

Alaskan Bank Overcomes Cooling, Space, and Capacity Barriers While Increasing Application Performance by 300%



NORTHTRIM BANK CASE STUDY



Northrim Bank

Financial

www.northrim.com

Challenge

VDI underpins Northrim's demands for security, performance, scalability, and business continuity; however, this workload places the highest demand on its storage infrastructure. After ruling out Hyperconverged and Array-based solutions, the company selected Datrium's Automatrix platform to meet its current and future disaggregated HCI < needs.

Results

- 3x faster real-world application performance using Automatrix Insane Mode
- Zero labor-hours needed to manage Automatrix
- 7x overall data reduction compared to 1.75x backup compression and 1.38x primary compression with the Nimble Storage solution
- 20-50% fewer data store reservations than SANs
- One DVX exceeds the combined capacity and performance of two Nimble Storage and two EqualLogic arrays

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Benjamin Craig

EVP and Chief Information Officer

Company Challenge

Insufficient Storage for Growing VDI

When considering its storage options, Northrim found that both array-based and server-based options missed the mark in meeting its needs.

With array-based storage from Nimble Storage, performance began to bog down as workstation needs increased. However, if Northrim acquired the necessary controllers, processors, and cache to improve performance, it would have to incur significant expenses on top of its substantial existing investment.

Northrim evaluated and ruled out third-party SAN acceleration vendors because it didn't want the added burden of managing multiple storage vendors: one for SAN acceleration software and another for storage every time IT performed an upgrade.

Northrim carefully considered hyperconverged (HCI) solutions, but the Engineering team recognized their host-side patching, upgrades, and maintenance windows occurred far too frequently to rely on host servers configured as a distributed SAN. And Northrim determined HCI wouldn't scale well with its workloads, as it would require costly converged infrastructure purchases when it only needed independent storage and compute resources.

Results

Eliminating Hyperconverged Data Risk

Initially, Northrim was intrigued by Datrium because of the founders – veterans of leading storage and virtualization companies. But Benjamin Craig, EVP and CIO, also recognized that the technology was unique: superior scalability, performance, simplicity, and cost.

“Faith in the people behind Datrium got me to listen to the pitch,” Craig said. “But once I saw the technology, it was like the OxyClean of storage; it sold itself. The advantage was instantly clear to me, and it was exactly what we’ve been waiting for to finish our virtual desktop infrastructure deployment. It represents an evolutionary step in server-storage convergence by moving the logic, processing, and most of the touchpoints from the SAN Controllers to each host server, while maintaining worry-free data protection.”

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EVO and Chief Information Officer

Automatrix moves all array controller intelligence to each vSphere host server, and it allocates unused CPU cores to storage I/O processing. With Automatrix, written data is protected on a rock-solid data server, and Northrim hosts remain stateless and serviceable. “We simply could not take the chance a prolonged server outage might put our data at risk by using the HCI model,” Craig said. “To our delight, Datrium’s approach eliminated that risk.”

3x Faster Real-World Application Performance

Once deployed at Northrim, Automatrix immediately delivered a noticeable performance improvement – speed that end users noticed despite working thousands of miles away. VDI performance was credited with a 3x increase in batch processing – the mission-critical function of rolling a bank from one business day to the next – and this translated directly to time-savings. “Our Nimble Storage SANs are fast. But we were left speechless by the fact our DVX was frequently able to push well over 3x the I/O and throughput, with a fraction of the latency of our production SANs using only two SATA solid-state drives we bought off Amazon. And those results weren’t confined to a sterile lab environment – we observed a 3x reduction in core batch processing times and backup job durations on our virtual desktops,” said Joshua Rabe, IT Manager.

“From a performance standpoint, we’ve never seen a faster enterprise-grade system than Automatrix.”

Contributing to those performance gains, Northrim tapped into the Automatrix Insane Mode to increase storage performance on the fly. With the touch of a button, Insane Mode accelerated the performance of VMs in place, instantly delivering a “visceral improvement” in speed, according to Craig. With Insane Mode, the Northrim experienced an additional 30-35% performance boost over Automatrix Fast Mode, and it deploys Insane Mode standard across all connected host servers.

The Efficiency Advantage: Less Time, Less Capacity Compared to Arrays

Northrim manages Automatrix with VMware vCenter, eliminating the separate user interface necessary with its existing arrays. With Automatrix, the Northrim IT team eliminated 100% of the time previously spent managing legacy storage artifacts like LUNs and Volumes – time it now dedicates to other tasks.

But for Craig, the benefits of centralized management go beyond time savings. Using Automatrix, Northrim can recoup a significant amount of wasted space required to support thin provisioning on traditional SANs. Unlike most SANs, DVX advertises a single shared capacity pool to all vSphere host servers. In Northrim’s case, that meant they consolidated 34 LUNS, each with a 20-50% reserved buffer for thin provisioning, into a single data store. Craig estimated that these savings could allow Northrim to recoup terabytes of storage reserved for thin provisioning on legacy SANs. “With Automatrix, we see one NFS (network file system) data store versus 34 individual data stores with our previous storage solutions; that’s absolutely huge,” Craig said. “This efficiency allows us to granularly configure performance and protection at a VM level instead of at a Volume level.”

Also, Automatrix is the only platform to deliver deduplication and compression by default on both solid-state and spinning media. “No other vendor we’ve tested has the deduplication and compression effectiveness that Automatrix does,” Craig said. “Automatrix dedupes and compresses everything that’s written to it. We keep throwing more data at Automatrix, and we barely consume additional capacity. It’s darn impressive.”

Phenomenally Good Support

And as expected, Datrium provides the attentive support that a mission-critical 24x7 operation – or any type of business – demands. “There’s no more critical support than from a storage vendor because you’re literally putting all your eggs in one basket,” Craig said. “With Datrium, we get the right people on the line rapidly. Support is phenomenally good.”

About Northrim Bank

Northrim Bank is a geographically diverse community bank serving 90% of Alaska’s population with branches and offices from Fairbanks, Alaska to Bellevue, Washington. It is one of three publicly traded, SEC-registered, publicly owned companies based in the state of Alaska, and supports a total of 34 locations that include those of their wholly-owned subsidiary, Residential Mortgage.

Since opening in 1990, Northrim has expanded organically and through regular acquisitions. With growth, its virtual desktop infrastructure (VDI) has become a core piece of the company’s strategy for scalability and business continuity. VDI has facilitated seamless cutovers during mergers, allowed for business continuity during real-world disasters, and increased adoption of a bring-your-own-computer (BYOC) strategy among employees.

“We have virtualized our entire server infrastructure, and we’re about 65% virtualized with our desktops, with a goal of being 100% virtualized by year’s end,” said Erick Stoeckle, VP Architecture and Cybersecurity at Northrim Bank. “VDI represents our highest virtual workload, but we rely on it for business continuity, security, performance, and scalability.”

Learn more about Datrium at www.datrium.com.

