

How Cisco IT Virtualizes Data Center Application Servers

Deploying virtualized servers produces significant cost savings, lowers demand for data center resources, and reduces server deployment time.

BUSINESS BENEFITS

- US\$19 million cumulative cost savings and cost avoidance
- Reduced demand for data center space and resources
- Faster server deployment
- Increased productivity of IT staff
- Improved application stability

“When virtualized servers can be installed rapidly, development projects can be completed very quickly, which allows Cisco IT to complete more internal requests.”

– **Mike Matthews, Server Virtualization Program Manager, Cisco IT**

Like many IT departments, Cisco IT historically dedicated a single server to each application or instance. However, this approach has created an explosion in the number of servers to be purchased, deployed, and managed. With nearly 4000 applications running on more than 15,000 physical and virtual servers as of early 2008, Cisco IT faced a server growth rate of 15 percent per year. This growth only exacerbated the existing challenges of high server and support costs, diminishing available space in existing data centers, and the high demand for and environmental concerns over expensive electrical power and air conditioning. Of greatest concern to Cisco IT were the increasingly longer delays (12 weeks and more) for deploying new servers and the impact of these delays on Cisco's internal application development efforts.

To overcome these challenges, Cisco IT has deployed virtualized servers and related Cisco technologies for server networking and data center management. Cisco IT currently uses the VMware Infrastructure 3 to create virtualized servers, with 10 to 20 virtualized servers running on a single physical server. Cisco technologies supporting virtualized servers include routing, switching, load balancing, content switching, and storage-area networks (SANs) for connecting servers, storage devices, and other data center systems across the Cisco network. Cisco also uses an internal management system for managing devices on the Cisco network, including the virtualized servers.

As of early 2008, Cisco IT had deployed approximately 2700 virtualized servers, which produced cost avoidance and savings valued at a cumulative total of more than US\$19 million. With fewer physical servers to install, Cisco can slow the demand for data center space and resources, increase productivity for IT personnel, and improve application security and stability.

As next steps, Cisco IT will continue deploying virtualized servers in its new consolidated North America data center facility and deploy new virtualization software provisioning solutions for enhanced management of virtual computing services end-to-end in the data center. Cisco IT will continue to work toward the goal of virtualizing 50 percent of existing servers and 75 percent of newly deployed servers.

FOR MORE INFORMATION

To read the entire case study or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT www.cisco.com/go/ciscoit

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