



Cambridge Health Alliance
A COMMUNITY OF CARING

Overview

Country or Region: United States
Industry: Healthcare

Customer Profile

Cambridge Health Alliance is an award-winning healthcare system in the greater Boston, Massachusetts, region. It includes three hospitals, more than 20 primary-care practices, the Cambridge Public Health department, and the Network Health plan.

Business Situation

Cambridge Health Alliance wanted to consolidate its messaging solution from four server computers to a single Egenera Processing Blade. It needed a solution that could scale up to 6,000 concurrent connections.

Solution

After considering the Linux-based Scalix Mail and Calendaring Server version 9.0, Cambridge Health Alliance chose to upgrade from Microsoft® Exchange Server version 5.5 to Exchange Server 2003.

Benefits

- High scalability and reliability
- More advanced Web access
- Integrated technology
- High data availability
- Easier management



Internosis®

Healthcare Organization Picks Microsoft Exchange Server 2003 over Linux-based Scalix

“Microsoft Exchange Server 2003 proved that it is scalable. And with its superior Web access and integrated ActiveSync technology, it has a functionality advantage over Linux-based Scalix.”

Dan Cameron, Senior Technical Architect, Cambridge Health Alliance

Cambridge Health Alliance (the Alliance), a community healthcare organization, wanted to simplify its e-mail system by consolidating four server computers to one. It also sought a solution that would scale to 6,000 users and provide enhanced Web e-mail and mobile synchronization features. The IT staff considered migrating from Microsoft® Exchange Server version 5.5 to the Linux-based Scalix Mail and Calendaring Server version 9.0 because of its scalability. After evaluating Microsoft Exchange Server 2003, the staff deployed the Microsoft solution with help from Microsoft Gold Certified Partner Internosis. Testing showed that Exchange Server 2003 can easily support the organization’s 4,500 current users and scale to 6,000 users on one Egenera Processing Blade resource. The Alliance also found that the solution offers better mobility features and more built-in technology than Scalix does.



Situation

Cambridge Health Alliance (the Alliance) provides health services and community health programs in the greater Boston, Massachusetts, region through its three hospitals, more than 20 primary-care practices, and the Cambridge Public Health department. Its mission is to improve the health of individuals regardless of their age, language, or ability to pay. An integrated healthcare system with 4,000 employees, the Alliance offers a variety of services, including medical specialties, surgical specialties, obstetrics, and primary care.

E-mail and calendaring are important parts of the organization's daily business communication. Many workers also need access to their e-mail, calendars, and tasks while they are away from the office, whether they're at home, at a seminar, or at one of the organization's hospitals.

For its messaging solution, the Alliance used four server computers running Microsoft® Exchange Server version 5.5. The organization wanted to simplify its IT management by reducing the number of e-mail server computers from four to one. At the same time, it sought a solution that would accommodate the 4,500 current users and scale to 6,000 users without additional hardware. Moreover, the Alliance wanted to help its employees become more productive by providing them with improved Web e-mail features and the ability to remotely synchronize their e-mail with mobile devices over the Internet.

For the server hardware, the Alliance chose the Egenera BladeFrame system. The organization was already benefiting from a BladeFrame system that it used for a Linux-based patient-care application. The BladeFrame, which supports both Linux and Microsoft operating systems, accommodates up to 96 server-class Intel and AMD processors on 24 bladed servers called

Processing Blades, which are managed with Egenera PAN Manager software. Because the processing resources are diskless, stateless, and interchangeable, the BladeFrame can dynamically allocate processing power to support new applications or accommodate variable demand on current applications.

"The BladeFrame is cutting-edge technology with integrated high-availability and failover capabilities that we wanted to use for our messaging system," says Dan Cameron, Senior Technical Architect at the Alliance.

For the messaging software, the IT staff at the Alliance looked into using the Linux-based Scalix Mail and Calendaring Server version 9.0 because of its scalability benefits. The organization also considered upgrading to Microsoft Exchange Server 2003, but decision makers had heard word-of-mouth reports that they could not successfully run an Exchange Server 2003 solution on a single computer. The Alliance was concerned that it would need to invest heavily in additional hardware to support 6,000 concurrent connections with Exchange Server 2003.

The Alliance decided to test the scalability of Exchange Server 2003 and the Microsoft Windows Server™ 2003 operating system running on the BladeFrame system. Both Exchange Server 2003 and Windows Server 2003 are part of Microsoft Windows Server System™ integrated server software. "We wanted to see whether they could handle the load of our whole environment—including antispam, antivirus, and message-filtering technology—without affecting system performance," Cameron says.

