

City of Boston

Virtualization saves the City of Boston money, time and energy



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— David Nero,
Director of Infrastructure and Technology,
City of Boston

KEY HIGHLIGHTS

Challenge

Save money on overhead and operations with an IT infrastructure that's lean and green.

Solution

Use VMware Infrastructure and VMware View to save money, time and energy.

VMware at Work

Virtual Infrastructure 3.5 featuring:

- VMotion
- Distributed Resource Scheduler (DRS)
- High Availability (HA)
- Site Recovery Manager (SRM)
- VMware View

Deployment environment

- VMware Infrastructure running on Dell servers (R900's for production and 2950's for non production), connected to an EMC DMX SAN; VMware View running on Wyse V10L thin-client devices
- Guest operating systems: Windows Server 2000, 2003, 2008 and Windows desktops
- Mission-critical applications running in production on virtual machines: Microsoft Exchange Server 2007; a range of Oracle PeopleSoft applications, including financial and HR systems; a portfolio of business tools, including a Lagan CRM application

The City of Boston is supported by several datacenters, with the primary one located in City Hall. The network runs a host of applications, including ones that are accessed by approximately 18,000 employees in city government and schools. Other applications have smaller user pools, but they have a big impact, since they ensure that essential services are available when residents want or need them.

Like many other municipalities—or private companies, for that matter—the City of Boston recently found that server demand was outstripping supply. "We had a growing demand for servers because there was a growing demand for applications," explains David Nero, the city's director of infrastructure and technology. "We got to a point where we had to make a choice: either make a significant investment in additional physical servers, or meet that demand with virtual servers. We decided to go with VMware technology so we could keep up with user demand while taking advantage of the cost savings, manageability and availability benefits that come with running applications on VMware Infrastructure."

Those benefits, he says, have been impressive. "We sometimes walk people through our datacenter, show them all the empty racks, and say, 'This is what virtualization has done for us,'" Nero reports. "Before we started using VMware Infrastructure, those racks were full. It's a powerful way of making the point that that you don't need to buy a server every time you need one. Instead, you can license VMware for a robust infrastructure of virtual machines that give you as much or more computing power as physical servers."

Nero points out that the cost savings don't just come from slashing hardware spending, but from cutting back on energy consumption, maintenance and other overhead. "The city has a major green initiative going on, and the energy saved from server consolidation is a big part of our effort. And a lot of our savings come from cutting back on the physical management of the servers, too," he says, adding that perhaps the biggest management benefit is the ability to provision virtual servers far faster than physical ones. That doesn't just make things better for Nero and his team, but for the City of Boston's other employees. "Being able to expedite server provisioning with VMware Infrastructure means the city's staff can get their applications up and running quickly," Nero says. "So they, in turn, can be more responsive in their jobs."

Virtual servers are also more reliable than physical ones, which is essential for many applications—especially those involving public safety. "Reliability is important, and virtualization addresses that," Nero says. "It eliminates some of the physical limitations of physical hosts—the biggest of which is if your production server is physical and goes down, then the application running on that server is out of business. But if a VMware virtual host goes down, the application starts up on another virtual machine—with little or no downtime."

By autumn 2009, the city had virtualized hundreds of applications, including a Lagan CRM package; a range of Oracle PeopleSoft applications, including financial and HR systems; and Microsoft Exchange Server. "We upgraded to Exchange 2007 as part of the virtualization process," Nero reports. "The migration from physical to virtual was painless. Right now we have about 2,500 mailboxes running on virtual machines, and I hope to have 8,000 before long."

Results

- The city's IT infrastructure is 75 percent virtualized, a percentage that will grow in the future
- Virtualization-enabled server consolidation is a major component of the city's drive for energy efficiency
- Server configuration time cut from weeks or months to less than two days—and sometimes just a few hours
- Plans are underway to use VMware Site Recovery Manager for datacenter replication between the main City Hall datacenter and a second site
- A pilot using VMware View with thin clients for 50 City Council members was a success. "I could see us using VMware View and thin clients as one of our main desktop platforms," Nero says. "The most important features for our desktops are reliability and performance for users, and VMware View helps us deliver that. And virtual desktops are much easier to support and manage."



CUSTOMER SNAPSHOT

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