

Map the Journey to a Modern Campus

With the right multi-year strategy, higher-education institutions can efficiently transition to new cloud solutions that can dramatically improve the overall student experience and optimize internal operations

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First Steps

One thing is certain about tomorrow's leaders—they have clear ideas about what higher education should deliver to them today.

As a result, colleges and universities are racing to roll out new mobile applications, tap into the latest digital learning tools, and incorporate best practices for improving student outcomes. At the same time, these organizations must bolster the security of electronic information and update internal operations to achieve the highest levels of efficiency.

That's why a growing number of institutions are considering cloud services for modernizing their academic and administrative systems. But clouds represent a fundamental change in how they serve students and support the overall enterprise. Institutions must avoid a host of potential stumbling blocks that can keep them from

realizing the full potential of cloud innovations. Fortunately, there's a way around these risks, and it starts by remembering that cloud computing is part of the journey to a modern campus, not the ultimate destination. What's needed is a strategy for moving to the cloud that isn't an impulsive leap into the unknown, but instead a strategic, step-by-step approach that combines on-premises services with advanced cloud solutions to fully realize the benefits of both investments.

How can higher-education leaders map this journey and avoid the problems that plagued early cloud implementations? This eBook outlines critical first steps when moving to a modern campus and dispels persistent cloud myths along the way. ■

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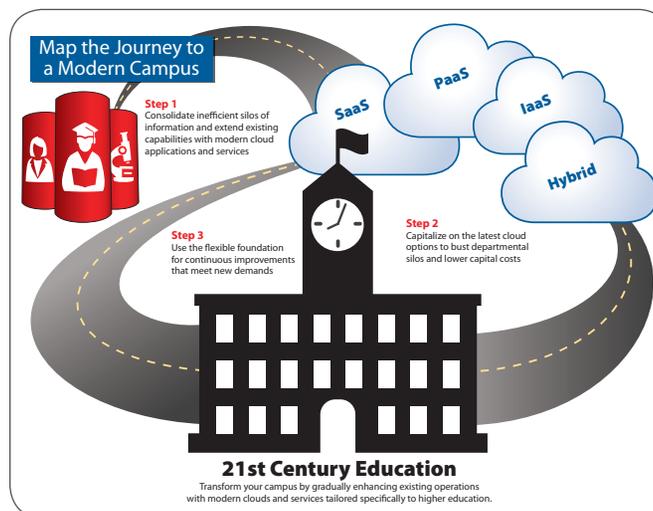
Eye on the Prize: Inside a Modern Campus

Higher education is experiencing an era of transformation, fueled by changing student expectations, demanding administrative imperatives, and new technology. The trends themselves aren't totally new—they've been discussed openly among faculty and administrators for years. What's different today is that talk has turned to action.

Educause Vice President Susan Grajek calls this new reality an inflection point. "All of the changes that we've all been talking about, reading about, thinking about are really hitting us hard, to the point that we think that the curve of change has moved from thinking and talking to doing," she told a gathering of higher education leaders at the organization's most recent annual conference. In particular, that means that IT organizations must "prepare for... transformation in technology, such as moving to the cloud and thinking about shared services," Grajek said.

Why now? Colleges and universities are making a perpetual push to improve student outcomes and engage more closely with students, whether that's during the recruiting process or when they're on

campus and pursuing academic goals. To address today's needs, many institutions naturally support mobile apps, bring-your-own-device strategies, online learning, and cloud solutions. ▶



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Administrators are making the business case for modernization using a range of justifications, including these six critical benefits.

1. New Recruiting Strategies Address a More Competitive World

A successful digital strategy enhances recruiting efforts thanks to mobile recruiting tools and analytics platforms that identify the right mix of students for each school's culture and curriculum. The closer engagement and deeper insights that these tools provide help colleges and universities meet enrollment goals as they compete against other traditional institutions, online universities, private and vocational schools, and MOOCs.

2. Close Relationships Help Keep Students on Track

Resources that help institutions and faculty foster closer relationships with students demonstrate a commitment to a student's success. Engaged students are more likely to stay enrolled and remain on track to achieve their desired goals.

3. Early Warning Signs Identify At-Risk Students

When students agree to share personal information, schools can monitor their "digital body language" for insights into what courseware best suits their individual needs. Sophisticated analytics also identify students

who are taking too much time or too many credits for their degree path. Instead of seeing these at-risk students fall behind or drop out, advisors can intervene with additional academic resources or other help to keep educational goals on track.

