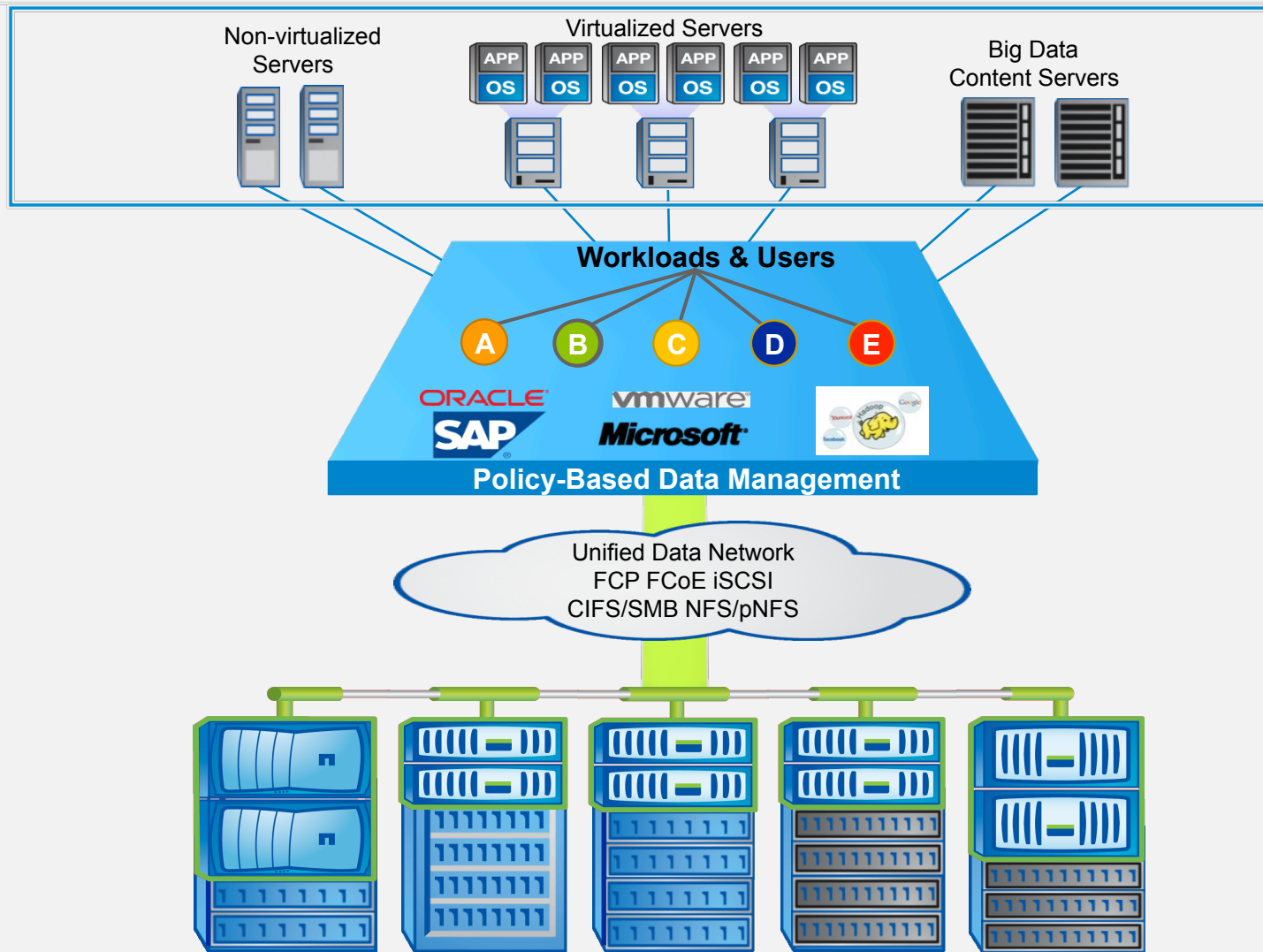
- Implement our standard best practices
- Use our industry-leading features
 - Thin provisioning
 - Deduplication
 - RAID-DP® (not required for V-Series)
 - NetApp Snapshot™ copies
- Use NetApp V-Series for your existing systems
- Have us help you install
- If you don't use less storage, get the capacity shortfall at no additional charge

