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How the Nutanix Platform Gives IT Organizations in Higher Education Control, Flexibility, and Choice

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Abstract: The higher education sector faces transformative challenges, including declining enrollment, IT staff shortages, and rapidly evolving AI demands, all compounded by outdated, siloed infrastructures. Institutions must modernize. Nutanix provides a software-defined infrastructure platform that unifies IT operations across hybrid and multi-cloud environments. With centralized management and automation, institutions can run traditional, modern, and AI applications, manage data, optimize resources, reduce costs, and improve security, empowering IT teams to focus on strategic objectives instead of managing infrastructure.

The Modernization Imperative in Education Settings Reaches New Heights

The higher education sector is undergoing unprecedented changes driven by confluent factors that range from declining student enrollment, proliferation of consumer AI, IT staff shortages, and the expectations of speed, as stakeholders will procure public cloud options to get the support they need. Key to meeting all these challenges is technology. Yet this segment has typically lagged other industries in modernization due to resource constraints that foster keeping the status quo.

Educational institutions remain constrained by silos of three-tier technology, data, and a lack of centralized management and control (increasing security vulnerabilities). There's also urgency to adopt new tools and technologies, including cloud-native platforms, as, increasingly, updates to applications are being delivered in containers.

Accordingly, IT leaders in higher education are reconsidering their IT strategy and moving toward a unified platform approach. Instead of managing multiple vendors' disparate point solutions and toolsets, organizations are seeking a platform that provides choice, whether supporting 3-tier, virtualized workloads, containers, or AI applications, in any number and combination—all while managing data comprehensively across the institution. Such consolidation would provide the security, governance, and flexibility required to place workloads where they best meet strategic goals tied to performance, cost, and compliance. The imperative is clear: Do more with less. Few sectors of the economy have seen as much change as higher education in recent years. Key challenges now include:

- **Security.** A major priority for higher education is establishing governance and consistent security policies in a complex environment of IT silos, shadow IT, and shadow data. The higher education sector also must comply with regulations such as FERPA, which protects the privacy of student education records.

- **Control of AI.** With faculty and students using AI tools, institutions want to embrace the technology responsibly, with controls that safeguard privacy as well as academic integrity. Additionally, faculty use AI to support grant-based research, which can introduce security risks via possible public disclosure of sensitive research data and intellectual property.
- **Meeting financial challenges head on.** Higher education institutions face funding constraints from a variety of factors, from reduced or eliminated government funding, to decreased revenue from declining enrollment (partly attributed to a large decline in college-age young adults as well as some public skepticism questioning the value of degree-level qualifications). In that environment, doing more with less becomes an essential part of the operating model and sets the stage for creative solutions tied to new programs and certifications to meet workforce needs.

Technology plays a role in enabling all the above. In the past, higher education institutions maintained the status quo due to limited budgets and a lack of support, but that has changed. There is a sense of urgency to deploy technologies that deliver new capabilities and insights to improve the student experience, optimize costs, and support new partnerships with local governments.

Still, higher education IT infrastructures typically exist as a series of highly defined, tightly bound, rigid silos, each containing resources and associated data to serve a specific application or workload. Having datasets organized into silos is fine in an unchanging environment, but it becomes a hindrance when requirements and priorities begin to shift unpredictably. University IT leaders often find it difficult to realize the full potential of new technologies because they experience:

- **AI struggles**. Extracting value from AI requires secure and well-governed access to data spanning multiple silos. That is difficult to achieve when the data is fragmented across legacy environments. It necessitates suboptimal workarounds (such as copying data from one silo to another multiple times), increasing data bloat and costs, slowing time to value, and potentially introducing security or privacy risks. While SaaS solutions provide essential services, integrating their data with broader AI initiatives can require complex APIs and middleware. Similarly, specialized AI services like Ocelot chatbots operate within their own environments, creating data silos that complicate institution-wide analytics and AI strategy.
- **Trouble cost-effectively supporting the distributed cloud.** Higher education workloads run in multiple locations—main campus data centers, branch/edge/remote locations, and, increasingly, in other public sector institutions such as local governments, as well as in a range of public clouds and service providers. IT organizations are also looking to utilize modern architectures, including cloud-native technologies such as containers for AI and VMs. Supporting such environments quickly becomes expensive, especially if each domain or architecture is managed by dedicated resources as its own silo.
- **Siloed infrastructures poorly aligned with the "do-more-with-less" operational model.** Legacy infrastructure approaches divide the IT stack into separate server, storage, and networking elements, each requiring specific expertise to deploy and manage. They can also be difficult to scale, often resulting in over-provisioned resources that drive up costs. At a time when colleges are looking to IT generalists to run more of the infrastructure and deploy applications and workloads across a range of architectures and locations, the legacy approach hinders optimization and efficiency.

