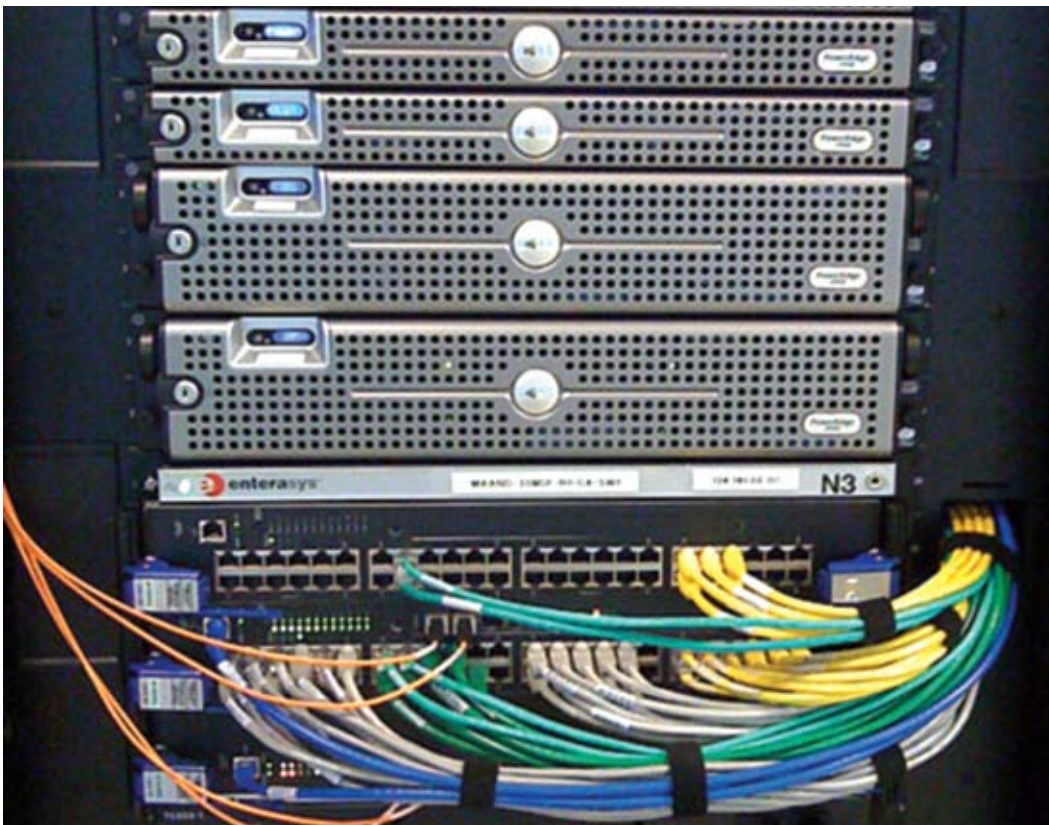


A MOVING EXPERIENCE

A virtualized infrastructure built on Dell servers and storage enables Enterasys to migrate to a new data center in just six weeks and saves an estimated US\$300,000 a year



Thousands of businesses and government agencies rely on Enterasys for switches, routers, and other essential networking equipment. Built-in security features have spurred demand for Enterasys products as more organizations focus on protecting the confidentiality and integrity of IT services. But while the company's products gained visibility in corporate data centers around the world, the Enterasys headquarters staff was challenged to showcase those products in action because the company's data center was hosted at a facility miles away.

SOLUTIONS

- BACKUP/RECOVERY/ARCHIVING
- CLUSTERING
- CONSOLIDATION
- VIRTUALIZATION



CUSTOMER PROFILE

COUNTRY: United States

INDUSTRY: Technology

FOUNDED: 1983

NUMBER OF EMPLOYEES: 800

WEB ADDRESS: www.enterasys.com

CHALLENGE

High co-location costs prompt Enterasys to move its data center infrastructure in-house, but the IT team faces power and cooling constraints, as well as a challenging deadline.

SOLUTION

The IT team meets the deadline and cuts operating costs by virtualizing on Dell™ PowerEdge™ servers and Dell EqualLogic™ iSCSI storage arrays.

