

Microsoft and Compaq

Microsoft Exchange 2000 Server success

“Compaq’s dedication to complete solutions and global service makes it an ideal technology vendor for our Microsoft Exchange 2000 platform.”

*Kevin McCuiston, Group Product Manager, .NET Enterprise Solutions Group
Microsoft Corporation*



COMPAQ
Inspiration Technology

“We invested substantial resources to ensure the highest levels of scalability, reliability, manageability and functionality for this implementation. Compaq *ProLiant* and Compaq *StorageWorks* technologies are a key part of Microsoft’s successful Microsoft Exchange 2000 rollout.”

Dave Walsh, General Manager, Messaging and Collaboration Services, Information Technology Group, Microsoft Corporation



Business results:

- > *Reliable server and storage solution for approximately 68,000 Microsoft Exchange 2000 mailboxes worldwide to 450 sites in 62 countries*
- > *Dynamic server scalability while creating a common corporate pool of mailbox storage, which ITG can flexibly allocate as needed*

What makes it work:

Hardware:

- > Compaq *ProLiant 8500 8-Way*, ML570 and DL380 servers
- > Compaq *StorageWorks Fibre Channel Modular Array 8000 (MA8000)* system configured as a SAN
- > Compaq *StorageWorks HSG80 Fibre Channel controllers*
- > Smart Array 4200 controllers

Software:

- > Compaq *Insight Manager* software
- > Microsoft Windows 2000 network operating system
- > Microsoft Exchange 2000 Server
- > Microsoft Operations Manager
- > Veritas Backup Exec

Compaq Global Services:

- > Solution implementation
- > On-site technical support worldwide

Microsoft Corporation is well-acquainted with the enterprise computing needs of large companies. Consider the scale of its own internal mail, messaging and collaboration environment, built on top of Microsoft Exchange Server 2000 and Microsoft Windows 2000 software. Email traffic averages more than four million messages per day, with close to one million of them traveling to and from the Internet. That's well over one billion messages per year zipping across a worldwide, highly secure infrastructure, which must be continually available to tens of thousands of employees. "We have 68,000 Microsoft Exchange 2000 mailboxes in 62 countries, each with a 100 MB storage limit — double the capacity we offered our employees with the Microsoft Exchange 5.5 platform," explains Dave Walsh, general manager, messaging and collaboration, Microsoft's Information Technology Group (ITG).

Many of the world's largest companies are wrestling with the challenges of implementing and managing business-critical messaging systems, so thousands of Microsoft Exchange customers stand to benefit from the practical experience gained during Microsoft's global implementation. "As we deploy our Microsoft Exchange 2000 software throughout the company, we are conscious not only of our own business needs, but also of how we can showcase our deployments to our enterprise customers," Walsh adds. "This massive software deployment is a reference for companies everywhere."

According to Walsh, one of the biggest design challenges centered on adding CPU and data storage capacity to support a rapidly growing user base, while consolidating the number of mailbox servers and doubling the amount of storage for each user. ITG needed to find an integrated technology platform, which would provide maximum

“Microsoft has actively used Compaq server platforms in its data center since 1989. Based on years of firsthand experience working long hours with Compaq Global Services, we developed confidence in the service and reliability of Compaq platforms.”

John Overholt, Director, Global Networking and Systems Engineering, Information Technology Group, Microsoft Corporation

server densities without sacrificing scalability, expandability or performance. “We concluded that Compaq *ProLiant*[™] servers and Compaq *StorageWorks*[™] data storage solutions closely met our needs, so we built on our ongoing partnership with Compaq Computer Corporation,” says Walsh.

A server for every job

The design goals established for the Microsoft Exchange project also drove the requirements for the platform evaluation: to increase availability, scalability and performance; to help knowledge workers collaborate; and to support new forms of communication, such as mobile telephones, unified messaging and small-form-factor devices. Microsoft required a combined server/storage platform, which was reliable, highly manageable and scalable. Additionally, the evaluation focused on essential operational areas

such as disaster recovery, system management and service-level agreements.

“Compaq *ProLiant* servers — from the high-density, ultra-thin model DL380 to the fast and scalable *ProLiant* 8500 8-Way system — supplied the right technology, range of products and price/performance ratio to meet and exceed our Microsoft Exchange 2000 requirements,” says Kevin McCuiston, group product manager, .NET Enterprise Solutions Group, Microsoft Corporation. “We’ve used Compaq servers at our company since 1989. Through our history with Compaq products we had the operational knowledge in place to help us through the phases of Microsoft Exchange 2000 beta tests, and we run the company’s messaging solution on this platform.”

