



Overview

Country: United States
Industry: Manufacturing

Customer Profile

Window and door manufacturer Pella Corp., based in Iowa and one of Fortune's "100 Best Companies to Work For," is known for its "disappearing" Roloscreen®, which rolls out of sight when not in use.

Business Situation

Pella had outgrown its implementation of Microsoft® Exchange Server 5.5 running on Windows NT® Server 4.0 and needed better performance, availability, and recoverability.

Solution

Pella is deploying Microsoft Windows Server™ 2003 and Exchange Server 2003 on a two-node cluster with fault-tolerant Simple Mail Transfer Protocol (SMTP) gateways and Outlook® Web Access.

Benefits

- 16 servers reduced to 6
- Total costs drop 50 percent
- Easier server management

Pella Consolidates 16 Mail Servers to 6, Boosts Reliability, Cuts Costs 50 Percent

"The migration from Exchange Server 5.5 to Exchange Server 2003 is straightforward and painless."

Jim Thomas, Senior Business Systems Manager and Senior Technology Manager, Pella Corporation

Window and door manufacturer Pella Corporation had outgrown its e-mail system, which was based on Microsoft Exchange Server version 5.5. Pella wanted better performance and higher availability and recoverability, which it couldn't easily get with its existing deployment of 16 Exchange servers in 12 locations spread across 5 Exchange sites with mail service hosted on server-based storage. Now Pella is deploying Microsoft Windows Server 2003 and Exchange Server 2003 in a two-node active/passive cluster with fault-tolerant Simple Mail Transfer Protocol (SMTP) gateways and Outlook Web Access front-end servers. Pella anticipates 99.999 percent availability, greater user satisfaction, easier IT management, and a first-year savings of more than 50 percent.

“What we like about the Move Mailbox wizard in Exchange Server 2003 is that it is tolerant to changes in network availability. That means we don’t disrupt our ongoing network operations to implement the migration.”

Andy Bergen, IT Specialist, Pella Corporation

Situation

Growth is a good thing. And in uncertain economic times, it’s a great thing. Still, growth can bring challenges. That’s the case for Pella Corporation, the Iowa-based maker of windows and doors, perhaps best known for its innovative “disappearing” Rolscreen®. The company has chalked up more than 100 U.S. patents since its founding in 1925, and has expanded its manufacturing operations from Oregon to Pennsylvania, to better serve customers.

Part of this growth is attributable to Pella’s growing use of technology. To aid communication and collaboration among employees, Pella adopted Microsoft® Exchange Server version 5.5, running on Windows NT® Server operating system version 4.0, in 1998. The deployment had 400 mailboxes.

Since then, Pella’s work force has grown substantially, as has the acceptance of e-mail as a medium of communication and collaboration. From 400 mailboxes in 1998, the Pella infrastructure has grown to encompass 3,000 mailboxes today. But that massive increase represents only a small share of the real growth in e-mail at Pella, because each user sends and receives far more mail than did the users of five years ago.

The Exchange Server 5.5 implementation was stretched to limits never contemplated when it was first deployed. Performance became problematic. The mailboxes were hosted on 16 Exchange servers in 12 locations spread across 5 Exchange sites—making the administration difficult, expensive, and time-consuming.

Users often would find their mailboxes freezing or running slowly as they waited for servers to catch up with the mail traffic. And

when a server crashed, it could take a day or more to bring it back online.

“For us, a server-down situation could affect a thousand or more users,” says Jim Thomas, Senior Business Systems Manager and Senior Technology Manager at Pella. “When you consider the lost productivity, the cost could easily go into six figures. But cost was the least of the problem. E-mail had become mission-critical for us. When our people can’t work together effectively because mail is down, that’s unacceptable to us.”

Solution

To address these issues, Pella decided to deploy Microsoft Exchange Server 2003, the newest version of Microsoft’s communication and collaboration software. Part of Microsoft Windows Server System™, the software runs on the Windows Server™ 2003 operating system, while employees use Microsoft Office Outlook® 2003 on the client side.

Pella plans to consolidate its 16 Exchange 5.5 servers to a single site with 6 Exchange 2003 servers in one active/passive redundant cluster for load balancing and fault tolerance. In addition, the storage functionality is separated from the servers with an EMC storage area network (SAN).