BENEFITS

Get IT Faster

- Virtualizing on Dell hardware enables the IT team to move into a new data center in only six weeks, transferring 80 servers in two-and-a-half hours
- The IT team can now deploy new servers and applications in hours instead of weeks
- Dell EqualLogic arrays enable the team to add storage in half an hour, not half a day

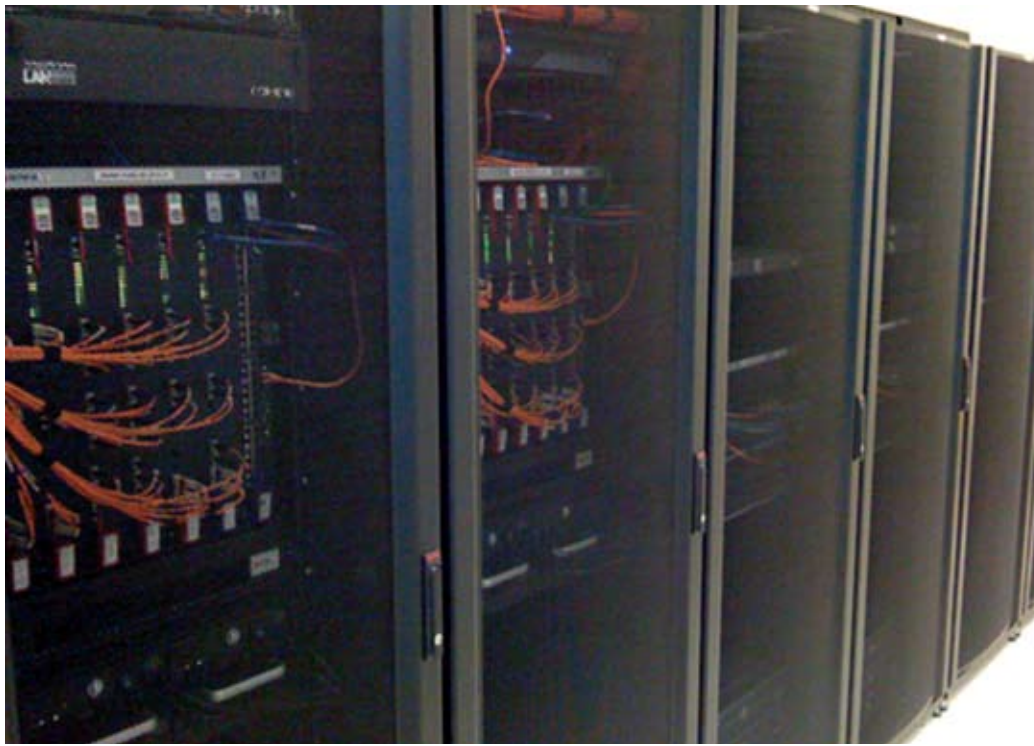
Run IT Better

- Server consolidation helps reduce power usage, saving approximately US\$60,000 per year
- Ease of managing Dell PowerEdge servers helps reduce IT administrative time, saving an estimated US\$75,000 annually
- Consolidating on Dell servers reduces the need to purchase new hardware, for a projected savings of US\$150,000 per year

Grow IT Smarter

- Virtualized Dell infrastructure allows the IT team to easily accommodate future growth and provides the flexibility to continue to use cutting-edge IT technology as a differentiator in the marketplace





HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 1950 servers with quad-core Intel® Xeon® processors
- Dell EqualLogic™ PS5000 Series SAN arrays

SOFTWARE

- Dell OpenManage™ application suite
- Microsoft® Windows Server® 2008
- Red Hat® Enterprise Linux®
- VMware® ESX Server

“IF YOU ADD UP ALL THE SAVINGS IN REAL ESTATE, POWER, COOLING, NEW SERVER PURCHASES, AND MAINTENANCE COSTS, IT AMOUNTS TO AN ESTIMATED COST REDUCTION OF OVER US\$300,000 PER YEAR WITH OUR DELL VIRTUALIZED DATA CENTER.”

Dan Petlon, vice president, IT and quality assurance, Enterasys

The Enterasys management team decided it was time to move the IT infrastructure in-house. “Our equipment has unique priority and security advantages in a data center environment,” explains Dan Petlon, vice president of IT and quality assurance at Enterasys. “We wanted to have the infrastructure back here at headquarters so customers and partners could see our business leveraging those advantages. We could share our experiences on how we aligned our technology infrastructure to be more responsive to our communications-enabled business processes.”

HIGH CO-LOCATION COSTS AND GROWING PAINS

Another factor prompting the move was the prospect of eliminating hosting fees. “Our data center was co-located at a service provider in Boston, and that is expensive real estate,” says Petlon. “The cost was getting too high, in the neighborhood of US\$600,000 a year.”

