Delivering the American dream

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All American homeowners can remember the joy they felt the first time they read the words, "Your mortgage has been approved." For most of us, it was like a dream come true.

Countrywide Home Loans is dedicated to delivering the dream of home ownership all across America. In fact, the company's vision inspired its name: Countrywide was founded in 1969 with the ambitious goal of creating a nationwide presence. Surpassing this goal, Country- wide now has operations in 50 states and international initiatives in the U.K. and other countries.

Based in Calabasas, California, Countrywide Home Loans is the largest subsidiary of Countrywide Credit Industries, Inc. Countrywide Home Loans is a leader in residential finance and a global provider of financial services.

A front-runner in technology as well as service, Country- wide employs the latest technology from Compaq Computer Corporation and Microsoft Corporation to fulfill its commitment of providing customer service that is fast, friendly and personalized.

An innovative vision

When Countrywide founders looked at the mortgage industry, they saw people going into banks to apply for loans and waiting a week or more for answers. To get closer to the customer, Countrywide put loan offices in strip malls, staffed them with customer-focused people who knew the local area, and provided pre-approvals right on the spot.

The American public embrac- ed this concept. In 1985, Countrywide had 600 employ- ees and a loan portfolio of $2 billion. Today, the company has over 15,000 employees and a loan portfolio of more than $300 billion.

Technology from Compaq and Microsoft has been an essen- tial part of Countrywide's success. Bob Lirag, First Vice President — Client Server Services, Countrywide Home Loans, explains, "We have a reputation for being quick on our feet. One of the reasons is our ability to quickly imple- ment technologies from Compaq and Microsoft — which gives us the capability to analyze business situations quickly and accurately, and adjust our operations accordingly."

Quality is its own reward

A Compaq customer since 1993, Countrywide has standardized on a Compaq platform — from laptops to 8-Way servers. Lirag explains, "The reasons we prefer Compaq equipment are quality and reliability. With other brands, our engineers can end up spending time working on such trivial mat- ters as just aligning expansion cards on the slots. With Compaq servers, they just slide in. That's a sign of quality. And other than the expected wear and tear, they function flawlessly."

Countrywide's London operations recently started replacing their existing servers with Compaq *ProLiant*™ servers. "Some of them were being rebooted as many as 20 times a day — so you can imagine the impact on the business," says Lirag. "They were a lot cheaper to buy, but you could tell the difference in the quality of the box. With Compaq servers, perfor- mance has dramatically improved, and so has the stability. Manageability is another plus with Compaq servers. Compaq *Insight Manager*™ and NetIQ are a vital part of our operations."

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Bob Lirag, First Vice President — Client Server Services, Countrywide Home Loans

Getting the biggest bang for the buck

Countrywide has used Microsoft SQL Server on a Compaq platform since it was first released in 1994. "We looked at all the database applications available," recounts Lirag, "and for the client/server environment, the biggest bang for the buck was definitely Microsoft SQL Server. It offers the lowest TCO and ease of management and deployment."

Today, Countrywide uses SQL Server for data warehousing, data mining and Internet services. "We use Microsoft's OLAP (OnLine Analytical Processing) engine on SQL Server as our standard data analysis tool. Management relies heavily on OLAP-based systems as part of the decision-making process," says Lirag.

Countrywide is completing the move from SQL Server 6.5 to 7.0, and has started to implement SQL Server 2000. According to Lirag, the big change was from 6.5 to 7.0. Moving to SQL Server 2000 is relatively easy. "SQL Server 7.0 provided a dramatic improvement in terms of lower cost of ownership over 6.5. Prior to moving to 7.0, SQL alert events — which

typically require us to manually intervene — averaged about 230 a week. Now that we've hit over 80 percent conversion with 7.0, we're down to five a week."

Lirag continues, "Microsoft SQL Server on Compaq ProLiant servers is light-years ahead of any database engine in terms of administration. With the new version, we've practically doubled our server work load, while significantly reducing staffing requirements."

