



## HCR Manor Care Speeds Updates 67 Percent, Mitigates Malware, Enables Strategic Solution

### Overview

**Country or Region:** United States

**Industry:** Healthcare

### Customer Profile

HCR Manor Care, based in Toledo, Ohio, is a leading provider of short-term post-acute and long-term care. It employs 60,000 people.

### Business Situation

HCR Manor Care was rapidly expanding its enterprise network and wanted to make increasingly strategic use of it—which meant that the network had to be more reliable and available than ever before.

### Solution

HCR Manor Care adopted Microsoft® Systems Management Server 2003, which it uses to roll out security updates and application software, and to handle asset management and software metering.

### Benefits

- Speeds update deployment by 67 percent
- Mitigates exposure to malicious software
- Saves U.S.\$170,000 per software rollout
- Increases strategic use of network

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Jeff Harris, Assistant Vice President, Director of Technical Services, HCR Manor Care

HCR Manor Care, one of the nation’s leading healthcare providers, wanted to use its network to roll out solutions that enhance patient care. That required the company to reduce malicious software attacks and boost reliability and availability. It achieved this by working with Certified Security Solutions, a Microsoft® Gold Certified Partner, to deploy Microsoft Systems Management Server 2003 change and configuration management software. The deployment enabled HCR Manor Care to cut the time needed to deploy security updates by 67 percent. The faster and more accurate updates have helped to eliminate malware incidents, boosting availability, and potentially saving hundreds of thousands of dollars in IT costs and lost revenue. With Systems Management Server, HCR Manor Care saves up to U.S.\$170,000 on each software rollout, and handles asset management and licensing fees more effectively.



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## Situation

HCR Manor Care knows how to take care of people. The company is a leading provider of both short-term post-acute and long-term care, with a network of more than 500 skilled nursing and rehabilitation centers, assisted-living facilities, outpatient rehabilitation clinics, and hospice and home healthcare offices nationwide.

The company’s growth has been strong; HCR Manor Care achieved annual revenues of U.S.\$3.6 billion in 2006. And the company has rapidly increased its technology infrastructure to support that growth. For example, the count of personal computers at the company has risen to more than 10,000 over the past several years as HCR Manor Care opened additional facilities and increased its use of technology. The infrastructure also includes more than 580 server computers.

This increase in technology has only exacerbated the challenge of maintaining an enterprisewide infrastructure. What’s more, the company’s requirements for data privacy and integrity are especially high, because HCR Manor Care is subject not only to general business requirements such as Sarbanes-Oxley, but also to industry-specific requirements such as the Health Insurance Portability and Accountability Act (HIPAA). HCR Manor Care must keep all of its personal computers current on their security updates to minimize the chance that “malware”—viruses, worms, spyware, and other types of malicious software—will cause a breach in the system.

The responsibility of keeping those more than 10,000 computers up-to-date on security software typically fell to two IT staffers who worked on the task full-time for three weeks out of the month. The work was labor intensive because the commercial software that HCR Manor Care used to distribute

updates was far from automated. The technicians had to “start the software, and then watch it run the entire time to ensure it worked,” says Jim Sabovik, Manager of Network Engineering, HCR Manor Care. Because there was no accurate inventory of computers and the software installed on them, all updates had to be sent to all machines in order to ensure that the vital updates got to the machines that needed them. And because there was no reporting mechanism, there was no good way to know where the updates had been implemented properly and where they hadn’t.

As a result, HCR Manor Care was hit by some of the more common malware of the past few years—Slammer, Sasser, I Love You, and Netsky—with each incident negatively affecting overall network availability. Infected areas were quarantined. Emergency teams, which tapped most of the IT staff, sprang into action, working long days for a week or more at a time. One of those incidents cost HCR Manor Care approximately \$100,000 in IT expenses to repair—on top of the deleterious impact of the event on the business as a whole.

Beyond the direct costs and lost revenues, system and network reliability issues were inconsistent with the company’s strategic direction for technology. “Our goal is to take technology off the table, so to speak,” says Jeff Harris, Assistant Vice President, Director of Technical Services, HCR Manor Care. “That is, when our internal business customers come to us for IT solutions to help increase revenue or cut costs, the technology can’t stand in the way of that happening. We need to be able to anticipate the needs of our customers and to provide the right technical architecture to support our business systems. Additionally, our technology needs to perform well and to be highly available.”