The configuration will include two mailbox servers, two Simple Mail Transfer Protocol (SMTP) gateway servers, and two front-end servers supporting Outlook Web Access. Given that Pella is adding Web-enabled e-mail access for the first time, the company is actually consolidating its former e-mail capability from 16 servers down to just 4.

Pella also is consolidating its directory structure, which has included both Windows® Active Directory® service and an Exchange 5.5 directory, to just Active Directory.

"We've been running the Exchange Server 2003 pilot for months with absolutely no unscheduled downtime and no adverse user impact."

Jim Thomas, Senior Business Systems Manager and Senior Technology Manager, Pella Corporation

The hardware platform for the new implementation consists of Dell PowerEdge 6650 servers, connecting to an EMC SAN device for backup and recovery.

In its first pilot of the new deployment, Pella moved 125 users to Exchange 2003 during summer 2003, including about 25 users in the Iowa corporate headquarters and about 100 users in the Pennsylvania manufacturing facility. The company had 1,000 users upgraded by September 2003, with full deployment to its 3,000 e-mail users expected by April 2004. On the client side, Outlook 2003 is being rolled out in phases, first to the pilot users and IT users, and finally to the entire company within four months of the software's release to manufacturing.

"We're moving at a deliberate pace with our Exchange 2003 deployment to make sure that there are no issues—and, so far, there are none," says Thomas. "The migration from Exchange Server 5.5 to Exchange Server 2003 is straightforward and painless, and actually moving the mailboxes is a simple process."

Thomas estimates that, in total, the upgrade will take four to six weeks of planning, including two weeks of lab work to architect new aspects of the solution, such as Web mail using Outlook Web Access. Server deployment is expected to take two weeks and then, according to Thomas, "migrating the users is easy."

To implement the upgrade, Pella is using the Move Mailbox tool in Exchange Server 2003. "What we like about the Move Mailbox wizard in Exchange Server 2003 is that it is tolerant to changes in network availability," says Andy Bergen, IT Specialist. "That means we don't disrupt our ongoing network operations to implement the migration. We can schedule it to run automatically when network traffic is low."

Pella also is using the upgrade as an occasion to bring users in compliance with its best practices for e-mail use, further enhancing performance and facilitating management. In particular, mailbox users are required to reduce their mailbox sizes to 100 megabytes or less prior to the upgrade.

Looking ahead, Pella is testing the use of Hitachi G1000 PCS Vision Phones—the first Windows Powered Pocket PC to feature an integrated camera, keyboard, and phone in a single mobile device—on the Sprint Nationwide PCS Network. The company contemplates using the devices to help Pella team members stay in touch with customers while traveling, without the need to constantly carry a laptop.

Benefits

Pella says it already is benefiting from the Microsoft Exchange Server 2003 deployment and it expects those benefits to expand as the deployment continues to roll out. Benefits include lower costs, greater performance and reliability, easier use that enables enhanced communication for mobile users, and streamlined management.

Lower Total Cost of Ownership

The lower total cost of ownership that Pella gains from the upgrade to Exchange Server 2003 begins with direct reductions in continuing hardware costs and software licensing. Beyond that, the easier, central administration that Exchange Server 2003 makes possible, along with centralizing all storage on a single EMC device will enable Pella to redeploy the equivalent of one full-time professional.

"We use all resources wisely and are focused on continuous improvement," says Thomas. "There's no fat here. Being able to reduce our direct IT outlay and then save a full-time equivalent that used to baby-sit the servers—

all thanks to Exchange Server 2003—is very important because it means we can redeploy staff to focus on strategic issues and add real value.”

Greater Performance and Reliability

Pella experienced 99 percent uptime on its Exchange 5.5 system. Based on its experience to date with Exchange Server 2003, Thomas says the company expects “five nines” (99.999 percent) availability once the migration is complete, although it has not yet certified an availability level.

“We’ve been running the Exchange Server 2003 pilot for months with absolutely no unscheduled downtime and no adverse user impact,” says Thomas “And impact on users—that is our real bottom-line concern.”

