



Deliver the New Education Virtual Workspace with Cisco VXi:

Unlock Virtual Workspaces in a Virtual Classroom and Lecture Hall with Video and Voice



What You Will Learn

Cisco® Virtualization Experience Infrastructure (VXI) delivers virtual workspaces that go beyond traditional classroom desktops to unify virtual desktops, voice, and video. Cisco VXI empowers IT to provide flexible, secure workspace services with uncompromised user experiences for students, faculty, and administrators.

Cisco VXI helps alleviate the challenges colleges and universities commonly face:

- Providing every student, faculty, and staff member with their own personalized workspace, while offering students nonpersistent or “clean” desktops free of viruses, malware, or unauthorized applications
- Allowing students to use personal devices such as tablets or smartphones
- Extending the time between required desktop hardware refreshes
- Optimizing adds, moves, and changes for large desktop populations, while consuming minimal IT resources and time
- Streamlining standardized desktop and application delivery to computer labs across a distributed campus system
- Simplifying migration to newer operating systems
- Reducing support and help-desk calls
- Provisioning personal virtual workspaces for remote learning environments, enabling a borderless campus

The Anywhere Campus

The meaning of “going to college” is changing. While higher education is more important than ever, the idea that the classroom or lecture hall serves as the primary educational venue is being uprooted. Technology is broadening the opportunity for learning, making every personally owned computer, smartphone, and tablet a potential academic resource. To take advantage of this trend, and to match the expectations of a tech-savvy student body and make more of budgets, colleges and universities are exploring ways of virtualizing resources such as operating systems, applications, and data to deliver consistent learning experiences, regardless of device or student location.

“A couple years ago, when we had a normal lab refresh come up, we had the opportunity to look at replacing physical desktops with physical desktops again or present the modern technology view of a virtual desktop. We were excited about that because a university wants to be known as a leader in technology....Once they heard there was a virtual option for desktops that would free up classroom space, that would make it so the students could use their own dorm room as their lab environment having access to the tools they needed, that was very attractive for the university.”

Matt Byers, Senior Systems Administrator, Seattle University

Virtual Experiences, Tangible Benefits

Delivering agile, convenient virtual workspaces for colleges and universities, the Cisco VXI solution provides virtual desktops, voice, video, and applications within a unified environment that makes the next generation of collaborative education possible—anytime, anywhere, and on any networked device. Moreover, Cisco partners with colleges and universities worldwide to address short- and long-term challenges and objectives, developing solutions that promote educational missions and further business imperatives. Table 1 summarizes how Cisco VXI can bring value to various groups across your institution.

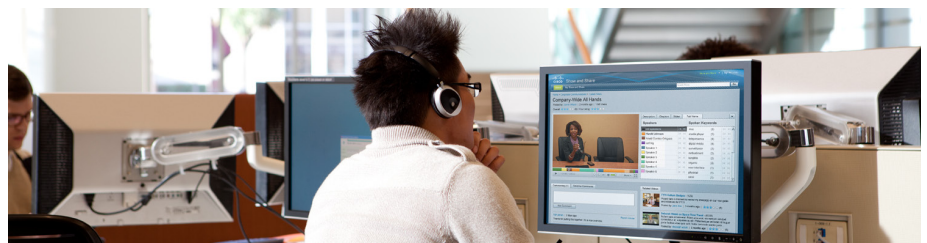


Table 1. Benefits Overview of Cisco VXI

Type of User	How Cisco VXI Helps
Administrators	<ul style="list-style-type: none"> • Enhances compliance and risk mitigation by securely centralizing control of data, applications, communications, and infrastructure • Lowers cost and improves ROI through optimized infrastructure, simplified operations, and open partner ecosystem • Optimizes business agility by facilitating secure provisioning of a greater number of end users
Students and Faculty	<ul style="list-style-type: none"> • Delivers complete, uncompromised workspace experience with access to all applications, communications, and collaboration services, anywhere on any device • Offers choice, freedom, and flexibility to all students and faculty, aligning with different learning and teaching styles
IT	<ul style="list-style-type: none"> • Enables IT to more rapidly address changing application demands, while helping to ensure standardized operating images within each student virtual workspace • Provides heightened security against unauthorized applications or malware introduced by students • Delivers a virtual workspace solution that uniquely brings virtual desktop and collaboration architectures together for immersive student-faculty interactions and accelerated learning • Employs best-in-class technologies, including Cisco data center, networking, and collaboration technologies, along with customizable solutions and services from a rich ecosystem of partners, helping to ensure greater scalability and performance and an enhanced user experience • Enables faster, simpler deployment of workspace solutions with validated designs, system roadmaps, and a streamlined operational model, as well as end-to-end support and services

Cisco VXI solutions are built upon three core components:

- **Virtualized data center:** The virtualized data center serves as the foundation of any VXI solution, helping IT simplify, secure, and scale the hosting and management of desktop virtualization while providing the cornerstone for full virtual workspace deployments. This architecture includes the Cisco Unified Computing System™, Cisco Unified Fabric, and Cisco unified management software as foundational elements, along with industry-leading ecosystem partner technologies.
- **Virtualization-aware network:** Students, faculty, and staff access the virtual desktops and services hosted in the data center through a virtualization-aware network. The network helps to ensure an end-to-end, superior user experience, regardless of the user's location, by providing the optimized, secure delivery of virtual desktops at scale, together with voice, video, and traditional data. To improve the virtual desktop experience, the network uses WAN optimization together with multimedia and other services, while also reducing the bandwidth consumed by each virtual desktop session.
- **Virtualized collaborative workspace:** The Cisco virtualized collaborative workspace allows IT to deliver an uncompromised user experience for students and faculty, whether they on campus, in dormitories, or beyond. The virtualized collaborative workspace extends the reach of the virtual desktop to a diverse range of endpoint platforms, including thin and zero clients, smartphones, and tablets. Unlike today's desktop-only virtualization solutions, this virtual workspace supports critical collaboration capabilities, such as conferencing, messaging, and unified communications clients.

