GREATER THAN
THE SUM OF ITS PARTS

Dell PowerEdge servers and virtualization help Stoneridge reduce its server infrastructure by more than 50 percent

As a tier-one supplier to some of the largest vehicle manufacturers in the world, Stoneridge has one mission: provide parts that deliver the capabilities its customers need, when they need them, and in the most cost effective way possible. Founded in Warren, Ohio, as a contract manufacturer focused on a single customer, the company has evolved into a global organization with seven independent business units designing and manufacturing highly engineered electrical and electronic components, modules, and systems for automobiles, medium- and heavy-duty trucks, and agricultural and off-highway vehicles.

Stoneridge

CUSTOMER PROFILE
COUNTRY: United States
INDUSTRY: Manufacturing
FOUNDED: 1965
NUMBER OF EMPLOYEES: 5,600
WEB ADDRESS: www.stoneridge.com

CHALLENGE
Stoneridge, a global manufacturer of automotive components, wanted to use state-of-the-art technologies to reduce complexity, reduce its IT footprint, and ultimately reduce the total cost of IT ownership.

SOLUTION
The company eliminated more than 50 percent of its physical servers through server virtualization, using a combination of Dell™ PowerEdge™ servers supported by Dell EqualLogic™ Internet SCSI (iSCSI) storage area networks (SANs).

BENEFITS
Grow IT Smarter
- Virtualization architecture on Dell PowerEdge servers reduces uninterruptable power supply draw at the main data center by 58 percent
- High-performance Dell PowerEdge servers help Stoneridge consolidate IT server infrastructure by more than 50 percent enterprise-wide, and more than 80 percent in the company's corporate network operations center
- Simplified infrastructure helps save approximately US$330,000 in annual IT life cycle replacement expenditures

"DELL HAS BEEN FOCUSED ON HELPING US SIMPLIFY AND OPTIMIZE OUR IT INFRASTRUCTURE, WHICH REDUCES OUR TOTAL COST OF OWNERSHIP."

Bill Johnson, chief information officer, Stoneridge

Stoneridge has grown both through organic expansion and strategic acquisitions. "We and our joint ventures currently own or lease 20 manufacturing facilities and 8 sales organizations in 15 countries," says Bill Johnson, chief information officer for Stoneridge. "With exception of two joint ventures, we have an IT presence at each one of those facilities."

In fact, IT plays a key role at Stoneridge, serving as the backbone for most of the company's operations. "The IT infrastructure at Stoneridge carries the lifeblood of the company. Without our business applications and ERP systems running, we couldn't ship product or even receive orders," says John Young, IT technical director for Stoneridge. "We rely on IT for everything from word processing and spreadsheets to quality control, production control, and data acquisition and analysis—we even control the HVAC systems at several of our facilities over the network."

Until 2006, each independent business unit at Stoneridge determined the local infrastructure and IT strategy. However, senior company leadership realized that although its business units could optimize for geography and market-specific conditions, the decentralized IT strategy

made it difficult to develop economies of scale and global efficiencies. "We started looking at IT from an enterprise perspective, started developing architectural standards and best practices, and made it part of our corporate strategic planning process," says Johnson. "The intent was to leverage IT and take advantage of its capability to accelerate the company's pursuit of continuous process improvement and personal, operational, financial, and marketing excellence."

Johnson created a team to lead the standardization of infrastructure and business systems at Stoneridge, and one of the first areas he focused on was the company's fleet of servers. With a deep background in server virtualization and consolidation, Johnson calculated that reducing the company's fleet of 260 servers— which were distributed among its global locations—could return significant cost and labor savings. With less hardware, the Stoneridge IT team could spend less time on maintenance and administration. Plus, reducing the total number of physical servers would decrease the size of the company's hardware replacement cycles, cutting the costs of sustaining the business over time. Johnson and the Stoneridge executive team were also convinced that simplifying the company's IT

infrastructure would improve its overall reliability and availability by reducing the potential for hardware failures.

With a server reduction strategy in place, the Stoneridge IT team began searching for a partner that could help the company execute its plan on a global basis. The team evaluated multiple vendors, but ultimately chose Dell. The Stoneridge team had worked with Dell before and had favorable experiences with its products. "We use Dell equipment throughout our infrastructure, including servers, desktops, and notebooks, and they all have an excellent history of reliability and functionality," says Young. "The high performance of Dell systems also helps our engineers quickly design and test new products, helps us collaborate smoothly with our suppliers, and helps us deliver products to our customers quickly and effectively."

Johnson and Young were also pleased with the level of service provided by their Dell representative. "We see our Dell account representative far more often than the reps from any of our other strategic vendors, and every time he is here, he adds value," says Johnson. "Our Dell rep never just throws a solution over the

fence at us; he engages and helps us determine what is best for a given situation."

Finally, Dell offered the global reach that the Stoneridge team knew would be necessary to successfully execute its plan. "As a global provider, Dell has the supply and support capabilities to help us deliver the economies of scale that a standardized architecture can bring," says Johnson.

DELL SERVERS PROVIDE FOUNDATION FOR VIRTUALIZATION PROJECT

Working with Dell, the Stoneridge IT team moved quickly through the pilot stage to a series of production deployments encompassing seven Stoneridge facilities throughout the world. The company chose Dell PowerEdge 2900 and Dell PowerEdge 2950 servers with quad-core Intel® Xeon® processors for its pilot project, and has deployed some combination of those servers running VMware® Infrastructure 3 at four sites: Stoneridge's main data center used three Dell PowerEdge 2900 servers; the European data center used a pair of Dell PowerEdge 2950 servers; and the remaining U.S. and Mexico sites used pre-existing Dell PowerEdge 2850 servers.