The company was also beginning to outgrow the aging servers and limited storage in the remote data center. “Moving to a new data center presented a great opportunity to update some of our computing and storage infrastructure,” says Dan Wakefield, manager of IT operations at Enterasys. “For example, we were running out of capacity, and our Fibre Channel storage area network (SAN) was difficult to manage. Simply adding more space to a volume required sending out a technician for half a day.”

Wakefield’s team began planning the move and quickly discovered some constraints. “We had 150 servers to bring in-house but were limited by the availability of power and cooling,” says Wakefield. “We decided that we would virtualize to reduce the size of the data center so that it would fit within the power and cooling budget for the floor space in our headquarters building.”

The IT team had just decided to use virtualization when Wakefield received a letter from the co-location provider. The letter stated that Enterasys needed to vacate the provider’s facility in 45 days so that another tenant could expand. “Instead of having six or seven months to plan and implement our move, suddenly we had only six weeks,” says Wakefield. “We needed to jump-start the process.”

ENTERASYS SELECTS DELL TO HELP DESIGN A SOLUTION

Wakefield turned to their local Dell account team. The IT team had been using Dell servers for over four years and was confident in the Dell team’s expertise. “They have a history of providing us with good, sound advice, and we’re more than happy with the Dell gear,” says Wakefield. “Tools like Dell OpenManage enable us to easily monitor our server infrastructure, which gives us an added feeling of comfort with Dell systems.”

“THE DELL EQUALLOGIC ISCSI SAN HAS ENABLED US TO EASILY AND ECONOMICALLY ADD DISASTER RECOVERY PROTECTION THAT WE DIDN'T HAVE BEFORE.”

Dan Wakefield, manager of IT operations, Enterasys

The IT team chose VMware for its virtualization software, and Dell engineers met with a team from VMware to design a solution. “The fact that Dell, Enterasys, and VMware have a great working relationship made it easy to get everyone in the same room fast,” says Wakefield. “They came back with a proposal of a VMware ESX Server running on Dell PowerEdge servers, with Dell EqualLogic iSCSI SANs. They designed it just right, and we quickly approved it.”

DELL POWEREDGE SERVERS PROVIDE PERFORMANCE AND FLEXIBILITY

The IT team needed more processing capacity to keep up with the company's business growth and to meet the high availability requirements of its service-level agreements. The team also wanted to maximize the number of virtual machines on each server. “The Dell PowerEdge 1950 with two Intel quad-core processors gave us all the power we needed,” says Wakefield. “We went with 12 network ports per server to give us the flexibility required to implement our network security solutions and demonstrate our products.”

DELL EQUALLOGIC ISCSI ARRAYS SAVE MONEY WHILE DOUBLING STORAGE SPACE

Wakefield's team decided on Dell EqualLogic PS Series SANs as a simpler, less costly alternative to its previous Fibre Channel arrays. The PS Series SANs use the iSCSI protocol and do not depend on the specialized equipment required by Fibre Channel storage. “It was less expensive to double our storage space with an iSCSI solution than it was to expand our previous storage by 30 percent and renew our old service agreement,” says Wakefield. “We also completed weeks of in-depth testing to make sure that the iSCSI technology would be able to support our enterprise environment. The PS Series more than met our performance and reliability requirements.”

DELL EQUALLOGIC SANs SIMPLIFY MANAGEMENT AND ENABLE DISASTER RECOVERY

Wakefield's team is also pleased with the management capabilities of the Dell EqualLogic PS Series SANs. “The iSCSI arrays are so easy to manage,” says Wakefield. “We can add more space in just minutes—it's as easy as right-clicking on a volume and pushing a button. We would have bought the Dell iSCSI storage arrays because of the easier administration alone, but they have provided much more, including a simple new way to deploy additional disaster recovery facilities.”

The IT team uses the PS Series native replication feature to automatically make copies of data and send the copies to a remote site. The auto-replication feature integrates directly into the IP network, overcoming distance limitations and allowing Enterasys to locate the recovery site in another state to ensure business continuity. “We've been able to set up a single recovery site serving all of our production and development clusters and use shared, virtualized resources at the recovery site,” says Wakefield. “The Dell EqualLogic iSCSI SAN has enabled us to easily and economically add disaster recovery protection that we didn't have before.”

