

Government council sees up to 40 percent performance increase with HP 3PAR StoreServ Storage

Northland Regional Council increases performance, efficiency, and scalability with HP 3PAR F400 Storage and HP ProLiant DL380p Servers



“Our virtual environment runs so much better. Both the HP 3PAR StoreServ Storage and the DL380p Gen8 servers are so fast.”

Daniel Blake, Systems Engineer, Northland Regional Council

HP customer case study
HP 3PAR F400 Storage and HP ProLiant DL380p Gen8 Servers

Industry
Government

Objective

Replace aging storage system with a SAN solution that offers thin provisioning and adaptive optimization to support virtual server infrastructure

Approach

Evaluate storage systems from vendors including EMC, HP, and IBM to determine which SAN solution could help increase performance and scalability, enhance efficiency, and ease management of virtual environment running key business applications

IT improvements

- Experienced almost a 40 percent increase in performance
- Saved 30 percent of provisioned storage space using thin provisioning
- Reduced time to run database tasks from four hours down to two hours
- Simplified server and storage management
- Provided greater scalability for continued growth

Business benefits

- Increased productivity by improving performance of critical business applications
- Provided environment to support the consent and monitoring Web applications that citizens use to apply for land development

Putting Northland first

The Northland region of New Zealand covers a 1.25 million hectare (3.1 million acres) area that New Zealanders call “the winterless north.” The region includes forests and pristine beaches, but is primarily made up of rolling hill country that serves both the farming and forestry industries. The Northland Regional Council is one of the Northland’s main environmental guardians, protecting the region’s land, water, coast, and air, while still allowing for sustainable development. A staff of 176 supports the organization and provides services for the region’s population of almost 159,000. The Council’s responsibilities include environmental management, flood management, biosecurity, emergency management, pollution control, public transport planning and funding, and coastal navigation and safety.

An aging infrastructure

Northland Regional Council has an IT team of six people who look after its production, testing, and disaster recovery environments. Faced with aging equipment and some aging custom applications, the Council recently began upgrading its storage, server, and application environments. In its production environment, it had deployed an HP 6000 Enterprise Virtual Array (EVA6000) storage system to support its server infrastructure, powered by HP ProLiant DL585 servers. “We were really pushing our HP EVA storage system to its limits with regards to IOPS and throughput,” explains Daniel Blake, systems engineer at Northland Regional Council.



About Northland Regional Council

The **Northland Regional Council**, located in northern New Zealand, aims to protect the region's land, water, coast, and air while allowing for sustainable development. As a publicly funded government agency, the Council also promotes Northland's economic, social, and cultural wellbeing, and provides emergency services during natural disasters or weather events.

Much of the environment was virtualized using VMware ESX to run applications including the Council's Objective Electronic Document Management system, a business-critical application that employees use every day, in addition to some mapping applications and geographic information systems, Microsoft® Office, and its Microsoft Exchange Server. "People noticed that applications were getting slower," explains Blake. "We measured the performance of our applications against other councils using the same applications, and we were lagging a bit behind." The environment also supported the Council's custom consent and monitoring applications that stakeholders use to apply for land development.

Cleaning up the environment

Northland Regional Council decided to clean up its environment. On the application front, the Council collaborated with other regional councils and are in the process of deploying IRIS, which combines several consent and monitoring applications into one proprietary application. On the server side, the Council migrated its VMware solution to VMware vSphere 5.

Considering a replacement for its aging HP EVA storage system, the Council approached vendors with whom it had established relationships and asked for proposals. It also conducted independent research. Eventually the Council created a short list of solutions from Dell, EMC, IBM, and HP. "We weighed them all against the features that were important to us, specifically price, performance, and thin provisioning," says Blake. "HP 3PAR StoreServ Storage won because of the way it does thin provisioning and adaptive optimization. It was just more advanced than the competitors' offerings."

"We saw up to a 40 percent increase in the performance of our Objective system."

Daniel Blake, Systems Engineer,
Northland Regional Council

For its storage solution, Northland Regional Council deployed an HP 3PAR F400 storage system with two controllers. It uses 16 100 GB solid-state drives, 16 600 GB Fibre Channel drives, and 16 nearline drives that are 2 TB each. The council also deployed two HP Brocade SAN switches to connect the HP 3PAR F400 system to the network, and upgraded its server infrastructure by deploying HP ProLiant DL380p Gen8 Servers to support its virtual environment.

