

Bar Harbor Bank & Trust

EMC VSPEX supports rapid growth and protects critical applications



ESSENTIALS

Industry

Financial services

Company Size

15 branches and more than \$1.3 billion in assets

Business Challenges

- Growth putting service levels at risk
- Existing storage did not support virtualization
- Large number of physical servers had become difficult for existing IT staff to manage
- Full backups were seldom completed over a weekend and ran well into Monday, delaying access to critical data

Solutions

EMC VSPEX Proven Infrastructure:

- EMC VNX unified storage
- EMC FAST Suite
- VMware vSphere
- HP x86 blade servers
- Brocade networking
- EMC RecoverPoint
- EMC Data Domain

CUSTOMER PROFILE

OVERVIEW

Founded in 1887, Bar Harbor Bank & Trust (BHBT) is a community bank with more than \$1.3 billion in assets. With headquarters in Bar Harbor, Maine and branches in 15 cities, the bank offers a full range of financial services products for families, businesses, and non-profit organizations.

BUSINESS CHALLENGES

BHBT had been experiencing rapid growth thanks to the popularity of the financial services and products it offers to customers. BHBT delivers these products and services using several large Microsoft SQL Server databases, dBASE databases, Microsoft Exchange and Microsoft SharePoint, and the Fiserv financial software suite (the bank's core transaction processing application).

But with the business growing rapidly, BHBT's IT infrastructure could not support all of the new business. The physical servers were multiplying rapidly along with the growth in customer accounts. When the data center topped 70 servers without a corresponding increase in staff to manage them, the bank found its quality of service levels were in peril.

BHBT quickly determined that virtualization of its critical business applications would deliver the agility and performance improvements needed to balance growth while maintaining the quality of service. But the company's existing NetApp storage could not support virtualization.

In addition, BHBT's previous tape-based backup system had not kept pace with growth. And while the mainframe-based transaction system was protected by offsite replication, there was no disaster recovery (DR) strategy or replication for the rest of the applications and databases. Full backups took an entire weekend, and sometimes would have to be restarted on Monday due to a tape failure. And typical data recovery could take up to 12 hours for core services—and weeks, or even months, for other applications.

To address these challenges, Bar Harbor migrated its data center to a completely virtualized environment. After evaluating several vendors including NetApp and Nimble Storage, the bank chose an EMC® VSPEX® Proven Infrastructure.

SOLUTIONS

BHBT chose VSPEX because it integrated best-of-breed storage, virtualization, networks, and servers to create a private cloud for Bar Harbor's new data center environment. The VSPEX includes EMC VNX® unified storage, VMware® Sphere™ virtualization, HP x86 blade servers, and Brocade networking. One VSPEX is installed at the main data center in Ellsworth, Maine, with a second VSPEX located at the offsite DR center in South China, Maine. The solution was supplied by EMC partner, Focus Technology Solutions.

Results

- Provided business agility and scalability
- Optimized performance of critical applications and maximized storage resources
- Ensured availability of applications
- Reduced full backup times from days to hours
- Reduced server recovery times from days to hours and file recovery times from hours to seconds
- Provided thousands in monthly savings due to reduced power and space usage

Bob Lavoie, Vice President of Information Systems, Bar Harbor Bank & Trust, says, "We needed a complete data center solution that would provide very fast recovery, ease our administrative load, and provide offsite replication and advanced deduplication for all of our applications. Of the vendors we considered, EMC VSPEX offered the most comprehensive solution and the most flexibility to configure the systems according to our needs."

The VSPEX also includes EMC Data Domain® deduplication storage systems at each site for fast, efficient application and data backup and recovery. EMC RecoverPoint® remote replication generates multiple recovery points to restore applications instantly to a specific point in time. And VMware vCenter Site Recovery Manager automates and orchestrates restore of each virtual machine during a recovery operation.

In addition, BHBT uses VMware vSphere API for Array Integration (VAAI), which offloads specific vSphere storage operations to supported disk arrays for greater performance and efficiency. VMware vSphere API for Storage Awareness (VASA) offers greater visibility into the virtual storage environment, and EMC Unisphere® provides a central dashboard and unified management of the entire storage operation.

VIRTUALIZATION PROVIDES AGILITY, SCALABILITY

With VSPEX, BHBT has easily virtualized all of its critical business applications and 90 percent of its server environment. Virtualization enables BHBT to better serve its customers.