*For terms and conditions, go to netapp.com/guarantee

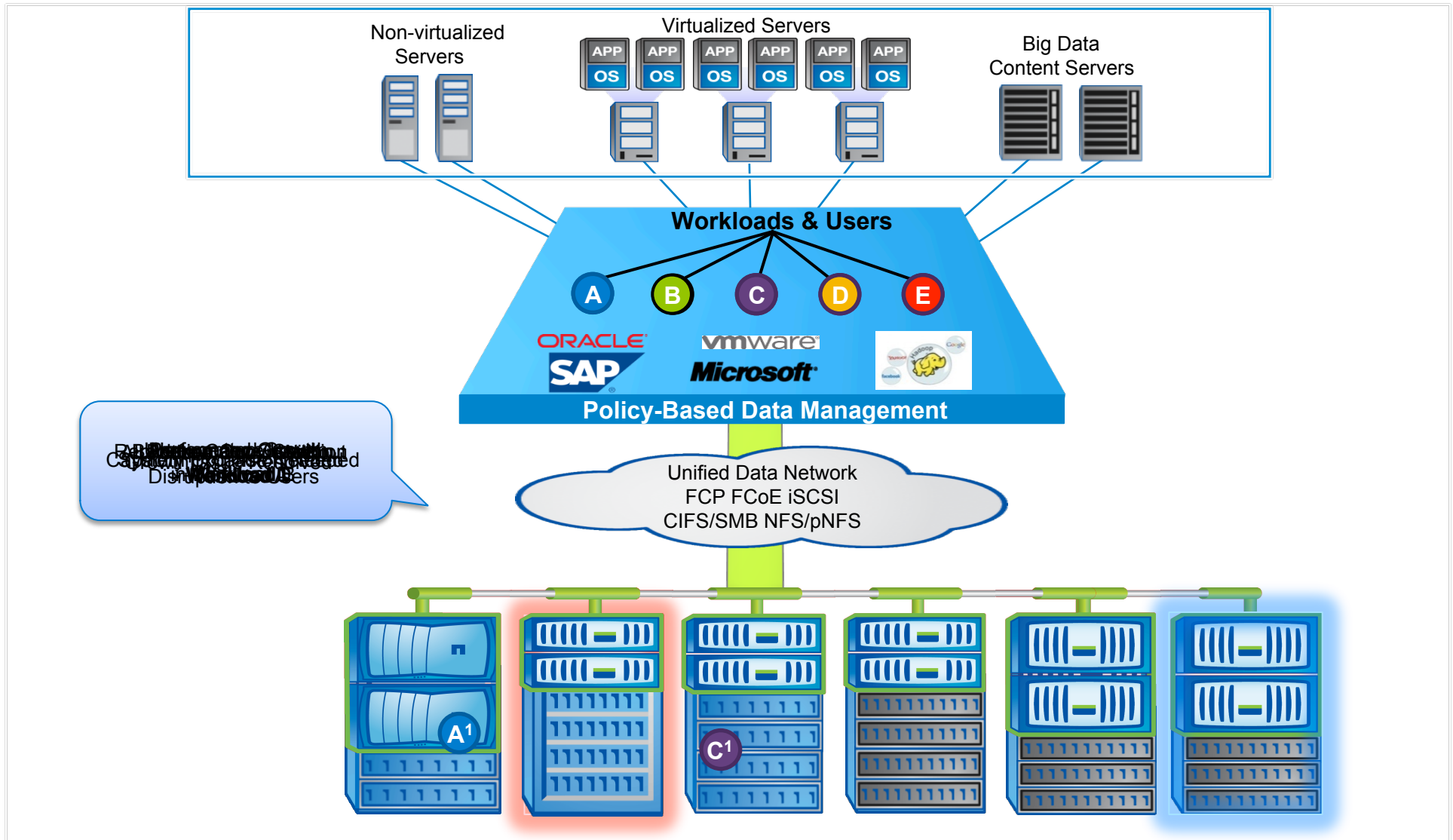
Traditional Storage Infrastructure

Agile Data Infrastructure

Shared Storage Tiers



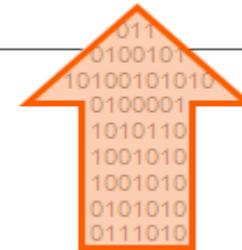
Agile Data Infrastructure



Intelligent Caching “Fire and Forget” Auto Tiering and Performance Management

- Real-time data promotion
- Optimized for Flash
- Scale performance on demand
 - No data movement
- Highly granular (4KB)
- Highly efficient
- Simple to install and require no administration

