

Virtualization Makes its Way from Partitioning to Enterprise Infrastructure to Developer Toolbox

By John K. Waters

Virtualization is fast becoming the must-have server-side capability. In fact, the technology that decouples software from hardware is well on its way to becoming a "standard fabric of the data center," says Raghuram Raghuram, Director of Strategy and Market Development for VMware.



"Ten to 15 percent utilization [of hardware in the data center] is pretty typical," Raghuram says. "So you've got customers who are out to clean up the data center. They want to take a whole bunch of underutilized servers, consolidate them on newer technologies, and get the maximum flexibility in how they run their IT infrastructure."

Virtualization, which evolved from simple partitioning technology, made its way into the enterprise mainly as a server consolidation solution, Raghuram says. Back in 1998, virtualization was used primarily to recreate the end-user environments on a single piece of hardware. "If you were an IT administrator and you wanted to roll out new software, but you wanted see how it would work on a Windows NT box or a Linux box, you used it to create the various user environments," Raghuram explains.

Virtualization soon became a tool of the trade for technical training, allowing support personnel to create various environments for trouble-shooting.

Between 2000 and 2001, customers started to use the same technology to take a single server and put multiple applications on top of it, Raghuram says. And in the past year or so, companies have begun using virtualization to treat server farms as single compute pools. "And that's where most of the excitement comes in," Raghuram says.

Today, the benefits of virtualization in server consolidation are pretty well established, says Gartner analyst Van Baker. "The number of boxes you've got to maintain can be significantly reduced, management becomes an easier task, and your costs go down for the same amount of service," he says.

One of the most recent signs that virtualization has come of age as enterprise technology is the deal disclosed last week between VMware and Intel. The Palo Alto, CA-based software vendor, which specializes in virtualization of the x86 architecture, announced that it is working with Intel to customize its products to work with the chipmaker's upcoming Vanderpool chip-level virtualization technology. VMware will also optimize its GSX and ESX software products for 64-bit Intel systems, the company says.

Although it has been commonly used in mainframe environments for years, the x86 processor has proven to be less amenable to virtualization. VMware and Intel have been collaborating quietly for some time to solve this problem.



The newly expanded relationship consolidates the two companies' positions at the head of the virtualization pack, Pat Gelsinger, SVP and GM of Intel's Digital Enterprise Group, said in a statement. "The combination of Intel Virtualization Technology and VMware's virtualization expertise and products will lead to truly compelling usage models for enterprise computing," Gelsinger said. "Virtualization has reached a point of real maturity in the server space and will bring exciting new applications to enterprise clients."

But virtualization isn't just for server consolidation, says Margaret Lewis, commercial software strategist at AMD. The technology has also been finding its way into the toolboxes of software developers, she says.

"You don't just develop code for just one operating system," says Lewis. "Virtualization allows you to have one workstation where a developer can write code that runs in many different environments. It also facilitates testing, which almost becomes the more valuable application of the technology as far as software development is concerned, because testing is the painful part of the process. You don't hear about it as much, but we are at the point where virtualization is becoming a standard component in software development and testing."

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