

Highlights

Institution

Norwegian School of Economics and Business Administration (NHH)

Industry

Higher Education

Location

Bergen, Norway

Virtualization Environment

- VMware® vSphere™ 5.0
- VMware® View™ 5.1
- 120 server VMs in production
- Prior to Tintri: NetApp systems using both block (FC) and NFS datastores

VM Profile

- Server VMs running key education applications and Microsoft Share-Point implementations
- Desktop VMs for students

Key Challenges

- Existing storage is challenged by performance needs.
- Complexity of configuring and managing existing storage.
- Expensive to virtualize performance-intensive tier-1 education applications.

Tintri Solution

Tintri VMstore™ T540 dual-controller 13.5TB storage appliance.

Use Cases

Primary use case is virtualizing tier-1 education applications. Virtualizing desktops is a secondary use case.

Business Benefits

- Cost-effective, intelligent flash performance to serve hundreds of IO-intensive VMs
- Consolidated storage for server and desktop virtual environments
- Single large IP-based datastore for simpler manageability.

Norwegian university accelerates VDI, replacing legacy SAN with Tintri VMstore

Overview

Established as a public institution in 1936, NHH is Norway’s leading business school and enrolls more than 3,000 students. NHH is located in Bergen, Norway.

NHH’s storage system became a bottleneck for virtualized environments. Tier-1 applications were suffering performance issues with legacy disk-based storage hardware in production. The university debated adding flash as cache to its existing solution, but deemed it unrealistic due to both cost and management complexity.

Key Customer Challenges

NHH used Fibre Channel (FC)-based datastores in its virtualization environment. “Performance with our existing storage became an issue, and even for simple workloads we were not able to get adequate performance,” said Heine Didriksen, NHH senior engineer. “We wanted to virtualize desktops as well, but we knew this required a high-performance storage solution.”

“Management of the existing storage systems in our virtualized environment was an issue. We needed to worry about segmenting our storage to meet the performance needs of different solutions,” said Didriksen. “Given the size of our IT department, we did not want to have dedicated staff for managing storage in our virtualized environment, so the administration had to be very simple.”

Tintri as the Basis for Virtual Storage Infrastructure

NHH learnt about Tintri at VMworld. “We were very impressed with what we saw in terms of innovative use of flash for performance, and rich functionality for virtualized environments,” said Didriksen. “Even though we initially looked at deploying a block-based storage system, the Tintri appliance was attractive because of its performance and simplicity of management. So, we decided evaluate Tintri.”

NHH evaluated the Tintri T540 appliance along with a couple of block-based storage systems. “We selected Tintri because of its unique blend of flash and hard-disk capacity for intelligent performance,” said Didriksen. “Other systems did not have flash and hard-disk capacity in one appliance, and were much more expensive,” said Didriksen. “Tintri appliances have seamless vSphere integration — and that is an added bonus.”



Customer Success

“Storage used to be a real headache for us. With Tintri, we just don’t think about storage anymore — it’s not a problem.”

– Heine Didriksen
senior engineer

Business Benefits

NHH’s IT infrastructure serves a global network of over 3,700 students, faculty, and staff. Its network is accessed around the clock and requires high uptime. Tintri allowed NHH to meet its high performance and uptime needs. “Tintri’s innovative use of flash was a big differentiator to us. Efficient use of deduplication and compression allows us to run everything in flash, with plenty of room to spare. Storage used to be a real headache for us. With Tintri, we just don’t think about storage anymore — it’s not a problem,” said Thor-Inge Naasset, NHH director of information technology services.

Tintri’s unique VM-aware cost-effective approach to leverage flash for performance and hard disk for capacity eliminates storage complexity and the need for manual tiering management between different storage in virtualized environments. “With Tintri, most commonly used applications are in flash and don’t require any user intervention, and we don’t have to segment our storage solutions”, said Didriksen. “We also don’t need to buy separate flash storage systems for desktop virtualization, as can run everything on the same Tintri appliance, substantially reducing management complexity.”

“Tintri’s intuitive GUI dramatically simplifies administration, allowing generalist IT staff to manage performance and capacity metrics on a per-VM basis for troubleshooting,” said Didriksen. “We basically deployed two Tintri appliances in our data center, turned them on, and since then hardly do any day-to-day active management. If we had a dedicated storage admin, he’d be reading a lot of newspapers.”

Looking to Deploy Tintri in the Future

With Tintri, the NHH team can eliminate storage bottlenecks in the server virtualization environment with performance to spare. “Virtual desktop infrastructure (VDI) is in testing stages now and we feel quite confident that we can successfully deploy the VDI solution on our existing Tintri system,” said Didriksen. “One of the main reasons we chose Tintri over competing solutions is the ability to cost-effectively consolidate multiple types of workloads,” said Didriksen.

Summary

NHH eliminated storage bottlenecks in their virtualized environment using Tintri appliances. Tintri VMstore’s intelligent use of flash for cost-effective performance combined with simplified management allows NHH to successfully eliminate bottlenecks in its virtual server infrastructure with performance to spare. Virtual desktops can also be deployed on the same storage, allowing greater storage consolidation. “Tintri takes an innovative approach to storage for virtual environments and offers performance unmatched by any other solution we evaluated,” said Naasset.