



7 Reasons VMware Cloud Foundation™ Is the Premier Cloud Solution: A Guide for IT Executives in Education



Overview

Application and cloud strategies are inextricably linked. Educational institutions are modernizing application portfolios to meet the evolving needs of students, faculty, and staff. They're also rethinking their infrastructure as they evolve to support new application types and stakeholder requirements.

Because no one size fits all, IT leaders in higher education have choices about how to effectively and efficiently modernize both applications and underlying infrastructure. They also have multiple strategies for implementing a cloud operating model that delivers consistent IT services wherever workloads are deployed.

VMware Cloud Foundation™ is a market-leading hybrid cloud platform that works consistently across any private cloud, hosted provider cloud, or public cloud based on VMware vSphere®. Uniquely, it's now optimized for both traditional virtual machine (VM) and cloud-native containerized workloads.

By running any application—new or existing—on a VMware platform in any cloud, and adopting a single cloud operating model for all infrastructure services, your institution can embrace the fastest and least disruptive path to app modernization and hybrid cloud:

- Accelerate IT to support your institution's application and workload goals
- Reduce complexity with consistent IT infrastructure and IT operations
- Lower operational cost and risk by using proven solutions

Keep reading to discover how your educational institution can benefit from future-ready hybrid cloud solutions with VMware.

- > [IS YOUR INSTITUTION FUTURE-READY?](#)
- > [PRIVATE CLOUD BENEFITS](#)
- > [HYBRID CLOUD BENEFITS](#)
- > [7 REASONS TO CHOOSE VMWARE](#)
- > [VMWARE MARKET LEADERSHIP](#)
- > [HIGHER EDUCATION EXPERIENCE](#)
- > [HYBRID CLOUD CONSIDERATIONS](#)





Is Your Institution Future-Ready?

Pandemic Accelerates Digital Transformation

No one was completely prepared for the rapid disruption caused by COVID-19. Although some colleges and universities were able to pivot quickly to offer courses and enable support staff to continue working remotely, even those with the most sophisticated tools faced challenges.

While not everything can be moved to the virtual realm, modernization efforts are helping institutions of higher education to build new digital capabilities where possible. IT teams are moving beyond reacting to current circumstances, and proactively innovating to ensure their institutions' future success.

Investment in Modern Apps and Infrastructure Boosts Agility

Institutions looking to improve efficiency and resilience are modernizing applications and their underlying IT infrastructure to support containerized workloads. Containers allow developers to deploy their applications with portable, lightweight packaging. Cloud enables programmatic control of infrastructure virtually and remotely.

The combination of containers, cloud infrastructure, and built-in continuous integration/continuous delivery (CI/CD) allows developers to rapidly ship incremental application changes to stay out in front of higher education needs.

A TECHNOLOGICAL RECKONING

“(H)igher education institutions around the world have moved with unparalleled speed and agility to serve students and work together in the shadow of a global pandemic.”¹

John O’Brien, President and CEO of Educause

ADDITIONAL RESOURCES

Kit Colbert, VMware Cloud Platform CTO: “The Counterintuitively Fastest Path to App Modernization”

1. Inside Higher Ed, “More Than a Lifeline,” May 5, 2020



The App-Modernization Spectrum

Often mischaracterized as an all-or-nothing investment, application modernization is instead a diverse spectrum of choices. When adding new digital capabilities for your institution's specific needs, three primary paths are possible:

- **Re-host** – “As-is” workload migration to the cloud without changing architecture or code
- **Replatform** – Containerize traditional workloads to increase agility and standardize automated development and deployment tool chains
- **Refactor** – Utilize cloud-native and microservices architectures by rewriting or writing new code

Modern Infrastructure Flexibility

As they modernize applications, future-ready colleges and universities are also adopting a cloud operating model—whether on premises, in a hosted environment, or in a public cloud. This hybrid/multi-cloud model enables consistent service delivery, breaking down traditional infrastructure-specific silos while offering greater flexibility and resilience for the future.

