Daiwa Securities SMBC Hong Kong Ltd.

CHALLENGE	SOLUTION	BENEFIT
Create a flexible, cost-effective IT infrastructure to enhance staff productivity and facilitate corporate growth	Distributed computing environment running Microsoft® Windows® 2000 and Microsoft SQL Server 2000 on Intel® Xeon™ processor-based Dell™ PowerEdge™ servers, and a Dell | EMC FC4700 array in a storage area network (SAN)	Dramatic productivity gains from increased speed and customization; greater power and scalability; increased storage capacity and expedited backups; superior pricing and performance

Trading up

Daiwa Securities gets bullish in its latest investment: a Dell-Intel-Microsoft distributed computing system and a Dell | EMC storage area network

You have to spend money to make money—every investor knows that. The trick, of course, is knowing just how to spend it. For any firm that wants to be a serious contender in the fiercely competitive world of financial services, IT must be at the top of the priority list. Firms know that IT is an area in which it does not pay to skimp.

As economic pressures put the squeeze on budget items across the board, even IT departments feel the pinch. That's why Daiwa Securities SMBC Hong Kong Ltd. is constantly on the lookout for efficient, cost-effective technologies to help the firm keep pace with market requirements and the demands of the investment community. Daiwa Securities SMBC is an alliance between the wholesale division of the former Daiwa Securities Co. Ltd. and the Sumitomo Bank, Limited—one of Japan's largest and most significant financial institutions. The firm's sales and trading activities include equities and fixed income securities as well as a full range of investment banking services such as mergers and acquisitions, initial public offerings (IPOs), and structured financing and underwriting.

"Our business relies heavily on timely information and analysis," says Derek Hsu, vice president of the IT department at Daiwa. At the same time, Daiwa needs to keep its total cost of ownership (TCO) as low as possible while achieving the maximum return on its IT investments.

Recently, Daiwa decided to install a distributed computing infrastructure to replace its specialized proprietary mainframe system. Maintenance and support costs for the mainframe network held the potential to drain Daiwa's precious IT budget, and the company believed that it could cut costs by moving IT operations to cost-effective, standards-based hardware.

Hardware and software to fit the bill

Daiwa Securities set high standards for its new distributed computing infrastructure. Hsu authored strict guidelines that named high return on investment (ROI) and lower TCO as essential prerequisites for any new IT venture at Daiwa—especially one so vital to the firm's success.

To pass muster, new IT investments must demonstrate their superiority in a variety of areas: New systems must incorporate the best technology and services offerings on the market, with an emphasis on a high-performance architecture; vendors must provide the highest level of 24×7 support obtainable; and the system must prove its cost-effectiveness by providing the maximum return for the lowest lifetime cost.

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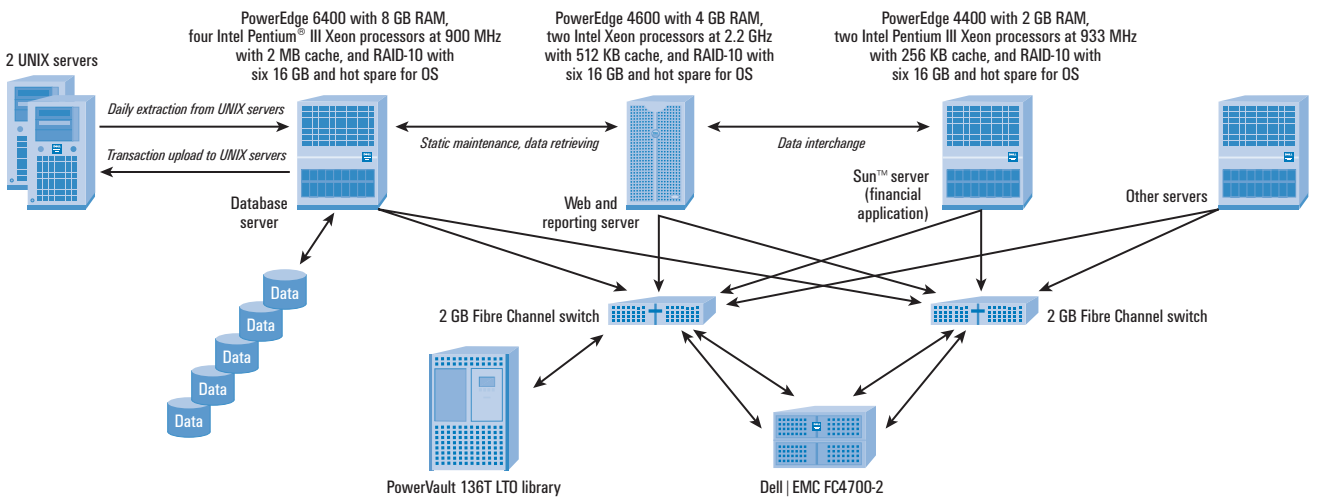

Daiwa Securities uses a distributed computing environment and a SAN to support business growth while achieving optimum TCO and process efficiency

After a lengthy and thorough evaluation, Daiwa's careful scrutiny led to two big names in the enterprise computing industry. "The Dell-Microsoft combination best meets our requirements," Hsu says.

