



IT Simplicity, Security and Sustainability in Higher Education



For higher education institutions, IT demands get bigger every day. Growing volumes of data, increasingly severe cyber threats, and pressure to reduce costs and consolidate are converging with concerns about energy consumption and a changing climate. These issues impact everything from digital learning platforms to student information systems to financial and human capital management.

“Given their vast amount of data, higher education institutions must develop strategies to manage this information and keep it organized, safe, and easy to use and access,” says Brian Cohen, vice president of the Center for Digital Education (CDE).

Secure Student and Employee Data

Universities and colleges often rely on traditional backup practices and technologies. These methods are well suited to handle device failure or natural disasters but not recovery from cyberattacks. Enterprise-grade data storage and cyber resilience software can help protect vital data and systems and avoid risks like negative publicity and compliance exposures.

Cyber threats should not be underestimated. Sophos reported that 79% of surveyed higher education providers suffered ransomware attacks in 2023, up from 64% the year before.¹

“Higher education will be a target for ransomware and other cyberattacks for the foreseeable future, so traditional storage approaches are no longer adequate,” Cohen says. “IT budgets are tight, but the potential costs of data breaches or system failures can be far greater and more lasting than the cost of remaining secure and leveraging state-of-the-art solutions.”

Schools produce a large volume and variety of valuable data that includes everything from personal identifiable information to research statistics. Applications run the gamut from software-as-a-service (SaaS) solutions to customized apps for specific departments and disciplines.

For these reasons, higher education institutions need to implement immutable, unbreakable backups and add object storage to improve scale and flexibility. The right infrastructure addresses:

- **Recovery.** Ramp up operational resiliency, minimize downtime and accelerate recovery of large volumes of research, campus and student data in the face of device failures, disasters or cyberattacks. You also can ensure the recoverability and accessibility of SaaS application data.

- **Security.** Use encryption and identity management to keep data private, prevent intrusions and blunt the impact of ransomware.

- **Efficiency.** Know your data. By better understanding what data is mission-critical, you can deliver the right level of protection to the right data at the right cost.

Simplify and Automate Data Management

In a higher education setting, research data covers numerous disciplines and specialties. Apps use a vast assortment of data formats and protocols. And dozens of small data repositories could be scattered across buildings and remote campuses.

To address such complexities, Bob Woolley, CDE senior fellow and a longtime technology leader with the state of Utah, recommends a universal data management approach that:

“Don’t run things you don’t need to run. If you can find a way to outsource it, consider that option.”

— Bob Woolley, Senior Fellow, Center for Digital Education

- Consolidates and streamlines data management while managing diverse course materials and research needs
- Enables built-in artificial intelligence-driven analytics capabilities to drive new, more rapid insights for research and decision-making
- Unifies oversight to overcome data silos, expand sharing and reconcile incompatibilities with legacy storage technologies
- Automates data management operations and analytics to address staffing, skills and resource challenges

“Data automation tools can be a game-changer because they can decrease the time spent on repetitive tasks, reduce mistakes often created by human error and allow limited staff to focus on more important work,” Cohen says.

Simplify Hybrid Cloud Management

Hybrid cloud plays a vital role in providing the infrastructure and storage that higher education institutions need to scale, cater to all students and protect data.

The best hybrid cloud management tools help higher education leaders keep pace with evolving technologies, user expectations and data requirements. Those tools allow organizations to gain agility, security and cost controls while avoiding cloud and platform lock-in. Additionally, hybrid cloud helps institutions deploy modern automation technologies like containers and microservices for greater scale and agility.

“The key is to simplify,” says Woolley. “Don’t run things you don’t need to run. If you can find a way to outsource it, consider that option.”

Partnering with an enterprise vendor with the right experience and resources reduces

management complexity in your hybrid cloud environment by orchestrating multi-cloud IT operations across departments, satellite campuses and public clouds.

Hitachi Vantara’s hybrid cloud solutions, for example, deliver 80% faster time to production, which can help accelerate new program rollouts or rapid student onboarding.² The company’s 100% data availability guarantee ensures academic and student data is protected.³

Focus on Sustainability

Data is the single most important asset for higher education institutions. At the same time, data centers consume large amounts of electricity and produce a significant portion of the world’s carbon emissions, according to the International Data Corporation.⁴ Choosing to decarbonize the data center is an efficiency-improving solution to this problem and a cost-saving activity that repurposes what’s already working.

Enterprise hardware vendors can help colleges and universities implement technologies designed specifically for reusability and recycling. Options include data center hardware with a smaller footprint and lower energy consumption to meet your social responsibility, lower your running costs and accelerate your competitive advantage.

According to MIT Technology Review Insights, Hitachi Vantara’s drive for sustainability helped yield hardware that reduces power consumption and cuts carbon dioxide emissions by up to 96%.⁵ The company has also optimized compute, network and storage to the point where less than 0.02% goes to a landfill.⁶

The Road to Success

■ Craft a strategy that prioritizes protection and enhancement of campus, student and research data.

■ Analyze roles of software-as-a-service applications, third-party vendors and contractors. Create a plan to integrate them into your environment.

■ Account for the complexities of billing, financial and research applications — and solutions that can automate or simplify them.

■ Look for vendors with a proven record in complex, highly regulated environments like higher education and the public sector.



1. <https://news.sophos.com/en-us/2023/07/20/the-state-of-ransomware-in-education-2023/>
2. <https://www.hitachivantara.com/en-us/products/integrated-systems/unified-compute-platform-rs-series.html>
3. <https://www.hitachivantara.com/en-us/pdf/datasheet/ensure-data-availability-for-vsp-datasheet.pdf>
4. <https://blogs.idc.com/2023/07/07/datacenter-dilemma-balancing-capacity-demand-with-environmental-responsibility/>
5. <https://www.hitachivantara.com/en-us/pdf/analyst-content/sustainability-starts-with-data-center.pdf>
6. <https://www.hitachivantara.com/en-us/reduce-your-carbon-footprint-and-save-money.html>

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