

Christie

PROFILE

CHRISTIE®

Industry

Electronic Manufacturing

Corporate Headquarters

Kitchener, Ontario, Canada

Employees

1200+

Web Site

www.christiedigital.com

THE NUMBERS

- 322 virtual servers.
- Server consolidation ratio of 20:1.
- 1500 Microsoft® Exchange mailboxes virtualized.
- 900 JD Edwards users working on a virtual environment.

IN BRIEF

Objective

Christie needed to ensure its employees would have access to its Enterprise Resource Planning (ERP) system even if one of its primary datacenters went offline.

Solution

The company had already implemented a VMware vSphere environment, so it decided to use virtualization by deploying VMware vCenter Site Recovery Manager as a disaster recovery (DR) solution.

Business Impact

- Reduced risk of productivity loss if there is a datacenter outage.
- There is a high degree of confidence that JD Edwards' outages will never exceed two hours.
- VMware Site Recovery Manager solution costs millions of dollars less than implementing traditional DR architecture.
- VMware Site Recovery Manager requires fewer resources to test.

For Disaster Recovery, Christie Finds VMware Solution

"We started by virtualizing our enterprise applications, and now are implementing VMware vCenter Site Recovery Manager as our disaster recovery solution. VMware gives us a rock-solid IT infrastructure without the crippling costs of a traditional DR architecture."

— Scott Elliott, IT Architect, Christie

Christie has witnessed striking changes in technology since its 1929 founding. The company started as a manufacturer of 35 mm film projectors and related equipment. As technology evolved, and digital imaging began supplanting film, Christie adapted. Today, among other accomplishments, the company is a leader in converting movie theaters to digital cinema. Christie's products also include display technologies for control rooms, business presentations, training facilities, 3D and virtual reality, simulation, education, media, and government. The company has installed more than 100,000 projection solutions worldwide.

Christie's changing product portfolio is paralleled by changes within its internal IT infrastructure. When Scott Elliott, IT Architect, Christie, was hired in 2007, the company had not attempted to virtualize any of its servers. Today, Christie has fully embraced VMware vSphere® technology and is implementing cost-effective disaster recovery (DR) for its enterprise applications.

Virtualization Drives IT Flexibility

Christie's initial interest in virtualization was triggered by many of the same factors that drive virtualization in other corporations, such as runaway server sprawl and slow turnaround on server provisioning. Elliott, who was hired by Christie in part because of his virtualization expertise, began implementing VMware technology in his first month with the company. "We received a request from the business for a new project, and decided to provision it as a virtual environment," he says. When the application ran perfectly under VMware, the company began adopting virtualization at a rapid pace. "It gave our IT team more flexibility," Elliott says. "When the business came to us with urgent requests, we were able to respond quickly. We were able to provision new servers within a day, instead of needing six to eight weeks."

At first, the IT team focused its virtualization work on Christie's primary datacenters in Kitchener, Ontario, and Cypress, California. It has extended its VMware implementation to its other locations, including servers located in the Far East.

Christie has made other changes along the way. When VMware launched its latest version of vSphere and a new hypervisor, VMware ESXi™, Elliott adopted that technology as the company's new virtualization standard. "It was clear that VMware ESXi is the direction VMware is taking virtualization," he notes. "We're committed to staying current with our VMware platform."

Christie built out a new vSphere environment and began moving servers to it using VMware vCenter Converter™. "It's relatively easy to do," Elliott says. "We target individual lines of business, and then schedule times to move their virtual machines from the old environment to the new one."

“VMware virtualization technology not only lets you get more capacity out of your infrastructure, it also allows your IT team to become more flexible and more responsive to your business’s needs.”

— Scott Elliott, IT Architect, Christie

Elliott views upgrading to the VMware ESXi hypervisor as a no-brainer from a functionality standpoint. The new hypervisor offers some advantages as well. “The VMware ESXi hypervisor can do everything the legacy hypervisor can do,” he notes, “and yet it requires a smaller server footprint.” The small footprint makes ESXi easier for Elliott to bundle up and make available for other people within the IT organization to install. Since ESXi is only around 100MB in code rather than the 2GB of VMware ESX®, it saves 90 percent of the patch times, too.

Keeping Costs in Check

Today, Christie considers virtualization its primary method of deploying applications, including mission-critical applications. Its JD Edwards 8.12 environment runs under vSphere, including Manufacturing, Financials, Logistics and Advanced Pricing modules (the only exception is its databases, which reside on IBM AS/400 servers). Christie runs 18 virtual machines that make up their Enterprise Resource Planning (ERP) and supporting subsystems, including Create!Forms, Loftware and RFgen. Christie has a 900 named user environment, and runs 200 to 250 concurrent users.

Christie’s Microsoft SharePoint 2007 environment is virtualized as well. Christie uses SharePoint for its intranet and as an external portal for sharing information with strategic suppliers. Its SharePoint environment consists of four servers (non-DB), running MOSS 2007 supporting its internal engineering knowledge base, corporate documentation, and digital asset management applications. The company’s email archive, RSA servers and certification services, BlackBerry Enterprise Servers, and SMTP servers all run on VMware virtual servers.