4. Life-Long Learning Inspires Today's Tech-Savvy Students

With a modern, digital foundation in place, colleges and universities can transition away from "one size fits all" learning models that rely on classrooms and lectures. Instead, schools can adopt collaborative, anywhere/anytime learning activities that take advantage of collaboration, gamification, and immersive teaching techniques. In addition, schools can develop online marketplaces where faculty can curate content and post customized curriculums tailored for individual students.

5. Optimized Resources Promote Operational Efficiency

Operational efficiency is another prime incentive in the drive toward technology-powered modernization. By simplifying and standardizing institutional operations, administrators can more effectively manage staffing, finances, and the use of facilities. In addition, analytics designed for department heads rather than data specialists can help managers gain true insight into the costs ▶

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“The curve of change has moved from thinking and talking to doing.”

—Susan Grajek,
vice president, Educause

and benefits of individual programs to enable better decision making. Similarly, a modern human capital management (HCM) solution can help chief human resource officers balance faculty workloads, determine if the right talent is on staff to support planned initiatives, and identify future leaders.

6. Continuous Improvement Keeps Institutions on Pace with Constant Change

The right foundation, built with on-premises and cloud resources, creates a flexible environment for ongoing innovations. Colleges and universities can quickly take advantage of the latest tools and services when they have a framework for continuous refinements that support their long-term missions.

The good news is that the higher-education industry now has a clear path for moving to 21st Century campuses. The key is building on the foundation of existing resources by enhancing them with strategic cloud services that address the latest goals of the institution. The best services are tailored for higher education and provide hooks that closely integrate the new capabilities with on-premises systems and even other cloud platforms. ■

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Avoid Road Blocks That Derail Modernization Efforts

The path to a modern campus is clear; unfortunately, a host of challenges can derail the journey. Higher-education institutions have already made substantial investments in underlying technologies, and since many of these investments still deliver significant value, rip-and-replace modernization projects are impractical and counterproductive. Nevertheless, to stay competitive with other institutions, colleges and universities must integrate modern technology—including social media, mobile devices, and big data into all aspects of their operations.

For help, institutions are turning to cloud computing in all its various forms—from Software as a Service (SaaS) and Platform as a Service (PaaS) to Infrastructure as a Service (IaaS) and hybrid implementations that merge cloud and on-premises resources. But merely layering new cloud capabilities as an afterthought on top of existing systems doesn't deliver the full potential of today's innovations. This helps explain why first-generation clouds, such as standalone SaaS solutions, often offer only partial benefits compared to newer, more complete options. In fact, first-generation clouds may lead to even less-efficient operations and less insight into the

overall academic enterprise. For example, older SaaS applications enable IT managers to quickly provide new services to internal customers simply by paying a set subscription fee to a service provider. As a result, institutions bypass upfront capital costs associated with on-premises systems and take advantage of easy scalability. So if new employees or a department needs the same capabilities, the IT organization just contracts for more seats under the existing SaaS contract.

While there's a lot for IT administrators and end users to like about traditional SaaS, first-generation offerings may ultimately benefit ▶

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“Flaws in first-generation clouds create roadblocks that hinder life-long learning, closer student engagement, and heightened operational efficiency.”



service providers more than their customers. That’s because early SaaS vendors capitalize on a shared-everything model. Each client must settle for a common database and underlying technology infrastructure—a one-size-fits-all approach that doesn’t let higher-education institutions easily address their unique needs or distinguish themselves from competitors. Thus, user interfaces look the same for everyone, even

if various clients navigate the application differently because of unique demands. In addition, when it’s time for a service provider to upgrade the application, the changes happen universally, no matter that the timing could disrupt some customers more than others because of current projects or academic calendars. Lastly, but probably most importantly, data is siloed within these niche application provider areas, generating significant data and process integration challenges that are largely left to the customer to navigate and solve.

Dig deeper and other shortcomings materialize. The rigid architectures of first-generation SaaS solutions can keep various departments within schools from sharing related information and closely integrating business processes. Flaws in first-generation clouds create roadblocks that hinder life-long learning, closer student engagement, and heightened operational efficiency—all critical components of a 21st Century education.

