Case Study

Virtualization

Quad-Core Intel® Xeon® processors

Pharmaceuticals

Solvay Pharmaceuticals

Solvay Finds the Right Formula

Solvay Pharmaceuticals, Inc. chooses Quad-Core Intel® Xeon® processors to virtualize its data center

Continuous new product development is a hallmark of the pharmaceutical industry, and Solvay Pharmaceuticals, Inc. (Solvay) depends on its IT infrastructure to support a growing research and development program. One of the Solvay IT team's most challenging tasks is rapidly deploying the latest applications to keep up with that growth. "Ours is a highly regulated industry, and we are required to put most applications on separate servers," says Bruce McMillan, manager of emerging technologies at Solvay Pharmaceuticals. "We must also complete substantial paperwork to qualify each new server for use."

With most servers supporting only a single application, server sprawl soon became a problem. "We were running out of space for new servers in our U.S. data center," says McMillan. "At the same time, we could not react quickly enough to meet the volume of new server and application requests." From ordering the hardware to completing installation and paperwork, each new server deployment took approximately eight hours over a period of a week.

"The Intel® Xeon® processors gave us the power to virtualize our environment and eliminate server sprawl."

Bruce McMillan
Manager
Emerging Technologies
Solvay Pharmaceuticals

More Processing Power for Virtualization

The Solvay IT team decided to address these challenges by virtualizing and consolidating its data center servers. However, many of the servers did not have the CPU capacity to run multiple virtual machines, so the team needed to deploy new, more powerful servers—while also staying within the energy and cooling limitations of the data center facility.

IT team members tested several servers and were impressed with the HP ProLiant* DL380, a two-processor platform based on the Quad-Core Intel® Xeon® processor 5300 series. "We estimated that the two Quad-Core Intel Xeon processors could support an impressive 12-to-1 consolidation ratio," says McMillan. "Even using artificial CPU load generators, I was not able to overtax the processors."

Measures of Success

- Solvay needed to keep up with the demands of pharmaceutical research by rapidly deploying new applications, many of them requiring separate servers
- To contain server sprawl, the Solvay IT team decided to virtualize—but they needed more powerful servers that could run multiple virtual machines
- New HP ProLiant servers based on the Quad-Core Intel® Xeon® processor 5300 series and 7300 series enabled the IT team to deploy more processing capacity per server while staying within data center power and cooling constraints

The company plans to use quad-core Intel® processor technology for similar projects at other Solvay entities around the world.

Server Sprawl Eliminated

The Solvay team consolidated 65 physical servers down to 17 servers using VMware* virtualization software on Intel® technology–based servers, hosting an average of 12 virtual machines per server. The team also added 102 virtual machines, for a total of 150 virtual machines running on 10 VMware ESX Server* hosts. The team subsequently tested the 4-socket HP ProLiant DL580 server with the Quad-Core Intel® Xeon® processor 7300 series, and expects to fit 20 to 25 virtual machines on each of those servers.

"The Intel Xeon processors gave us the power to virtualize our environment and eliminate server sprawl," says McMillan. "The server consolidation, together with the energy efficiency of the Intel processors, helped us put more processing capacity in our data center while reducing overall energy requirements. We estimate annual power and cooling cost savings of more than USD 67,000."

Application Deployment Time Reduced

Because configuring a virtual machine to run an application is fast and easy, McMillan's team can now deploy new applications in 10 minutes instead of a week. "We still meet regulations by providing an individual virtual server for each application," explains McMillan. "But now they can reside on the same piece of hardware, which greatly reduces our paperwork."

Return on Investment

- The quad-core Intel® processor–based servers enabled Solvay to consolidate 65 servers down to 17 and add 102 virtual machines
- Server consolidation and energy-efficient Intel® Xeon® processors helped Solvay save an estimated USD 67,000 per year in power and cooling costs
- The virtualized environment and Intel® technology–based servers enabled the IT team to deploy new applications in 10 minutes instead of a week

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