SOLUTION BRIEF

Pure Storage Solutions for Education

Modern data storage and management solutions to digitally transform education institutions

Students expect uninterrupted, lightning-fast connectivity no matter where they are learning. Modern research programs require robust, scalable infrastructure to rapidly collect, store, and analyze massive amounts of data. Higher education institutions must deliver to stay competitive. The decline or stagnation in enrollment, and associated revenue pressures, complicate this already challenging equation.

Institutions are looking for creative options to streamline costs while continuing to preserve and enhance the student experience and propel research forward. Modern data storage and management systems from Pure Storage® help you use more of your data while reducing the complexity and expense of managing the infrastructure behind it, providing the springboard for modern, data-driven education.

The traditional storage lifecycle has many manual processes that add up to cost, complexity, and time delays that inhibit academic institutions from maximizing the potential of their data. As a result, they must spend time focusing on the ins and outs of data storage, rather than on their core mission. Many institutions face limitations that hinder their digital transformation with storage that is:

- **Overly complex:** Causing issues with availability, risk, and resources management

- **Too rigid:** Data infrastructure that's at odds with as-a-service consumption models, lacking agility and flexibility

- **Uninspiring:** Solutions aren't innovative enough to support the advanced data activities required for institutions to transform their operations

These factors are disruptive and cost money. They also require additional resources to manage all the complexity. At scale, the situation becomes inefficient, fraught with risk of error, and expensive. Not only do institutions have to manage a complex and rigid system, but this can hinder the most important part of their operations—innovating for students, faculty, and researchers. There is a better, easier way of buying and using storage.

Intuitive Experience

- Ease of deployment means less disruption.
- Simplicity in design and delivery.
- Agile and flexible as data needs change.

Evergreen® by Nature

- The most choice in how you consume, deploy, and manage storage.
- Sustainable solutions save space, consume less power, and ensure hardware never reaches end-of-life.

Architected For Innovators

- Container-ready to support modern app development.
- Data protection that encrypts and improves the ease and speed of recovery after a catastrophe.

Welcome to Modern Data Storage for Education Institutions

When institutions can get more value from their data, it becomes a strategic asset and powers innovation. Pure Storage is the partner education institutions need to evolve their data infrastructure. Pure Storage enables a next-generation, API-driven operating model to support the complex, dynamic applications that will keep institutions innovating for years to come. Data storage is a diverse topic that spans a range of disciplines and discussions. We've broken it down into six critical areas:

Modern AI Data Architecture

Artificial intelligence (AI) and analytics are the driving force behind many of the fastest expanding education use cases. With native support for both file and object (S3) workloads, Pure Storage FlashBlade//S™ is the "engine" for processing data in AI-driven use cases. The scale-out metadata architecture in FlashBlade//S handles tens of billions of files and objects with maximum performance. It's a platform built to consolidate data silos and eliminate serial bottlenecks so you can focus on what matters most: delivering insights to the institution.

AIRI//S™ is a complete AI-ready infrastructure, architected by Pure Storage and NVIDIA to extend the power of NVIDIA DGX A100 systems. AIRI offers education institutions a simple and fast infrastructure to meet their AI demands at any scale.

FlashArray//C™ is the ideal high-capacity all-flash array for handling the massive data volumes required for AI projects.

The All-flash Unstructured Data Repository

Economical at scale, FlashBlade//E™ offers a better way to manage data growth efficiently, simply, and sustainably—delivering a best-in-class user experience and operating at the lowest, long-term cost. It provides the environmental, ease of use, and reliability benefits of all-flash storage for unstructured data workloads, but at a cost competitive to disk-based storage solutions.

Environmental aspects and energy use are the number one concern for institutions when it comes to their sustainability initiatives. The FlashBlade//E advantage offers:

- Less than ~ 1W per TB
- Up to 1/5 the power
- Up to 85% less e-waste
- Up to 60% lower operational cost
- Up to 10-20x the reliability
- Up to 1/5 the space

High-performance, Low-latency Data Access

Education institutions are dealing with more data than ever before. They need high performance and highly available storage, paired with intelligent management, to succeed at this new level of scale. Institutions can achieve the responsiveness, capacity, and speed they need with Pure Storage.

FlashArray//XL™: The answer for your most demanding workloads. Designed for performance at scale, it delivers latency as low as 150μs and throughput as high as 36GB/sec. This is performance fit for massive database workloads such as

SAP/SAP HANA or Oracle, or tens of thousands of virtual machines(VMs). Industry-leading dedupe and compression algorithms, combined with exceptional density, enable massive space, power, and cooling savings.

FlashArray//X™: The all-NVMe architecture of FlashArray//X provides low-latency storage suitable for most Tier 0 and Tier 1 workloads. Proven 99.9999% availability, including maintenance updates, keeps your vital services running.