In short, institutions are boosting agility with the key to digital transformation success: a single hybrid cloud platform, operating on a consistent underlying infrastructure, enabling migration across multiple generations of platforms on any cloud, any app, any device.

KEY QUESTIONS

1. What are your institution's strategic goals and how do digital solutions meet them?
2. How are your developers modernizing your application portfolio to meet those goals?
3. How is your current infrastructure architected to support cloud and application changes?

LEARN MORE ABOUT

VMware Cloud™ on AWS

VMware Cloud managed by
VMware on AWS infrastructure

Cloud Verified Partners

Offering VMware Cloud
compatible services



VMware Private Cloud Benefits

As a private cloud, VMware Cloud Foundation delivers a full-stack infrastructure solution and a cloud operating model that standardizes and streamlines the consumption of modern infrastructure services.

Business case analysis of more than 103 VMware customers' data in 2019 and 2020² reveals significant reduction in three-year total cost of ownership (TCO).

CapEx Value Drivers

- Runs on industry-standard servers
- Places workloads intelligently, based on planned cost and business outcomes
- Optimizes workload density with automated resource and workload management
- Reduces firewall and load balancer hardware costs

49% average projected three-year total **CapEx savings** from combined compute optimization, host consolidation, and networking savings.

OpEx Value Drivers

- Integrates and automates initial system deployment, configuration, and ongoing lifecycle management
- Optimizes service delivery with orchestrated and automated infrastructure resources
- Streamlines service consumption with standardized and repeatable logical infrastructure topologies
- Accelerates mass migration of workloads into VMware Cloud Foundation environments

69% average projected three-year total **OpEx savings** from combined system lifecycle management, service blueprinting, and service delivery automation savings.

ADDITIONAL RESOURCES

Download the VMware Cloud Foundation [Business Case](#) to see estimated OpEx and CapEx savings across key industries and segments.

LEARN MORE ABOUT

[VMware Cloud on AWS](#)

A secure, scalable cloud service that brings VMware's rich Software-Defined Data Center software to AWS.

2. Analysis findings and data based on average projected business case savings for 103 VMware customers assessed in 2019 and 2020.





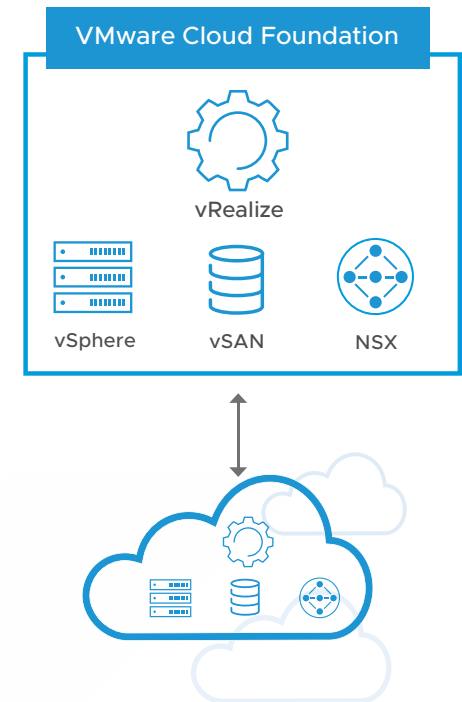
VMware Hybrid Cloud Benefits

As a hybrid cloud, VMware Cloud Foundation extends consistent infrastructure and consistent operations across on-premises and public cloud environments.

It now supports both VM and container-based applications while streamlining workload migration, enabling standardized and automated service consumption, and powering a cloud operating model that reduces operational complexity and risk.

By running both modern and traditional applications on a single VMware platform, across consistent infrastructure in any cloud environment—private, hosted, and public—your institution's IT organization can take advantage of the fastest, least-disruptive way to support the spectrum of application modernization.

