



# VMware Virtual Infrastructure Recharges IT for Baytex Energy Trust

Oil and Gas Company Achieves Quick Server Deployment and Application Installation with VMware Virtual Infrastructure



## KEY HIGHLIGHTS

INDUSTRY: **ENERGY/UTILITIES**

### CHALLENGE

Maximize efficiency in datacenter

### SOLUTION

VMware virtual infrastructure provides scalable, reliable solution

### RESULTS

- Hardware cost savings from 10:1 server consolidation
- Server deployment time reduced from four hours to 30 minutes or less
- Improved CPU and memory utilization
- Ten physical servers freed up or retired
- Greater flexibility to accommodate new projects and applications
- Improved disaster recovery time

*"If you are considering VMware software, grab the bull by the horns. It's awesome. You can only get benefits. The benefits also grow the more you embrace the technology."*

Chris Young, Senior IS Analyst, Baytex Energy Trust

## New Acquisitions and High Industry Standards Demand Flexibility

Baytex Energy Trust is an income trust engaged in the development, acquisition and production of oil and natural gas in the Western Canadian Basin. The corporation has about 120 employees who work in a fast-paced, team-oriented environment. As a growing oil and gas trust, Baytex must evaluate potential prospects in its three geographic regions, identify strategic acquisitions, and develop and operate existing properties in an efficient and low-cost manner. In addition, the trust is committed to protecting the environment and strives to maintain high environmental operating standards, including clean up and restoration of sites.

To continue to meet these diverse goals and high standards, Baytex chose VMware® virtual infrastructure technology, including ESX Server™ with VirtualCenter and VMotion™. Chris Young, senior IS analyst with the firm's six-member IT department, explains, "VMware gives Baytex the flexibility and responsiveness to stay on top."

As a company that frequently brings in new acquisitions, Baytex needs to be able to quickly add essential applications onto its servers. The company had, according to Young, "underutilized hardware," and was "installing individual applications on each. Metafore, a leading consulting company dedicated to architecting, implementing and supporting dynamic solutions for improved access to information, easier ways to conduct their business and generating maximum return on their IT investments, approached Baytex with possible solutions. A VMware enterprise VIP partner in the VMware Authorized Consulting (VAC) program, Metafore recommended VMware technology.

"We knew that a virtual infrastructure would provide a cost-effective, scalable, reliable solution for Baytex," says David Botterill, director of business development for Metafore.

Young found that with VMware software, Baytex could run many individual virtual machines and continue to separate applications in each and eliminate the need for new, expensive hardware that would be underutilized. Baytex also wanted to speed up the acquisition of servers. As new projects arose, it took weeks to acquire hardware, plus hours to set up each server. For a thriving company, that was too long to wait.

## Reduced Hardware Costs and Increased Performance Benefits Make VMware Technology a Win-Win

Baytex evaluated how long it would take to implement VMware software, the stability of the products, and whether it could be used for production. Convinced that VMware virtual technology could help the company achieve increased flexibility and responsiveness while improving its existing infrastructure, the corporation began implementing VMware software a year ago, starting with three ESX Server licenses, VirtualCenter and VMotion.

"We were able to get things up and running fast," says Botterill. "Once we did the proof of concept, Baytex had applications in production on ESX Server within two weeks."

Now all 250 users in 22 locations access applications from virtual servers. Young has seen nothing but benefits from the implementation, including:

- **No more "underutilized hardware."** The biggest savings for Baytex is in hardware. After deploying VMware ESX Server, the company was able to decommission or redeploy ten servers. Baytex houses 21 virtual machines on two production ESX servers—ten on one, 11 on another. Young reports, "Now we don't need to buy a new physical machine for every application that needs its own hardware."
- **Decreased deployment time.** Previously, acquiring hardware took weeks, and building the server, racking it, putting on an operating system and installing applications took four hours or more. With VMware software, Baytex can create a new server in 30 minutes or less.
- **Better performance.** Because memory usage between virtual machines can be shared due to commonality of resources, memory utilization is better. There is no duplication of efforts. CPU utilization has been improved—as Young puts it, "With 10 virtual machines sitting on one 4-CPU box, it isn't even breathing hard." Using VMotion also helps Baytex improve performance by managing the company's two distributed servers as a single pool of resources. Young says, "We use it for load balancing to improve performance. We look at utilization and move things around to balance it." Young also reports that the IT team can reboot the servers faster, quickly patch its systems, and reduce downtime.
- **Increased disaster recovery protection.** Before acquiring virtualization technology, disaster recovery required reloading the operating system, restoring the backup to the operating system, dealing with other problems, and "I still wouldn't be confident it would work," says Young. With VMware software, Young can backup a live server as an image and restore these images in a matter of minutes.

### VMWARE VIRTUAL INFRASTRUCTURE

- VMware ESX Server on two 4-CPU HP ProLiant DL580 G2 servers, 16GB RAM
- VMware ESX Server on 2-CPU HP ProLiant DL380 server, 6GB RAM
- ESX Server connected to an EMC CX500 SAN
- Guest operating systems: Microsoft® Windows® 2000, Windows 2003, Windows XP
- Applications include: Messaging (Blackberry, Mailsweeper), Sharepoint services, Management (Altiris server, HP Openview, SUS), RSA server, internal Web server, print server, Citrix servers, antivirus servers and other application and service servers
- Main site is an internal LAN. Remote sites connected by frame relay or phone lines, some through Internet, through VPN

---

## Responsive Infrastructure Helps to Exploit Growth Opportunities

Baytex's 36 physical servers were reduced to 26 physical servers and 10 virtual machines. Now 11 new virtual machines have already been deployed and are housed on two 4-CPU HP ProLiant DL580 G2 servers. In addition, an HP ProLiant DL380 server is used for test and development of virtual machines.

In addition to the hardware consolidation and cost savings, Baytex enjoys reduced cost and deployment time for new projects. "The virtual servers give us flexibility and cost savings in bringing up new projects," Young says. "Without this technology, we'd need to buy a new server. For example, if we need another Sharepoint server, the only new cost is the software and OS licensing." This responsiveness gives Baytex a great advantage in being able to acquire and develop prospects in their heavy oil and natural gas districts. When new applications come along with the new acquisitions, the IT team can support them quickly. "We can do more with lower cost and it's easier and faster," Young says. "We're more likely to approve a new project and then have time to do it."

## VirtualCenter and Beyond

Before turning to VirtualCenter, Baytex had ESX Server on a development server and two production servers, each independently managed. VirtualCenter allowed Baytex to consolidate administration, centrally manage all virtual machine images, and view the entire system from a central console. "VirtualCenter enables us to look at everything under one roof," Young says. "Performance, what the servers are doing, everything."

Baytex plans to add another production server in order to transfer more applications to virtual machines. The group also intends to take advantage of more of the intelligent workload management capabilities of VMotion, including rolling hardware upgrades and managing and minimizing scheduled outages. Young believes "the benefits grow the more you embrace the technology."

**VMware, Inc. 3145 Porter Drive Palo Alto CA  
94304 USA Tel 650-475-5000 Fax 650-475-5001**

© 1998-2006 VMware, Inc. All rights reserved. Protected by one or more of U.S. Patent Nos. 6,397,242, 6,496,847, 6,704,925, 6,711,672, 6,725,289, 6,735,601, 6,785,886, 6,789,156, 6,795,966, 6,880,022, 6,961,941, 6,961,806 and 6,944,699; patents pending. VMware, the VMware "boxes" logo and design, Virtual SMP and VMotion are trademarks or registered trademarks of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

---

Item No: 06Q4\_cs\_vmw\_baytex\_english