

CHALLENGE	SOLUTION	BENEFIT
Accommodate growing business volume and complexity and reduce strain on company data center	A cluster of Intel® Pentium® III Xeon™ processor-based Dell™ PowerEdge™ 6450 servers running the Red Hat® Linux® Advanced Server operating system, Oracle9i™ Real Application Clusters, and Oracle® E-Business Suite 11i	Increased cost-effectiveness, improved performance, and enhanced flexibility

Collaborating on a bright idea

Lithonia Lighting uses Dell, Intel, Oracle, and Red Hat Linux to control IT costs and keep systems growing in step with business

In 1946, Lithonia Lighting was launched in a garage in Lithonia, Georgia, not far from Atlanta. The company finished and assembled parts fabricated by other firms and sold them locally. From that simple start, the business grew quickly, and the company moved its headquarters down the road to Conyers, Georgia, where it branched out into more and more products and acquired other lighting companies.

Today, Lithonia Lighting is one of the leading commercial- and industrial-lighting fixture manufacturers in the world, with some \$1.2 billion in annual sales, 22 manufacturing plants, seven distribution centers, and 8,700 employees in the United States, Canada, and Mexico. Lithonia Lighting is also the largest business unit within the lighting division of Acuity Brands, Inc.

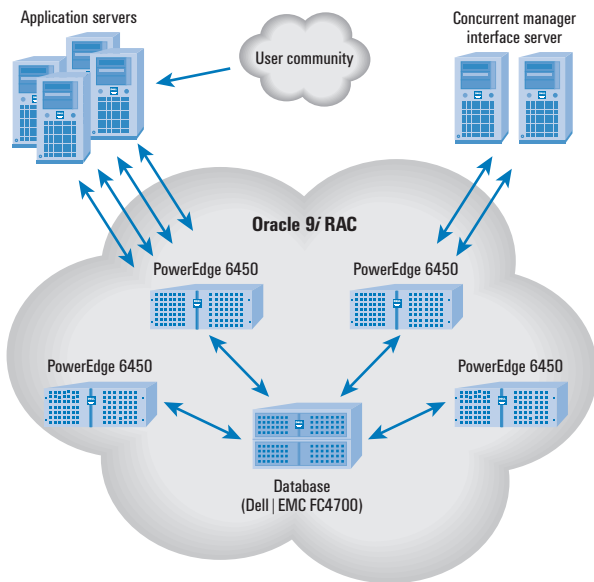
Business lights up

As Lithonia Lighting's business has grown, it also has become more complicated. In the lighting industry, price competition is tough, and customer expectations about service and selection are high. "We have a fairly broad, diversified set of products—mass

customization and high-volume assembly are the name of the game," says Jeff Kernan, executive vice president and chief supply chain officer of Acuity Lighting Group, the parent company of Lithonia Lighting. "It's an interesting challenge, with a high degree of complexity combined with a need for a relatively low unit cost and a high velocity."

To thrive in that dynamic world, the company has been quick to adopt new information technologies—and at times, it has used IT to take an innovative approach to the market. For example, when the industry tended to rely on regional manufacturers and third-party distributors, Lithonia Lighting created a national organization with its own network of sales agents and distribution facilities to serve local markets. "We determined that the best way for us to grow was to put agents and inventory into the territories and create an IT infrastructure to support that plan," says Kernan. "That approach gave our sales agents the same ability that the local manufacturers have to work with customers and develop lighting packages."

By the late 1990s, however, the volume and complexity of the company's business was putting a strain on its data center, which



Lithonia Lighting IT infrastructure

was supporting everything from finance to manufacturing inventory and facilities management for sales agents. In particular, the company’s central Microsoft® Windows NT®-based platform was topping out and running into memory-management problems. Kernan adds, “Our manufacturing systems were getting a little old, and our transaction environment was not fast enough to keep up with our cycle-time needs. We simply needed a more powerful solution to run the number of users that we now had.”

A new solution illuminates the possibilities

Lithonia Lighting began to look for a solution—and quickly decided that waiting for the 64-bit version of the Microsoft Windows® operating system “was not an option,” according to Kernan, because the company’s critical systems were at stake. The company also considered the potential of proprietary UNIX® systems—which were recommended by many advisors—but instead decided to work with Dell to explore a different solution.

The result was a new central system: a cluster of four Dell™ PowerEdge™ 6450¹ servers using Intel® Pentium® III Xeon™ processors. The cluster ran the Red Hat® Linux® Advanced Server operating system, Oracle9i™ Real Application Clusters (RAC) and Oracle® E-Business Suite 11i applications. “I think we were the first location in the world that had Oracle 11i applications running on a Linux-based Intel architecture. We were certainly an early adopter for running Oracle’s database and applications in the Oracle9i RAC environment on Intel-based servers,” Kernan says.

¹ Newer models are available at <http://www.dell.com>.

The decision to move to that clustered platform was based on several factors, not the least of which was Lithonia Lighting’s long experience with Dell technology. “We have used Dell exclusively for about 12 years,” says Phil Kilgore, director of information technology at Acuity Lighting Group. “We had a lot of experience and knowledge of what could be done on the Dell servers, and we knew that they could deliver a lot of horsepower for the money.” Beyond the technology itself, he adds, “We’ve had a very winning kind of relationship with Dell. We’ve always liked the Dell direct model, where we don’t have to go through 18 layers to get to the expert.”

