



Deliver the New Education Virtual Workspace with Cisco VXi:

Unlock Virtual Workspaces in a Virtual Classroom 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, teachers, and administrators.

Cisco VXi helps alleviate the challenges schools commonly face:

- Providing every student, teacher, 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 or school system
- Simplifying migration to newer operating systems
- Reducing support and help-desk calls
- Provisioning personal virtual workspaces for remote learning environments, enabling a borderless classroom

The Anywhere Campus

The meaning of “going to school” is changing. While school is more important than ever, the idea that the classroom 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, schools are exploring ways of virtualizing resources such as operating systems, applications, and data to deliver consistent learning experiences, regardless of device or student location.

“The gangbuster increase in numbers right now is for continuing and professional studies—nontraditional students. Those students—working professional students—don’t want to have to come to a laboratory environment to... access whatever software they need for a particular class, and they don’t want to necessarily buy it either. The ability to give them a borderless classroom that’s available in their office space, their home...wherever they happen to be, on their own machine and equipment, will help us to better reach those students [and] better retain those students.”

Brooks Moore, Manager of Technology Services, Aledo Independent School District

Virtual Experiences, Tangible Benefits

Delivering agile, convenient virtual workspaces for schools, 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 schools 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 organization.



Table 1. Benefits Overview of Cisco VXI

Type of User	How Cisco 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 Teachers	<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 teachers, 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-teacher 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, teachers, 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 teachers, whether they are in the classroom, lab, 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. Schools 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, schools 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 school and develop the metrics you need to validate your investment.
- **Desktop Virtualization Planning, Design, and Implementation Service:** Decide how to best virtualize your schools' 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

Ohio School District Saves More than \$1 Million with Virtual Desktop Solution

Serving more than 8000 students in preschool through grade 12, the Oak Hills Local School District in western Hamilton County, Ohio, has earned an Excellent rating on the state report card while maintaining the county's lowest per-student spending. To continue this legacy, the district undertook the challenge of reducing IT costs while delivering anytime, anywhere teaching and learning. In 2010, Oak Hills IT launched a project to implement a new, virtual desktop infrastructure to expand accessibility to online teaching and learning systems. Implementing a virtual desktop solution using the Cisco Unified Computing System, VMware virtualization platform, and NetApp storage, the district now sees the following benefits:

- Empowering students and teachers with around-the-clock access to learning systems
- Supporting access from student-owned devices
- Updating desktops 98 percent faster
- Achieving 13-month payback and 3-year savings of \$1.27 million
- Reducing desktop TCO by 67 percent

Read the full story: www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/oak-hills.pdf

Why Cisco VXi?

Increasingly, educational institutions worldwide are realizing the power of virtualization and collaboration in delivering borderless classrooms. By implementing Cisco VXi, your school 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 school 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 and school personnel. Using Cisco's tested methodologies and partner technologies, schools 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.

"How do we do more with less? Well, that's where virtual desktops come in. We can use VDI to our advantage....We see cost savings....We see the number of help-desk tickets go down....You see the number of miles that your technicians have to drive to fix these problems go down....Anytime you can centrally manage a particular application, it makes your job a whole lot easier."

Brooks Moore, Manager of Technology Services, Aledo Independent School District

Get Started Today

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

For more information on the Cisco Virtualization Experience Infrastructure, go to: <http://www.cisco.com/go/vxi>

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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