But now, the most progressive cloud providers are turning older cloud models inside out and giving colleges and universities a customer-centric approach to cloud that paves the way to modern campuses. ■

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Capitalize on Modern Cloud Options

The latest improvements over first-generation clouds build on proven cloud benefits while simultaneously correcting some nagging shortcomings. As always, modern clouds provide scalable, on-demand services delivered via a local private resource or managed by an outside service provider. But rather than rigidly forcing clients to settle only for standard capabilities, modern clouds are supported by technologies that IT managers can tailor for each function within a college or university, whether that's academics, IT, administration, or research.

The best of today's cloud options offer customization tools that professionals in higher-education IT departments already know, further easing the task of personalizing applications to unique requirements within departments. For example, while the underlying SaaS application is the same for all users, the interface for the business college may display branding and navigation paths different from those seen by members of the languages department. In addition, each functional area has the opportunity to display analytics in custom reports that use proprietary data sources.

The combination of personalization and flexibility means each college or university can use cloud resources to differentiate itself by drawing on unique strengths that ultimately improve student outcomes and lead to recruiting success. Perhaps most importantly, modern clouds are interconnected, so information, processes, and communications flow smoothly through social, mobile, and analytics tools. And in a silo-busting move, modern clouds have hooks for easily integrating with other clouds and on-premises enterprise applications. Traditionally, many cloud service ▶

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providers specialized in only one cloud model. So, one company might offer only a SaaS-based enterprise resource planning (ERP) solution, while another provides cloud-based computing and storage via IaaS or a PaaS development and management environment.

Mix and Match Cloud Models

While each of these niche players may deliver some initial benefits, greater opportunities arise when a single service provider can support all the models. This reduces the time and burden of managing multiple vendors, while also giving college and university IT administrators a common approach to a standards-based infrastructure—another factor in simplifying cloud management. For example, modern PaaS environments are built using widely adopted industry standards, such as Java, SQL, HTML 5, and Web services protocols. This foundation enables IT managers to easily integrate data and business processes from their existing computing environment with the cloud and with services from other cloud providers. Without open integration, institutions run the risk of using the cloud to create additional silos of departmental information.

Easy information sharing also makes it possible to connect new cloud services to on-premises resources—part of a growing hybrid cloud trend. ▶

Checklist: What to Look for From Cloud Service Providers

- ✔ Leader in cloud security products and expert in managing public and hybrid cloud environments
- ✔ Standards-based infrastructure
- ✔ A long track record as a proven technology provider
- ✔ Fully invested in a variety of cloud models
- ✔ 99.5% uptime guaranteed
- ✔ Security at multiple tech layers for maximum security, control, and visibility
- ✔ Certified cloud security experts on staff, not outsourced contractors
- ✔ Isolation of customer data; not co-mingled with other data
- ✔ Multiple data centers throughout the world for localized data residency and compliance requirements

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This enables institutions to enhance rather than replace existing IT resources, either by adding features to applications or augmenting computing power during periods of peak demand.

How can institutions capitalize more fully on this interoperability? One way is with the growing availability of Integration as a Service offerings, such as [Oracle Integration Cloud Service](#) and [Oracle Process Cloud Service](#). These services provide adapters for connecting with cloud providers outside of Oracle, including independent software vendors that use Oracle PaaS to build solutions available in the [Oracle Cloud Marketplace](#).

But new capabilities and more open cloud environments aren't the only considerations for modern clouds. Because they are managing larger quantities of critical information, security becomes more important than ever. IT managers must carefully evaluate the data centers cloud providers use to deliver

their services. Key questions for college and university leaders to ask include how long has the service provider been offering cloud solutions and what steps does it take to isolate each client's data from other customers. Best practices call for one client's data never to be co-mingled with another customer's, and that information should always be backed up in isolation.

Other criteria when evaluating whether a vendor supports modern cloud services is how extensive is its network of data centers that support the services. The number of data centers and their geographic distribution are particularly important for institutions that must meet compliance requirements for localized data residency and management.

Thanks to modern clouds, colleges and universities have more options than ever for capitalizing on traditional systems and the latest digital innovations. ■

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Plan a Multi-Year Journey to a Modern Campus

Expanding the use of clouds and adopting modern cloud services should be a smooth, step-by-step evolution rather than a costly and disruptive overhaul of current operations. To make the move successfully, colleges and universities need a strategic plan that plots a multi-year journey to expanding cloud services. Here are four important considerations for reaping the rewards of modern clouds.