Lithonia Lighting also was familiar with Oracle technology, having first implemented the Oracle E-Business Suite finance and human resources (HR) applications in 1998. “We were very successful with our initial Oracle applications, and since then, we have expanded the financial applications and will have deployed the basic HR and payroll systems in all our North American operations by the first quarter of 2003,” says Kernan.

Executives saw that the clustered, Linux-based approach would provide Lithonia Lighting with a cost-effective way to support growing workloads and maintain its strategic commitment to the Dell and Oracle technologies. As a result, Lithonia Lighting moved quickly to put the new systems in place. Drawing on the combined expertise of Dell, Intel, and Oracle, the company had the new system up and running within 90 days of making the decision. Kilgore adds, “That includes ordering the equipment, training the people, bringing up the system, converting it over, and going into production.”

The effort was helped by the Dell, Oracle, and Red Hat alliance. These companies worked in close cooperation with Lithonia Lighting to speed the deployment. According to Kilgore, “It happened fast because we all worked together as a team. We had access to the expertise that we needed. And they had their people on-site, so that when we identified any kind of issue, we were able to get quick answers.”

The switch is on

With its new platform up and running, Lithonia Lighting has the high levels of availability needed for critical applications. If one server in the cluster of four fails or needs to be taken out of service for maintenance, the other three servers will automatically take over. As a result, the cluster as a whole essentially runs nonstop.

More important for Lithonia Lighting, the platform addresses the scalability issues that prompted the company to look for a new system in the first place. The company can increase capacity by adding processors to the existing Dell servers, or it can scale



out horizontally with relative ease by adding additional servers to the cluster.

Beyond that type of fundamental support for the business, the combination of Dell, Intel, Oracle, and Red Hat technologies has benefited Lithonia Lighting's data center in several ways.

Increased cost-effectiveness. With the Dell servers, the hardware for the company's clustered solution was considerably less expensive than comparable proprietary UNIX systems, Kernan estimates. "We would have needed to hire a number of UNIX experts, which we believe would have been extremely expensive."

With the Linux-based system, on the other hand, Lithonia Lighting has been able to make good use of its existing staff, which was able to make a smooth transition from working with Windows to working with Linux. "That transition was easier than we expected, and we've been able to quickly ramp up to handle the new systems without additional staff," says Kernan.

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— Phil Kilgore
Director of Information Technology
Acuity Lighting Group

Improved performance. The clustered configuration, in which four servers work together in concert, is naturally faster than the company's single system. And according to Kilgore, the migration to Linux has also improved performance. "From what I have observed, Linux is faster than other operating systems in many ways. We've seen a significant reduction in critical batch jobs and online response times," he says.

Flexibility. Lithonia Lighting still uses the Windows operating system in its middle tier of computers and on the thousands of Dell OptiPlex™ GX260 desktop systems used by employees across the company. "We discovered very quickly that Linux integrates with


our Windows environment very well," says Kilgore. "It also fits well into our existing IP technology, which involves all of our sites, distribution centers, sales agents, and our Internet access. So the solution coexists nicely with the rest of our environment."

The company's use of the Oracle E-Business Suite also had a positive impact on the business. Today, Lithonia Lighting is using Oracle applications for finance in multicountry, multicurrency operations and HR systems, which support employees in Canada, the United States, and Mexico. Oracle manufacturing applications are being used for bills of material, routing, inventory, and manufacturing resource planning. With this suite of applications, Lithonia Lighting has been able to take a more integrated, centralized approach to managing operations—which helps increase efficiency significantly.

"The integrated nature of the applications... made this a very attractive financial and functional decision," says Kernan. "Our strategy has been to run HR, finance, and manufacturing for the entire organization on a single instance of Oracle applications. So, for example, we previously had to triple-key employee data for our HR, payroll, and manufacturing systems; today we do it only once."

A bright future

The combination of Dell, Oracle, and Linux puts the Lithonia Lighting IT infrastructure in position to handle today's workloads with speed and efficiency, and to grow as new challenges and new opportunities arise. The company's IT professionals are already laying plans for expanding the use of Linux across the company's middle tier of Dell servers, and they are exploring ways to reach customers and suppliers using the Web capabilities of the Oracle applications.

Overall, the move to a new clustered system reflects a basic philosophy of technological innovation that has served the company well, and that will continue to serve it well, says Kernan. "We have a history of being early adopters of new technologies and models, and incorporating them into our business. We believe that we should get on technology curves early and 'ride the wave'—that is, take advantage of those curves as performance evolves. I think we have done that with our use of Intel-based Dell servers and Oracle applications, and we are doing it now with our switch to Linux and Oracle9i Real Application Clusters. For the future, we plan to keep riding that performance wave with Dell, Oracle, and Red Hat." 

FOR MORE INFORMATION

Dell and Linux: <http://www.dell.com/linux>

Dell and Oracle: <http://www.dell.com/oracle>

Dell alliance with Oracle and Red Hat: <http://www.oracle.com/linux/dell>