Data-driven • Real-time • Self-managing
Virtual Storage Tier



Physical Storage

NetApp and Microsoft Private Cloud



Microsoft Private Cloud Partner of the Year Winner: 2012



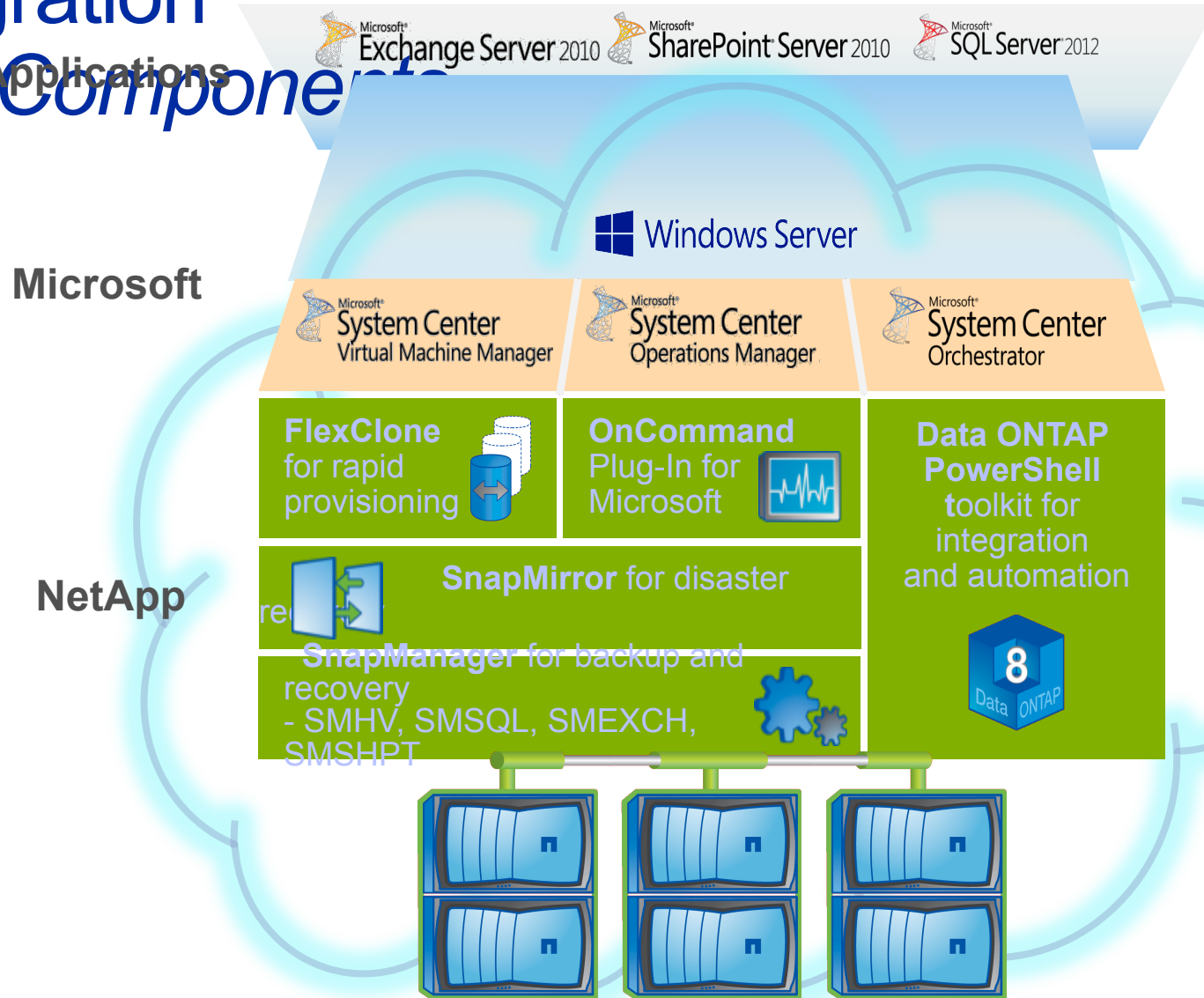
2012 PARTNER OF THE YEAR
Private Cloud Partner of the Year
Winner



