Customer Case Study

Post-Acute Care Provider Optimizes Data Center to Accommodate Growth

Executive Summary

- **Customer Name:** Kindred Healthcare
- **Industry:** Healthcare
- **Location:** Louisville, Kentucky
- **Number of Employees:** More than 75,000

Challenge

- Double data center capacity to accommodate company growth
- Migrate and consolidate data centers from acquired company
- Build "data center of the future" by creating scalable, mobile, virtual infrastructure

Solution

- Cisco Unified Computing System optimizes capacity and enables virtualization
- Cisco architecture provides single point of management from network to cloud
- Cisco Nexus switches and fabric extenders ease data center management burden

Results

- Reduced power consumption by 50 percent
- Improved application performance by up to 300 percent
- Decreased operating costs by more than US$80,000 per month

Kindred Healthcare looks to Cisco Unified Computing System and Nexus switches to grow business without outgrowing data center.

Challenge

With roots in long-term care extending back almost three decades, Kindred Healthcare is today the largest diversified provider of post-acute care services in the United States. These services originate from long-term care hospitals, nursing and rehabilitation centers, hospices, and home-care and outpatient facilities, and are carried out by more than 75,000 employees across 46 states. At the center of all of this activity is Kindred's data center in Louisville, Kentucky.

Although the company's various care centers use local facility servers to provide file and print services as well as to run some patient care systems, the rest of Kindred's IT services are centralized in (and consumed from) its data center. These resources include an SAP infrastructure for financial reporting and enterprise resource planning, Meditech health care software, and a portfolio of more than 700 other applications. But with the company growing rapidly and demands for a mobile, scalable, and increasingly virtual environment on the rise, Kindred's legacy architecture was being pushed to its limit.

Then the Kindred infrastructure teams received a directive to double data center capacity and get ready to serve twice as many users in the coming year. "We were told to plan our IT purchases for the coming year accordingly," says Rick King, a consulting systems programmer at Kindred. "But we didn't really know what we were planning for. We knew something was coming, but we didn't know what. Thus, agility became key. We needed a data center solution that would enable virtualization and quick provisioning, and that would allow us to scale our infrastructure rapidly."

"We realized that Cisco UCS could extend the network right into the virtual infrastructure and break it down at a services level. Nobody besides Cisco could offer this level of scalability and network integration. When I saw how much money we could save just in the cost of networking Cisco UCS alone, light bulbs started going off in my head."

— Eric Murray
Senior Network Engineer,
Kindred Healthcare

Solution

Although time was critically important when it came to ramping up the data center to accommodate Kindred's anticipated near-term growth, King knew that any solution would also have to scale to accommodate the company's long-term growth plans. Luckily for King, Kindred senior network engineer Eric Murray had already begun working with Cisco to design the company's "data center of the future." As part of that process, Kindred had chosen the Cisco Nexus® 7000 and 5000 Series Switches as well as Cisco® Nexus 2000 Series Fabric Extenders to reduce cabling and optimize data center operations. Now, it was clear to both Murray and King that by adopting Cisco Unified Computing System™ (UCS®) servers for the data center update, Kindred could reap even greater benefits of scalability, bandwidth, speed, and resource usage.

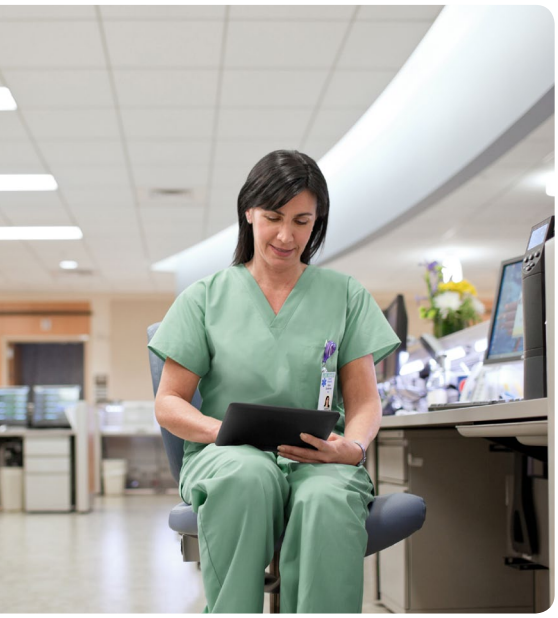
Says Murray, "We realized that Cisco UCS could extend the network right into the virtual infrastructure and break it down at a services level. Nobody besides Cisco could offer this level of scalability and network integration. When I saw how much money we could save just in the cost of networking Cisco UCS alone, light bulbs started going off in my head." To show the value of Cisco UCS, Murray calculated the time required to network 120 blade servers using various platforms, demonstrating that even with a relatively small number of blades, Cisco UCS could save Kindred hundreds of thousands of dollars in network infrastructure costs.

