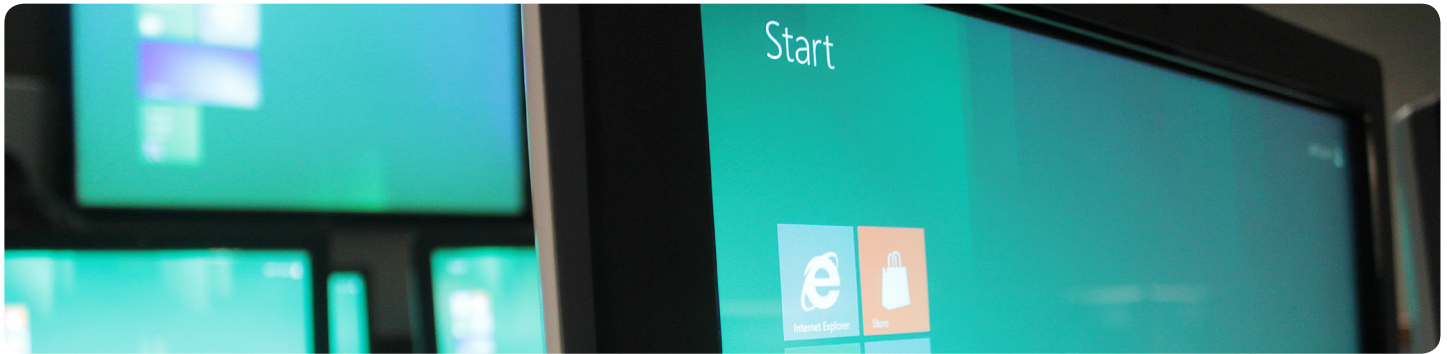


# Private Cloud Enhances Service Delivery



## Executive Summary

**Customer Name:** Microsoft Corporation

**Industry:** Technology

**Location:** Redmond, Washington

**Number of Employees:** 90,412

### Challenge

- Enhance virtualization infrastructure with new, advanced server platform
- Update processor and memory availability, and decrease data center footprint
- Improve virtualized services and create private cloud

### Solution

- Cisco Unified Computing System provides full management platform and virtual machine automation
- Cisco Nexus 7000 and 5000 Series Switches provide 10GigE connectivity
- Cisco Services helps the Microsoft Partner Solutions Center (MPSC) migrate to Cisco UCS in just one day

### Results

- Streamlined data center operations with fully automated provisioning
- Reduced deployment time for host servers from day to less than hour
- Lowered power usage by 66 percent, resulting in major cost savings

## Microsoft Partner Solutions Center improves data center management and cuts cost with Cisco Unified Computing System.

### Challenge

Located in the heart of Microsoft's Redmond, Washington campus, the Microsoft® Partner Solutions Center (MPSC) offers enterprise customers, partners, and business units a state-of-the-art IT facility to test and demonstrate hardware and software solutions for a wide range of scenarios. Helping ensure that sales teams have access to the resources and hosting capability that they need to present the right first impression is not only critical to business growth, but also important for building strategic partnerships with key vendors.

The MPSC's early adoption of data center virtualization has served as a model for other customer engagement projects, and set the foundation for delivering private cloud platforms. When the leases on the organization's previous servers were up for renewal, the data center team felt that it was the perfect time to refresh its approach to virtualization. "Each time we do a hardware refresh with a partner, our goal is to implement an operational practice that is at least two years ahead of standard market installations," says David Hayes, Senior Director at the MPSC.

In particular, the MPSC wanted a new platform that could optimize processor memory, density, and availability, while decreasing its physical footprint even more. Additionally, the solution had to improve virtualization services and scale easily.

The only challenge was in finding a vendor whose products would be compatible with Microsoft's own set of applications, specifically Microsoft System Center. "The MPSC lab environment runs end to end with System Center, Virtual Machine Manager and other Microsoft products, and our entire data center operations are managed by just four staff members, so the ability to manage the entire system through a single Systems Center-compatible console was a key factor in our decision process," says Hayes.

**“Each time we do a hardware refresh, our goal is to implement an operational practice that is two years ahead of standard market installations.”**

– **David Hayes**  
Senior Director  
Microsoft Partner  
Solutions Center

**“...the entire migration took just one day. People don’t believe us, especially when considering such a migration very well could have taken at least two weeks with significant downtime.”**

– **Gary Leonard**  
Dynamic Data  
Center Consultant  
Microsoft Partner  
Solutions Center

## Solution

With Cisco Unified Computing System™ (UCS™), Hayes and team found what they were looking for. “Cisco UCS has a very open and accessible management piece for the chassis and fiber connects, and they hook into Microsoft System Center and its Virtual Machine Manager, which was huge for us,” says Gary Leonard, Dynamic Data Center Consultant at the MPSC. Furthermore, Cisco® USC provides a flexible server platform, designed to simplify and speed the deployment of enterprise-class applications and services operating in bare-metal, virtualized, and cloud-computing environments.