1. Identify the Payoff. As with any fundamental change, the cloud journey begins not with choosing technology but with a careful analysis of the institution's needs and pain points. First, determine the potential benefits of widely adopted cloud services and how modern clouds align with core academic and administrative goals. Successful cloud strategies require commitments from senior leaders, and clearly articulating priorities and potential payoffs will help people throughout the institution focus on the essential aspects of the cloud journey.

2. Transition Strategically. Set clear migration milestones over months and years, so everyone understands the cloud journey will happen in a

series of practical phases, with each one guided by concrete goals. Pilot projects that target discrete areas of the institution—such as a college or department within a larger university—can help. For example, to enhance student engagement, a business school might tap into a cloud-based marketing solution to deliver targeted student communications across multiple channels. Similarly, an institution's human resources department could capitalize on a cloud talent-management solution to identify new candidates via social media and create more informative performance reviews. Once these managers adopt new cloud services and demonstrate their benefits, other departments will be encouraged to adopt advanced cloud services. ▶

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3. Promote Data Sharing Across Departments.

Viewing and analyzing information from various domains, such as academics, athletics, and research, enables institutions to develop a more complete view of students and understand how to better use school resources. How to achieve

these centralized views differs for each institution, depending on the data resources that are already in place. Some institutions may already operate an on-premises enterprise data warehouse. Others may have invested in analytics solutions for each department or enterprise application, ▶

Old-School Clouds: 10 Myths Remain

Myth #1: *Everything will go to the public cloud*

Reality: The percentage of workloads running in private clouds is three-times greater than in public clouds, according to Computerworld

Myth #2: *You're either entirely in the cloud or not at all*

Reality: IT managers routinely blend on-premises data centers and clouds to balance current investments with innovative services

Myth #3: *Clouds are one-size-fits-all*

Reality: A wide range of cloud models exist today, including SaaS, PaaS, and IaaS. The best services allow clients to tailor features for unique needs

Myth #4: *Virtualization is a synonym for cloud*

Reality: Virtualization software is used extensively in cloud environments, but clouds go a step

further with an array of service-based computing capabilities

Myth #5: *Reducing cost is the biggest benefit of cloud*

Reality: Clouds may potentially shrink capital investments, but IT managers rank other benefits even higher, including greater business agility and better use of resources

Myth #6: *Clouds run on commodity components*

Reality: Clouds that rely on [engineered systems](#) and optimized solutions deliver higher performance and efficiency than those using commodity hardware and software

Myth #7: *Clouds will lock customers into particular vendors*

Reality: The best cloud providers give clients a range of choices for deploying services on private and public clouds, or using third-party managed cloud services

Myth #8: *All clouds are pay-per-use*

Reality: A variety of pricing models are available, including the traditional pay-per-use option often used in applications with highly fluctuating workloads or fixed-cost subscriptions, which offer more predictable expenses

Myth #9: *Public clouds are not secure*

Reality: Enterprise-class clouds are more secure than many on-premises data centers thanks to dedicated teams of security experts, rigorous policies for regulatory compliance, third-party audits, and automatic hardware and software updates

Myth #10: *Choose best-of-breed clouds for every need*

Reality: Selecting a single cloud provider for enterprise applications and platform and infrastructure services avoids integration problems associated with using multiple cloud vendors

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such as HCM or ERP systems. As a result, the institution may be managing multiple systems of record, which is not only costly and inefficient, but may cast doubt on the timeliness and accuracy of individual systems. A modern solution is to use a PaaS environment with adapters that can help aggregate data from a collection of on-premises and cloud repositories into a single, central console.

4. Address Privacy Concerns. Finally, as higher-education officials expand data gathering and analysis activities, they should be sensitive to “Big Brother” concerns among students. One strategy is to give students the choice to opt-in to select services. Schools can demonstrate how they will protect the information students decide to share and how they will use it to deliver richer educational experiences.