2012 PARTNER OF THE YEAR
Management and Virtualization
Finalist

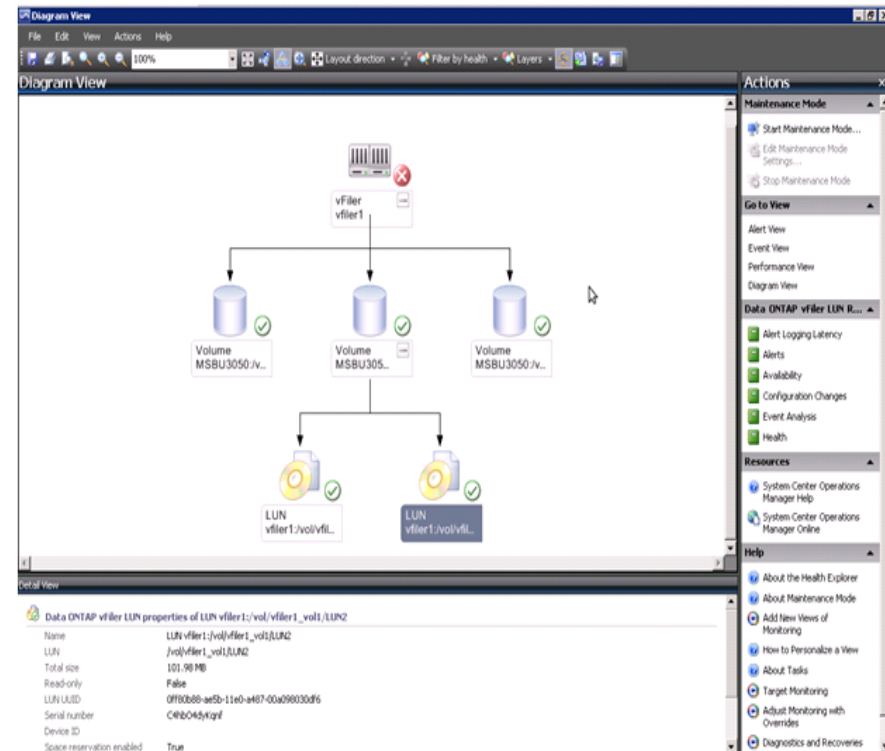
Microsoft Private Cloud Management Integration