Solution

Cambridge Health Alliance evaluated and later deployed the Microsoft software with help from Microsoft Services consultants and Microsoft Windows Server Division, which is a



Figure 1. Cambridge Health Alliance runs its new messaging solution on an Egenera BladeFrame system, which supports up to 96 server-class Intel and AMD processors on 24 Egenera Processing Blades.

Microsoft product group experienced with implementations of Windows Server 2003 on server blades. In addition, Microsoft partner and BladeFrame maker Egenera conducted scalability testing of the Microsoft software, and Microsoft Gold Certified Partner Internosis helped design and deploy the Exchange Server 2003 solution.

The Alliance had several objectives for the evaluation. "We wanted to make sure we could scale up to 6,000 concurrent connections," Cameron says. "We have 4,500 users, so we wanted to have a buffer in case we have any expansion." In addition, the organization wanted to determine whether the solution could provide high stability, easy data recovery, and rich Web-access features.

In July 2004, Egenera tested Exchange Server 2003 Service Pack 1 and Windows Server 2003 on a single Egenera Processing Blade to determine whether they could support the organization's anticipated growth. The test solution supported 6,000 users, at a CPU rate of 40 to 45 percent. "The testing indicated that it's possible to get 6,000 users on the Processing Blade without any difficulty and that there is considerable room for growth," says Blaine Lincoln, Technical Service Engineer at Egenera.

Concurrent with the scalability testing, Microsoft Services and Internosis helped the Alliance implement a production pilot of 50 users, who included IT staff and organization executives. The consulting partners first created a detailed migration plan and tested the upgrade in a virtual Exchange Server 5.5 and Exchange Server 2003 environment using Microsoft Virtual Server 2005, also part of Windows Server System. They then migrated the 50 users and evaluated Exchange Server 2003 during the production pilot.

The Alliance found that Windows Server 2003 met its needs for stability, because it is a

streamlined operating system running only the necessary services. Also, because Exchange Server 2003 supports the creation of multiple databases, it allows for fast and easy data recovery if a database should fail.

In addition, the organization determined that Exchange Server 2003 offers features not available with Scalix. For example, Microsoft Office Outlook® Web Access, a component of Exchange Server 2003, enables users to see when other employees have free or busy time on their calendars; Scalix Web Access does not include that feature. Moreover, ActiveSync® technology built into Exchange Server 2003 synchronizes a user's e-mail, calendar, and contacts data with mobile devices. Because Scalix does not include similar technology, it requires additional third-party software.

Persuaded by the success of the evaluation, the Alliance decided to implement the Microsoft solution. "When we saw all the Microsoft functionality, there wasn't a business case to go with Scalix," Cameron says.

After the production pilot, the Alliance migrated the remaining users, following migration processes that were developed by Internosis. "The goal in any of our engagements is to give customers a process that their own operations and administrative staff can use," says Scott Burgess, Chief Technology Officer for Internosis. "It minimizes the customer's investment in consulting services and maximizes the investment in current operations staff."

In December 2004, the Alliance completed the migration. The IT staff used the Move Mailbox tool in Exchange Server 2003 to move groups of a few hundred users to the new system over a period of 20 days. "We wanted to take it slow, to make sure there were no problems," Cameron says. In addition to migrating mailboxes to the new

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system, the IT staff moved directory information from the Exchange Server 5.5 directory to the Active Directory® service in Windows Server 2003 by using the Active Directory Connector. The solution also includes a CommVault QiNetix 5.0 data management solution and an HP StorageWorks XP1024 Disk Array to maximize data availability.

“The project went very well,” Cameron says. “I was impressed by how smooth the implementation was.”

Benefits

With Exchange Server 2003 and Windows Server 2003, Cambridge Health Alliance has gained a stable messaging solution that can scale to meet the organization’s growth. The solution also provides advanced Web-access features and more built-in technology than Scalix does. “Microsoft Exchange Server 2003 proved that it is scalable,” says Cameron. “And with its superior Web access and integrated ActiveSync technology, it has a functionality advantage over Linux-based Scalix.”

Judy Klickstein, Senior Vice President of Information Technology and Chief Information Officer at the Alliance, says that Exchange Server 2003 running on the Egenera BladeFrame offers the same level of reliability and performance that its other systems provide to clinical users. “E-mail at the Alliance is a high-profile and mission-critical service,” she says. “It was imperative to identify a robust solution that provides seamless integration of products to allow our staff to work effectively from any locale.”

High Scalability and Reliability

The Alliance is successfully running Exchange Server 2003 on the Egenera BladeFrame with mailboxes, public folders, Outlook Web Access, antispy software, and

antivirus technology. “Right now, we’re running 4,500 users on the system, and there’s no latency or any problems with the performance, from the perspective of an e-mail user,” says Cameron. The organization also expects the solution to easily support growth to 6,000 users.