Daiwa tests the waters

Although Daiwa had used UNIX®-based applications for its trading and settlement functions, the firm wanted to use a platform based on the Microsoft® Windows® 2000 operating system for its subsystems and back-end applications such as database management, e-mail, accounting, and Web functions. "Our evaluation provided compelling results and demonstrated that Windows 2000 was the optimum solution for our needs," Hsu says, noting that Microsoft's worldwide presence also was a key factor in this decision.

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>
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> Vice President of IT
> Daiwa Securities

Database speed was a critical element of the new system. "Our query for trading-related subsystems is very complicated," Hsu says. Before making its decision, Daiwa ran internal benchmarks—one of which demonstrated that Microsoft SQL Server 2000 ran twice as fast as its leading UNIX-based competitor on a similar database structure and hardware configuration. "We found SQL Server much faster than other UNIX-based database applications," Hsu says. He also observed a quantum leap in performance from Microsoft SQL Server 7.0 to SQL Server 2000.

When Hsu was ready to choose a hardware platform, he was impressed with Dell™ PowerEdge™ server design and quality, which he judged as "much better than the competition." He especially valued the chassis design and server architecture, which optimizes the Intel® processors. "We have used Dell PCs in the past, but we have not had much experience with Dell servers," Hsu says. "With the launch of its PowerEdge 4300[1] server, however, Dell has achieved remarkable results. We had a good feeling about Dell servers."

Compatible technology works as a team

From the very beginning, deployment of Daiwa's new infrastructure was a smooth ride. Hsu attributes the success of the implementation to the "harmonization" of Intel processor-based Dell hardware, Microsoft software, and applications developed in-house.

Daiwa installed a network of Dell PowerEdge Web and application servers running Windows 2000. The application servers host Microsoft SQL Server, Microsoft Internet Information Services (IIS), Microsoft Exchange, and the Daiwa intranet. These servers also host specialized accounting and reporting applications developed in-house.

[1] Newer models are available at http://www.dell.com.

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A Dell PowerEdge 6400[1] server that has four Intel Xeon™ processors and 8 GB of memory functions as the core database server for the settlement department, finance department, and the front desk. A PowerEdge 4600 server with two Intel Xeon processors and 4 GB of memory is the corporate intranet reporting server.

Next stop: Storage consolidation

In a market sector as dynamic as financial services, firms always must be prepared for continued—and sometimes rapid—expansion. To support such growth spurts, Daiwa Securities knew that it needed a more effective, well-managed centralized storage and backup system. According to Hsu, the company's previous backup "required two tapes, and even then we did not have a full image of the operating system and database."

Daiwa evaluated various Fibre Channel–based storage options and selected the Dell | EMC FC4700 storage array because of its price, performance, and protection value when used in direct attach storage or large storage area network (SAN) environments. The scalable architecture and 2 GB Fibre Channel option of the FC4700 help enable quick deployment and seamless expansion—from gigabytes to terabytes—to accommodate unpredictable storage growth. Comprehensive management software helps facilitate top-notch information protection and streamlined administration.

The new SAN has allowed Daiwa to consolidate its storage and backup systems, providing a full image of its entire database on just one tape. "With the Dell | EMC solution, we will be consolidating two to three tape backup systems into one," Hsu says.

Once the system is fully installed, Hsu expects to achieve a 20 percent gain in I/O performance compared to the company's previous SCSI internal storage that had a RAID-5 + 0 configuration. Hsu says that backups from the SAN to Linear Tape-Open™ (LTO™) technology using the Dell PowerVault™ 136T tape backup library will help to slice previous backup times in half.

Daiwa takes stock of the results

Using the new system, Daiwa generates vital business reports much faster than in the past. "As we deployed Dell and Microsoft, we immediately achieved 50 percent improvement in response time," Hsu says. Daiwa also expects its Dell | EMC SAN to deliver impressive performance gains.

The Dell-Intel-Microsoft solution has resulted in lower costs. "Development cost has been minimized. We are also able to utilize our human resources more effectively," Hsu says. In addition, the new infrastructure has raised staff productivity because now users can create and tailor reports to meet their needs. "Reports are generated twice as fast as before. That is a major benefit because our business relies heavily on timely information and analysis," Hsu says. "Users have greater flexibility in changing parameters to retrieve and output the reports they want quickly."

After the success of the Dell-Intel-Microsoft implementation, Hsu says Daiwa may cluster its Dell servers to meet the company's expanding database needs and help enhance disaster recovery.

Immediate results from the Dell system have proven to Hsu that Daiwa's server investment was sound—a finding that Hsu expected from the start. "We really appreciate Dell's efforts to constantly improve its server product line," Hsu says. "Complemented by a strong storage portfolio, we are confident of Dell's design quality and commitment to the enterprise. We often keep abreast of offerings by other vendors by checking out their Web sites. So far, Dell's design is still the best."

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http://www.dell.com/servers