

University Replaces Arrays and Gains 16x Faster Queries, 66% Less Administration Time, and Sustainable Economics in a Budget Shortfall.



UNIVERSITY OF ALASKA ANCHORAGE CASE STUDY



UNIVERSITY of ALASKA
ANCHORAGE

Education

www.uaa.alaska.edu

Challenge

In the face of a \$50 million loss in state funding, UAA struggled with how to improve performance without increasing costs.

Results

- Upgrades in minutes versus hours of IT time
- 3.5x faster read I/O
- 16x faster queries (less than an hour versus 16 hours)
- 6x data reduction
- 67% less storage admin time

“We never expected to improve the user experience while simultaneously getting more capacity for the cost. But Datrium’s Automatrix platform, and its corresponding ease of management, allows us to do just that.”

John Zetterman

Lead Server Engineer, Information Technology Services

Company Challenge

Double Bind: Lagging Performance and a \$50 Million Shortfall

Alaska, a state heavily dependent on oil for jobs and tax revenue, acutely feels the impact of ups and downs in the industry. With a 17% drop in state tax revenue, state entities, including the University of Alaska, must make tough choices. In the fiscal year 2017, the university struggled to absorb a \$50 million loss in state funding, with more cuts expected in the next fiscal year.

When the University of Alaska Anchorage (UAA) experienced lagging performance on its Dell EqualLogic arrays, the IT team was concerned about adding capacity even though latency was having a serious impact on users. In the Office of Institutional Research, for example, reports took 16 hours to run every day – making the department less responsive to ad hoc requests from the administration and other departments.

Results

Simplified Management, Upgrades in Minutes

On a peer’s recommendation, the UAA IT team took a look at the Datrium Automatrix platform. The University IT team found that Automatrix substantially reduced the effort of managing its infrastructure, cutting overall management time. As an example, the previous array-based solution required a 3-stage upgrade procedure, demanding several hours of the IT team’s time. With Automatrix, they administered the software upgrade in just five minutes. They completed the entire upgrade in about 40 minutes of elapsed time.

The team also appreciated having centralized management in vSphere without any need to administer LUNs or other storage artifacts. In a single browser window, engineers observe detailed VM performance analytics, instead of having to hop back and forth between applications. Overall, the team spends just one-third of the administration time compared to the previous array-based solution.

In addition to simplified management, tDatrium support is unlike any other supplier. “When I call, the person who answers is the one who helps me. And if they haven’t encountered the problem before, they are quick about diagnosing and resolving it.” said, John Zetterman, Lead Server Engineer, Information Technology Services.

“We liked several things about Datrium. For one, if you add servers, performance actually increases. We also liked the ability to use any solid-state disk we wanted, which made for great economics given our fiscal situation. And finally, with having data in flash on the host, performance screams.”

John Zetterman
Lead Server Engineer, Information
Technology Services

16x Faster Queries Transform Service Levels

In testing, the team immediately saw performance gains and the potential for game-changing cost efficiencies. “We liked several things about Datrium Automatrix,” said Zetterman. “For one, if you add servers, performance actually increases. We also liked the ability to use any solid-state disk we wanted, which made for great economics given our fiscal situation. And finally, with having the data in flash on the host, performance screams.”

Maintaining a complete copy of user data in flash on the host (compute node) is a signature attribute of Datrium Automatrix. Compute nodes provide local VM and I/O processing resources, and all reads stay in local flash, maximizing speed. For even higher speed, the university runs continuously in Automatrix Insane Mode, delivering unprecedented performance. “Performance is night and day with Automatrix compared to our previous environment,” Zetterman said. “Reads are about 3.5x faster.”

University departments also noticed the additional throughput. The Office of Institutional Research crunches numbers daily in an SQL environment, looking at demographics, retention, graduation rates, and more. Instead of 16-hour queries, the office now runs reports in under an hour, allowing it to process multiple queries a day. Now, they can respond to requests the same day.

The UAA Consortium Library also noticed gains in processing on its Oracle database, which hosts a catalog that can be searched by all libraries across the state. Zetterman found a pleasant surprise in his email from the library administrator. “By the way, we really like the Datrium solution,” the email read. “Many of our jobs are incredibly fast – especially the disk-intensive ones. It’s great.”

16x Data Reduction

With always-on deduplication and compression, UAA realized a 6x data reduction. Given that, along with the ability to continue using its existing servers as compute nodes with any solid-state disks, the university gained a more sustainable, economical approach to its VM infrastructure. “It’s much more economical to add capacity with Automatrix because it scales linearly,” Zetterman said. “And we don’t have to worry about performance degrading as we add capacity.”

Looking ahead, Zetterman sees Automatrix as a key part of the IT team’s strategy for maintaining a high level of service to university departments despite budget challenges.

“We never expected to improve the user experience while simultaneously getting more capacity for the cost,” Zetterman said. “But Datrium’s Automatrix platform, and its corresponding ease of management, allow us to do just that.”

About University of Alaska Anchorage

Surrounded by an environment that is both urban and wild, the University of Alaska Anchorage is a gateway to innovative thinking, learning, and exploration. UAA is the state’s largest university, situated at the heart of the state’s largest city. The university is open access with academic programs leading to occupational endorsements; undergraduate and graduate certificates; and associate, baccalaureate and graduate degrees in a rich, diverse, and inclusive environment.

Learn more about Datrium at www.datrium.com.