A timely and simple deployment

Blake estimates it took about a month from the time Northland Regional Council ordered the HP 3PAR F400 system to the time they had it running in production. HP Deployment installed the solution, and then worked with Blake to provision the LUNs. "The HP engineer did the base configuration, and then to configure the environment he basically had me do the work and just told me what to do," says Blake. "I thought that was an excellent way to manage onsite training and hand over control."

The Council used VMware Storage vMotion to migrate data from the EVA6000, which is now deployed in its development and testing environment. To manage the storage solution, the Council is using the HP 3PAR Operating System management software. "The HP 3PAR Management Console is great. I was able to provision all my virtual volumes, and it was easy to set up the hosts," says Blake. He also attended training after the storage system was installed. "The training was great, and because I went to training after the HP 3PAR storage was installed, I managed to take in 100 percent of the training because I already had a basic knowledge," says Blake.

In the long run, Blake expects the HP 3PAR StoreServ solution to ease administration. He explains, "I expect HP 3PAR StoreServ Storage to be something I can configure and then not have to touch, except for occasionally adding a new virtual volume, which takes no more than one percent of my time."

Positive environmental impact

The Council deployed HP DL380p Gen8 Servers in its production environment and moved its ProLiant DL585 servers to its disaster recovery site. "The HP DL380p Gen8 Servers work really well," says Blake. "They have plenty of RAM, 10 Gb Fibre cards in the back, and great CPUs."

One of the best results Northland Regional Council has seen from upgrading its server and storage infrastructure is a positive impact on productivity. "Everything is just a little bit faster to load and save and such," explains Blake. "People have noticed a difference, especially in our Objective system, because they use it every day."

Customer solution at a glance

Hardware

- HP 3PAR F400 Storage System
- HP ProLiant DL380p Gen8 Servers
- HP ProLiant DL585 Servers
- HP 6000 Enterprise Virtual Array Storage
- HP Brocade 8/24 SAN Switch
- HP MSL4048 Tape Library

Software

- HP iLO Management Engine
- HP 3PAR Operating System
- HP 3PAR Thin Provisioning
- HP 3PAR Adaptive Optimization
- HP Data Protector
- VMware vSphere 5
- VMware Storage vMotion
- VMware Site Recovery Manager
- Objective Electronic Document Management

Operating system

- Microsoft Windows® Server 2008 R2
- SUSE Linux Enterprise Server 11

Network protocol

- 10 Gigabit Ethernet

HP Services

- HP Deployment
- HP 3PAR Technology Services
- HP Proactive 24 Service
- HP 24x7 4-Hour Support

Up to 40 percent increase in performance

To save space and ensure performance, Northland Regional Council is using both HP 3PAR Thin Provisioning and HP 3PAR Adaptive Optimization software. With Thin Provisioning, Blake estimates a space savings of about 30 percent, or 3.9 TB out of 12 TB of currently provisioned storage space. While the Thin Provisioning software helps conserve space, the Adaptive Optimization software is an autonomic storage tool that moves data between storage tiers based on performance needs. “We were able to run Adaptive Optimization right out of the box without customizing it at all,” notes Blake.

“Because we bought everything from HP, if something does happen to our servers or storage, we only have to make one phone call. That gives us real peace of mind.”

Daniel Blake, Systems Engineer,
Northland Regional Council

After putting the HP 3PAR F400 system into production, Northland Regional Council ran some performance tests—15 to be exact—for its Objective document management solution. “We saw up to a 40 percent increase in the performance of our Objective system,” says Blake. “We also found that several database tasks that used to take about four hours to run now take half that time.”

Blake believes at least part of the overall boost he’s seen in performance has to do with the ProLiant Gen8 servers. “Our virtual environment runs so much better,” he says. “Both HP 3PAR StoreServ Storage and the DL380p Gen8 servers are so fast.”

A solution that offers peace of mind

By using storage, servers, and networking all from HP, Northland Regional Council saved itself a great deal of hassle if any problems should arise. To support its HP 3PAR StoreServ Storage, it uses HP Proactive 24 Services. For its servers and networking, the Council relies on HP 24x7 4-Hour support. “If we used different vendors for everything, each vendor would blame the others. Because we bought everything from HP, if something does happen to our servers or storage, we only have to make one phone call,” says Blake. “That gives us real peace of mind.”

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4AA4-4988ENW, Created January 2013

