CSS BOOSTS WORKER PRODUCTIVITY, SLASHES COSTS BY RUNNING LOTUS NOTES AND DOMINO ON RED HAT ENTERPRISE LINUX

FAST FACTS	
Company	CSS Corp.
Industry	Information Technology
Geography	Global, headquartered in San Jose, California
Opportunity	To reduce IT costs and increase user productivity by improving the performance and eliminating downtime of Lotus Notes and Domino applications being used throughout the worldwide enterprise.
Migration Path	Microsoft Windows to Red Hat Enterprise Linux.
Software	Red Hat Enterprise Linux, Red Hat Satellite Server, Lotus Notes, Lotus Domino.
Hardware	64 servers, divided between Dell 2950s, HP DL380s, and IBM X3650s and desktops.
Benefits	Dramatically improved application performance for users, improving their productivity while freeing up IT resources to focus on more strategic issues for the business.

CSS
Cybernet - SlashSupport

BACKGROUND

Founded in 1996, Cybernet-SlashSupport (CSS) Corp. is a leading provider of global technology operations management services. With more than 5,000 employees working in offices throughout North America, Europe, and Asia, CSS' mission is to foster a 100 percent satisfied customer base, and is committed to building long-term client partnerships that maximize system quality, availability, and reliability. CSS has two business units: Cybernet Software Systems is a business and technology solutions provider specializing in software design, development, and sustenance services to enterprises and independent software vendors (ISVs); SlashSupport provides technical support services to enterprises.

OPPORTUNITY

As a leading global information technology (IT) firm providing software development, support, and consulting services, CSS needed its business and technology

professionals to work at top efficiency. Priding itself on eliminating excess expense and operational inefficiencies from client engagements, CSS needed to do the same internally. And as the entire 5,000-employee organization used Lotus Notes and Domino applications running on Microsoft Windows to communicate and collaborate on key business and technical processes, the reliability and performance of those applications was a critical aspect of its ability to succeed.

These applications included critical human resources systems such as the basic employee information database, the travel management system, the performance appraisal system, and the bills tracking system. Also on Lotus Notes and Domino were mission-critical financial systems including budgeting, procurement, and financial concurrence systems. Lotus Notes and Domino were also used for important administrative systems such as the electricity consumption and telephone bills trackers.

All in all, the company was extremely dependent on Lotus Notes and Domino applications. Any downtime of any of these systems directly and severely impacted the day-to-day operations of CSS. "And given the fact that CSS is a global company, it was essential that these systems be available round the clock," said S.Pranatharthi Haran, Practice Head, IBM Services, CSS Corp.

But these important Notes and Domino applications were plagued with performance and reliability problems. First installed in 2001, the Windows servers frequently crashed and needed to be rebooted, making critical applications unavailable to users at times of high business urgency.

Frequently, our Windows machines' CPU and memory utilization would go up to 100 percent due to our viruses and memory leakages in the system," said Haran. "When this happen, our internal applications would go down, which had very serious implications for our business."

Then there were performance issues. The applications often ran slow or froze altogether, making it difficult for CSS' professionals to get their jobs done.

"Over time, the performance of the systems were getting slower, and the server was hanging more and more often," said Haran. "It was really impacting our users' daily activities."

On the IT side of the house, CSS IT professionals were spending a great deal of their time putting out fires and dealing with tactical systems issues rather than devoting themselves to issues that were more strategic to the business. Patch management was an especially thorny problem: the CSS IT team had to spend eight to nine hours per month installing Windows patches alone – this in addition to other server-related maintenance tasks.

"Every 15 days, Microsoft would release the patches for Windows servers and service packs," said Haran. "These patches needed to be tested in our lab before being deployed, which consumed a significant number of our personnel hours on a regular basis."

All this time, CSS was growing into new territories and countries, and it was the responsibility of our IT division to get the new locations, premises, and people up to speed as soon as possible. "That's IT's primary agenda. Yet because of these server-related issues, the majority of our IT professionals' time was spent taking care of problems rather than these other key, more strategic tasks," said Haran.

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– S. Pranatharthi Haran
Practice Head
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SOLUTION

After experiencing numerous crashes and deteriorating performance for more than two years, CSS decided to migrate from Windows to Linux platform. It put three versions of Linux through their paces: Red Hat Enterprise Linux; SUSE Linux from Novell, and Debian, from Ubuntu, paying special attention to patch management, resource utilization, and security concerns with Domino client access.

CSS is also transforming its desktop strategy by moving to the IBM Open Collaboraiton Client powered by Red Hat Enterprise Linux Desktop. This new environment gives CSS a more secure and cost effective Microsoft desktop alternative that provides a pathway to the future.

One of the main reasons that CSS chose to go with Red Hat was the quality of the support. In the past CSS had had experiences with SUSE support, but "the support that Red Hat provides is legendary in the open source industry. We didn't have to think twice," said Haran.

BENEFITS

CSS has experienced significant benefits from the migration from Windows to Red Hat Enterprise Linux. For starters, application performance was dramatically improved – between 30 percent and 40 percent. The reliability of the applications was also boosted considerably – since the migrated 2.5 years ago, CSS hasn't experienced any server crashes under Red Hat Enterprise Linux.

On the desktop front, switching over to Linux has significantly improved the performance of Lotus Notes and Domino-based applications. A robust operating system on the server side coupled with an improved graphical user interface has significantly lessened the learning curve for users, reducing the need for training and substantially increasing productivity.

Migration to Red Hat Enterprise Linux couldn't have gone more smoothly, said Haran. It only took 30 days for three engineers to migrate application servers with more than 230 applications and databases, and seven days for them to migrate a mail server with more than 2,000 mailboxes.

Users have been most appreciative, as their productivity has shot up under Red Hat Enterprise Linux. For example, the recruitment center application depends on manual data entry by temporary employees. In Windows, employees were able to create and update 30 documents per hour. Under Red Hat Enterprise Linux, they were able to process 66 documents per hour.

Red Hat Enterprise Linux has also allowed CSS to optimize its use of hardware. "Using VMware, we were able to create a number of virtual machines under Red Hat Enterprise Linux – I could consolidate eight different Web server applications onto a single server in a single operating system," said Haran. "This not only saved us money, but provided for high availability."

The industry-renowned Red Hat support provided during the migration period was excellent, said Haran. "Once, one of our key applications wasn't working properly, so we called Red Hat. Their engineers actually provided us with some custom code that solved a very complicated problem we were having," he said.

From a sheer cost perspective, Red Hat Linux has turned out to be a boon as well. Each Red Hat Enterprise Linux server costs just $1,500 as compared to $2,700 per Windows server.

Most significantly, CSS' precious IT resources were freed up to focus on more strategic issues. Today, updating the Red Hat Enterprise Linux servers with new patches takes just one to two hours a month rather than eight to nine hours per patch required under Windows. And there have been any number of intangible benefits, as well, said Haran.

"In our business, time is money," he said. "We work on projects on an hourly basis, and have to give our clients accurate estimates of the number of person hours a project will take. Our success is based upon bringing projects in on time and under budget. With Red Hat Linux driving our Lotus Notes and Domino applications, we keep our clients happy while maximizing profitability."

"Because of the difference in performance and reliability running Lotus Notes and Domino on Red Hat Enterprise, we are going back to our customers who run Notes and Domino applications and convincing them to switch as well," said Haran. "The IBM-Red Hat partnership is a win-win situation for all concerned."

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