

Cardinal Health Gets a Check-up Before Planning a Virtualized Future



KEY HIGHLIGHTS

INDUSTRY: HEALTHCARE

GEOGRAPHIES

Headquartered in Dublin, Ohio; operations on five continents.

SOLUTION OVERVIEW

- Formed a detailed game plan for optimizing the performance of the existing VMware Infrastructure and growing it over time
- Increased understanding and awareness of virtualization technology across the company
- Enhanced the effectiveness of the internal IT organization by enabling them to work alongside VMware product experts
- Planned for the addition of 1,800 new virtual machines over a two-year period

"We're still planning to add another 1,800 virtual machines over the next two years, but it made sense to take our time and reevaluate what we were doing. It's the old saying of, 'Measure twice, cut once.' We now have a detailed scorecard of our priorities, with each activity rated by urgency and difficulty."

John Kenyon, Senior Systems Engineer
Cardinal Health

Project Summary

Headquartered in Dublin, Ohio, Cardinal Health is an \$87 billion provider of products and services that help healthcare organizations reduce costs, improve safety, productivity and profitability, and deliver better care. Cardinal Health has developed market-leading technologies such as Alaris® IV pumps, Pyxis® automated dispensing systems, MedMined™ electronic infection surveillance service, VIASYS® respiratory care products and the CareFusion™ patient identification system. The company also manufactures medical and surgical products and is one of the world's largest distributors of pharmaceuticals and medical supplies. Ranked No. 19 on the Fortune 500, Cardinal Health employs more than 40,000 people on five continents.

After years of aggressively virtualizing its physical machines, Cardinal Health recently decided to evaluate its progress and map out its next steps. Although the company was achieving benefits such as reduced power and space requirements, its IT organization realized that it was not using its VMware® Infrastructure to its full potential. Hoping to increase efficiency and plan for the future, Cardinal Health engaged VMware Professional Services to assess the company's VMware Infrastructure and to help develop a strategy for expansion.

VMware Professional Services provided Cardinal Health with Health Check and Operational Readiness Accelerator services. Based on the feedback provided by the VMware consultants, Cardinal Health created a Virtualization Center of Excellence to focus its VMware Infrastructure efforts and champion the cause of virtualizing servers across the enterprise. Cardinal Health also came away from the process with detailed, prioritized steps for optimizing performance and promoting efficient growth across its VMware Infrastructure implementation.

Virtualization Pioneers Stop to Catch their Breath

Many companies are still just beginning to explore the benefits of virtualization—but not Cardinal Health. The healthcare supply giant has experienced such rapid growth in its virtual environment that its IT organization must now address the problem of redundant and orphaned virtual machines taking up space. After its most recent IT growth spurt, Cardinal Health realized it needed to address this and other challenges before more serious problems developed.

“As a company, we’re proud that we’ve embraced virtualization as quickly and as thoroughly as we have,” says John Kenyon, Senior Systems Engineer, Cardinal Health. “But our enthusiasm actually led to some virtual server sprawl. As a result, troubleshooting had become a much more time-consuming process than we would have liked.”

Before further expanding its VMware Infrastructure, Cardinal Health wanted to make sure it had an optimized, stable, and well managed environment. To do so, the company realized it not only needed to review the technical aspects of the environment, but the operational underpinnings as well.

“We had plenty of people working in our virtual environment, but we didn’t know how to allocate who had the rights to which resources,” says Kenyon. “For example, how would our engineers and maintenance staff fit into our support group?”

Seeking insights on how best to deploy its personnel and manage its growing VMware Infrastructure, Cardinal Health reached out to VMware Professional Services. In response, VMware provided two services: a Health Check, and an Operational Readiness Accelerator.

“One of the most valuable results of the Operational Readiness Accelerator was the concept of the VMware Center of Excellence. This is the team that will drive the overall vision of where our company is going with virtualization.”

John Kenyon, Cardinal Health

Health Check Service Helps Company “Measure Twice, Cut Once”

The Health Check service consisted of a two-week VMware Infrastructure review. During that time, VMware and Cardinal Health worked together to evaluate ESX™ host configurations for 40 servers and VMware VirtualCenter configuration for two servers. The teams also examined the network and storage configurations as well as backup and monitoring strategies.

After assessing Cardinal Health’s infrastructure and conducting extensive interviews with the company’s technical staff, VMware presented its findings in a comprehensive Health Check Report. Cardinal Health came away with a detailed list of areas for improvement as well as a game plan for moving forward with future projects.