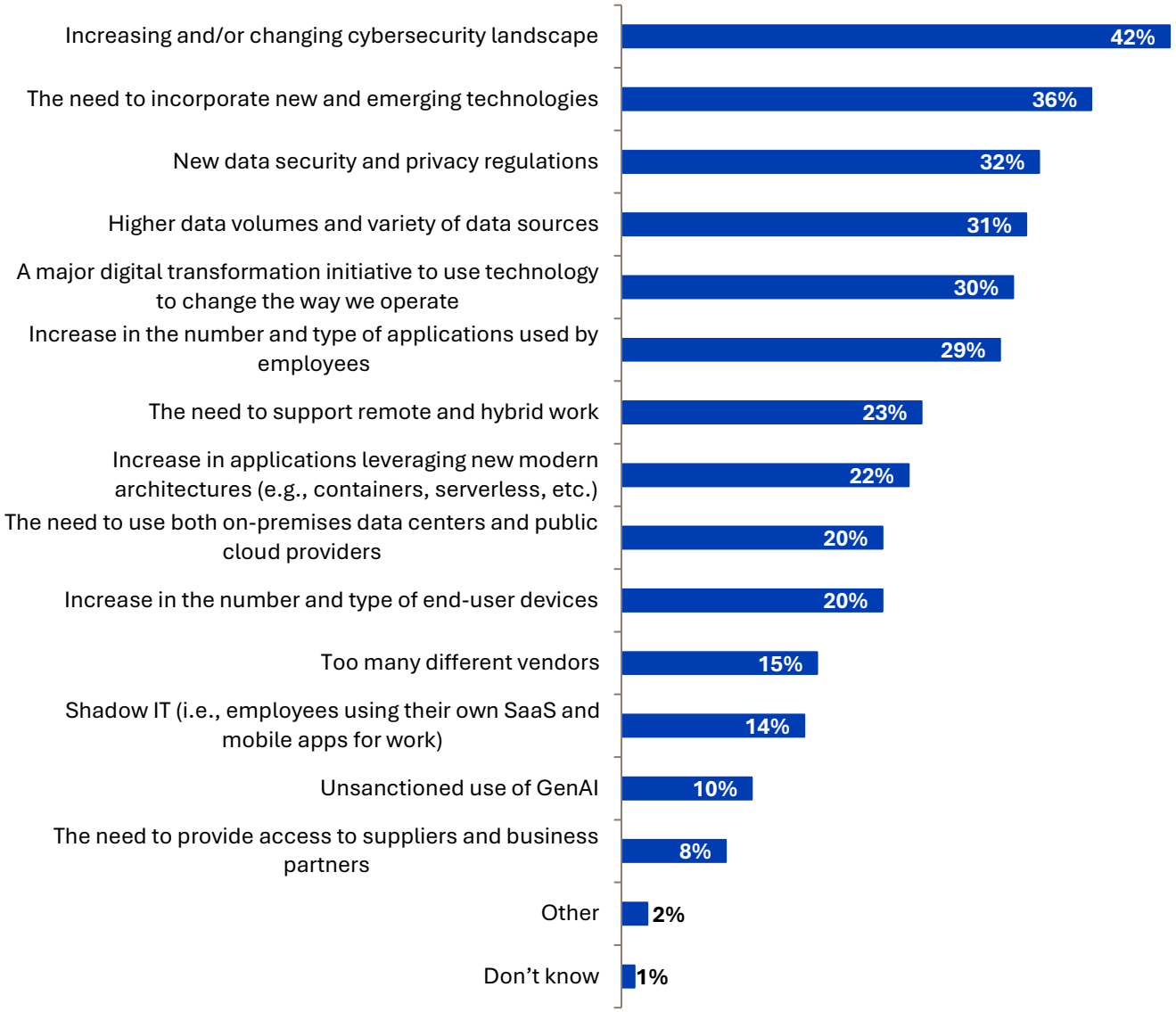
Attempts to retrofit legacy infrastructures to accommodate new technologies are bound to come up short. In many cases, they compound existing IT complexity. According to research from Enterprise Strategy Group