In addition to these savings, the Kindred team was also impressed by the centralized management that UCS offered, including service profiles that ensure consistent configurations. "We evaluated a number of different server solutions, but Cisco UCS really came out on top," says King. "We didn't consider the decision a mere hardware upgrade. Rather, UCS presented us the opportunity to truly transform the way we deliver services."

Thus, Kindred gave Cisco UCS the go-ahead, which was a good decision because the growth that the Kindred team had been warned of turned out to be the billion-dollar acquisition of rehabilitation services firm RehabCare. Suddenly, the points of operation serviced by Kindred's data center increased from roughly 400 locations across the country to several thousand. With Cisco UCS, the data center was more than ready to handle the increased workload. "When Rick and the server teams began the migration process for RehabCare," says Murray, "they encountered a hodgepodge of equipment and hardware, little of it virtual, spread across two data centers and one hosting provider. Within three months, they had virtualized hundreds of servers in each data center, replicated them, and then failed them over to our Louisville data center using the Cisco UCS platform."

Results

In house, the march toward virtualization continues with Cisco UCS providing the ideal platform. With Citrix XenDesktop as its virtual desktop infrastructure and VMware as its hypervisor, Kindred at last count was running 1000 virtual desktops. "We have a standard thin client and use Citrix as a receiver base, but we're also trying a bring-your-own device approach," says King. "More and more of the doctors are bringing their own devices to the table, so we're trying to cater to a wider variety of options. Cisco UCS gives us the flexibility to deploy virtualized desktop infrastructure across our environment."



And application performance just keeps improving. One example is SAP NetWeaver Business Warehouse (SAP BW): According to King, SAP BW components are running 300 percent faster on the virtual machines on the Cisco UCS platform than they were on the previous architecture. “When we saw that immediate performance hike, we actually thought there was a bug in one of the nightly processing jobs because it finished so fast,” says King.

In addition to improving performance and streamlining operations, Cisco data center solutions are also helping Kindred realize significant cost savings. Thanks to the 20-to-1 server consolidation that Kindred has achieved with UCS, a dramatic improvement over the previous 10-to-1 ratio that it saw with its previous solutions, operational costs are down considerably. Indeed, with power consumption running at 50 percent of what it was prior to virtualization and the data center physical footprint much reduced, Kindred also saves on energy costs.

The elastic characteristics of the UCS-based infrastructure have allowed Kindred to temporarily extend its virtualization services and remove all RehabCare infrastructure services from its hosting provider and two remote data centers. As a result, the company reduced its operational costs by more than $80,000 a month. Kindred also sees Microsoft licensing savings. “We are now able to leverage our existing investment in Microsoft infrastructure service licenses by landing their services on our shared infrastructure, giving us immediate concurrency and the ability to upgrade as desired,” says King.

Beyond cost savings, Cisco UCS is also allowing Kindred to realize a cloud initiative. “We’re in the process of developing a public/private hybrid cloud to deliver services,” says King. Eventually, King would like IT to transition to an infrastructure-as-a-service model. “My experience working with UCS has really changed my perspective to think of everything as a service now,” he says. “This approach will give us greater agility and scalability to easily add more and different service, as well as new users into our environment in the future.”

Next Steps

Although Murray can provide plenty of metrics to quantify the success that Kindred has derived from deploying Cisco data center solutions, some of the biggest benefits of virtualization defy quantification. Says Murray, “Once we figured out how we could bring a whole lot of scalability, bandwidth, speed, and resources in an easy-to-manage solution with Cisco UCS, it triggered a chain reaction of really good design work. Suddenly, we stopped thinking about servers as servers and started looking at them instead as commodities. As a result, people started thinking about delivering services instead of delivering hardware. That transformed mindset continues to help not just our data center but also our business.”

As part of its virtualization strategy, Kindred is currently evaluating the Cisco Nexus 1000V Series Switches to help optimize its virtual networking environment.

Product List

Data Center Solutions

- Cisco Unified Computing System (UCS)
  - Cisco UCS B250 M2, B230 M2, and B200 M2 Blade Servers

Routing and Switching

- Cisco Nexus 7000 and 5000 Series Switches
- Cisco Nexus 2000 Fabric Extenders
- Cisco MDS Fabric Switches

Applications

- SAP NetWeaver Business Warehouse
- Microsoft Exchange
- Microsoft SharePoint Server
- Microsoft SQL Server 2005 and higher
- Citrix XenDesktop
- VMware
- MediTech

For More Information

To find out more about Cisco Unified Data Center, please visit: www.cisco.com/go/unifieddatacenter.
To find out more about Cisco Unified Computing, please visit: www.cisco.com/go/ucs.
To find out more about Cisco Nexus Switches, please visit: www.cisco.com/go/nexus.

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