



Baytex Energy Trust

EMC SAN and VMware virtual infrastructure support a flexible, easy-to-manage, and cost-efficient IT environment

A developer and producer of oil and natural gas resources in Alberta, British Columbia, and Saskatchewan, Baytex Energy Trust is among the seven largest energy trusts in western Canada. Maintaining this leadership role and its reputation depends on the company's ability to identify prospects for strategic acquisition, while facilitating efficient and environmentally responsible development and maintenance of its properties.

To better support these objectives and address the challenges created by frequent acquisitions, new and shifting application demands, and its commitment to maintaining high industry standards, Baytex engaged EMC® partner Metafore Corporation. A leading IT consultant and service organization, Metafore helped Baytex architect and deploy a highly reliable and scalable solution to facilitate consolidation and improve flexibility, responsiveness, manageability, and economy within Baytex's existing IT environment. The solution draws upon the synergy between VMware® products ESX Server™ with VirtualCenter and VMotion™ and a recently upgraded EMC CLARiiON™ CX series-based storage area network (SAN).

“This solution has enabled us to operate more effectively—from the ease in provisioning disks to the reduced time and effort we spend on managing the physical server infrastructure,” says Kyle Kerpan, IT manager. “It has also helped us reduce space and hardware procurement costs, which allows us to redirect more IT dollars into strategic enablement projects for our business.”

A new and more economical way to meet growing and changing needs

Baytex's frequent acquisitions and escalating requirements often trigger the need to implement new applications. Before deploying its VMware virtual infrastructure, these projects typically required the purchase of expensive new hardware which took several weeks to arrive and required hours of set-up time. This was an unacceptable circumstance for the team of six IT professionals responsible for meeting the operational needs of Baytex's expanding business.

In addition, because single applications often had to be assigned to individual servers, the new hardware was frequently underutilized and kept the company from realizing the full potential of these investments.

The ability to quickly create many individual virtual machines within a single physical server has made it easy for Baytex to rapidly and economically accommodate the deployment of new applications. In fact, with VMware technology, a new virtual server can be created in 30 minutes or less.

Today, over 50 percent of Baytex's production environment is running on 35 virtual machines housed within three VMware ESX Servers supported by HP ProLiant DL580 systems. This expanding virtual environment currently includes Web, windows media, dns, and Citrix servers as well as Microsoft SharePoint collaboration, BlackBerry wireless communications, and other applications.

"We had looked at deploying BlackBerry Enterprise Server software for quite a while but our utilization of it would have been quite small in justifying hardware expenses, server, licensing, and Blackberry Enterprise Server application costs," explains Kerpan. "However, with VMware technology we were able to take the hardware cost out of the equation and make it a viable option. Within a day we had the service up and running."

The solution also helped Baytex consolidate the number of physical servers required for operations to 22—down from 36. This has enabled the company to realize considerable savings related to current and future hardware acquisitions, management, and data center space.

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"If it wasn't for VMware, we would have most likely triggered a million dollar server room expansion by now, which we've been able to avoid by not needing all those physical servers," says Kerpan. "That's in addition to saving thousands on server costs. By reducing that physical server count, our staff can devote less time to maintenance."

Fueled by success, plans are currently underway to incorporate even more VMware technology into the environment. VMware ACE™, which provides a secure environment for remote users, will soon allow Baytex to grant VPN access and eliminate the need for remote users to install software and other necessary components on their local clients.

EMC storage—a matchless fit for a virtual server infrastructure

Mirroring the benefits of flexibility, scalability, and economy that VMware has brought to Baytex's IT environment, an EMC CLARiiON CX series-based SAN with EMC Navisphere® management software ensures that storage requirements within this virtual server infrastructure are quickly and easily addressed as well.

"The speed and reliability of the EMC SAN, and the fact that it provides a common disk platform among all of our VMware ESX Servers, makes it easy to manage the servers with the SAN and quickly adjust disk space and disk allocation based on our changing needs," says Kerpan.

In addition, by leveraging the EMC SAN with VMware software, such as VMotion, Baytex can non-disruptively move workloads to further optimize utilization of resources as well as perform software and hardware upgrades and maintenance without downtime. The result is improved uptime and the ability to deliver higher application service levels—without incurring overtime costs. These tasks can now be done during normal work hours without impacting the business.

Complementing the consolidation progress achieved through VMware technology, an EMC NS500G NAS gateway system with dual data movers has also made it possible for Baytex to replace four file servers with a single NAS system. Key benefits include dramatic performance gains for the company's file shares, streamlined management, and non-stop availability.

"It takes a lot less time and effort to manage a NAS system than it does to manage individual file servers and the connections to the SAN," explains Kerpan. "With this solution we're able to grow the NAS environment on the fly without reboots or impact to end users. And the clustered data movers give us assurance that if there was ever a problem with the primary data mover we wouldn't face a total network outage."

EMC Services were used to help facilitate an expedient and successful implementation of these solutions.

"The EMC staff spent a lot of time with us ensuring our solutions were deployed properly in the most effective and efficient ways possible for our needs," says Kerpan.

Shorter backup windows, faster restores

Recently, Baytex implemented a backup-to-disk solution consisting of an EMC CLARiiON CX series storage system with economical ATA drives. This solution, which has shortened backup windows by 50 percent, replaces a backup-to-tape process that took most of the night and often ran into morning hours to complete. It also provides for considerably faster data recovery which has helped Baytex dramatically improve recovery-point objectives for its business-critical SQL and Oracle database environments.

"With backup-to-disk we can now start later and finish sooner, which means interruptions in network availability are greatly reduced," says Kerpan. "The ATA disk also brought this into a price point that fits within our budget."

In addition to its current use for backup-to-disk, this second EMC CLARiiON system will be used in the future to further the company's disaster recovery initiatives allowing data mirroring to a remote site.

"We started off with a single CLARiiON SAN five years ago and we've been increasing our reliance on EMC and the role it plays within our environment ever since," concludes Kerpan.



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Customer Profile

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