(now Omdia), six in ten organizations, including those in higher education, said their IT environments have become more complex in the past two years, with one in five describing complexity increases as substantial.[1]

Causes of complexity are wide-ranging, but many of them center on the need to incorporate emerging technologies such as AI, adhering to new data security and privacy regulations, managing higher data volumes, and protecting against longstanding cybersecurity threats (see Figure 1).[2]

Figure 1. Key Drivers of IT Complexity

What do you believe are the biggest reasons your organization's IT environment has become more complex over the past two years? (Percent of respondents, N=497, five responses accepted)



Source: Omdia

[1] Source: Enterprise Strategy Group (now Omdia) Research Report, *2025 Technology Spending Intentions Survey*, December 2024.
[2] Ibid.

Complexity's effects are profound and far reaching: 69% of respondents said IT infrastructure complexity is slowing down their digital initiative rollouts and ongoing operations,[3] ultimately hindering their ability to achieve key technology and business objectives.

Because technology has become central to education delivery, any disruption such as the AWS Route 53 outage can adversely impact operations, negatively affecting student and administration outcomes. Schools rely heavily on cloud-based services. Lesson plans, assignments, gradebooks and more are used daily, so it is challenging when these services are unavailable. A campus might lack reliable student device connectivity that impacts learning services or even badly timed data migrations that bleed into the academic year, impacting service availability.

Outdated technology infrastructure and practices also raise the risk of security breaches that restrict access to online services and potentially result in significant financial impacts, regulatory fines, and reputational damage. At a time when some are questioning the ROI value of a degree-level education, obsolete technology exacerbates the problem.

Why a Platform-centric Approach Is the Optimal Architecture

IT leaders in educational settings need to consider how to evolve their environments to a modern foundation in a way that will give them the control and flexibility necessary to meet their objectives. For example, some universities may wish to take advantage of the public cloud for certain workloads and capabilities, but it may not be appropriate due to data sovereignty, cost, or latency reasons. While the flexibility and pay-as you-go nature of the public cloud model may be attractive, educational organizations may hesitate to move wholesale to a single cloud provider, again for cost, vendor lock-in, or sovereignty reasons.

The best approach is for higher educational institutions to move to a platform-based infrastructure that provides the following benefits:

- **A single architecture that can support all of a university's applications and data**, spanning virtualized and containerized applications as well as AI applications that are designed to run on cloud-native architectures. A single architecture also offers the ability to move pilot workloads into production and scale them across the university system easily as required.
- **Flexibility to utilize an optimal blend of onsite locations, multiple public clouds, and edge environments** according to the institution's needs. Being able to run applications or data anywhere in a pinch is an operational imperative, especially to maintain service continuity in the face of an outage in a public cloud.
- **Unified management and operation** that minimizes complexity, drives automation where it makes sense, monitors the IT environment, and enforces consistent security policies across the entire estate.
- **A simple infrastructure deployment model** that spans server, storage, networking, multiple hypervisors, and containers in a single, scalable architecture that IT generalists can manage.

A modern infrastructure environment can be an enabler of transformation, rather than an inhibitor. It can support a wide variety of existing and emerging applications and workload types, easily scale as requirements

[3] Source: Enterprise Strategy Group (now Omdia) Complete Survey Results, *The Critical Role of Storage in Building an Enterprise AI Infrastructure*, September 2025.

