Transforming your Data Center with Microsoft and Cisco

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Industry trends driving IT pressures

- Mobility
- Apps
- Big data
- Cloud
Industry trends driving IT pressures

- How do I help my business make faster decisions?
- Can I enable employees to work from anywhere?
- How can I ensure my infrastructure will scale to meet demand?
- How can I evolve my business apps to meet new needs?
Transforming IT to address new questions

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<th>Mobility</th>
<th>Great user experience from anywhere</th>
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<td>Apps</td>
<td>Modern, agile apps for new scenarios</td>
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<td>Big data</td>
<td>Easy access to any data, any size, anywhere</td>
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<td>Powerful analytics in familiar tools</td>
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<td>Cloud</td>
<td>On-demand scale, real-time performance</td>
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<td>Infrastructure designed to withstand failure</td>
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<td>Resources managed at datacenter scale</td>
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Microsoft’s answer: The Cloud OS
Cloud OS
Microsoft’s vision of the unified platform for modern business

Enterprise-grade Platform

Hybrid Design

People-focused Approach
Cloud OS
Microsoft's vision of the unified platform for modern business

Enterprise-grade Platform
The global reach, scalability and security your business demands.

Hybrid Design

People-focused Approach
Benefit from Microsoft’s scale + experience running many of world’s largest services

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<th>Service</th>
<th>Statistic</th>
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<td>Bing</td>
<td>5.6B global queries per month</td>
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<td>Exchange</td>
<td>2-4B mails are filtered by Exchange per day</td>
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<td>Skype</td>
<td>50B Skype-to-Skype minutes per day</td>
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<td>Office 365</td>
<td>1 in 4 enterprise customers now has Office 365</td>
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<td>Windows Azure</td>
<td>8.5T objects are stored in Windows Azure</td>
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<td>50% of Fortune 500 use Windows Azure</td>
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Cloud OS
Microsoft’s vision of the unified platform for modern business

Enterprise-grade Platform

Hybrid Design

People-focused Approach

One consistent platform for app, data and device management from on-premises to cloud.
Hybrid design differentiates the Cloud OS

- flexible development
- unified management
- common identity
- integrated virtualization
- complete data platform
Cloud OS
Microsoft’s vision of the unified platform for modern business

Enterprise-grade Platform

Hybrid Design

People-focused Approach

Extend existing skillsets to the cloud to stay productive wherever IT, devs and employees are.
People-focused approach

With Microsoft, extend the value of your on-premises investments and skillsets to cloud

95% organizations have Active Directory deployed

46% SQL Server is the most widely-deployed database on the planet with 46% share

60%+ of devs worldwide create apps powered by our enterprise platform

1 in 7 people on the planet use Microsoft Office totaling 1 billion users

66% of enterprise seats are managed by System Center
With Microsoft’s Cloud OS vision, customers can...

- **Transform** the datacenter
- **Unlock** insights on any data
- **Empower** people-centric IT
- **Enable** modern business apps
Transform the datacenter
Challenges facing IT

Business challenges

- Short lead-time on projects
- Mission-critical demands
- High volume of requests
- Business users go around IT

Infrastructure challenges

- Limited budget
- Complex environment
- Evolving threats
- Technology options

Enterprise IT
Transform the datacenter

Today's datacenter

Hybrid cloud

- Datacenter without boundaries
- Cloud innovation everywhere
- Dynamic application delivery

Windows Azure  Windows Server  Microsoft SQL Server  Microsoft System Center
Transform the datacenter

Datacenter without boundaries

Cloud innovation everywhere

Dynamic application delivery

Windows Azure  Windows Server  Microsoft SQL Server  Microsoft System Center
Transform the datacenter

Datacenter without boundaries

Cloud innovation everywhere

Dynamic application delivery

Windows Azure  Windows Server  Microsoft SQL Server  Microsoft System Center
Datacenter without boundaries

Today’s datacenter has silos:

- Storage
- Network
- Compute

Microsoft System Center
Datacenter without boundaries

Enterprise-grade platform

- Uptime
- Performance
- Low TCO
- Security
- Scalability

Microsoft System Center
Datacenter without boundaries

Microsoft System Center

Storage
Network
Compute

Windows Azure
Service Provider
Transform the datacenter

Datacenter without boundaries

Cloud innovation everywhere

Dynamic application delivery

Windows Azure  Windows Server  Microsoft SQL Server  Microsoft System Center
Virtuous cycle for product development
Cloud innovation everywhere

- Microsoft System Center
- Windows Azure
- Storage
- Network
- Compute
- Service Provider

Access and information protection
Rethink storage
to reduce cost and increase flexibility

Traditional storage environments

New on-premises storage options

Hybrid cloud storage
Rethink storage
to reduce cost and increase flexibility

Improved performance

Traditional storage environments

New on-premises storage options

Hybrid cloud storage
Rethink storage
to reduce cost and increase flexibility

- Improved performance
- Reduced cost
- New on-premises storage options
- Hybrid cloud storage

Traditional storage environments
Rethink storage

to reduce cost and increase flexibility

Improved performance

Traditional storage environments

New on-premises storage options

Hybrid cloud storage

Reduced cost

Elastic capacity
Simplify networking

to connect across datacenters and across clouds
Simplify networking
to connect across datacenters and across clouds
Enable federated identity
for access across clouds
Transform the datacenter

Datacenter without boundaries

Cloud innovation everywhere

Dynamic application delivery

Windows Azure  Windows Server  Microsoft SQL Server  Microsoft System Center
Dynamic application delivery

Collaboration  LOB  CRM  Finance  ERP

Hybrid cloud
Dynamic application delivery

How does Microsoft help deliver applications faster?
Server and cloud momentum

Windows Azure global expansion
To Australia, Japan and China

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
The modern hybrid datacenter

Leveraging Microsoft’s deep experience as we continue to innovate and learn from massive scale deployments.
Powering Microsoft’s Cloud OS Vision

Windows Azure
Windows Server
System Center
SQL Server
Visual Studio
Microsoft Apps On UCS
Technology Evolution: Early 1990's

Disk Drive

Storage Array
Technology Evolution: Today

Server → Unified Computing System
Gartner Magic Quadrants for Blade Servers
Not Just The Analysts: The Market Has Spoken!

