Northern Backup
Case Study

Northern Backup Uses Nexenta to Quadruple Performance and Reduce Storage Costs by 40%

Calgary, Canada
www.northernbackup.com
IT managed service provider

Summary

Challenge: To enable demand for high performance IT service delivery on any server hardware platform, ensuring the highest levels of service performance, agility, capacity, and redundancy

Solution: NexentaStor

Platform: Hitachi, HP

Use Case: High Performance and Availability

Benefits:

- Enabled four times greater performance of IT application and data delivery at 60% of the price
- Increase to 27K IOPS compared to 2K IPOS for our previous systems
- Ability to grow managed services footprint and offer new services
- Freedom to choose any hardware platform and escape restrictive storage hardware licensing and support cycles
- Average write latency improvement to 50%
- Reduction of Terabyte costs by $100/TB
- Ability to easily add storage capacity within a couple of hours
- Improved and more agile availability
- High reliability

Business Overview

Northern Backup is a growing IT managed service provider based in Calgary, Alberta servicing companies across the globe. Customers include government agencies, small, medium and large business in the government, oil and gas, healthcare and finance vertical markets. Customers range from small companies storing an SQL database on a simple server to enterprises that employ large numbers of servers dedicated to sophisticated ERP systems. Companies use Northern Backup to ensure their critical applications run at optimal levels and their data remains secure and accessible.

Over the last several years, Northern Backup has experienced exponential growth. While this growth has presented tremendous business opportunity, Northern Backup's existing hardware ecosystem wasn't delivering the capacity, flexibility and performance that would allow them to take advantage of changes in the market. The company identified the ability to dynamically provide storage according to specific user needs and ensure high levels of performance, security, and ease of management as essential requirements for aggressive growth.

> " While we were able to meet our customers' needs, we felt like were weren't in control of our own destiny when it came to storage. Software-Defined Storage was rising in popularity, and gave us the flexibility not to be locked into anyone's hardware, so we investigated further. But, we found that not all SDS is created equal. In fact, much of SDS looks a lot like old school storage. With NexentaStor, we not only control our own ecosystem, but we're seeing impressive performance improvements, including faster delivery of data-intensive applications such as SAP and CRM application use. Overall, we're seeing a 50% average write latency coupled with a four times performance improvement. "

Brent Thumlert

Chief Architect
Northern Backup

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Challenges

Delivering the highest performance to a wide variety of clients means that Northern Backup must be able to increase capacity and dynamically assign storage resources in real time. Coupled with the need to add new services, realizing the greatest profitability adds a great deal of pressure to the storage mix. As the number of customers and the amount of data has exploded, Northern Backup was forced to buy a large batch of storage every six months and forced to retire SANs after 28 months due to restrictive storage hardware licensing and support cycles.

"While we were able to meet our customers' needs, we felt like were weren't in control of our own destiny when it came to storage," said Brent Thumlert, Chief Architect, Northern Backup. "We knew there had to be a better way, so we started evaluating alternatives. Software-Defined Storage was rising in popularity, and gave us the flexibility not to be locked-in to anyone's hardware, so we investigated further. We found that not all SDS is created equal. In fact, much of SDS looks a lot like old school storage."

System Configuration

- NexentaStor 4.04
- Two HP DL 380 servers
- One HP D6000 Storage array
- VMware vSphere

Solution and Benefits

Solution

Northern Backup evaluated several storage alternatives based on storage capacity, price, performance, agility, reliability, ease of manageability and deployment. They wanted the flexibility and performance of SDS coupled with the freedom and cost effectiveness of off the shelf commodity hardware. The President, Chief Architect and Network Architect evaluated VMware vSAN, Nexenta, Simplivity and Nutanix.

The storage vendor testing process was conducted over a month. While each alternative extolled the software-defined element of their solutions, with the exception of Nexenta, Northern Backup determined that they would still be forced to use each companies' hardware choices. The alternatives were also more expensive and didn't provide the necessary performance, storage density and footprint required. Finally, they required more management resources than Northern Backup was willing to devote.

The team ran speed benchmarks and Nexenta delivered an increase of 200% on SQL databases, in some circumstances, even higher. Previously, Northern Backup was experiencing 3K IOPS on read workloads. With Nexenta, over 12K IOPS were realized, four times the previous performance. On the write side, testing delivered increases from 2K to 27K IOPS. NexentaStor was selected after it clearly out-performed Northern Backup's existing systems and all other storage options.

"With NexentaStor, we not only control our own ecosystem, but we're seeing impressive performance improvements. For example, we measured performance using a Microsoft tool SQL IO, a read/write-intensive application and the most demanding query for that application. It is a random write to a bunch of disks in small increments. We saw 27K IOPS performance with NexentaStor compared to 2K IPOS for our previous systems. This translates into faster delivery of data-intensive applications such as SAP and CRM application use. Writes and the speed of writes are done at an incredibly fast rate and Nexenta doesn't affect the backend at all. Overall, we're seeing a 50% average write latency coupled with a four times performance improvement," added Thumlert.

Northern Backup also compared each alternatives' cost per terabyte. Compared to their typical SAN installation and the current alternatives, NexentaStor delivers these improvements at a 40% savings. Nexenta reduces the cost per terabyte by $100, yet increases performance and Northern Backup's footprint. NexentaStor also provides the level of continuity required of high availability customers, including instant hot disk replacement of any failed disk. This allows customers to set metrics for failover times.

"The bottom line is that NexentaStor is the best across-the-board alternative today, and going forward. As technology gets denser, we can increase density with any hardware vendor we choose. We'll use the same Nexenta storage platform and it will easily adjust as hardware evolves," said Thumlert.

Once the decision was made to purchase NexentaStor, implementation was an easy, fast process. It took only one employee working with a Nexenta technical architect just two days to fully deploy.

"We probably could have deployed in half the time, but we asked a lot of questions because we wanted to completely understand the product," said Thumlert. "They were very knowledgeable, thorough and completely open to explaining things. Being able to manage storage with a great GUI is fantastic. The NexentaStor GUI makes the process easy and friendly. We just go to Nexenta's website and manage everything through the web versus having to know a lot of command lines and terminal commands. And because it's easy, more staff can be trained on Nexenta. It also gives us quicker response to changes without bringing on new staff. So we're not only saving money, but staff resources."

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Benefits

Moving to Nexenta solutions has had a positive impact throughout the company, from customer satisfaction to the reduction of op ex. With NexentaStor, Northern Backup can provide more competitive service offerings – in many cases giving them the ability to offer services that outperform significantly larger competitors. Customers are realizing greater performance and the peace of mind that 100% uptime provides. Inside the company, the team is able to deliver improvements on everything from performance, to agility, capacity, and redundancy. Performance and capacity are no longer tethered to a storage provider's hardware limitations and policies.

"Nexenta's unique approach to software-defined storage frees us to provide better service to our customers today and expand the range of services we can provide tomorrow. The benefits of NexentaStor have gone far beyond the realm of storage. I view Nexenta as a partner that is helping us fulfill our business potential and win in the marketplace," concluded Thumlert.

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