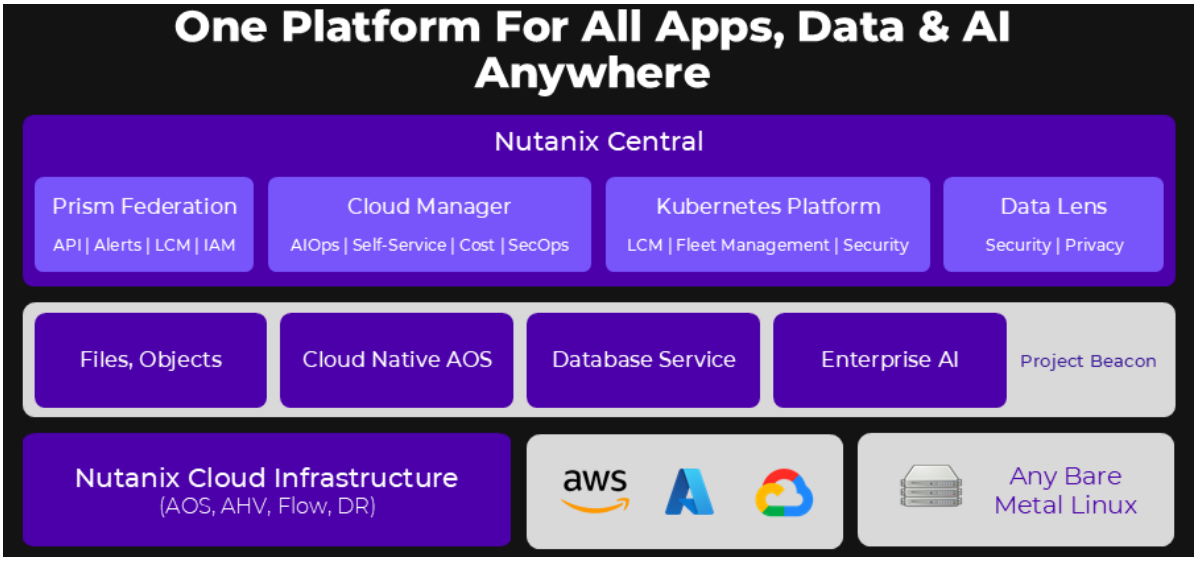
change, and be rock-solid from a security and reliability perspective. Most critically, it will simplify the overall environment, not only reducing IT staff burdens, but also eliminating IT-induced barriers for students, educators, and administrative faculty, thereby enabling them to focus on their work.

Nutanix: A Complete, Simplified Platform Optimized for Modern Higher Education

Nutanix is a well-established IT solutions provider within the education vertical. Educational institutions choose Nutanix for its combination of maturity, simplicity, and power wrapped in a software-defined infrastructure platform.

The Nutanix platform combines multiple infrastructure elements—server, storage, networking, a choice of virtualization engine, and an optional Kubernetes container environment—integrated together under a common management layer with embedded, policy-based security (see Figure 2). Nutanix provides choice across the technology stack, enabling education IT leaders to choose their preferred hardware, hypervisor, and cloud (private and/or public) to meet their specific needs.

Figure 2. Nutanix for Higher Education Organizations



Source: Nutanix

This foundation enables educational organizations to deploy an optimal blend of functionality that can be added to and scaled as requirements evolve, with no more guessing up front about resource requirements.

The Nutanix platform is also designed to run in hybrid, multi-cloud environments. Organizations can leverage resources and locations across the distributed environment, while benefiting from a consistent deployment and operational management model. The Nutanix platform supports AWS, Azure, Google Cloud, and OVHcloud, meaning an organization can easily move applications, data, and workloads from one Nutanix environment (such as AWS) to another Nutanix environment on Azure or back on prem. As a result, institutions aren't locked out of their platform choice because Nutanix runs on all of them as a common

cloud operating model. That flexibility means IT can move workloads based on performance, cost, security, or compliance goals, keeping the institution in the driver's seat.

Key benefits of the Nutanix platform for higher education organizations include:

- **Vastly simplified IT operations with centralized management.** With the Nutanix platform, educational organizations move to a streamlined IT model, empowering them to manage data centers, cloud repositories, and the edge as one. Most VMware environments rely on traditional three-tier architectures (compute, storage, and networking) that require separate management and SANs and significant operational overhead. Nutanix's hyperconverged infrastructure (HCI) integrates all three layers, controlling costs, simplifying operations, and improving efficiency. A generalist staff member can deploy and manage IT infrastructure while applying unified, consistent management policies from campus to cloud. This drastically reduces lifecycle management time and effort, drives insight via intuitive dashboards, and strengthens security through automation.
- **Technology choices built to handle unpredictability.** The Nutanix Cloud Platform enables IT to implement and run infrastructure in a manner that fits their fast-evolving and often unpredictable requirements. If they need hyperconverged solutions for maximum simplicity, Nutanix has them covered. If they need support for existing third-party storage, Nutanix has established deep integrations with storage providers such as Dell and Pure. If they want to use a public cloud for access, scalability, and pricing flexibility, the Nutanix Cloud Platform works with all major cloud providers and even specialist and regional cloud providers, such as OVHcloud. If they need advanced Kubernetes support as well as or instead of hypervisor integration, Nutanix Kubernetes Platform (NKP) supports it. Overall, Nutanix delivers a unified management experience, ensuring consistent and secure operations.
- **AI capabilities with existing staff.** Nutanix Enterprise AI empowers universities to advance their AI initiatives without the complexity of building from scratch. The platform transforms existing IT resources into AI-ready infrastructure, enabling teams to deploy and manage large language models through a simple interface. With validated models from NVIDIA NIM and Hugging Face, plus flexibility for custom models, institutions maintain control while accelerating time to value. Built-in role-based access controls and air-gapped deployment options address governance requirements while maintaining data sovereignty and security standards.

