

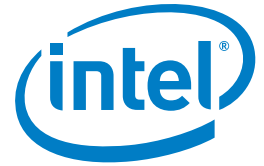
## CASE STUDY

Intel® Xeon® processor 5500 series

Energy

Enterprise Server

Technology-Manufacturing



# Remaking a Global Infrastructure

Emerson reshapes its IT infrastructure for future growth, consolidating approximately 135 data centers down to four using Intel® technology-based servers

Emerson's long-term business growth strategy called for a unified global IT infrastructure with fast, flexible computing and communications across all of its businesses. To meet those needs, Emerson used servers with the Intel® Xeon® processor 5500 series to create a virtualized core of computing resources that employees can tap into worldwide.



"With the new memory architecture in the Intel® Xeon® processor 5500 series, we can comfortably scale up to 72 GB of memory for each blade."

– Steve Hassell  
Vice President and  
Chief Information Officer,  
Emerson

## CHALLENGES

- **Build a strong core** of computing resources to meet the needs of all of Emerson's employees worldwide
- **Consolidate approximately 135 data centers** down to four leading-edge facilities with enough processing power to support the company's growth
- **Reduce costs** and increase server density in the new data centers

## SOLUTIONS

- Intel® Xeon® processor 5500 series-based Dell PowerEdge\* M710 blade servers

## IMPACT

- **3,600 physical servers are eliminated** by virtualizing on Intel processor-based blade servers, for 18:1 consolidation worldwide
- **Power-saving processors** help make Emerson's new global production data center in St. Louis 31 percent more energy efficient than traditional data centers
- **Greater processing density** enables Emerson to meet its global computing needs with just four data centers
- **Increased flexibility** from virtualizing on Intel processor-based servers enables Emerson to quickly respond to new business opportunities

## Creating a Private Cloud of Leading-Edge Computing Resources

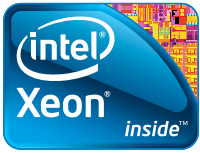
As a global technology company that specializes in infrastructure, Emerson's long-term success is based on rapidly delivering customer solutions anywhere in the world. Increasingly, those solutions take the form of services as well as products.

The Emerson IT team realized that the growth in its service business required a fast, interconnected, global IT infrastructure for long-term success. However, Emerson had historically grown through acquisition, and the various component parts of the company had differing IT infrastructures and services. Upgrading

the diverse systems in Emerson's approximately 135 data centers around the world would be inefficient and costly.

## Choosing the Right Processor

The IT team decided that a better solution was to eliminate most of the company's legacy data centers and build a private cloud of computing resources using just four sites. "To succeed, we needed to find the right processor to virtualize thousands of servers," says Steve Hassell, vice president and chief information officer at Emerson. "We had to dramatically reduce our server footprint and power envelope if we were going to eliminate nearly all of our approximately 135 data centers."



## Massive virtualization reduces approximately 135 data centers to four

After considering many options, the Emerson team selected the Dell PowerEdge\* M710 blade server with the Intel® Xeon® processor 5500 series to virtualize all of the company's x86-based systems with VMware\* virtualization software. The multiple processing cores and high-speed links in the Intel processors enable Emerson to run a maximum number of Microsoft\* and Oracle\* applications per physical server.

### Enabling More Applications per Blade

Hassell's team is also impressed with the enhanced memory capabilities of the Intel Xeon processor 5500 series. "Access to memory is a limiting factor in how many virtual servers and applications we can run on a physical server," says Hassell. "With the new memory architecture in the Intel Xeon processor 5500 series, we can comfortably scale up to 72 GB of memory for each blade."

### Eliminating 3,600 Physical Servers

Virtualizing on the Intel technology-based servers will result in an 18:1 ratio of virtual to physical servers, according to the Emerson IT team's projections. "We have more than 6,000 x86 servers across Emerson, and about 3,800 of them are good candidates for the virtualized environment," says Hassell. "Those 3,800 physical servers will be consolidated down to a little over 200 servers with the Intel Xeon processor 5500 series."

### Improving Energy Efficiency

Emerson's new data center infrastructure will be much more power efficient, the IT team calculates. "We're getting quite a bit of increase in processing capacity and memory addressability, yet with lower energy use than our previous equipment," says Hassell. "By combining energy-efficient Intel processors, optimized data center airflow, and high-efficiency cooling technology, our new global production data center in St. Louis is 31 percent more energy efficient than traditional data centers. That ultimately contributes to the company's bottom line."

### SPOTLIGHT ON EMERSON

Founded in 1890, Emerson has grown to become a US\$24.8 billion (fiscal 2008) company with global operations and is one of the largest companies in the United States. Emerson offers a vast array of products and services that bring technology and engineering together to create innovative solutions for the benefit of its customers.

### Reducing Operating Costs

While Emerson is gaining increased processing capacity, the IT team projects that operating costs for its Intel server platform will be approximately 15 percent lower in 2010 than it would be using alternate hardware choices. In addition to increased energy efficiency, savings will also come from reduced support costs. "Standardizing on Intel is a big cost saver because having a common infrastructure allows us to simplify administration and training," says Hassell. "The IT staff can concentrate on one type of system instead of having to go an inch deep and a mile wide."

Hassell sees the Intel Xeon processor 5500 series as a key building block for a powerful and efficient IT infrastructure that will take Emerson into the future with global access to flexible IT services. The IT team plans to keep building on Intel technology as Emerson continues to grow and expand its service-related business segments.

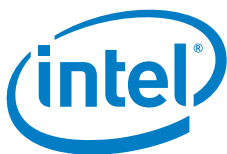
Find a business solution that is right for your company. Contact your Intel representative or visit the Reference Room at [www.intel.com/references](http://www.intel.com/references).

### Energy:

#### Environment and Performance:

Lower energy and cooling costs through more environmentally friendly computing.

To learn more about Intel's Predictive Enterprise strategy visit [www.intel.com/references/pe/index.htm](http://www.intel.com/references/pe/index.htm).



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