VIRTUALIZED DELL INFRASTRUCTURE HELPS MOVE 80 SERVERS IN TWO-AND-A-HALF HOURS

Enterasys used the Dell EqualLogic PS Series SANs and VMware running on Dell PowerEdge servers to streamline the move and meet their deadline. Prior to the move, the IT team deployed PS Series arrays to establish replication capability between the Boston co-location facility and the new data center at Enterasys headquarters. The team then converted most of the existing physical servers to virtual machines and replicated them at the new site. “We had Dell PowerEdge servers running

VMware ESX at both ends and used them to bring up virtual servers at our new data center,” says Wakefield. “We moved 80 virtual servers in about two-and-a-half hours. When we cut over to the new data center, there were no problems.”

CONSOLIDATING ON DELL POWEREDGE SERVERS SAVES AN ESTIMATED US\$173,890 PER YEAR

Virtualizing on powerful new Dell servers has enabled the IT team to consolidate its data center resources into smaller, more efficient clusters—a business application cluster, a development cluster, and a cluster for the company's external Web presence. The consolidation has eliminated four racks of physical servers, freeing up data center space worth an estimated US\$23,890 in annual savings. For example, one cluster of six Dell PowerEdge servers now runs business applications that previously required more than 100 physical servers. Consolidating on Dell servers also reduces the need to purchase new hardware, for an additional projected savings of US\$150,000 per year.

POWER AND COOLING COSTS REDUCED BY APPROXIMATELY US\$60,000 PER YEAR

Consolidation and energy-efficient Dell servers have enabled the Enterasys IT team to reduce power usage and air conditioning needs and stay within the power and cooling constraints of the new data center facility. The Enterasys team estimates they are saving approximately US\$60,000 per year in power usage and cooling costs as a result. The Dell servers use energy-efficient multi-core processors, consume less energy, and generate less heat than previous generations of servers. “With more efficient servers, and with fewer physical servers required in the new virtualized data center, we estimate we are saving approximately US\$30,000 per year on power costs and another US\$30,000 annually in reduced cooling costs,” says Wakefield.

“DELL HELPED US PUT TOGETHER THE RIGHT SOLUTION, AND THAT WAS THE KEY THAT MADE THE MOVE SUCCESSFUL.”

Dan Petlon, vice president, IT and quality assurance, Enterasys

SERVER UTILIZATION RATE INCREASED FROM 5 PERCENT TO AS MUCH AS 80 PERCENT

The IT team is making more efficient use of its server resources by placing multiple virtual machines on each Dell PowerEdge server. “Previously, we had some stand-alone servers that were running only a single application, and processor utilization on those machines could be as low as 5 percent,” says Wakefield. “Now utilization rates have increased to as much as 80 percent. We are making excellent use of the processor and memory resources provided by the Dell servers to deliver IT services.”

SERVER PROVISIONING TIME REDUCED FROM WEEKS TO HOURS

The new virtualized Dell environment has reduced the time it takes to provision and deploy new servers from weeks to just hours. “In the past, there was a three- to four-week period from the time we ordered a new server to the time it was finally running,” says Wakefield. “But now I can talk to one of the server technicians, request a virtual server for a new application, and it’s ready in less than a day. We’re able to fulfill requests from our internal business units for new applications much more quickly.”

HARDWARE MAINTENANCE COSTS REDUCED BY APPROXIMATELY US\$75,000 ANNUALLY

IT administration is greatly reduced because there are fewer physical servers in the data center, saving Enterasys approximately US\$75,000 annually. “We estimate we have eliminated the equivalent of half of the maintenance work performed each week by one full-time IT employee,” says Wakefield. “That time can be spent on other projects such as back-end data center development and strategic IT planning that help advance the bottom-line goals of the business.”

A MOVING EXPERIENCE—AND OVER US\$300,000 IN ANNUAL COST REDUCTION

Enterasys now has a data center at its headquarters building that enables the company to show off its Matrix® N-Series switches, which are used to provide connectivity for the new infrastructure. The switches automate quality of service, traffic prioritization, and security configurations, enabling virtual machines to move throughout the network. “The new data center gives us the ability to demonstrate our products in actual use while delivering substantial operating cost savings,” says Petlon. “If you add up all the savings in real estate, power, cooling, new server purchases, and maintenance costs, it amounts to an estimated cost reduction of over US\$300,000 per year with our Dell virtualized data center.”

Petlon credits the planning and design provided by the Dell team with helping the data center move to go quickly and smoothly. “Dell helped us put together the right solution, and that was the key that made the move successful,” says Petlon. “They also expedited delivery of racks and other equipment from third parties. The Dell team worked with the suppliers to ensure we had everything we needed before the move. Dell understood how important this move was to us, and it gave us a great feeling to know they had us covered.”

For more information on this case study or to read additional case studies, go to DELL.COM/CaseStudies.

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