The agility provided by virtualization enables the bank to respond to changing business needs quickly and easily. For example, if customers report latency with the bank's Fiserv application, IT can bump up performance easily. IT can also add more memory or another CPU.

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Virtual servers can be added on a moment's notice to support additional projects and applications as the bank and its customer base grows.

"In addition to the expense of new hardware and software, a physical server might take a couple of weeks to purchase, install, and configure. But now we can get a server up, running, and tested in under an hour," Lavoie says.

VSPEX also provides the bank with the ability to expand quickly. With CPUs that dwarf the former physical server environment and a total of 23 terabytes of usable disk space, the EMC-driven virtualized solution will support Bar Harbor's business requirements far into the future.

"If we were to acquire another bank a year from now and grow by ten branches, we could handle it," Lavoie explains. "Our HP server chassis is currently using three blades, but it can expand up to 14. With this ability to expand, we have a solution that works now but will also support our business in the future."

OPTIMIZING PERFORMANCE OF BUSINESS APPLICATIONS

With VSPEX, BHBT can keep its critical applications running at optimum speed.

"If we get a user complaint that one of our applications is running a little slow, we can allocate more memory to that individual application quickly and easily. This capability is hugely important to us and a very large improvement over our previous physical environment," Lavoie says.

The EMC FAST™ Suite optimizes the performance of VSPEX by automatically moving active data to high-performance storage tiers and less-active "cold" data, such as the bank's customer history data, to low-cost, high-capacity storage tiers. With NetApp, BHBT would have had to provide the same processing power for cold storage as it did for something that needs high performance.

"We have some applications that are getting hit thousands of times a minute, and others that might be accessed twice an hour, so allocating the same resources to everything would have been incredibly inefficient. The FAST Suite really sets VSPEX apart from the other solutions we considered, which tended to be one-size-fits-all," Lavoie remarks.

SAFEGUARDING BUSINESS-CRITICAL APPLICATIONS

Every evening, the Data Domain system in the main data center backs up all of BHBT's critical applications—including transactional data from Fiserv, emails and attachments from the Exchange server, SQL Server data, and files from Office and Sharepoint applications—with near-instant replication to the mirrored Data Domain at the DR site. Backups that previously ran over a weekend and sometimes well into Monday are now completed automatically within a few hours.

For server recovery and restoration, RecoverPoint and Site Recovery Manager have reduced server recovery and restore from days to just a few hours. A simple file recovery now takes only a few seconds. Also, because backups are completed overnight, critical systems can be restored, if needed, first thing in the morning.

"Previously, if one of our internal customers needed to have a file restored, we couldn't even start until well after noon when the tape system had finished its backup. With VSPEX, we can be much more responsive to our customers," Lavoie says.

One critical SQL Server application, BHBT's business analytics product, is in heavy use throughout the day by Bar Harbor customers.

"This application generates a large quantity of information that managers use to make key decisions, so it absolutely has to be available first thing in the morning. Not only does VSPEX ensure that the application is continually available, but the data it generates is no longer held up by a slow and cumbersome backup process," he adds.

In addition, Data Domain deduplication ensures that only unique data is transferred over the network, enabling Bar Harbor to maximize bandwidth efficiency even in an area of Maine that has less-than-optimal Internet connectivity. As a result, the replicated Data Domain backup at the DR center is microseconds behind the main data center backup.

GREENING THE DATA CENTER

With BHBT's data center now occupying a small fraction of the original server room footprint, Lavoie estimates that the bank is saving more than thousands each month in electricity and cooling costs. Whereas the physical server environment once required three cooling units operating full-time, the new data center relies on a single cooling unit with one more available in backup mode.

BHBT also saves by eliminating tape backups, as well as trips between the data centers (a two-hour drive) to store or recover tapes. "In addition to the savings, we're doing what we can to help the environment," Lavoie notes.

DELIVERING OPTIMAL SERVICE

The seamless interoperability of the server, storage, and virtualization components of VSPEX has enabled BHBT to move to a nearly 100-percent virtualized IT environment, resulting in higher availability of applications, more security for data, and a higher quality of service for banking customers.

"The days of 'banker's hours' are long past. Today, customers expect to be connected to their account information and have access to a full range of online financial services around the clock," Lavoie remarks. "We chose EMC VSPEX because we knew it could provide 24/7 availability of our applications and peace of mind, knowing that we always have a full backup of our data available without ever having to intervene."

CONTACT US

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