Case study

First National Bank at Darlington

Small bank leverages HP Converged Infrastructure for high performance

Industry
Financial services

Objective
Create infrastructure to support demanding new banking application

Approach
Refresh HP Converged Infrastructure

IT matters
- Deliver high availability at affordable cost
- Provide processing power for demanding applications
- Recover from server failure within minutes
- Virtualize storage for cost-efficiency, fast recovery

Business matters
- Provide prompt customer service
- Satisfy regulatory requirements
- Ensure business continuity, disaster preparedness

"Bank examiners require robust disaster recovery and business continuity. Our HP Converged Infrastructure enables us to bring our services back up within minutes."

– Michael Lee, vice president and IT director, First National Bank at Darlington

First National Bank at Darlington is a small community bank that serves a population of 2,500 in Wisconsin's Lafayette County. With just a single, 20-employee branch office and close to $100 million in assets, FNB Darlington in some ways resembles banks of an earlier era: locally owned and operated, friendly, and service-oriented; when customers walk in, tellers and loan officers alike know them by name. However, FNB Darlington also is a fully modern institution that operates efficiently as a business—with reliable system uptime and competitive services including online banking. In addition, FNB Darlington must meet regulatory standards just like the megabanks with which it competes. To meet these demands, FNB Darlington relies on HP Converged Infrastructure (CI) for high availability at an affordable cost.

Michael Lee jokes that people sometimes call him "Bigfoot." He earned the nickname years ago, when, stepping on a power strip, he accidentally unplugged a workplace server. "That's the day I learned what it means to have a vulnerable point of failure," he laughs. Today Lee is the IT director as well as a loan officer at FNB Darlington. Remembering his early point-of-failure lesson, Lee oversees a resilient, high-performance architecture built on HP Converged Infrastructure. "We're a small bank but we have enterprise-grade system redundancy, disaster recovery, and processing power—all built on HP technology." Lee says.

"Virtualizing on HP Converged Infrastructure delivers high performance with resource-intensive applications like Compliance Concierge."

– Michael Lee, vice president and IT director, First National Bank at Darlington

FNB Darlington began its virtualization journey several years ago with an HP Smart Bundle platform. Prior to that, the bank had run on a collection of aging servers, one application per server, until a server failure one day forced a shutdown during banking hours. Lee vowed to prevent anything like that from ever happening again, and created a highly available banking environment leveraging VMware software and HP data center technology. HP Converged Infrastructure integrates servers, storage, and networking into shared pools of interoperable resources, creating streamlined, more energy-efficient data centers that are easier to manage and to scale. Virtualizing on an HP converged platform, FNB Darlington reduced its recovery time objective (RTO) from three days to three minutes. Patch management accelerated 75%. Reliable system uptime gave customers uninterrupted 24x7 banking services, and Lee gained back 10 hours a week he'd spent dealing with system issues. The bank also uses HP PCs on staff desktops and at teller windows, as well as HP printers. HP Proactive Care Service delivers 24x7 coverage with four-hour response time. "We've always had a good experience with HP reliability and service," Lee says. "We don't have to worry about equipment failure. If we need something, like a new power supply, they send it right away and even follow up the next day to make sure everything is ok. That's why we stick with HP."

HP Converged Infrastructure meets application demands

Recently, the bank decided to deploy a new loan origination and deposit opening application called Compliance Concierge. The processing-power demands of that software, and of the bank's Oracle database, prompted FNB Darlington to update its data center environment, now several years old, with the latest generation HP technology. Lee worked with HP Partner Core Vision IT Solutions to design the system architecture, and for day-to-day technical support works with the senior engineer at T.C. Networks, Inc.

At the heart of the bank's new HP Converged Infrastructure are two HP ProLiant DL380p Gen8 Servers, each with two quad core Intel® Xeon® processors. This new generation of HP ProLiant servers brings advances in built-in intelligence and automation to speed system updates, increase energy efficiency, perform self-monitoring health checks, and improve performance. "Customers don't like to stand in line waiting for slow systems, and you never want to tell them 'my computer is down.' Our new servers have eight cores total and enough RAM for VMware vSphere, our Oracle database, Compliance Concierge—all the resource-intensive workloads we throw at them."

"FNB Darlington had a limited budget and was looking to leverage a low-cost storage solution that can easily be migrated to much larger storage, if needed, in the future. HP's Software-defined Storage was an ideal fit."

– Michael Lee, vice president and IT director, First National Bank at Darlington

FNB Darlington had a limited budget and wanted to leverage a low-cost storage solution that could easily be migrated to much larger storage, if needed, in the future. Software-defined Storage (SdS) from HP was an ideal fit. SdS separates storage controller functions, data protection, and advanced data services from the underlying physical storage hardware. The bank used the SdS solution HP StoreVirtual Storage as part of its converged

Customer at a glance

Application
Community banking, using Compliance Concierge loan origination and deposit account opening software in virtualized infrastructure, with Oracle database

Hardware
- HP ProLiant DL380p Gen8 Server, each running VMware and HP StoreVirtual VSA

Software
- HP StoreVirtual VSA (Centralized Management Console)
- Windows Server® 2008 R2
- Windows Server® 2003 R2
- Windows® 7 Pro

HP services
- HP Proactive Care Service 24 x 7

infrastructure to gain the management and reliability benefits of a storage area network without the cost and complexity of purchasing a traditional SAN. "The HP StoreVirtual VSA takes the available storage on the servers and creates a pool so that it looks like a single storage asset, but because it's using disk space on the two servers, the data is mirrored between the two. So if we lose a server, VMware moves the application to the other server, accessing the data the VSA has already copied there."

Meeting regulatory demand for robust recovery

Lee and the senior engineer ran a failover test of the new system, by pulling a network cable out of one of the servers. The other server took over in less than a minute. With robust disaster recovery a regulatory requirement, the bank also conducts quarterly and annual recovery tests. Its HP Converged Infrastructure is essential to satisfying regulator demands. "Bank examiners say, you have to bring back your primary services in the event of a disaster," Lee says. "What this infrastructure does is provide us with that capacity. If there's a server failure, we could run our in-house teller system, and generate loan and deposit documents, within minutes, because everything is virtualized on the network." The new HP ProLiant servers, he adds, have experienced no unplanned downtime.

FNB Darlington also maintains offsite backup in the event of catastrophe. The bank engages Fiserv, Inc., a provider of information management and electronic commerce system for the financial services industry, for core processing. For offsite backup, FNB Darlington uses Veeam Backup & Replication™ from HP Partner Veeam Software. The combination of Veeam and HP delivers fast recovery of entire virtual machines (VMs), guest OS files, and granular application items directly from HP StoreVirtual snapshots. FNB Darlington creates a disk-based repository, updated daily, for VM backup images from local storage to Network Attached Storage (NAS) devices stored offsite. The bank also is looking into HP StoreOnce VSA, software-defined storage that provides backup and recovery for virtualized environments.

> "HP Converged Infrastructure is an essential part of robust business continuity planning and disaster recovery capabilities."
>
> – Michael Lee, vice president and IT director, First National Bank at Darlington

"We have multiple recovery points," Lee says. "If there's a fire, a lightning storm, a power failure, I can say with certainty that we can recover. Our customers are satisfied with our fast, reliable service, and when bank examiners come in, they're impressed with our infrastructure. They see that we really have got it together—thanks to the power and reliability of our vendor relationships and our HP solutions."

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