In addition, Windows Server 2003 is providing a reliable foundation for the solution. “Microsoft has done a great job of optimizing the operating system to be as stable as possible,” Cameron says.

More Advanced Web Access

The Alliance found that Exchange Server 2003 has important Web e-mail features not available with Scalix. By using Outlook Web Access, employees can see coworkers’ calendars, manage tasks, and create rules—all from any Web browser. Scalix Web Access does not offer those features. “Most of the core functionality of Microsoft Office Outlook 2003 is also available in the Web client, such as e-mail, calendaring, contacts, rule creation, and junk e-mail filtering,” Cameron says. “Everything we need is there.”

Cameron says Outlook Web Access is also easier to use than Scalix Web Access is. “There’s no learning curve, because Outlook Web Access is almost identical to the Microsoft Office Outlook 2003 client,” Cameron says. “Our employees are picking it up quite easily, because it looks and functions like Outlook 2003. The Linux-based Scalix system didn’t have the same ease of use.”

With the mobile synchronization technology ActiveSync, the Alliance will be able to provide employees with new ways to become productive while away from the office. Employees will be able to access their e-mail, calendars, and contacts by using mobile devices based on Microsoft Windows Mobile™ software. By comparison, Scalix

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requires third-party software for such mobile synchronization. The Alliance is currently testing Windows Mobile–based Pocket PCs, and it is looking into using Windows Mobile–based Smartphones.

Integrated Technology

Technology built into Exchange Server 2003 helps lower the total cost of ownership by reducing IT complexity and eliminating the need to deploy additional software. “We can set up more services out of the box with Exchange Server 2003,” Cameron says. “We don’t have to worry about integrating a number of different products, because the technologies we need—such as ActiveSync—are already incorporated into Exchange Server 2003. With Linux-based Scalix, we would have to buy other software.”

In addition to implementing ActiveSync, the organization plans to use Microsoft Exchange Intelligent Message Filter, a download available for Exchange Server 2003 that provides advanced message filtering to reduce the amount of junk e-mail.

The integration of Exchange Server 2003 with other Microsoft software also helps reduce costs and ease implementation because the IT staff does not need to integrate technologies from multiple vendors. The Alliance is looking into using Microsoft Systems Management Server 2003, another member of Windows Server System, to update and deploy new applications on Windows Mobile–based Pocket PCs.

High Data Availability

The support in Exchange Server 2003 for multiple databases improves data availability and recovery. “Now, if a database were to go down, it would affect only a group of people instead of the entire organization,” Cameron says. In addition, the CommVault and HP data solutions help provide faster backup and recovery.

Easier Management

Consolidating from four server computers to one has simplified the management of the messaging system. “Because everything is on one computer and managed through Exchange Server 2003 tools, the system is much easier to administer,” Cameron says. “We don’t have to update software or run performance tools on multiple computers. The server consolidation has definitely resulted in a substantial savings in terms of administration and labor.”

Future Plans

The two IT staff members managing the e-mail system now have time to focus on other projects designed to improve the organization’s IT services. The Alliance plans to implement a Web portal solution to improve information sharing. For that project, the organization is considering Microsoft software as well as competing products. “We look at technology that’s going to be the best fit,” Cameron says. “In the case of our messaging solution, the best fit was Microsoft.”

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: www.microsoft.com

For more information about Internosis products and services, call (800) 488-7543 or visit the Web site at: www.internosis.com

For more information about Egenera products and services, call (508) 858-2600 or visit the Web site at: www.egenera.com

For more information about Cambridge Health Alliance, call (617) 665-2300 or visit the Web site at: www.challiance.org

Microsoft Windows Server System

Microsoft Windows Server System integrated server infrastructure software is designed to support end-to-end solutions built on the Windows Server operating system. Windows Server System creates an infrastructure based on integrated innovation, Microsoft's holistic approach to building products and solutions that are intrinsically designed to work together and interact seamlessly with other data and applications across your IT environment. This helps you reduce the costs of ongoing operations, deliver a more secure and reliable IT infrastructure, and drive valuable new capabilities for the future growth of your business.

For more information about Windows Server System, go to: www.microsoft.com/windowsserversystem

Software and Services

- Microsoft Windows Server System
 - Microsoft Windows Server 2003, Enterprise Edition
 - Microsoft Exchange Server 2003 Enterprise Edition
 - Microsoft Virtual Server 2005
- Microsoft Office System
 - Microsoft Office Outlook 2003
- CommVault QiNetix 5.0
- Egenera PAN Manager
- Services
 - Microsoft Services

Technologies

- Active Directory
- ActiveSync
- Microsoft Office Outlook Web Access

Hardware

- Egenera BladeFrame system
- HP StorageWorks XP1024 Disk Array

Partners

- Internosis
- Egenera

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