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Inspire the Next

SUCCESS STORY

Hitachi Storage Solutions at Work

Ohlone College: Newark Center for Health Sciences and Technology

INDUSTRY	Education
SOLUTIONS	Consolidation/Virtualization/Green Solutions

Hardware — Hitachi Adaptable Modular Storage 500
Software — Hitachi TrueCopy® Synchronous/Extended Distance software, Hitachi ShadowImage® Heterogeneous software

"The Hitachi Data Systems solution is strategically aligned with Ohlone College Newark campus's environmental stewardship and energy conservation goals and with providing the teaching and learning environment with a state-of-the-art storage system needed for technology innovation now and in the future."

Leta Stagnaro
Associate Vice President
Ohlone College Newark Center

OHLONE COLLEGE

Ohlone College Heads for Greener Campuses, Partners with Hitachi Data Systems for Sustainability

When Ohlone College decided to build another campus, the focus was on an innovative teaching and learning environment and campus environmental sustainability. The college's Newark Center for Health Sciences and Technology is now one of the greenest buildings in the world, incorporating innovative green building and energy efficient design technologies. Providing top-notch storage for both campuses and a thriving e-learning environment, Hitachi Adaptable Modular Storage 500 systems pave the way for energy efficient storage virtualization and real time replication to protect college data.

When it comes to building a sustainable organization, there are many shades of green. For the Ohlone College District, green has gone platinum. With the recent establishment of its highly energy conscious campus in Newark, California, the college has targeted the prestigious platinum certification awarded by the U.S. Green Building Council, the national benchmark for high-performance green buildings. Once certified, it will be one of only 50 buildings in the world to achieve platinum status. The Ohlone College Newark Center for Health Sciences and Technology is clearly committed to protecting the environment. From solar power and thermodynamic air transfer to insulation made of recycled jeans, every aspect of the campus focuses on the use of alternative energy and sustainability.

Going Beyond Green for Highly Reliable Data Centers

As one of America's fastest growing community colleges, the Ohlone District has quickly gone from serving 16,000 to more than 20,000 students and 15 percent of those enrolled choose an e-learning curriculum. Newark Center is the result of Ohlone leadership and a local community general obligation bond measure to foster that growth and bring leading-edge learning to the heart of the city. "Learning is the common way we bring our diverse community together. Education has to transcend the traditional classroom to meet the needs of students wherever they are — work, home, school," says Ohlone College President Dr. Doug Treadway, whose vision for a hallmark facility incorporates sustainable energy strategies and ubiquitous IT support to serve students anywhere, anytime.

With the addition of the Newark Center, the college would now need IT architecture to accommodate the onslaught of data storage growth for both campuses and distance learning offerings. To protect all of its vital information, such as student records and grades, financial data and e-mail, Ohlone College officials wanted to implement a highly recoverable and scalable IT infrastructure.

"We're partnering with industries such as biotechnology, green technology and health sciences to create and design progressive teaching and learning strategies, such as the human simulation lab for nursing students, and we're incorporating other innovative technologies into our entire curriculum. Having an IT environment that can keep up with innovative teaching and learning while safekeeping mission-critical data is absolutely key to our success," says Associate Vice President of the Newark Center, Leta Stagnaro.

What It Takes to Go Lean and Green

The Fremont, California, campus houses the college's original data center in a smallish server room, which has been constrained in terms of energy load, cooling and space. A myriad of older, hotter servers and a small SAN were supporting Sun Solaris and Microsoft® Windows applications, a legacy e-mail service, video surveillance programs and the college's enterprise resource processing (ERP) system. Other applications were hosted offsite, and each week an accumulation of data storage was relegated to tape, also kept offsite.

Ohlone College issued a request for proposals from various storage vendors to find a solution for the technology and educational data requirements of this trailblazing college district. The main goals for making improvements at Fremont and bringing the Newark Center online were a real time replication strategy and storage virtualization to better protect mission critical data. The highest levels of flexibility, resilience and interoperability would also be essential to ensure cost-efficient, scalable infrastructure that could rapidly expand as the college grows and changes. Another key requisite was finding a storage partner with similar goals and values, including social responsibility and sustainability practices, to mesh with Ohlone's pioneering green leadership.

"The Ohlone College Newark Center is a focal point for our city as we move down the path for sustainability and environmental concerns. When we passed the bond measure to approve the campus, we had no idea that it would be this special of a place. This is the kind of facility any mayor would be delighted to have in the community. We view it as a convening place, for people to gather and to really understand what green means. It is truly a remarkable facility."

David W. Smith
Mayor, City of Newark

Emerging from a flock of top storage companies vying for Ohlone's bid, Hitachi Data Systems offered a complete solution for high-performance, agile storage capable of transcending growth challenges long into the future. "Our requirements were extremely diverse — we needed a storage partner to address the realm of real time learning, be conscientious of our energy practices, be conversant with the various communication modalities and beta test sites of our corporate teaching partners and ultimately make our infrastructure adaptable, sustainable and secure in every way. Hitachi Data Systems already had a proven record of doing these things with their own business partners and other industry leaders and we were excited to embark on a long-term relationship with the Hitachi team to accomplish our goals," explains Stagnaro.

A Green Thumbs Up for Hitachi Storage Virtualization

Ohlone College selected the Hitachi Adaptable Modular Storage 500 as the foundation for the new SAN environment. The Adaptable Modular Storage 500 is loaded with enterprise-class functionality in a smaller, efficient footprint designed to expertly navigate multiple protocols, provide cache partitioning and LUN migration, and meet application-specific requirements across systems — all from a single graphical user interface (GUI).

Ohlone College Chief Technology Officer Bruce Griffin explains the implementation plan. "We first needed to consolidate servers and virtualize storage through the Hitachi SAN located in Fremont, California. For real time, automated data recoverability, we're using Hitachi TrueCopy® Synchronous/Extended Distance software and Hitachi ShadowImage® Replication software to replicate Fremont data to a second Adaptable Modular Storage 500 in Newark, thereby reducing our reliance on tape and time to recover. The Newark Center will operate as the disaster recovery site in addition to managing its campus specific applications," he says.

VMware ESX Server software is also part of the new Ohlone architecture, enabling the applications previously hosted offsite to now be virtualized and reside on in-house HP blade servers. The legacy mail server was replaced with Microsoft® Exchange Server 2007 to enable clustering through the SAN for added redundancy.

High Marks for Protecting the Data Environment

Making the sustainability grade at Ohlone College now includes a highly efficient IT environment that increases data protection and storage utilization while reducing energy consumption and costs. By eliminating the weekly offload to tape media, Ohlone College has removed significant risk of data loss with real-time recovery. By consolidating old servers and virtualizing storage, heterogeneous data is pooled, allocated and migrated more efficiently in a single storage rack, for reduced power and cooling costs in addition to simpler administration.

The Fremont SAN currently manages 22TB of data storage through the Adaptable Modular Storage 500 — 11 times the capacity of the previous configuration — and the Newark Center manages nearly 20TB of data.

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