The PowerEdge 2900 delivered a combination of high performance and scalability that the Stoneridge team found ideal for supporting large numbers of virtual servers. The smaller PowerEdge 2950 servers enabled the team to provide similar levels of high performance while increasing overall rack density at sites where physical space was at a premium.

As the deployment continued, Young found that the workload at the corporate network operations center was beginning to outgrow the PowerEdge servers he initially deployed. After consulting with

Dell, Young chose to deploy Dell PowerEdge R900 servers with four quad-core Intel Xeon processors to provide an even higher-performance foundation for the sites' virtual server infrastructure. "With 16 cores, a large memory capacity, and generous I/O capabilities, the Dell PowerEdge R900 servers give us a massive amount of processing power in one box," explains Young. The PowerEdge R900 combines quad-core performance with redundant components for high availability and a standardized design for simplified deployment and maintenance. "The Dell PowerEdge R900 servers help us further consolidate our server infrastructure and simplify our administrative requirements," says Young.

The Stoneridge team also deployed 49 TB of storage, composed of five Dell EqualLogic PS300 iSCSI SANs and two Dell EqualLogic PS400 iSCSI SANs, to support the virtualized server infrastructure. The Dell EqualLogic iSCSI SANs provided high transactional performance and scalability while simplifying management and administration—a key consideration for the Stoneridge team. "With the Dell EqualLogic iSCSI SANs, we can leverage our existing networks, switches, and experience and get great performance without a costly infrastructure upgrade," says Young.

DELL POWEREDGE SERVERS HELP STONERIDGE CONSOLIDATE IT SERVER INFRASTRUCTURE BY MORE THAN 50 PERCENT

By virtualizing almost its entire global infrastructure on Dell PowerEdge servers, the Stoneridge IT team was able to retire more than 130 of its 260 physical servers—a reduction of more than 50 percent. At the company's main data center, the team retired 89 percent of the active servers. In 2007 alone, this eliminated more than

US$1 million of hardware from the Stoneridge IT enterprise, and reduced recurring annual hardware replacement costs by approximately US$330,000.

Using Dell PowerEdge 2900 servers, the Stoneridge IT team has been able to host up to 27 virtual servers on a single physical server, while the PowerEdge R900 servers have achieved ratios as high as 56 virtual servers to one physical host server. "Using Dell PowerEdge servers as the foundation for our virtualization program enabled us to dramatically shrink our IT footprint," says Young.

SIMPLIFIED INFRASTRUCTURE HELPS REDUCE OVERALL IT MAINTENANCE EXPENDITURES

With fewer physical servers to maintain and a simplified server management infrastructure, the Stoneridge executive team has cut the time and money that it must budget for maintenance and administration. Those funds and hours can now be redirected toward more strategic projects, such as creating tools and processes that shorten the time between design and manufacturing. "The server reduction program helps us create the tools and capabilities that the business needs in the most cost-effective way possible," says Johnson. "Dell has been focused on helping us simplify and optimize our IT infrastructure, which reduces our total cost of ownership."

DELL DELIVERS SYSTEMS AND SUPPORT WORLDWIDE FOR GLOBAL MANUFACTURER

By providing standardized systems and support to Stoneridge facilities across the world, Dell helps simplify the company's deployment and management processes, thereby helping to improve overall IT staff productivity. Dell provides just-in-time delivery of configured systems to

Stoneridge facilities, all but eliminating the time that the Stoneridge IT staff must spend integrating and shipping equipment. "We're deploying all of these systems worldwide, and integrating systems from several different manufacturers would place a significant strain on both our corporate IT department as well as the staff at our remote facilities," says Johnson. "Having Dell as our global supplier simply eliminates many of our IT supply and integration challenges so that we can focus on our strategic architecture rather than tactical logistics."

RELIABLE DELL POWEREDGE SERVERS PROVIDE MONTHS OF UNINTERRUPTED UPTIME

The Stoneridge IT team has been particularly pleased by the reliability displayed by the Dell PowerEdge servers. "Our virtual hosts are typically carrying 20 or 30 guest servers, so it's important to have the underlying servers run steadily for long periods of time," says Young. "All of the Dell PowerEdge servers have been absolutely reliable—we hardly have to touch them."

DELL POWEREDGE SERVERS HELP REDUCE UPS POWER DRAW BY 58 PERCENT

By using power-efficient Dell PowerEdge servers to reduce Stoneridge's overall server footprint, the IT team has significantly decreased power and cooling needs across the enterprise. At the company's main data center, Young reports that the uninterruptable power supply (UPS) utilization rate has dropped from 43 percent to 18 percent, a reduction of 58 percent. "We have always had

our racks organized to create hot and cold aisles, but since we put the Dell PowerEdge servers in place, you can no longer tell which aisle you're in just by walking through it," says Young. "By consolidating on Dell PowerEdge servers, we can use less power to both run and cool our server infrastructure."

DELL HELPS STONERIDGE FOCUS ON STRATEGIC GOALS AND CONTINUOUS IMPROVEMENT

The virtualization program at Stoneridge has succeeded far beyond even the initial expectations of the IT team. "We have continued to add applications to our virtualized server farm running on Dell PowerEdge servers, and the stability and performance have been outstanding," says Young.

Johnson and Young feel strongly that working with Dell has enabled the Stoneridge IT department to contribute to the progress of the business by helping them provide improved services while reducing costs. "The ultimate role of IT at Stoneridge is to bring value to the company by streamlining and improving business processes," says Johnson. "As our strategic partner, Dell helps us simplify and optimize our IT infrastructure, which makes Stoneridge a better business."

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