Christie is about to upgrade 1,500 mailboxes from Microsoft Exchange 2003 to 2010. When it does, its Exchange environment will be completely virtualized on VMware.

Christie’s virtualization work, Elliott says, has helped the company keep its server management costs in check. “If we were running 300 physical servers, there is no way I could keep up with them myself,” he says. “I’d need at least two more system administrators.” Labor costs alone would reach at least CA\$120,000 annually.

Virtualization also allows Christie to perform server maintenance without impacting application availability. “I rely heavily on VMware vMotion®,” Elliott says. “It’s great to be able to move virtual machines off physical hosts when they need maintenance.”

Potential to Save Millions on DR

But perhaps the most promising benefit of VMware virtualization technology is that it positioned Christie to create a cost-effective DR platform.

Christie’s DR initiative began with an executive directive. “We were tasked with being able to support our JD Edwards applications from either our Ontario or our California datacenters,” Elliott says. “We need to know that our company can run our ERP systems in the event of either planned maintenance or unplanned events affecting either location.”

Christie’s IT team could have adopted a traditional DR architecture, but it would have been both expensive to build and onerous to manage. “When we looked at our ERP processes, we realized that many involve multiple subsystems,” Elliott says. “It’s not unusual for a process to touch as many as 20 different servers.” Processes used to fulfill orders, for instance, may require access to the company’s electronic forms software, document archive, label print servers, inventory applications and warehousing software. The architecture and interfaces between these components are complex, and require that systems be brought online in a particular sequence. “You can’t just flip a switch,” Elliott explains. “It’s a series of switches, with numerous checks and balances along the way.”

Replicating this entire environment would have been prohibitively expensive. “It wasn’t even just the cost of the physical servers,” Elliott says. “We would have needed consultants onsite for months. It would easily have run into millions of dollars.”

“VMware virtualization works as promised. It just chugs along.”

— Scott Elliott, IT Architect, Christie

So instead, Christie is implementing VMware vCenter™ Site Recovery Manager™ to automate the company’s virtual server recovery process between its Canadian and American sites.

In its preparations, the team implemented two NetApp storage systems—one in each of its main datacenters. “Before, we didn’t have any enterprise-level storage,” Elliott notes. “Our NetApp system supports de-duplication, which has reduced our storage requirements from 15 terabytes to between 5 and 6 terabytes.” Elliott also considers NetApp to be the “head of the class” technology for site-to-site replication. “We wanted a storage subsystem that ‘plays well’ with VMware Site Recovery Manager, and NetApp is that system.”

Christie is also moving its last few servers from legacy VMware hypervisor technology to ESXi. Once that is complete, the team will be ready to deploy its VMware Site Recovery Manager infrastructure.

Graceful Replication, Minimal Configuration

Elliott looks forward to the Site Recovery Manager functionality and benefits. “With VMware Site Recovery Manager, we’ll be able to take all of our servers from Kitchener and run them to the West Coast,” Elliott says. “Very little configuration will be required. We’ll just change the IP addresses. Everything else will be handled gracefully within the VMware Site Recovery Manager infrastructure.”

The Site Recovery Manager architecture will also facilitate the testing of Christie’s DR processes. “No matter what approach we took to our DR strategy, we would need to revalidate it regularly,” Elliott notes. “But with traditional DR architectures, testing requires more resources. With our VMware Site Recovery Manager infrastructure, we can test our DR using fewer people, and without affecting our production environment or the business. VMware Site Recovery Manager has a test button. We can test, look at the results, and make corrections. We’ll have a higher degree of confidence that our DR will work if we ever need it.”

Implementing Site Recovery Manager is not the only way Christie is enhancing its virtualization environment. The company is also planning an implementation of VMware View™ virtual desktops, which its developers will use for working on the company’s ERP applications. Christie may also use VMware View systems for shift workers who don’t need dedicated PCs, but could instead simply use a pool of virtual desktops.

As it continues to deploy VMware technology, Christie will no doubt find other opportunities as well. “VMware virtualization has always done exactly what it’s promised,” Elliott says. “We’ve never once encountered an application issue caused by virtualization.” With that kind of track record, it’s little wonder that Christie is so confident about using VMware technology in more and more ways.

IMPLEMENTATION OVERVIEW		
<p>VMware Products:</p> <ul style="list-style-type: none"> VMware vSphere 4.0 VMware ESXi 4.1 VMware vCenter Site Recovery Manager 4.5 VMware vCenter Converter 4 VMware vSphere vMotion 4 	<p>Applications:</p> <ul style="list-style-type: none"> JD Edwards 8.12; core packages include Manufacturing, Financials, and Logistics; additional modules include Advanced Pricing Microsoft SharePoint 2007 	<p>Platform</p> <ul style="list-style-type: none"> IBM servers x3650 and x3850 NetApp storage systems V3140 Cisco Nexus 1000V Series Switches