Cost optimization and operational efficiency benefits resulting from VMware Cloud Foundation deployment are driven by reduced complexity. A single cloud operating model is adopted wherever workloads are deployed. Depending on your institution's specific situation and needs, additional agility and service consumption benefits can be realized, boosting strategic IT service delivery.





Benefit

Timeframe

Fastest and least disruptive path to cloud – Extend VMware solutions to the cloud to migrate workloads or add capacity—all with familiar tooling, skills, and core processes.	Immediate
Faster time to market – Automate and standardize cloud services to reduce application deployment times so apps and features get to users sooner.	After integrating the application release process
Reduced risk – Link policies to workloads for consistent and streamlined compliance across environments, reducing hybrid cloud and modern application complexity.	Immediate
Reduced data center footprint – Tap cloud resources on demand for either temporary or long-term use to reduce resources needed to manage infrastructure.	After cloud migration
Lower software license costs – Retire older hosts and increase workload density, cutting unnecessary expenses.	With consolidation
Faster and cheaper workload migration – Move applications without the time and cost of refactoring or replatforming using familiar VMware tools.	Immediate
Support new cloud-native apps with existing teams and tools – Manage container-based and VM-based applications side by side with the same team, tools, and processes—wherever they are deployed.	After upgrade to VMware vSphere with VMware Tanzu
Avoid lock-in – Deploy workloads to best-fit environments based on institutional requirements, then migrate or redeploy without vendor lock-in, should conditions change.	Ongoing when needed across multiple clouds
Quickly deploy resources as needed – Spin up cloud resources in region, seamlessly migrate workloads without refactoring, and upgrade end-of-life legacy infrastructure faster—in weeks, not months.	As needed

ADDITIONAL RESOURCES

Forrester Total Economic Impact™ of VMware Cloud on AWS

Analysis of customer benefits derived from workload migration and reduced operating costs



7 Reasons to Choose VMware

Here's why the VMware Cloud Foundation future-ready, full-stack hybrid and multi-cloud solution is ideal for your institution:

1. VMware Cloud Foundation is an integrated, software-defined solution with built-in automated lifecycle management that combines virtualized services for compute, storage, networking, security, and cloud management. It delivers consistent infrastructure for private, hybrid, and multi-cloud demands.
2. Kubernetes is now delivered as part of VMware Cloud Foundation with VMware Tanzu, delivering full-stack, developer-ready infrastructure with a standard Kubernetes API for programmatic consumption of compute, network, storage, and security services.
3. IT operations teams—who have different priorities, skill sets, and preferences than developers—can offer developer-ready infrastructure while gaining observability and troubleshooting for Kubernetes workloads.
4. VMware solutions included in the full-stack hybrid cloud are now optimized for Kubernetes. As a result, IT can configure an enterprise-grade Kubernetes infrastructure with integrated networking and storage within an hour.³

LEARN MORE ABOUT

*VMware Cloud Foundation
with VMware Tanzu™*

This full-stack solution is the best way to run Kubernetes workloads at scale.

- For application developers—it is Kubernetes.
- For infrastructure administrators—it is vSphere.
- For the digital business—it is a single hybrid cloud platform that supports the spectrum of application modernization options.

3. Based on 2020 internal VMware testing and expectations for a production environment, where appropriate network settings are preconfigured for consumption.



7 Reasons to Choose VMware (continued)

5. With built-in Kubernetes, any environment based on vSphere with Tanzu now natively supports both VM and container workloads as first-class citizens.
6. The same VMware Cloud Foundation stack is available as a VMware managed service—with VMware Cloud on AWS, in your data center, or with hosted providers.
7. VMware powers your multi-cloud strategy with leading public cloud providers offering hybrid-compatible services based on the same VMware Cloud stack, including Google Cloud VMware Engine, IBM Cloud for VMware Solutions, Microsoft Azure VMware Solution, and Oracle Cloud VMware Solution. And over 200 VMware Cloud Provider Program Partners offer VMware Cloud Verified hybrid cloud services on the same VMware Cloud stack.