Key Applications



NetApp OnCommand Plug-in for Microsoft

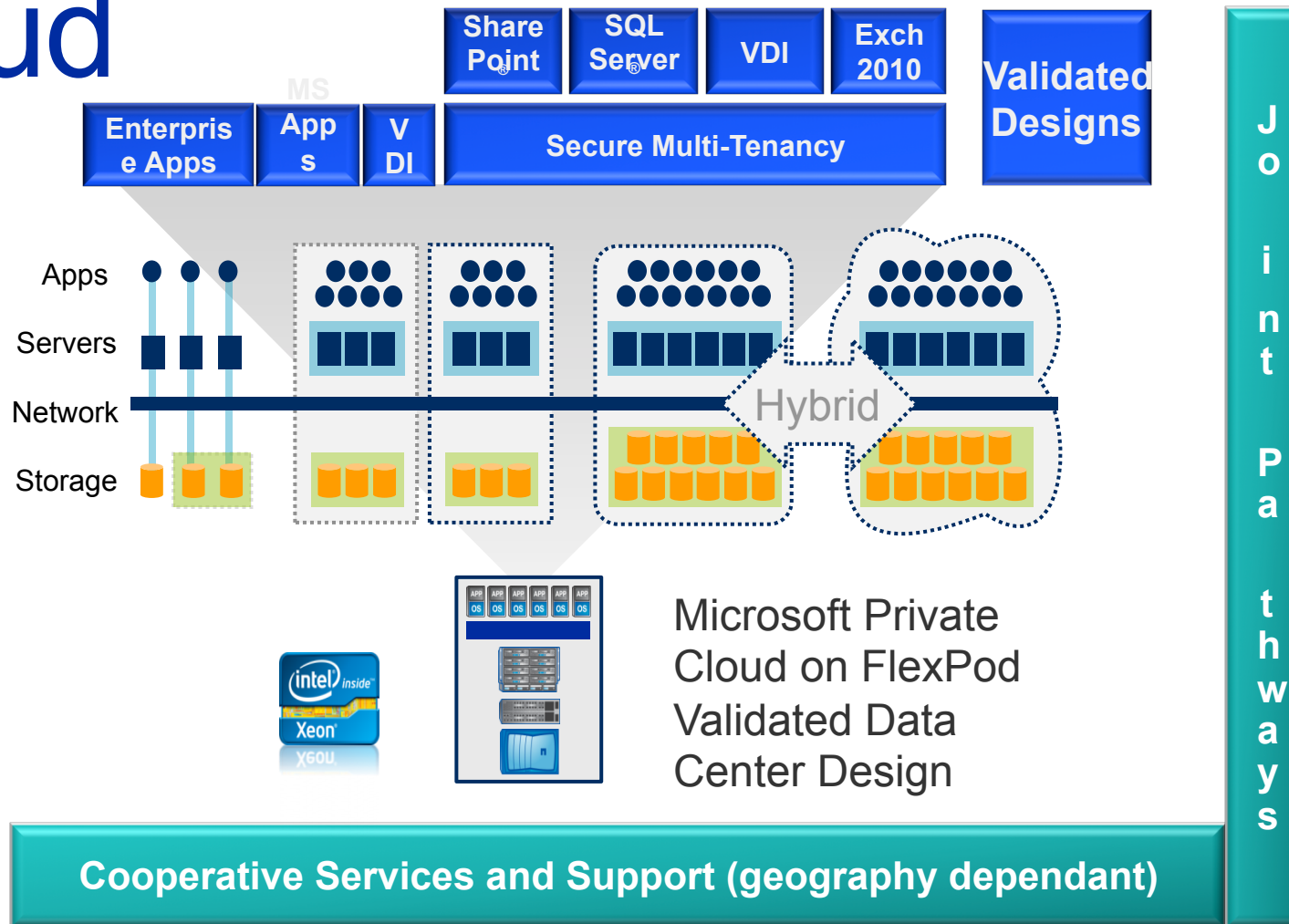
- Simplify Infrastructure Management
 - Microsoft Windows administrators can monitor and manage their storage environment with Microsoft System Center.
- Enable Self-Service VM Provisioning and Streamlined Disaster Recovery
 - System Center Orchestrator integration supports custom workflows for rapid VM provisioning and automated disaster recovery procedures.
- Maintain Business Continuity
 - Identify and remediate issues with automated monitoring and alerts.
 - Enable cost-effective disaster recovery.