Thomas attributes the performance and reliability of the new solution to a variety of factors. Failover clustering enables continuous operation should a failure occur in one of the servers, as well as continued operation during regular maintenance and updates, without the need to bring the system offline. The increased performance and reduced bandwidth needs between Outlook 2003 clients and Exchange Server 2003 further enhance solution performance and enable the server consolidation. Formerly, remote clients had to access e mail by dial-up connection or virtual private network (VPN), with mail synchronization consuming all available bandwidth. The Pennsylvania pilot shows that the system now has available bandwidth even at the busiest times of day, enabling remote users to work at all times.

Pella has not had to rely on its backup and recovery features at any time during the pilot deployment. But its lab testing shows that, if it needs those features in production, they’re ready. Recovery time in lab testing dropped from four to six hours to just 20 to 30

minutes, thanks to the integration of Microsoft’s volume shadow copy functionality with EMC storage along with the consolidation of the servers and the storage.

Meanwhile, the ability to run multiple information stores per server provides another level of redundancy and reliability for Pella’s users. “If we lose an information store, we can remount an empty one and keep users up and running,” says Thomas. “It’s another way that Exchange Server 2003 helps boost our reliability.”

Enhanced Experience for End Users

Exchange Server 2003 is contributing to easier use for end users and IT administrators—thus boosting the productivity and effectiveness of both groups. For end users, much of the productivity gain comes from Outlook Web Access. “Our mobile workers, working from the road or from their homes, have had poor e mail access in the past,” says Thomas. “Outlook Web Access in Exchange Server 2003 is a huge, huge win for us.”

That huge win comes from an Outlook Web Access that more closely mirrors the functionality of the desktop Outlook client than ever before, including preview panes and spam blockers. Outlook Web Access also is more secure than previously and can be used by remote users outside the firewall without setting up a VPN. That means it can boost the functionality of team members on the road, who can receive and respond to mail more quickly than before, regardless of their locations.

More Efficient Management for Administrators

Meanwhile, IT administrators benefit from the ability to centralize management on a few servers in the corporate offices, rather than on servers scattered throughout the nationwide enterprise network. The total

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: <http://www.microsoft.com/>

For more information about Sprint products and services, call (800) 370-6105 or visit the Web site at: <http://www.sprint.com/>

For more information about Pella Corporation products and services, call (800) 374 5748 or visit the Web site at: <http://www.pella.com/>

number of people managing the mail servers is expected to drop from about 20 to just 2.

“Reducing the number of people with server access is a good idea because it enhances consistency and minimizes the chances for error,” says Thomas. “Yet, with Exchange Server 2003 and Active Directory, we can still delegate specific capabilities for maximum efficiency. For example, designated people in the field can manage user accounts for their areas, while we reserve server access and management for IT staff in headquarters.”

Microsoft Windows Server System

Microsoft Windows Server System is a comprehensive, integrated, and interoperable server infrastructure that helps reduce the complexity and costs of building, deploying, connecting, and operating agile business solutions. Windows Server System helps customers create new value for their business through the strategic use of their IT assets. With the Windows Server™ operating system as its foundation, Windows Server System delivers dependable infrastructure for data management and analysis; enterprise integration; customer, partner, and employee portals; business process automation; communications and collaboration; and core IT operations including security, deployment, and systems management. For more information about Windows Server System, go to: <http://www.microsoft.com/windowsserversystem/>

When you're on the go, Windows Mobile provides the freedom to connect with people and information because it's familiar and powerful – helping you to stay in touch and in sync with what matters in your life.

For more information on Microsoft Windows Mobile Software to go: <http://www.microsoft.com/windowsmobile/>

Software and Services

- Products
 - Microsoft Office Outlook 2003
 - Microsoft Exchange Server 2003
 - Microsoft Windows Server 2003 Standard Edition
 - Windows Mobile software for Pocket PCs

Hardware

- Dell PowerEdge servers
- EMC Symmetrix SAN

Partners

- Sprint

© 2003 Microsoft Corporation. All rights reserved. This case study is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY. Microsoft, Active Directory, Outlook, Windows, the Windows logo, Windows Mobile, Windows NT, Windows Server, and Windows Server System are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners. Pella is a registered trademark of Pella Corporation.