VMware Cloud Foundation delivers enterprise agility, reliability, and efficiency for higher education institutions like yours seeking a private, hybrid, or multi-cloud solution.





Higher Education Experience

VMware is a committed partner to higher education institutions on their journey of technology infrastructure modernization. We understand the pressure IT leaders are under to find the most efficient and effective ways to meet student, faculty, staff, and stakeholder needs. Our goal is to reduce IT complexity and ensure secure, compliant delivery of modern applications and IT services so you can focus on meeting your institution's mission.

We work with our higher education partners to achieve the following:

- Accelerate the digital campus: transform learning and simplify IT while making the most of existing technology investments
- Empower students, faculty, and staff: facilitate exceptional teaching and learning experiences with digital workspace, mobile, and edge solutions
- Protect institutional and student data: safeguard intellectual property and personal information with intrinsic security, zero-trust access, and endpoint protection solutions

VMware offers educational institutions a variety of procurement vehicle options to purchase VMware products and services, including:

University of Michigan – RFP – General Compute and Data Center Infrastructure

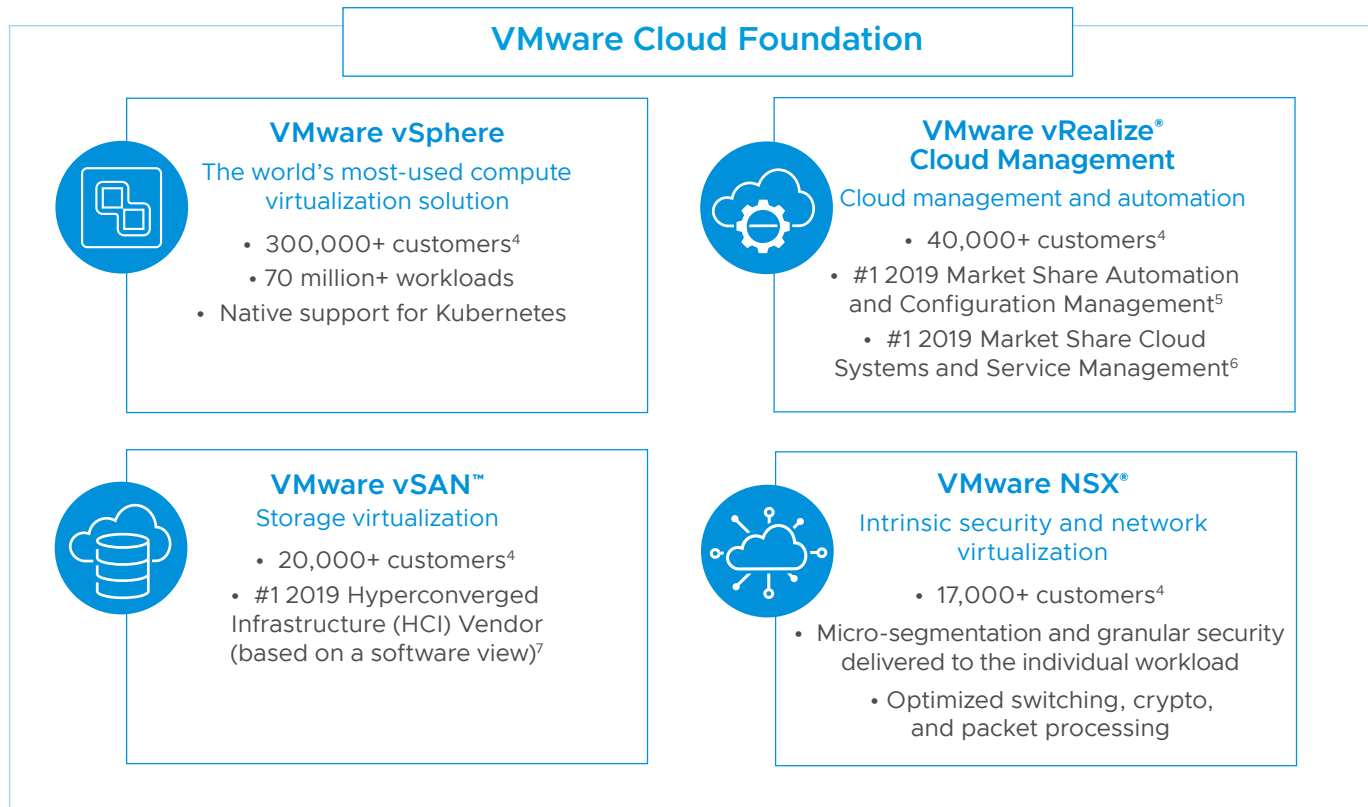
NASPO ValuePoint Cloud Solutions Contract