Looking for expertise in migrating from one x86-based platform to another, the MPSC enlisted the help of Cisco Data Center Optimization Services to help ensure a smooth transition to the new infrastructure and assist in the development of a true private cloud. “We created a Microsoft Windows® deployment services server and a fully automated install for the UCS platform,” says Chris Shockey, Cisco Services solution architect. “This allows the MPSC team to do bare-metal installs within 15 minutes.”

To make the system easier to manage, update, and automate, the MPSC installed the full suite of Microsoft System Center solutions, as well as Microsoft Windows Server® 2008 R2 Datacenter edition, which includes Microsoft Hyper-V®. “Cisco walked us through the entire process,” says Leonard. “And to our surprise, the entire migration took just one day. People don’t believe us, especially when considering such a migration very well could have taken at least two weeks with significant downtime.”

Today, the MPSC data center relies on Cisco UCS B200 M2 and B230 M1 Blade Servers, in addition to Cisco Nexus® 7000 and 5000 Series Switches. “We brought in the Cisco Nexus 7000 as our core router,” says Leonard. “It allows us to run 10-gigabit Ethernet in just a single layer fabric that we can manage across all our servers, storage, and switches.”

The MPSC’s key applications, including Microsoft flagship products such as Microsoft Exchange, Microsoft SQL Server®, Microsoft SharePoint®, and Hyper-V, currently run on Cisco UCS with a notable performance improvement, thanks to the 40-gigabit bandwidth coming out of the side of the enclosures.

## Results

With a new scalable private cloud built on Cisco UCS and managed by Microsoft Systems Center, the MPSC sees numerous benefits. But first and foremost, notes Leonard, are the density and power efficiency of the UCS blades. “Our previous servers were 2U with 128 gigs of RAM, holding around 35 virtual machines [VMs], but using 2.5 watts of power per VM,” says Leonard. “In comparison, the UCS blades are half a U with 196 gigs of RAM, can hold around 50 virtual machines, and only use 0.85 watts of power per VM.”

This 66 percent reduction in power usage results in significant cost savings for the MPSC. In addition to a smaller footprint, Cisco UCS allows the MPSC to fully automate its IT operations, giving its small four-person infrastructure team added agility. “With a full management platform,” says Leonard, “we’ve been able to reduce the time it takes to deploy host servers from a day down to less than an hour.”

## Product List

### Data Center Solutions

- Cisco Unified Computing System (UCS)
  - Cisco UCS B200 M2 Blade Servers
  - Cisco UCS B230 M1 Blade Servers

### Routing and Switching

- Cisco Nexus 7000, 5020, 5010 Series Switches

### Applications

- Microsoft Windows Server 2008 R2 Datacenter edition with Hyper-V
- Microsoft System Center Virtual Machine Manager 2012
- Microsoft System Center Operations Manager 2007 R2
- Microsoft Service Manager 2010
- Microsoft Systems Center Configuration Manager 2012
- Microsoft SQL Server, Exchange, SharePoint, and Hyper-V

### Services List

- Cisco Data Center Optimization Services

For Hayes, the greatest value of the Cisco implementation is the fact that they now have a simple, unified system. “We have broken ground in terms of showing what Cisco can do in a Microsoft environment,” he says. “It’s really opened people’s eyes at the company. It shows that when Microsoft and Cisco want to work together to accomplish great things, we can do it rather easily.”

## Next Steps

Although the MPSC will remain server agnostic, Hayes currently plans to keep the MPSC core services environment running on Cisco. “With the upcoming releases of System Center 2012 and Microsoft Windows 8 it is vital that the equipment we intend to put into data centers delivers the best performance and value. Cisco will play a significant role in keeping our data center on the cutting edge of technology.”

## For More Information

- To find out more about Cisco Unified Computing, visit: [www.cisco.com/go/ucs](http://www.cisco.com/go/ucs).
- To find out more about Cisco Nexus Switches, visit: [www.cisco.com/go/nexus](http://www.cisco.com/go/nexus).
- To learn more about running Microsoft Enterprise Applications on Cisco UCS, visit: [www.cisco.com/go/microsoft](http://www.cisco.com/go/microsoft).
- To learn more about Microsoft Private Cloud solutions, visit: [www.microsoft.com/privatecloud](http://www.microsoft.com/privatecloud).

This customer story is based on information provided by Microsoft Corporation and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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