



Case Study

**Intel® Xeon® processor
7400 series**

**Intel® Xeon® processor
7300 series**

**Intel® Xeon® processor
5400 series**

Virtualization – Data
Center Consolidation

Powering the Law

Thomson Reuters chooses new servers with multi-core Intel® Xeon® processors to cost-effectively meet growing demand for its Westlaw* database services

Thomson Reuters has been providing research tools and information to legal professionals for over 130 years, originally through West casebooks, practice guides, and treatise materials and now through the Westlaw* online research service. Nearly 95 percent of major U.S. law firms use the company's search engines to find key legal information and research legal issues. Other Thomson Reuters databases provide vital information for researchers in science, healthcare, business, and other fields.

With customer usage of its online research services growing rapidly, Thomson Reuters faced the challenge of expanding its IT infrastructure to support an increased demand while also containing costs to maintain profitability. The company had two data centers at its Minnesota headquarters and was already building a third.

The Thomson Reuters IT team had long used Intel® processor-based servers and knew that Intel had a wealth of experience running large data centers. "We met with Intel IT consultants who shared information on how to design higher-density infrastructures that would enable us to grow cost-effectively," says Christopher Crowhurst, vice president of architecture and business systems infrastructure at Thomson Reuters. "We decided to use virtualization to consolidate our existing server infrastructure, in addition to using blade servers to increase the density in our new facility."

Intel® Xeon® processors enable cost-effective growth

The Thomson Reuters team selected two-socket IBM HS21* blades with the Intel® Xeon® processor 5400 series for energy-efficient performance in the new data center. For its virtualization platform, the team chose four-socket IBM 3850 M2* servers with the Intel Xeon processor 7300 series. "The four-way servers with quad-core Intel processors allowed us to put more virtual machines on each server for maximum consolidation," says Crowhurst. "Together with the blade servers and processors, they've enabled us to dramatically slow the consumption of data center power and physical space without slowing business growth."

Measures of Success

- Thomson Reuters needed to expand its IT infrastructure to support business growth while controlling IT costs to help maintain profitability.
- The company also wanted to reduce the need for future data center construction as part of cost-saving and environmental initiatives.
- The IT team decided to virtualize and consolidate its servers, but needed a powerful processor that could run a high number of virtual machines.
- The team also required an energy-efficient blade server processor to make best use of the available power and space in its newest data center.



THOMSON REUTERS

"We expect to increase our consolidation ratio to 25:1 when we move to the six-core Intel® Xeon® processor 7400 series."

Christopher Crowhurst,
Vice President of
Architecture and Business
Systems Infrastructure,
Thomson Reuters

Thomson Reuters draws in the cold Minnesota air to save on data center cooling costs during the long northern winters.

Virtualization enables 18:1 server consolidation

With virtualization software running on rack servers based on the Intel Xeon processor 7300 series, the Thomson Reuters IT team is achieving a consolidation ratio of 18:1, reducing power requirements and freeing up space to absorb future growth. "We expect to increase that ratio to 25:1 when we move to the six-core Intel Xeon processor 7400 series in the near future," says Crowhurst.

Blades increase density in processing and memory

In the new data center, blade servers based on Intel processors have enabled the IT team to increase density in processing and memory, providing more expansion room for the memory-intensive search engines. "Instead of adding new servers, we can simply grow into the larger memory footprint of our blade server infrastructure," says Crowhurst.

Power and cooling strategy reduces need for construction

The company's power requirements are growing by nearly 20 percent every year as business expands. By optimizing the power and cooling strategy in its new data center and concentrating more blades in less space, the IT team was able to increase power density from 100 watts per square foot to 150 watts per square foot. As a result, there is less need for new data center construction, greatly reducing future environmental impacts.

Thomson Reuters projects significant cost savings

Thomson Reuters expects to save significantly over the next few years through reduced construction. "With the Intel technology-based servers driving up processing capacity in the existing data centers, we'll be able to scale back our need for new data centers," says Crowhurst. "We can expand at an affordable rate without increasing the cost to our customers, and continue to deliver great search response times."

Return on Investment

- Rack servers based on the Intel® Xeon® processor 7300 series enable the Thomson Reuters IT team to achieve an 18:1 server consolidation ratio, saving data center space and energy.
- Blade servers based on the Intel Xeon processor 5400 series increase density in processing and memory, providing additional room for growth.
- The IT team is able to increase power density from 100 watts per square foot to 150 watts per square foot, reducing the need for new data center construction.
- With the added processing capacity in its data centers, the company is able to more effectively manage costs and capital investments.



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