Common Applications for VXI

Greater access:

- Expand access to specialized applications from physical labs to any device
- Enable flexible work environments that securely allow for multiple users per device
- Merge desktop and voice into a single, virtual workspace for learning
- Provide consistent experiences for on- and off-campus students

Mobility and “bring your own device” (BYOD):

- Provide video, voice, and collaboration services to multiple devices
- Allow authenticated, secure access to virtual workspaces from any device with a network connection (for example, Wi-Fi)

Centralized IT management:

- Provision new users with a virtual desktop in lieu of physical device
- Offer centralized, simplified, and more efficient technical support
- Accelerate from pilot to virtual desktops at scale
- Achieve a sustainable business model



Cisco Services

Cisco VXI also includes a comprehensive portfolio of advanced and technical services. Colleges and universities that take advantage of the Cisco VXI Audit and Validation Service qualify for Cisco Unified Solution Support, which can help alleviate the overhead associated with deploying and managing complex solutions. In addition, colleges and universities can take advantage of these Cisco Desktop Virtualization Services, which include:

- **Desktop Virtualization Strategy Service:** Determine the value a desktop virtualization solution can bring to your educational institution and develop the metrics you need to validate your investment
- **Desktop Virtualization Planning, Design, and Implementation Service:** Decide how to best virtualize your institution's desktop and infrastructure, find the most suitable applications, and implement.

For more information about Cisco Services, visit: http://www.cisco.com/en/US/products/ps11235/services_segment_service_home.html

“Our gangbuster enrollment number increases are primarily coming from continuing and professional studies programs servicing non-traditional students. These working professionals find it difficult to come to a campus-based laboratory environment for access to software required for class. Furthermore individual software purchases are generally not a financially viable option. The ability to provide these students with a borderless classroom through their own machine in their office space, their home, or wherever they happen to be located will help us to better reach and retain this student segment.”

Shane Milam, Director, Systems and Networks, Mercer University

Why Cisco VXi?

Increasingly, educational institutions worldwide are realizing the power of virtualization and collaboration in delivering borderless campuses. By implementing Cisco VXi, your educational institution gets the best of both those worlds, so that your students never have to compromise flexibility, quality, or the learning experience. Meanwhile, VXi cuts costs and improves IT operations by:

- **Delivering easier-to-manage desktop environments:** Centralizing the management and control of desktops can save your institution time and resources while both increasing access to applications and promoting productivity. Lab, library, or shared desktop PCs can automatically refresh nightly, between classes, or upon login.
- **Reducing Microsoft Windows 7 migration costs:** Migrating to Windows 7 represents an opportunity to transform desktop delivery and enhance the end-user experience for students, faculty, and staff. Using Cisco's tested methodologies and partner technologies, colleges and universities halved the time and cost of migrating to Windows 7.
- **Increasing security and data protection:** Configuring each virtual desktop with a standard image that is compliant with your educational institution's security and protection guidelines offers greater peace of mind.
- **Lowering operational costs:** Centrally managing desktops for many students and staff can reduce help-desk calls and enhance the provisioning of new desktops.
- **Minimizing ongoing capital expenditures:** Consolidating IT infrastructure into the data center helps delay hardware refreshes and minimizes storage requirements. VDI implementations typically require initial capital expenditures that yield significant savings over the lifecycle.

"Classroom software requirements continue to move at a faster and faster pace. Requirements for software installations and adjustments in our various labs consume greater and greater personnel resources. This need is harder and harder to meet with less and less people. We are always exploring options for correcting this balance through improved utilization of the personnel we have available. Virtual workspaces allow us to adjust this balance. Many institutions have a problem maintaining large lab spaces requiring large equipment purchases—purchases which are capital expenditures. We were seeking a more sustainable model. We have successfully developed a revenue-based model where the schools we support will be able to budget and equipment lab spaces through operations expenditures in the same manner they do with traditional telephony services. They make a payment every year; something they can easily budget for and adjust as necessary. This model provides them an environment that is always current and functional—always having the latest technology."

Shane Milam, Director, Systems and Networks, Mercer University

Get Started Today

To make Cisco VXi a reality at your educational institution, contact: education@cisco.com

Need Help Planning?

- **Cisco validated designs**—Reduce risk and ensure future compatibility with proven designs, support, and services: http://www.cisco.com/en/US/netsol/ns1100/networking_solutions_program_home.html
- **Cisco Services**—Our services teams and many VXi-capable partners can help your project succeed quickly and easily. Learn how Cisco Services can help you plan, build, and run your VXi solution: http://www.cisco.com/en/US/products/ps11235/services_segment_service_home.html



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