WW: UCS #2 – 21.5%
US: UCS #2 – 33.9%

Source: IDC Worldwide Quarterly Server Tracker, Q2 2013, August 2013, Blade Servers Revenue
UCS Service Profiles

LAN Connectivity

OS & Application

SAN Connectivity

Chassis 1 Blade 2

UUID: 56 4d cd 3f 59 5b...
MAC: 08:00:69:02:01:FC
WWN: 50:80:02:00:00:07:37:40
Boot Order: SAN, LAN

Chassis 4 Blade 7

UUID: 56 4d cd 3f 59 5b...
MAC: 08:00:69:02:01:FC
WWN: 50:80:02:00:00:07:37:40
Boot Order: SAN, LAN
UCS Virtual Interface Card

256 Devices

+30%

HW Failover
Use Case 1: Recovering a failed SharePoint server

Web Front End Server
Index and App Server
SQL Server
Use Case 2: Virtual Interfaces for a SQL server
Microsoft Management Tools for UCS
Embedded Management: UCS Manager

- Single Point
- XML API
- Consistency
- RBAC, Multi-tenant
Combining The Power Of Two
UCS PowerTool

Don’t reinvent the wheel…

…build on it
Virtualization Challenges

Port Profile

Server Admin

Security Admin

Network Admin
Extend Cisco To Your Hyper-V Environment

Bring network to the Hypervisor (Cisco Nexus 1000V Switch)

Cisco Nexus 1000V

Windows Server 2012 Hyper-V

UCS SERVER

Adapter

IEEE 802.1Q Network
Extend Cisco To Your Hyper-V Environment (II)

Bring network to the Hypervisor (Cisco Nexus 1000V Switch)

Bring VM awareness to physical network (Cisco UCS VM-FEX)

IEEE 802.1Q Network

UCS Fabric Inter-connect
VM-FEX Modes of Operation

Emulated Mode

Hypervisor Bypass
Delivering Integrated Private Cloud Solutions

- Software
  - Operations Manager
  - VM Manager
  - Orchestrator

- Integrated Cisco and Microsoft stack
- Infrastructure

- Cisco Virtual Networking Solutions for Hyper-V
  - VM-FEX
  - N1KV

- Windows Server 2012 with Hyper-V

- UCS Manager
  - Physical & Virtual

- Unified Compute System

“Single Pane of Glass”
Can you please make it easier?
Cisco Validated Designs (CVD)

Microsoft Applications

Optimize application network performance for Microsoft SharePoint 2010 and others. (2:48 min)

Microsoft SharePoint 2010 on FlexPod

April 18, 2011
Add comment on this guide

Many critical business applications are moving into a consolidated compute, network, and storage environment. Through FlexPod for VMware, every component of a traditional SharePoint 2010 Enterprise deployment is reduced.

Management integration and complexity is simplified, while maintaining SharePoint 2010 design and implementation options. Administration is unified, while process separation can be adequately
Microsoft CVDs available today

**Microsoft SharePoint**
- Microsoft SharePoint 2010 on FlexPod for VMware
- Microsoft SharePoint 2010 with Microsoft Hyper-V on Cisco UCS Rack-Mount Servers
- SharePoint 2010 for FlexPod on VMware of 100,000 users
- Cisco Application Networking for Microsoft SharePoint

**Microsoft Exchange**
- Microsoft Exchange 2010 with VMware VSphere on Cisco Unified Computing System with NetApp Storage
- Cisco UCS and Application Delivery for Microsoft Hyper-V Virtualization of Exchange 2010 with NetApp Storage
- Microsoft Exchange 2007—End-to-End Messaging Infrastructure Solution
- Integrating Microsoft Exchange Server 2007 in a Cisco Multisite Data Center Design
- Cisco Application Networking for Microsoft Exchange Server 2007 - Cisco, EMC, VMware

**SQL and Other Microsoft Solutions**
- FlexPod with Microsoft Private Cloud
- Integrating Microsoft Windows Server 2008 Terminal Services into a Cisco Data Center
- Cisco Application Networking for Microsoft Office Communications Server
- Deploying Microsoft Windows Server 2008 and Vista on a Cisco Network
- Integrating Microsoft SharePoint 2007, SQL Server 2008 and Hyper-V into a Cisco Data Center
- Wide Area Application Services (WAAS) Designs
- Citrix XenDesktop on FlexPod with Microsoft Private Cloud
- VSPEX Microsoft Hyper-V Architectures M50
- VSPEX Microsoft Fast Track 3.0
- VSPEX Microsoft Fast Track 3.0 Deployment Guide
Microsoft Private Cloud Fast Track Solutions

Virtualize The Business Application Environment with FlexPod and VSPEX
Winner in Hardware Category: **Cisco UCS B Series**

Winner for Breakthrough Product: **Cisco UCS Manager**

Winner in Virtualization Category: **Cisco Nexus 1000v for Hyper-V**

Winner in Systems Management: **Cisco & NetApp FlexPod with Microsoft Private Cloud**
Get Started Today!

- Use Hyper-V that you have on your Windows Server
- Get the System Center 2012 trial to manage your apps and servers
- Download the new Nexus 1000v for Hyper-V
- Investigate how easy it is to deploy Microsoft on Cisco