*North Carolina Department of Information Technology (NC DIT)
IT Infrastructure Solutions Contract*



VMware Market Leadership

VMware Cloud solutions—based on VMware Cloud Foundation—combine trusted, proven products into a full-stack solution that works with both new and existing applications, on premises and in the public cloud.



LEARN MORE ABOUT

VMware solutions for higher education

4. Customer counts as of Q3 FY21

5. IDC, "IDC Worldwide IT Automation and Configuration Management Software Market Shares, 2019: Market Expands Ahead of Coronavirus Impact," Doc #US46397520, June 2020.

6. IDC, "IDC Worldwide Cloud Systems and Service Management Software Market Shares, 2019: SaaS and ITOM Drive Growth," Doc #US45083420, May 2020.

7. IDC, "IDC Worldwide Quarterly Converged Systems Tracker, Hyperconverged Systems Based on Owner of HCI Software," September 17, 2020. VMware leading market share based on revenue attributed to owner of HCI software.



Key Hybrid Cloud Considerations and Actions

Leading a shift to hybrid cloud service delivery requires intentional action to ensure success. And VMware is the ideal partner to get you there.

Consideration	Action
Consumption expectations – Public cloud is setting the gold standard for instantly accessible and highly standardized service consumption, raising stakeholder expectations for IT.	Ask IT operations to meet with your key IT stakeholders and understand service requirements to meet or exceed their expectations.
Inertia and status quo – IT organizations often have a vested interest in the old way of delivering services, and may actively resist change to a cloud operating model.	Identify an IT executive sponsor willing to be the change agent to lead your institution through a purposeful infrastructure and apps modernization transition plan. Identify both transition and end-state metrics to incent desired behavior.
Skills gap – Modern container-based workloads often require different management tools and processes than existing VM-based workloads.	Choose a solution that can manage both VM and container-based workloads and leverage existing investment in intellectual property found in process and run-books.
Risk mitigation – For institutions of all sizes, new application technologies and cloud environments can increase complexity and potentially impact security, compliance, and service-quality risk profiles.	Team with your cybersecurity experts to understand key risk considerations. Architects – Look for solutions that deliver intrinsic security at the infrastructure layer, and apply policies at the application layer that are deployed consistently across environments.
Cloud economics – A cloud operating model is service oriented, and it may change a cost structure that was previously infrastructure oriented.	Meet with your finance or treasury team to understand the optimal mix of CapEx and OpEx. Architects – Evaluate the hidden costs of cloud migration and workload re-factoring that may impact cost analysis.
Pilot-based launch – The transition to a cloud operating model is best approached intentionally.	Plan a staged rollout as part of your change transition plan. Architects – Identify key workload types or influencer groups, and gain and promote their buy-in to ensure momentum after early successes.

VMware experts thoroughly understand the opportunities and challenges cloud adoption and operations present for higher education institutions. Whatever cloud model you choose, we're here to help you get the maximum benefit from your technology investment.

Let us bring our experience, insight, and expertise to your teams and environments, helping you implement the cloud strategy that supercharges your institution in meeting its strategic goals.



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