“The Health Check came at a time when we were growing very quickly and needed to take a step back,” says Kenyon. “We’re still planning

VALUE OF VMWARE SERVICES

- Recommended operational best practices including a VMware Center of Excellence—a core team that focuses on the VMware Infrastructure and promotes the benefits of virtualization across the enterprise
- Consultants worked with internal team members to highlight the strengths and weaknesses of the company’s virtualization environment
- Planned for the next phase of rapid growth in the virtualization environment, enabling the company to virtualize quickly with minimal challenges or errors
- Secured needed sponsorship from senior management

ACTIVITIES AND TOPICS

- Health Check using VMware HealthAnalyzer
- Evaluation and performance measurement of VMware Infrastructure
- 2-week VMware Infrastructure review
- 8-week Operational Readiness Accelerator
- Interviews with team
- Gap analysis
- ITIL-based, VMware Infrastructure operations process review

DELIVERABLES

- Health Check report on VMware Infrastructure performance and configuration
- Identification of desired end-state and obstacles to its achievement
- Evaluation of key operational processes
- Extensive assessment of, and roadmap to, operational readiness
- Implementation priorities scorecard
- VMware Center of Excellence design

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Cardinal Health can now improve critical areas—such as VMware Infrastructure optimization, storage, networking, monitoring and backup methods—to achieve the greatest possible benefit in the shortest amount of time. Later, the company will focus on tightening up areas such as expanded template use, virtual machine provisioning, recovery processes, ESX host patching, and standardized naming practices.

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Operational Readiness Accelerator Provides a Roadmap for Implementing Best Practices

Before further expanding its VMware Infrastructure, Cardinal Health wanted to evaluate its previous operational performance and identify areas for improvement. Cardinal Health's Operational Readiness Accelerator engagement focused on the company's ability to routinely provision, consume and manage its VMware Infrastructure production environment. During the intensive eight-week process, two VMware consultants worked as part of Cardinal Health's team, providing recommendations and best practices on how to more efficiently and effectively operationally manage the virtualized environment.

One key recommendation was for Cardinal Health to form a VMware Center of Excellence—a core team responsible for architecting and operating the VMware Infrastructure, and for promoting the benefits of virtualization across the company. In addition to focused responsibility for the VMware Infrastructure, the team helps encourage and institutionalize communications across related IT functional groups. Based on this recommendation, Cardinal Health is building out its core team, currently comprising an architect, lead and engineer, by adding support, maintenance and administration staff.

"One of the most valuable results of the Operational Readiness Accelerator was the concept of the VMware Center of Excellence," says Kenyon. "This is the team

that will drive the overall vision of where our company is going with virtualization. Through their efforts, we're raising awareness of virtualization across our company and positioning ourselves to achieve greater benefits from the technology in every department."

The Operational Readiness Accelerator also helped Cardinal Health to more effectively evaluate its capacity, virtual machine lifecycle and change management processes as well as how it develops, tests and releases virtual machine-based applications.

"Our VMware consultants let us know that we have a very strong change management process in place—something they don't see very often," says Kenyon. "But they also made us aware that because we were using the same testing and development processes for virtual machines as for physical machines, we weren't getting as much out of virtualization as we could be. It's insights like these that made the Operational Readiness assessment so valuable."

"Even our senior management noticed the value of the Operational Readiness Accelerator and Health Check. Overall, everyone was really pleased. We're sure that going through this process will continue to deliver value over the years."

John Kenyon, Cardinal Health

Core Virtualization Team "sells" Colleagues on the Technology

Throughout the Health Check and Operational Readiness Accelerator, Cardinal Health's IT organization worked closely with VMware Professional Services to recognize successes, rethink processes, and map out improvements. The free flow of knowledge between the teams enhanced Cardinal Health's expertise with virtualization technology.

"The two VMware consultants we worked with on the Operational Readiness portion were very responsive to questions, and our consultant on the Health Check went into great detail explaining things like networking changes," says Kenyon. "It felt great to have the relationship with VMware, where they spent a lot of time with different parts of our organization—including the network team and storage team—to be sure we were going down the right path."

Cardinal Health has already put into practice the results of its Health Check by configuring networking, NTP, SNMP and other settings that were inconsistent across the VMware Infrastructure. The company will gradually implement its Operational Readiness recommendations over the next year.

“Working with VMware Professional Services has given us a head start on our upcoming virtualization projects,” says Kenyon. “More importantly, our core virtualization team now has recognition from the rest of our company. They’re more able to ‘sell’ virtualization to our different business units by showing how the technology saves power and space. When an internal customer sees that we have a virtualization team, they know they’re getting value-added infrastructure. We don’t just have a bunch of engineers throwing virtual machines anywhere they want—there’s actually management behind it.”

“Even our senior management noticed the value of the Operational Readiness Accelerator and Health Check,” Kenyon continues. “Overall, everyone was really pleased. We’re sure that going through this process will continue to deliver value over the years.”

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can work with,” says Kenyon. “The VMware account managers and sales reps always keep us informed of new products that can help us. Their entire team is constantly working to increase the rate of virtualization in our environment and maximize our success.”

“Our relationship with VMware has been very positive—we can get support when we need it, and we have five or six dedicated engineers we can work with.”

John Kenyon, Cardinal Health

Partnership Increases Virtualization, Maximizes Success

Based on the recommendations of VMware Professional Services, Cardinal Health is confidently moving forward with new projects. The company is implementing VMware technology in all of its physical distribution centers, and is evaluating the VMware vCenter Lab Manager, VMware vCenter Stage Manager and VMware vCenter Site Recovery Manager solutions. After Cardinal Health spends the next year converting about 600 more physical machines to virtual, the majority of the company’s workloads will be running on virtual machines. Meanwhile, the VMware support staff will be just a phone call away.

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