

Retailer Simplifies Management of Microsoft Environment

Unified Computing System increases the value of Slumberland’s Microsoft software.

EXECUTIVE SUMMARY	
Slumberland, Inc.	
<ul style="list-style-type: none"> • Retail • Little Canada, Minnesota • 2300 employees 	
Challenge:	
<ul style="list-style-type: none"> • Decrease operational costs • Efficiently manage Microsoft operating systems and applications • Implement cost-effective data center server platform 	
Solution:	
<ul style="list-style-type: none"> • Deployed Cisco Unified Computing System, engaging Cisco Advanced Services for planning and design • Integrated with Microsoft Windows Server, Microsoft System Center Management Suite Datacenter, Microsoft SQL Server, Microsoft Terminal Services, and Microsoft Windows Deployment Services Continued using existing storage area network and Cisco MDS 9134 Multilayer Director 	
Results:	
<ul style="list-style-type: none"> • Enhanced Microsoft software performance • Lowered Windows Server licensing costs • Reduced per-server blade management costs from US\$1575 to \$80 	



Challenge

Founded in 1967, Slumberland, Inc. is a retailer offering mattresses and home furnishings through stores and a website. To provide more value to customers, the company aggressively pursues opportunities to keep business costs down. So when it came time to replace data center servers, the IT department began investigating new data center architectures that would enable cost-effective growth.

“In the current economic climate, management has asked us to keep equipment a year or two longer,” says Seth Mitchell, infrastructure team manager, Slumberland. “That made it very important to choose a computing system that supports new technologies such as virtualization and FCoE [Fibre Channel over Ethernet].”

Slumberland considers workload consolidation of its Microsoft applications to be a cornerstone technology to meet growing demand for compute capacity. The two-person server team had 30 pending requests for new servers to support applications intended to increase business efficiency.

Solution

After evaluating several data center computing platforms, Slumberland selected the Cisco Unified Computing System™ (UCS), implementing it in September 2009. “The Cisco UCS offers the technologies that we need now and over the next five years, including virtualization technology to support workload consolidation, low-cost scalability, and support for FCoE,” Mitchell says.

Slumberland’s Cisco® UCS comprises two chassis, each with four server blades. Testing in the Slumberland environment revealed the optimum density to be 20 virtual machines per Cisco B200 M1 blade, which has 96 GB of memory, and the team expects to implement 60 virtual machines on its new Cisco 250 M2 blades, which have 384 GB of memory. The IT department selected Microsoft Windows Server 2008 R2 virtualization platform partly because of the staff’s existing Microsoft skills.

The Cisco UCS hosts the following:

- The various operating systems used at Slumberland, which include Microsoft Windows Server 2003 and 2008 and Red Hat Enterprise Linux
- Microsoft SQL Server 2008, used for data warehouses and a custom business-critical ordering application
- Microsoft Terminal Services 2008 R2, used for point-of-sale activities and most back-office activities
- Microsoft Exchange 2007, which hosts 2300 mailboxes
- Microsoft System Center Server Management Suite Datacenter, which includes System Center Operations Manager 2007 R2 and Cisco Center Virtual Machine Manager 2007 R2
- Microsoft Windows Deployment Services
- Cisco Unified Communications Manager, used for IP telephony
- Oracle 10g RAC

Rapid Deployment

Cisco Advanced Services provided planning and design services, including explaining the relative advantages of different design and integration options for optimal performance and maintainability in the Slumberland data center environment. The Slumberland IT department implemented the Cisco UCS internally, spending three days integrating the system into its environment and another two days tuning automated deployments. The Cisco UCS integrated smoothly into Slumberland's existing data center architecture, and the company continues to use its existing Compellent SAN and Cisco MDS Multilayer Director.

“The Cisco UCS has significantly increased the value of Microsoft software for Slumberland by unleashing its full potential. Our Cisco UCS B250 M2 Extended Memory Blade Servers remove artificial limits to Microsoft software performance by providing massive I/O bandwidth and memory. At the same time, the Cisco UCS supports the full breadth of Microsoft's rich resilience features, including Hyper-V and Exchange clusters.”

— Seth Mitchell, Infrastructure Team Manager, Slumberland, Inc.

Results

Enhanced Value from Microsoft Software

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Lower Costs Through Flexible Licensing

The Cisco UCS reduces Microsoft software licensing costs, according to Mitchell. Windows Server 2008 R2 Datacenter is licensed by physical processor, and provides unlimited guest virtual machine licenses. “The massive RAM and I/O capacity in Cisco UCS enables us to operate 10 to 20 times the number of virtual machines on each processor, which lowers licensing costs for Microsoft software and backup software, and also reduces switching infrastructure costs and staff time,” Mitchell says.