FlashArray//C™: For less performance-sensitive workloads, the all-QLC FlashArray//C delivers cost economics that eliminate the need for hard disk drives and hybrid arrays. Experience more speed and lower latencies plus significant power savings compared to disk-based systems.

Securing and Protecting Institution Data

Education institutions are focused like never before on protecting the integrity and availability of their data stores. It's a tall order, given the complexity of modern data centers, along with application and device proliferation. Institutions need a data protection strategy and solutions that deliver more than just an insurance policy against potential threats. They also need lightning-fast data restore capabilities. Solutions from Pure Storage deliver modern data protection for modern education institutions.

With Pure Storage, institutions can be confident that their data is stored securely and with high availability without sacrificing efficiency. All-flash arrays from Pure Storage have achieved certification by the National Information Assurance Partnership (NIAP)—the U.S. component of the 25-nation Common Criteria consortium—providing the highest security standards.

A crucial part of securing data is the built-in cybersecurity measures found within storage infrastructure. Pure Storage all-flash arrays come with several built-in features designed to keep data secure, including:

- End-to-end data protection (in-flight and at rest)
- Built-in ransomware protection with SafeMode™ snapshots
- Petabyte-scale recovery up to three-times faster than competitive offerings, with Rapid Restore

Pure Storage Purity incorporates an always-on encryption approach. It provides built-in, enterprise-grade data security without user intervention or key management.

Simple Design, Deployment, and Use

Modernizing your infrastructure shouldn't stop at storage. A modern data architecture also needs smart storage management. Pure helps you extract maximum value from your data while reducing complexity and expense.

Pure 1®: Storage management from Pure1 delivers critical information about the health and functionality of your entire stack, right down to each VM. The Pure1 platform provides cloud-based management and effortless predictive support with full-stack analytics and the AI-driven power of Pure1 Meta®.

Pure Cloud Block Store™: Run your applications seamlessly across your on-premises, hybrid-cloud, and cloud environments with consistent enterprise data services, resiliency, and APIs. Pure Cloud Block Store is a public-cloud instance of FlashArray™, available in AWS and Microsoft Azure, that uses the same software stack and is operationally identical to your data center FlashArray. This enables cloud use cases such as easy workload migration, disaster recovery, and DevTest with elastic cloud resources.

Accelerate Your Digital Transformation

Modernize legacy applications and move to the cloud securely. Dramatically simplify the deployment of containerized applications on Kubernetes. Portworx® enables you to run any cloud-native data service, in any cloud, using any Kubernetes platform, with built-in high availability, data protection, data security, and hybrid-cloud mobility.

Continuous Innovation and Optimization

The education landscape is constantly evolving. A modern storage solution should meet the needs of today and tomorrow, and with Pure Storage, education institutions benefit from a data storage solution that gets better over time.

Simplify your storage management lifecycle and lower TCO by more than 50% compared to traditional forklift upgrades with Evergreen™. The Evergreen® Storage subscription model eliminates expensive refreshes and offers seamless, rapid upgrades and expansion, without disruption. Get modern storage with the freedom to upgrade, expand, and continuously innovate. All software features are included with no additional license fees.

Storage buying patterns are also changing. Since projects can spin up or be cancelled with little notice, it's very difficult to predict storage consumption year to year. The result is either over-buying and wasting budgets, or under-buying and facing resource constraints that delay projects. With Evergreen//One™ you get the storage you need when you need it. Evergreen//One bills on actual consumption so you can pay as you go, and Pure Storage handles the equipment. Block, file, object, and Kubernetes storage services can be deployed to meet your infrastructure needs.

Performance, Simplicity, and Efficiency for Education Institutions

With innovative, cloud-ready solutions and the best user experience in technology, Pure Storage is the partner for education institutions in transforming data into powerful outcomes whether deploying traditional workloads, modern applications, containers, or more. Pure Storage solutions deliver cutting-edge capabilities without complexity. These solutions enable institutions to enhance the education experience, with non-disruptive upgrades and capacity expansions as they evolve. And simplicity is at the heart of design and delivery—from products to services, implementation, upgrades, and support.

Pure Storage believes it can make a significant impact in reducing data center emissions worldwide through its environmental sustainability efforts, including designing products and solutions that enable customers to reduce their carbon and energy footprint.

Uncomplicate your data storage, forever with Pure Storage.

Additional Resources

- Find out more about how to get increased value from your data with real-time analytics and AI.

- Learn about the Top Five Reasons to Consider an All-flash Unstructured Data Repository.

- Read about how Pure Storage sets organizations free from private and public cloud data silos.

- Discover how to tackle unstructured data growth forever.

- Learn how Pure helps support your environmental and sustainability mission.