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## Solution

HCR Manor Care took several key steps to take control of its enterprise network and increase the network's security and reliability. The company embarked on an enterprisewide server upgrade that brought consistency to its mixed environment: The Windows Server® 2003 Standard Edition operating system was installed on 280 server computers. It implemented the Windows Server 2003 Active Directory® service as its standard directory service. And it implemented Microsoft® Systems Management Server 2003, the comprehensive solution for change and configuration management for Windows®-based environments. The company had several reasons for its choice of Systems Management Server, according to Sabovik.

“Systems Management Server offered a more automated, more seamless software update experience than we could get with any of the alternatives we considered,” says Sabovik. “And beyond that, Systems Management Server offered capabilities we didn't see with any of the alternatives we considered, such as software rollouts, asset management, software metering, and reporting.”

### Designing a Three-Tier Architecture

With the assistance of Microsoft Gold Certified Partner Certified Security Solutions (CSS) and Microsoft Services, HCR Manor Care developed a three-tier architecture for its deployment of Systems Management Server:

- Tier 1 is the central site at HCR Manor Care headquarters, which is responsible for receiving security updates, creating packages for deployment, and reporting on update status.
- Tier 2 consists of three “primary” Systems Management Server sites: One for the company's 10,000-plus personal computers, one for the company's more than 500 server computers, and one in Huntsville, Alabama, where Intergraph

Corp. prepares 300 to 400 new or reimaged computers for HCR Manor Care each month.

- Tier 3 consists of 270 distribution points across the HCR Manor Care environment, which receive update packages from the Tier 2 servers and roll them out to individual machines. Whereas each of the four sites in Tier 1 and Tier 2 is hosted on a dedicated computer server, the distribution points use available resources on existing local servers.

The inclusion of an outside vendor as a Systems Management Server primary site is untraditional—but that lack of tradition suits HCR Manor Care just fine.

“We set up a primary site at Intergraph because the ability to have those machines delivered to us fully updated, rather than having to update them once they get here, is a big advantage,” says Jason Hood, Director of Technical Operations, HCR Manor Care. “The primary site there also allows Intergraph to continue to image our machines with updates even if our corporate office is temporarily inaccessible due to a disaster situation. Thus, it positions us to use Intergraph as a contingency site for emergencies.”

### Deploying the Solution

With the architecture designed, HCR Manor Care and CSS set up an internal test lab that simulates that architecture to validate the solution. It created a simulated data center, joined computers to that domain, and pushed out test applications and update packets. After tests confirmed the solution, HCR Manor Care and CSS piloted the deployment to several locations, with equally successful results. The tests and pilots took six months. HCR Manor Care and CSS then rolled out the Tier 1 and Tier 2 sites over six weeks in 2005. Deployment of the distribution points, which coincided with field upgrades to

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Windows Server 2003, happened over several months.

With the Systems Management Server architecture deployed, HCR Manor Care was ready to bring its more than 10,000 computers into the change and configuration management solution.

The IT team used a variety of automated discovery methods built into Systems Management Server to enable the solution to find the computers on the network. These discovery methods worked flawlessly for at least 95 percent of the company's computers; for the remainder, a logon script triggered the discovery process when users connected to the network.

With the enterprise's computers discovered by Systems Management Server, the solution then installed the Systems Management Server client software onto each of those machines and pulled a list of hardware and software specifications from them, to be forwarded to the central site and aggregated into an inventory management database.

HCR Manor Care receives security updates from Microsoft on a monthly basis. The company spends several days testing the updates for compatibility with its computers and uses the Microsoft Baseline Security Analyzer to identify which computers require each update, enabling more targeted and, hence, faster and more accurate updating.

The update packages are then deployed to the Tier 2 sites and Tier 3 distribution points, and pushed out to the computers starting on Friday nights. That way, the network and desktop resources needed for deployment don't conflict with employees' use of their machines.

Employees can choose to postpone updates temporarily if they're working on their

machines at the time. And the bandwidth-aware capabilities of Systems Management Server enable the company's 1,500-plus portable computers to be updated when those machines connect to the network, even allowing update packages to be downloaded in segments when users are connected to the network for limited periods.

By Monday morning, the vast majority of computers are successfully updated; the remainder are updated within a few days. HCR Manor Care IT staff members receive reports confirming update status so they can immediately identify the few computers that require support to implement an update.