FlexPod For Microsoft Private Cloud



Simplify Your Journey to the Cloud




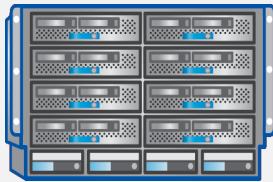
FlexPod with Microsoft Private Cloud

Microsoft Private Cloud Fast Track 3.0 Validated

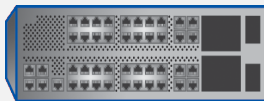
Microsoft® Private Cloud Fast Track

 Windows Server 2012

 Microsoft®
System Center 2012



Cisco® UCS™
Blade and Rack
Servers and UCS
Manager



Cisco Nexus®
Family Switches
including N1000V



NetApp® FAS
Storage
Systems

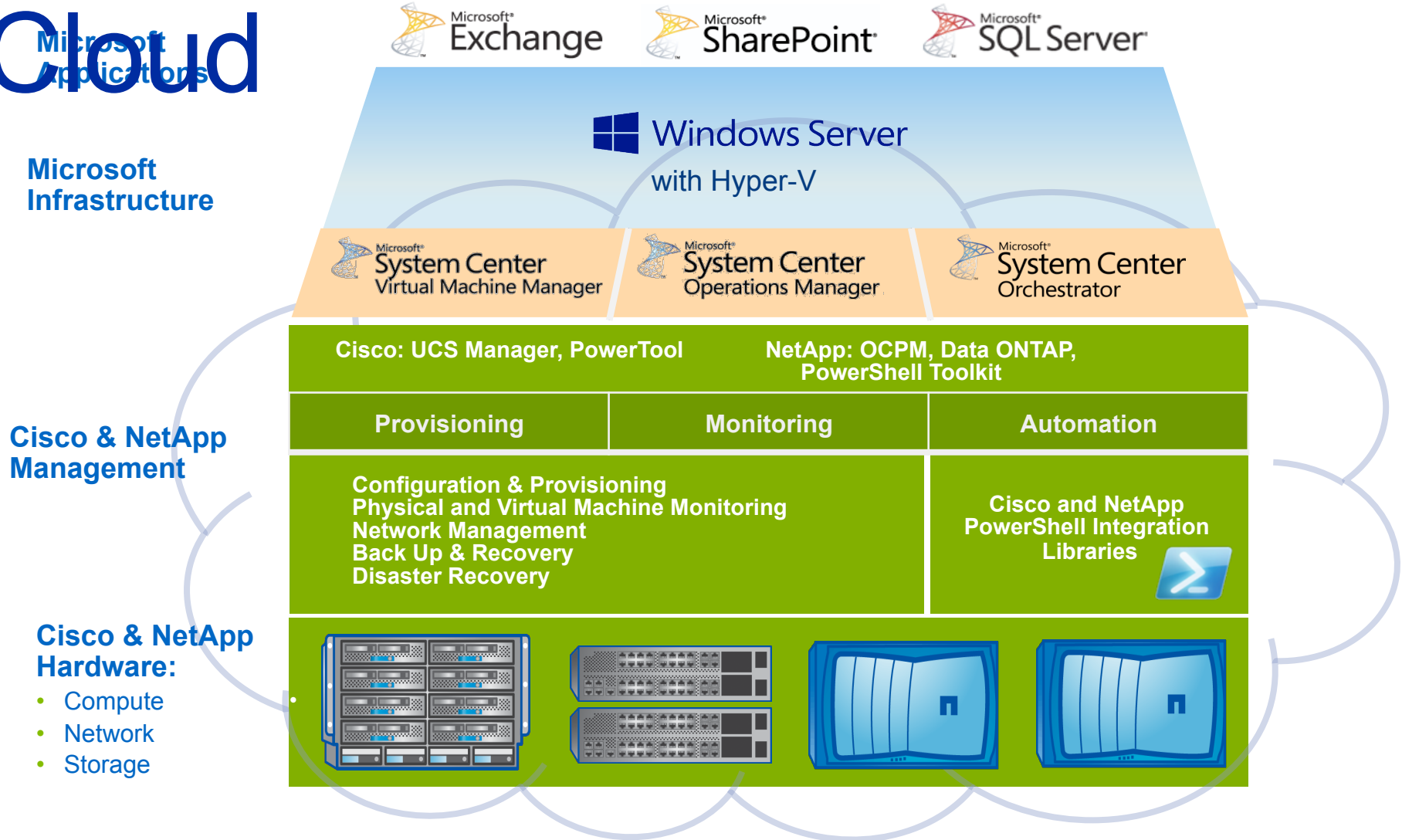
- **Converged infrastructure platform from NetApp and Cisco for Microsoft Private Cloud:** Deep integration with Windows Server 2012 and System Center 2012 SP1
- **Reduced Risk:** pre-validated HW accelerates and simplifies deployment
- **Lower Cost:** compute, network, storage and private cloud in a turnkey platform
- **More Efficient:** Virtualize infrastructure and automate workflows with integrated management and orchestration.
- **Flexibility to Scale:** Add or change servers and storage as needed, without breaking support
- **Learn more:**
 - www.netapp.com/microsoftsolutions
 - www.cisco.com/go/microsoft
 - <http://technet.microsoft.com/en-us/video/hyper-v-fasttrack-offering-now-available-from-cisco-and-netapp.aspx>



