

PRESCRIBING PERFORMANCE

Dell Services helps Frederick Memorial Hospital upgrade its virtualization environment to VMware vSphere 4 and increase performance by 40 percent

Frederick Memorial Hospital (FMH), which began providing health services to Maryland residents over 100 years ago, is entering its second century in an expanded facility that makes extensive use of technology to deliver top-quality care. For example, FMH is one of the few hospitals in its area with a wireless infrastructure throughout the facility to make information and communication instantly available to care providers.

To ensure that IT services are available to doctors and nurses, the Frederick Memorial IT team keeps its data center infrastructure up to date. "Our hospital is respected in the region for staying ahead of the technology curve," says Roy Turner, server systems engineer at Frederick Memorial. "We're committed to using technology in ways that help doctors and nurses maintain clinical excellence, whether it's on the hospital floor or in the data center."

FREDERICK MEMORIAL CHOOSES VMWARE VIRTUALIZATION TO HELP MAINTAIN 24/7 UPTIME

As the number of servers in the data center grew and older servers experienced more downtime, maintaining high availability of IT services became more difficult and time-consuming. The IT team decided to virtualize and consolidate its data center to eliminate older servers and help boost uptime—if a server did have a problem, virtualization would enable the workload to quickly fail over to a different machine. With its staff already stretched, the IT team turned to Dell to augment its resources. "Dell has helped us with IT projects in the past, and we trust the team's advice," says Turner. "They recommended VMware as the leading virtualization technology."

DELL HELPS IT TEAM SAVE DATA CENTER SPACE AND CUT ENERGY CONSUMPTION BY 20 PERCENT

Dell ProConsult Services performed the hospital's initial data center virtualization using VMware ESX 3.5 and VMware Virtual Center 2.5. Dell helped the IT team deploy 106 virtual servers on six new Dell PowerEdge R900 servers with the quad-core Intel® Xeon® processor 7300 series. "We were able to retire 90 physical servers, and dropped the power consumption in our data center by about 20 percent as a result," says Turner. "Beyond consolidation, the failover and load balancing services in VMware made it easier to maintain uptime around the clock."

HOSPITAL AGAIN CHOOSES DELL FOR UPGRADE TO VMWARE VSPHERE 4

Based on the success of the first project, the IT team asked Dell to help it upgrade to VMware vSphere 4 and the VMware vCenter™ Server when the new software became available. "We knew that Dell consultants were trained on the latest VMware products, and using Dell Services would give us the benefit of that knowledge," says Turner.



CUSTOMER PROFILE

COUNTRY: United States

INDUSTRY: Healthcare

FOUNDED: 1902

NUMBER OF EMPLOYEES: 2,700

WEB ADDRESS: www.fmh.org

CHALLENGE

The hospital is dedicated to providing the highest-quality healthcare around the clock, but with the number of servers in the data center growing, maintaining 24/7 uptime was becoming time-consuming and costly.

SOLUTION

Dell ProConsult Services helped Frederick Memorial Hospital (FMH) virtualize the data center using VMware on Dell™ PowerEdge™ servers; Dell subsequently helped to implement an upgrade to the VMware® vSphere™ 4 operating system to further enhance availability of IT services.

BENEFITS

Get IT Faster

- Dell ProConsult Services helps complete the VMware vSphere 4 project in about half the time FMH would have taken

Run IT Better

- Initial virtualization consolidates servers by 94 percent using Dell PowerEdge servers
- Upgrading to VMware vSphere 4 software enhances availability with advanced server monitoring and dynamic resource allocation
- The Dell ProConsult Services experts' fine-tuning helps the VMware vSphere solution increase host performance by almost 40 percent

Grow IT Smarter

- Virtualizing with VMware on Dell PowerEdge servers reduces energy use by about 20 percent



“AS PART OF THE INSTALL PROCESS, THE DELL TEAM ALSO SHOWED US HOW TO FINE-TUNE OUR vSPHERE CONFIGURATION, AND WE INSTANTLY SAW A PERFORMANCE INCREASE OF APPROXIMATELY 40 PERCENT ON OUR HOSTS.”

Roy Turner, server systems engineer, Frederick Memorial Hospital

Dell provided assessment, design, and implementation services. “The Dell Services team worked hard to ensure our VMware vSphere 4 project was a success, helping us set up an initial environment and test the upgrade path we would use for our production environment,” says Turner. “We were impressed with how easy it was to move to vSphere 4. We were able to update the hosts online within VMware vCenter, without having to tear the existing infrastructure down. Dell was also able to complete the project in approximately half the time it would have taken had we done it on our own.”

DELL HELPS IT TEAM INCREASE VMWARE vSPHERE 4 PERFORMANCE BY 40 PERCENT

The Dell consultants’ expertise was especially valuable in helping the hospital IT team to optimize the VMware vSphere 4 implementation. “The Dell consultants helped us manage our virtual data storage within VMware vSphere 4,” says Turner. “As part of the install process, the Dell team also showed us how to fine-tune our vSphere configuration, and we instantly saw a performance increase of approximately 40 percent on our hosts.”

VMWARE VSPHERE 4 HELPS ENSURE IT SERVICES ARE ALWAYS UP AND RUNNING

The Frederick Memorial IT team is pleased with the increased fault tolerance and monitoring capabilities provided by the VMware vSphere implementation. “VMware vSphere 4 will help us further improve availability because we can monitor host hardware voltage, battery status, temperature, memory, and CPU usage, and automate the response when a threshold is triggered,” says Turner. That includes automatically powering off the virtual machine

or having the system use VMware vMotion™ to transfer the workload to another server. “We have a small staff, so whenever we can automate processes, it’s a great help in simplifying and streamlining our daily operations.”

UPGRADE ENABLES THE IT TEAM TO BETTER SUPPORT WORKLOADS ON THE FLY

Working with the Dell team to upgrade the VMware environment has increased the IT team’s ability to dynamically allocate IT resources. “One of the biggest enhancements in VMware vSphere 4 for us is being able to hot-add more memory and CPUs to support a virtual machine on the fly, without having to power down,” says Turner. “In a pinch, we can easily throw more resources to a server and ensure that the capacity is there when the hospital staff needs it.”

FREDERICK MEMORIAL COUNTS DELL SERVICES AMONG ITS VALUED IT ASSETS

The Frederick Memorial IT team credits Dell Services with ensuring a smooth deployment and helping the hospital obtain the most value from its IT resources. “Everything went great with our VMware vSphere 4 project, and the Dell team was a valuable asset,” says Turner. “VMware and Dell collaborate closely, which contributed to the knowledge the Dell team was able to bring to our project. VMware was the right choice for us to make, and with the new VMware products and Dell’s help, we continue to reap the benefits of that decision.”

For more information on this case study or to read additional case studies, go to DELL.COM/CaseStudies.

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ R900 servers with the quad-core Intel® Xeon® processor 7300 series
- Dell/EMC CX700 storage area network (SAN)

SOFTWARE

- VMware® vSphere™ 4.0
- VMware vCenter™ 4.0
- VMware ESX 3.5
- VMware Virtual Center 2.5

SERVICES

- Dell ProConsult
 - Virtualization services



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