## Benefits

As a result of implementing an automatic and consistent change and configuration management process, HCR Manor Care has addressed its concerns with network reliability, availability, and cost-effectiveness. That, in turn, has enabled it to deploy more strategic applications.

### Speeds Update Deployment 67 Percent

By automating and increasing the accuracy of its security update activity through the use of Systems Management Server, HCR Manor Care has cut the time required to deploy updates from 240 work-hours per month to 80—a reduction of 67 percent. That translates to a savings of \$70,000 per year.

“In the past, two staffers would spend most of a month chasing down our software updates and trying to ensure that the updates deployed properly,” says Greg Ellsworth, Primary Systems Management Server Administrator, HCR Manor Care. “Now, it's much more of a ‘start it and forget it’ process. It just works. We know our updates are being implemented faster and more completely across the organization than ever before—and our people are freed up for

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#### **Mitigates Malware Exposure**

In the more than a year since deploying Systems Management Server, HCR Manor Care has not experienced a single malware incident, and availability, as measured by unplanned downtime, has increased.

“Systems Management Server helped us to take control of our network,” says Tom Olzak, Director of Information Security, HCR Manor Care. “Software updates are distributed so reliably that we worry less about being susceptible to malware. Laptops that leave the network and then reconnect are a particular source of concern, so our ability to ensure that even these machines are promptly and fully updated is especially reassuring. Given our hundreds of facilities and the importance of keeping them online, the increase in uptime has a tremendous impact on our business.”

#### **Enhances IT Operations**

“We’re not just implementing security updates faster and more accurately,” says Sabovik. “Systems Management Server enables us to manage our IT operation more effectively in ways we couldn’t with any other solution we considered. It’s brought us tremendous value for the investment. The value we’re getting from it greatly exceeds the immediate need—security updates—that it was implemented for.”

HCR Manor Care uses Systems Management Server to deploy application software, to manage assets, and to conduct software metering. It has used Systems Management Server to roll out ActiveX® controls, Adobe Reader updates, Microsoft Office software, Windows XP Service Pack 2, and WebEx software.

As with the deployment of security updates, the use of Systems Management Server to roll out application software not only increases the speed and accuracy of the deployment process, but also cuts the cost. HCR Manor Care estimates that each rollout through Systems Management Server saves the company approximately \$170,000.

For the first time, HCR Manor Care has a full inventory of its hardware and software configurations, stored in an easily accessible and searchable database. With better asset management, HCR Manor Care can further improve operational efficiency. For example, when Dell Computer Corp. issued a recall of some of its laptop batteries, HCR Manor Care was able to query Systems Management Server to identify which of its machines and employees were affected, and to directly notify those employees.

“Without Systems Management Server, we would have had to seek out each of our affected laptops and users,” says Corey Lyons, Manager of Customer Support, HCR Manor Care. “With Systems Management Server, we handled the battery recall faster, more effectively—and less expensively. There was no significant cost to our organization.”

The use of Systems Management Server for software metering—that is, measuring where and how application software is actually used in the enterprise—allows HCR Manor Care to adjust its software licenses to better reflect actual use.

“Systems Management Server has provided us with the means to better understand our licensing requirements,” says Hood. “We now have better control over the money we spend on licensing than we had before.”

#### **Increases Strategic Use of Network**

Perhaps the greatest long-term benefit of the move to Systems Management Server is

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the solution's contribution to HCR Manor Care's long-term strategic direction. For example, the company recently adopted a new clinical and financial application, which is provided through a third-party application host. The application supports HCR Manor Care's ability to provide high-quality care to its customers—and the hosted nature of the application makes continuous network access a necessity.

"We are using our network in increasingly strategic ways and we can't let issues of reliability and availability throw up roadblocks to that," says Harris. "Systems Management Server is one of the key tools we've deployed to ensure that technology propels our business forward, rather than stands in our way."

## Microsoft Server Product Portfolio

For more information about the Microsoft server product portfolio, go to: [www.microsoft.com/servers/default.aspx](http://www.microsoft.com/servers/default.aspx)

### Software and Services

- Microsoft Server Product Portfolio
  - Windows Server 2003 Standard Edition
  - Microsoft Systems Management Server 2003
- Services
  - Microsoft Services

### Technologies

- Active Directory
- Microsoft Baseline Security Analyzer

### Hardware

- IBM eServer xSeries

### Partner

- Certified Security Solutions