NetApp®



FlexPod with Microsoft Private Cloud



Cisco & NetApp Hardware:

- Compute
- Network
- Storage

ING DIRECT



ING DIRECT is the world's leading direct savings bank and is wholly owned by the global ING Group.

“Our staff can now provision complete environments in minutes, not months, so we can test new ideas very rapidly. It's given us a competitive edge.”

Andrew Henderson
CIO, ING DIRECT Australia

Challenges

- Provisioning a single copy of the bank's environment for testing took eight people three months, which "...severely limited how many concurrent projects and changes we could manage." Andrew Henderson, CIO, ING DIRECT
- Developers and testers needed to accelerate time to market for development of new products and services.

Solutions

- Bank in a Box, which is built on a FlexPod® with Microsoft® Private Cloud solution
- Highly scalable data center solution with Cisco® Unified Computing System™, Cisco Nexus® switching, NetApp® FAS storage system, Windows Server® 2008 Hyper-V™, and Microsoft System Center to rapidly provision new environments and accelerate testing of new offerings

Benefits

- "Copies" of the bank environment are available to developers in 10 min. vs. 12 weeks, dramatically accelerating time to market for new products and services
- Can provision copies of the bank quickly and efficiently, amplifying available storage by 4,000%
- NetApp FlexClone® technology enables multiple copies of the bank to be created quickly and occupy negligible space on the storage array
- NetApp Snapshot™ copies and deduplication save an additional 20% of storage

Case Study Links:

[NetApp Print](#), [NetApp Video](#), [Microsoft](#), [Cisco](#)

Unification of Industry Leading Technologies

FlexPod – A Simple, Secure Microsoft Private Cloud Solution

- Prevalidated technologies from industry leaders in computing, storage, networking, and server virtualization
- One platform built from unified computing, fabric, and storage technologies, with popular and trusted software virtualization
- Integrated components that help you centrally manage all your infrastructure pools
- Open management framework that integrates with your existing third-party infrastructure management solutions



Address current virtualization
needs and simplify the
evolution

to ITaaS infrastructure



PERSONAL INVITATION

Getronics



Transforming your Datacenter

Does your organization today face significant challenges in the datacenter ranging from server sprawl, security requirements, reducing costs, preventing downtime, regulatory compliance, and gaining operational efficiencies?

Do you have limited resources and budgets for managing your datacenter, while at the same time you are asked to extend business solutions and applications across hosted, private, and public cloud infrastructures?

Today's economy has made reducing costs and business agility the keys to long-term success and that starts with transforming and optimizing resources in the datacenter.

Getronics, in collaboration with Cisco, Microsoft, & NetApp, has the pleasure of inviting you to an exclusive session on transformation & optimization of your Datacenter.

This session will address the following topics:

- Trends & Challenges
- Strategizing your datacenter transformation
- Building blocks to support your datacenter transformation
- Live Demo
- How to get started? Tips & Tricks



Thursday May 16, 2013 at 16:00, Brussels

Timing:

- 16:00 Welcome Coffee & Registrations
- 16:30 Introduction, presentations, demo and Q&A
- 18:30 Walking Diner

Venue:

Maison Grand Place

Grand Place 19 in 1000 Brussels

This elegant classical house, as its name implies, is situated right on Brussels Grand'Place. It's a historic city mansion, a listed building and the only one on the square to open its doors for events.

(Parking is foreseen in the Interparking Grote Markt / Grand Place - Grasmarkt 104 in 1000 Brussels)

Don't miss this opportunity and as the number of seats are limited, please subscribe now by sending an email to Peggy.dewolf@getronics.com or complete the registration form on our website at www.getronics.com/Invite. Please make sure you specify your name, company and function.



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Q&A

Thank You