SQL Server 2000 will offer Countrywide even more benefits. Increased scalability, reliability and performance, the ability to create multiple instances of SQL Server in the same server, the ability to federalize a database, new data mining/analysis functions and improved data administration tools are just some of the enhancements found in SQL Server 2000.

Major league data storage

To accommodate its exponentially growing farm of SQL Server databases — which is now around 15 terabytes — Countrywide is considering an enterprise SAN solution. A SAN will save Countrywide money because one physical device will replace the mini-SANs presently attached to

each cluster. It will also make the backup and restore process lightning fast.

Lirag explains, "We are often asked by the different business units to back up one server and restore in another server. That could take from one to three days. With a SAN environment, that request could be fulfilled instantaneously because we can just drag and drop files from one partition to another."

Profiting from Web technology

Always an early adopter of emerging technologies, Countrywide has taken its business to the Web and is one of the largest Web-based mortgage originators in the world.

For its Web environment, Countrywide uses Compaq ProLiant servers running Microsoft IIS Web Server. They connect to separate servers running SQL Server. If customers log on to apply for a loan or check the status of their account, the system seamlessly provides information on the spot. The Countrywide IT team provides system redundancy for these Web servers by setting multiple servers in a server farm topology — so if one goes

Business benefits:

> *High availability* — *ensures that customers and employees have 24 x 7 access to critical data*

> *Scalability* — *meets constantly growing business demand by scaling up and scaling out for increased performance*

> *Price/performance* — *provides the industry's lowest cost per loan*

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What makes it work:

> **Hardware:** Compaq *ProLiant* DL580, DL380, 1850R and *ProLiant* 8500 8-Way servers; Compaq *Armada™* portables, Compaq *DeskPro™* desktops

> **Software:** Microsoft SQL Server, Microsoft Windows 2000

> **Storage:** Mini-SANs of Compaq *StorageWorks™* MA8000 and MA4100 systems for each cluster

> **Compaq Global Services:** Assistance in configuration of SQL Server services and rolling out new generation of the product; hardware and storage software maintenance

down, there's another ready to take the request and seamlessly send it to the SQL server. Since this setup also provides for load balancing functions, no single server is overwhelmed by heavy loads. Countrywide currently has more than a dozen cluster servers and is adding an average of two a month. In addition to server farms, Countrywide takes advantage of clustering for high availability.

This Internet technology has brought compelling advantages to both Countrywide and its customers, who can access critical data anytime, anywhere — even from a Personal Digital Assistant (PDA).

One major advantage of Web technology is enterprise-wide data sharing. Lirag explains, "Two years ago, each department had stand-alone islands of data. Now data is being shared across the enterprise. With our Web-based systems, we can close loans an order

of magnitude faster than anytime in the past."

Another advantage is cost savings. For example, two years ago Countrywide's Wholesale Lending Division conducted all of its business through the branches, which is a very expensive business model. Today, Web business accounts for more than 80 percent of the total volume — at a substantially lower cost per loan. In one month recently, this division funded almost 23,000 loans totaling over $3 billion on the Internet. This application employs Compaq servers running Windows NT, IIS and SQL Servers on the back end.

The current trend at Countrywide is to consolidate existing servers to larger, more powerful ones. There are hundreds of departments in Countrywide, and each typically has its own mini-IT department specifically focused on writing applications.

Going wireless

While Countrywide currently offers wireless access to customers who can get loan applications and information through their PDAs, the company hopes to be able to manage its SQL Server environment using PDAs as well. "That would increase our options in managing our systems from outside the database administrator's cube," quips Lirag.

Other future plans include server consolidation via Windows 2000 DataCenter edition, continuing the move to Windows 2000 and SQL Server 2000, adding more clusters and moving to an enterprise-wide SAN environment.

While Countrywide will continue to be on the leading edge of emerging technology, one guiding principle will never change: Countrywide will continue to champion the dream of home ownership.

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