For the Microsoft Exchange 2000 deployment, the software giant selected three types of Compaq *ProLiant* servers. For its small-mailbox server

(250 mailboxes), Microsoft deploys the *ProLiant* ML570 server with two processors; for its medium-mailbox server (1,000 mailboxes), Microsoft uses the *ProLiant* ML570 server with four processors; and for its large-mailbox server (greater than 3,750 mailboxes), Microsoft employs the *ProLiant* 8-Way server with eight processors.

“We worked for well over a year on the planning, design and deployment of our Microsoft Exchange 2000 project,” recalls Walsh. “Compaq played a key role, supplying the server and storage platform of choice for the messaging environment. The result is a model implementation that delivers new capabilities to our users, and considerable savings to our bottom line through server consolidation.”

Controlling the storage environment

To create a scalable, high-performance data-storage infrastructure for its large-mailbox implementations, Microsoft chose Fibre Channel-based Compaq *StorageWorks* Modular Array 8000 (MA8000) Storage Area Network (SAN) enclosures with 18 GB drives. These modular storage arrays are attached to *ProLiant* 8500 8-Way servers running the Microsoft Windows 2000 Advanced Server operating system. Each modular array system provides redundant Compaq *StorageWorks* HSG80 controllers for failover protection. The controllers link independently to a redundant SAN fabric, implemented using a switched Fibre Channel topology.

“The design of the storage environment was the most important and complex part of the Microsoft Exchange 2000 large-mailbox server implementation,” explains Walsh. “The Compaq *StorageWorks* MA8000 series SAN enclosures provide a viable solution for our Microsoft Exchange 2000 mailbox storage needs.”

For small- and medium-mailbox implementations, Microsoft uses Compaq

ProLiant server models DL380 and ML570 — small-footprint servers, which use internal Smart Array 4200 controllers.

Outstanding service and support

Microsoft ITG also used the expertise available from Compaq Global Services. Since 1996, Compaq implemented more than seven million Microsoft Exchange seats worldwide, making it the premier provider of Microsoft Exchange deployment and infrastructure services. Microsoft recognized Compaq’s leadership in this arena by naming Compaq as “Global Services Partner of the Year” in 2000. Compaq remains the only partner to earn Microsoft’s “Prime Integrator” status for Microsoft Windows 2000 and Microsoft Exchange 2000 software. This is one reason that Compaq Global Services provides on-site technical support to ITG at the Microsoft campus.

Partners for more than 15 years, Microsoft uses Compaq servers and storage systems in its business, while Compaq relies on Microsoft software as a fundamental part of its corporate-computing environment. “Microsoft’s continuing strategy is to implement complete solutions — rather

than just hardware — just like our enterprise software customers,” says John Overholt, director, global networking and systems engineering, Microsoft. “As such, Compaq brings unique value and strengths to the relationship. “Compaq is well-qualified to provide the storage and server infrastructure for our business-critical mail, messaging and collaboration infrastructure.”

Insight for system managers

ITG employs Compaq *Insight Manager™* software extensively to monitor server hardware and correlate events from third-party management applications. For example, Compaq *Insight Manager* tools integrate closely with Microsoft Operations Manager software, which reduces operational costs.

The Microsoft Exchange 2000 project is a huge and highly visible one for Microsoft. “ITG knows firsthand the importance of robust technology solutions and thorough support services,” concludes Overholt. “Compaq’s dedication to providing complete solutions — including global support — makes Compaq a solid technology vendor for our Microsoft Exchange 2000 implementation.”



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- > 550+ global enterprise customers
- > 3500+ Microsoft Certified Engineers
- > 850 dedicated Exchange Solution Integration experts worldwide
- > Compaq *ProLiant* servers — the platform of choice for Exchange with more than 55% market share across all industries
- > 24 x 7 leadership — through highly available, reliable systems based on clustering and SAN technologies
- > Compaq solutions architects have published several new books and many white papers on Microsoft Exchange 2000; go to: compaq.com/activeanswers
- > A road map to move you from your present version of Exchange to Exchange 2000
- > Compaq has enlisted best-of-breed partners to ensure a secure and powerful Exchange environment
- > Continuing investment in engineering resources to expand the existing messaging framework — by adding voice, collaboration and wireless applications

Profit from Compaq experience and expertise

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