> **"We no longer have different systems administrators for different environments, and I'm very proud of that. You may…work on Kubernetes in the morning and VMs in the afternoon using Nutanix. We've found that it brings really good job satisfaction. Nutanix has really helped facilitate that for us."**
>
> —Ty Peavey, Director of IT Infrastructure Services, Dartmouth College

- **Modernization on an academic timeline.** Education institutions can move beyond legacy silos without having to struggle through a disruptive rip-and-replace project. The Nutanix platform spans virtualized and containerized applications with a single platform, enabling universities to consistently move at their own pace and maintaining operational stability and operating within budget. They can also migrate workloads to a modern architecture with minimal disruption to academic calendars and learning continuity.
- **One platform, from campus to cloud.** A consistent approach to infrastructure management also applies across a distributed educational environment, enabling the organization to store its data and run

applications on premises or in the cloud. Standardization reduces complexity and vendor sprawl. Additionally, it enables consistent operations across all locations and provides the agility needed to implement and scale workloads such as AI.

- **Avoid vendor lock-in.** With Nutanix, institutions retain true choice and flexibility across the technology stack. Nutanix offers a modular licensing and packaging approach by offering Starter, Pro, and Ultimate editions. This approach leverages Nutanix's highly flexible licensing model, allowing organizations to tailor product combinations and editions to their exact requirements. Institutions are free to modernize their VMware environments on their own terms, selecting solutions and editions that match their technical needs and budget.
- **Data management capabilities.** Nutanix Unified Storage (NUS) provides comprehensive data management across files, objects, and volumes through a single platform, enabling higher education institutions to gain visibility and control over sprawling data estates that have grown across departments, research labs, and administrative units. This unified approach simplifies data governance, ensures consistent security policies, and eliminates the operational overhead of managing multiple storage systems, enabling IT teams to focus on strategic initiatives rather than infrastructure complexity. Nutanix Data Lens provides data lifecycle management, real-time ransomware protection, anomaly detection, smart-tiering, comprehensive analytics, and audit capabilities.

  Nutanix now supports third-party external storage alongside its native NUS, integrating Dell PowerFlex and Pure Storage FlashArray to give customers greater flexibility in scaling compute and storage independently. This disaggregated approach enables organizations to leverage existing storage investments while modernizing with Nutanix's cloud platform, positioning it as an attractive alternative for enterprises seeking choice in their hybrid cloud infrastructure.
- **Built-in security and student privacy by design.** Nutanix provides comprehensive security capabilities purpose-built for higher education's complex requirements, including microsegmentation through Flow Security Central, which enables granular network policies to protect sensitive student data, research IP, and administrative systems from lateral threat movement. This zero-trust approach enables institutions to segment traffic between academic departments, research labs, and administrative functions while maintaining centralized visibility and policy management, ensuring security controls scale across hybrid and multi-cloud environments without compromising the flexibility researchers and faculty require. Nutanix also supports compliance with a wide range of regulations, including FERPA, COPPA, state student privacy laws, GDPR, and HIPAA.

Conclusion

The higher education sector stands at a pivotal moment, where challenges of declining enrollment, IT staff shortages, tight budgets and the rapid adoption of AI demand action. Institutions can no longer afford to maintain the status quo, as outdated infrastructures and siloed systems hinder their ability to innovate, scale, and meet the evolving needs of students, faculty, and administrators. Modernization is essential to the survival of higher-ed institutions.

Technology is the key to enabling institutions to deliver better student experiences, optimize costs, and support new academic initiatives. A unified platform approach, such as the one offered by Nutanix, provides the flexibility, scalability, consistency, and security required to address modernization challenges head-on. By consolidating IT operations, embracing hybrid and multi-cloud environments, and integrating AI responsibly,

educational organizations will reduce operational burdens and be able to focus on their strategic objectives as well as gain the agility for what comes next.

By adopting a modern, platform-based solution, institutions can break free from the constraints of legacy systems, ensure compliance with regulations, and empower their communities with tools to thrive in a rapidly changing world.

The path is clear: Embrace technology as a catalyst for transformation and position the institution for long-term success. Nutanix can help these institutions build a future-ready IT environment that supports innovation, enhances security, and delivers exceptional experiences for students and faculty alike.

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