Lower IT Staffing Costs

Slumberland manages 120 servers with only two system administrators, an accomplishment that the IT team attributes to simplified management. Previously, system administrators each spent 16 hours a week provisioning and managing physical servers. "I estimate that management efficiencies from Cisco UCS and Microsoft Windows Server 2008 R2 have freed up 10 hours weekly for each administrator to spend on tasks that add business value," says Mitchell. This efficiency translates to \$45,000 in annual savings, based on \$90,000 for a full-time employee.

Cisco UCS and Microsoft management tools complement each other, enabling Slumberland IT staff to:

- Perform physical-to-virtual machine conversion using Microsoft System Center Virtual Machine Manager 2008 R2.
- Move live virtual machines between Cisco UCS blades using Hyper-V's live migration, without any service disruption. Occasions when Slumberland migrated virtual machines include updating BIOS/firmware, applying Windows updates to the host, and balancing the demand across Hyper-V hosts.
- Quickly provision server blades using Cisco UCS Manager server profiles and Microsoft Windows Deployment Services. "It takes just a few clicks to provision a new virtual server or install the Windows operating system," says Mitchell.

Workload consolidation on the Cisco UCS has greatly improved the server-to-administrator ratio. Before, managing 56 physical servers took 28 hours, worth \$88,200 in staff time, or \$1575 per server. Now, managing the same number of logical servers on four Cisco UCS blades takes just four hours, worth \$4500 in staff time, or \$80 per server.

Reduced Training

Cisco UCS simplifies the previously complex and tedious process of building and managing physical server environments, according to Mitchell. "Our IT staff need only an hour or two of mentoring to set up, operate, and maintain Microsoft products on Cisco UCS, compared to days or weeks for other platforms," he says. "Furthermore, we save time with every system we deploy, freeing up time for IT projects that improve operational efficiency and provide better value to our customers."

Lower Capital Costs

The IT department calculated that deploying 14 virtual servers on the Cisco UCS costs 57 percent less compared to the existing blade system. The savings increase as the system grows: 20 logical servers cost 67 percent less, and 28 logical servers cost 74 percent less. (Calculations include operating system and backup licensing for three years.)

"During the first three days of operation, we provisioned 28 logical servers, spending \$46,984 less than we would have with our previous server architecture," Mitchell says. "When we make use of all eight server blades, savings will increase to \$187,936. Going forward, we will save \$1678 on each logical server that we deploy."

Faster Provisioning for Greater Business Agility

With the previous computing system, the IT department had to configure network connectivity, storage access, and out-of-band management for each chassis. With the Cisco UCS, in contrast, IT performed the configuration just once. "Network provisioning took 30 minutes on Cisco UCS, compared to 90 minutes for a blade server," Mitchell says. "Any additional chassis and blades that we add in the future won't require even a minute more on connectivity." The server team provisioned the 30 pending server requests in the queue with 15 hours of effort, saving 30 hours.

High Performance

Supporting up to 150,000 input and output operations per second (IOPS), the Cisco UCS Converged Network Adapter meets Slumberland's demanding I/O requirements. The Cisco UCS B200 M1 blades also deliver faster application performance than other servers with 96 GB of memory, according to Mitchell. The company has ordered

six Cisco UCS B250 M1 blades with 384 GB of memory, which it will use to virtualize applications requiring more memory.

Next Steps

The IT department expects to increase its return on investment from the Cisco UCS in the following ways:

- **FCoE:** When Slumberland's SAN vendor introduces native FCoE support, the IT department plans to connect the Cisco UCS directly to the SAN, simplifying the data center and reducing equipment costs.
- **Enhanced disaster recovery:** The company currently replicates SAN volumes to a secondary data center. After Slumberland deploys another Cisco UCS in the secondary data center, disaster recovery will be faster, because the IT department can use Cisco UCS service profiles to automate server configurations. In addition, Slumberland will not need to maintain specialized hardware in the secondary data center for certain applications, because any application can operate on the Cisco UCS.

Mitchell concludes, "Slumberland has a strong relationship with Cisco that spans unified communications, networking, security, and wireless. We regard Cisco as a trusted advisor. We have confidence in the Cisco UCS, because Cisco has the commitment and the resources needed for success."

PRODUCT LIST

Data Center

- Cisco Unified Computing System
- Cisco MDS 9500 Multilayer Director

For More Information

To find out more about the Cisco Unified Computing System, visit <http://www.cisco.com/go/ucs>.

To find out more about Cisco Data Center 3.0 solutions, visit <http://www.cisco.com/go/datacenter>.



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