A Foundation for the Future

Since cloud computing arrived for mainstream IT operations a handful of years ago, it has evolved from being just the latest and greatest technology trend into a valuable tool for pragmatic modernizations. Decision makers have a greater understanding of how the various cloud models can benefit their operations, and a greater appreciation for the important roles traditional on-premises IT systems will continue to play in academic, administrative, and research systems. At the same time, modern cloud-based services have arrived to overcome the inflexibility and one-size-fits-all shortcomings of first-generation clouds. The key is to develop a strategic approach that maximizes the best of cloud and on-premises resources and maps a successful, long-term journey to a modern campus. ■

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Learn more about the benefits of modern clouds and specific solutions that can help you transform your campus:

[Oracle Education and Research Solutions](#)

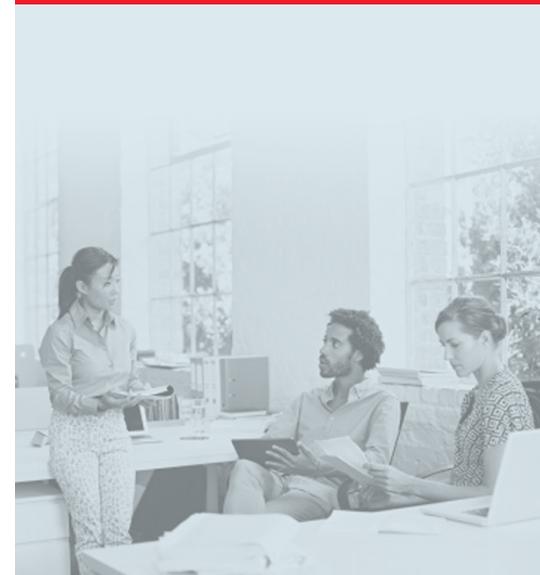
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[Oracle Cloud Management](#)

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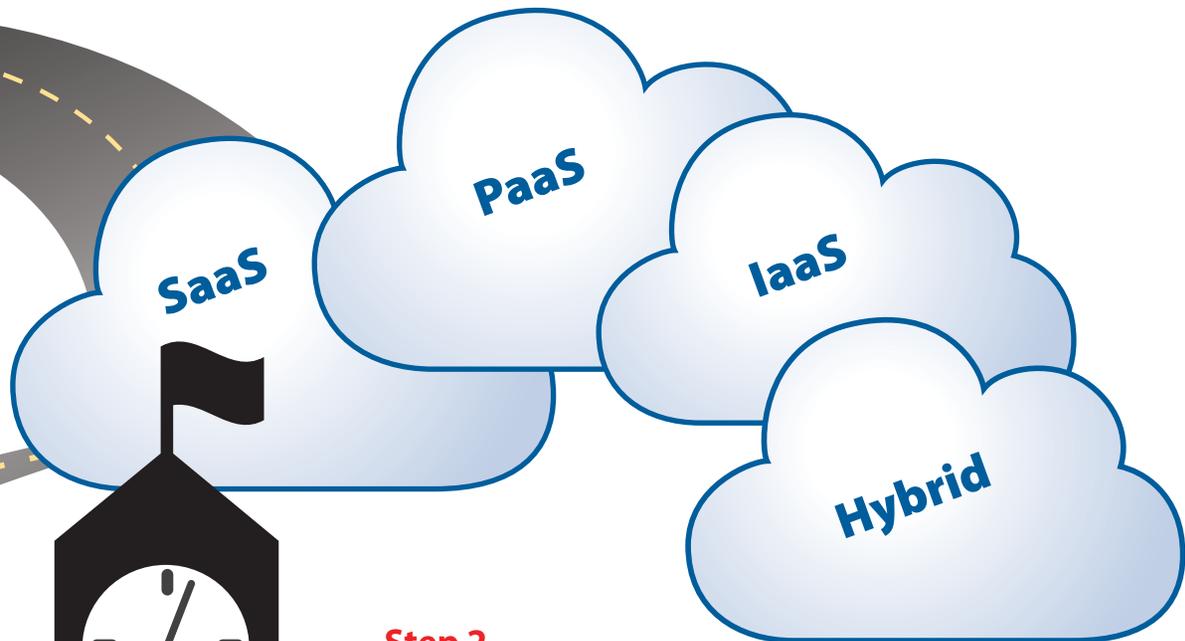
Map the Journey to a Modern Campus



Step 1
Consolidate inefficient silos of information and extend existing capabilities with modern cloud applications and services

Step 3
Use the flexible foundation for continuous improvements that meet new demands

Step 2
Capitalize on the latest cloud options to bust departmental silos and lower capital costs



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21st Century Education

Transform your campus by gradually enhancing existing operations with modern clouds and services tailored specifically to higher education.