



## Connected Schools: Find Savings to Reinvest in Education

Today's schools are complex systems that serve large numbers of mobile students, teachers, administrators, and support staff. Until recently, each building subsystem from access control to heating and ventilation required a separate network, resulting in a complex, costly environment that was difficult to operate and maintain. But today, you can efficiently deliver all building services over a single, converged, centrally managed IP-based network. This same network provides the backbone of a 21st century education environment that can help better prepare your students for the fast-moving demands of this century and help them compete successfully in a global economy.

Cisco is a change agent in enabling quality education. In a connected society, learning is everywhere and just a few keystrokes away. Cisco works closely with schools to anticipate and respond to the demand for new teaching and learning approaches that promote employability and social equity.

### Challenges

In most school facilities, building control systems for heating, ventilation, and air conditioning (HVAC), fire and safety, lighting, and other services have been standalone, proprietary systems. In addition, the communications infrastructure for voice, video, and data has been on its own network, or even on three separate networks. Many of those systems are proprietary, and there is little ability to automate or centralize services. As a result, operating a single building, let alone an entire school district, is a complex undertaking with high installation, integration, and ongoing maintenance costs.

Historically, school administrators viewed inefficiencies as an unavoidable operational cost. But today, they are searching for new ways to lower expenses and raise efficiency, administer disparate systems, ensure safety, improve collaboration, enhance teaching effectiveness, support energy-saving initiatives, and ultimately uncover new savings that can be redirected to educational purposes. By eliminating inefficient silos, caused by disconnected systems, administrators can apply savings back into the classroom, helping to keep teachers employed and creating new opportunities for learning.

## Case Study: Giddings Independent School District Uses Network to Converge and Manage Several Systems

### Challenge:

- Deliver safe, secure 21st century learning environment that meets student and faculty needs
- Provide networked technology platform for new school that will create future options and opportunities
- Integrate disparate systems and centralize control and support to minimize costs and maximize performance, efficiency, and resources

### Solution:

- Web 2.0 infrastructure
- Converged applications
- Cisco Connected Real Estate platform

### Benefits:

- Increased connectivity and centralized communications and alerting capabilities
- Saved on power consumption and gained better control of energy use through centralized management of HVAC systems and lighting controls
- Integrated communications system and easy-to-use technology

## Solution

Progressive schools are making use of the data network to address facilities management and create long-term, sustainable solutions. The Cisco® Connected Real Estate for Schools solution is based on a high-speed network backbone running through the core of all buildings on school grounds or across the district. This intelligent information network uses the open standard of Internet Protocol (IP) to provide a single, multiservice infrastructure that supports all environmental and building controls as well as conventional network voice, video, and data services. Equipped with this resilient and highly secure network foundation, you can create Connected Learning environments in which facilities are transformed into proactive, intelligent buildings, technologies create options, and services work together to promote administrative and operational efficiency, increase safety and security, and improve energy management.

## Educational Benefits

The goal of Cisco Connected Real Estate for Schools is to provide a powerful, flexible platform for thriving in the 21st century. With a Cisco connected classroom, students, teachers, and administrators find the tools they need to improve collaboration and mobile communication, expand knowledge and understanding, and succeed in a complex global economy.

An intelligent school network supports applications that streamline manual processes, reduce paperwork, and keep facilities staff more connected and productive. When combined with a wireless LAN, you can change the way facilities are managed and dramatically cut costs.

With the Cisco Connected Real Estate for Schools solution, you can:

- Promote efficiency: Many institutions still use paper-based systems that require multiple forms and approvals even to change a light bulb. With Cisco Connected Real Estate for Schools, building staff or faculty simply report issues through the building's web portal or IP-based contact center, and work orders are automatically approved and routed to a technician's wireless PDA. Meanwhile, that light fixture becomes an intelligent endpoint, and the ballast itself proactively notifies the system of the time remaining on its expected useful life or if it detects a malfunction. Proactive maintenance like this is feasible across any operational subsystem that is IP-enabled, whether it is HVAC, lighting, health, or life and safety. Your institution can reduce redundancy and errors, improve service to faculty and students, accomplish more with a smaller staff, and promote efficiencies across the energy-consuming building subsystems.
- Increase school safety and security: Cisco Connected Real Estate for Schools helps you keep school grounds and facilities under better surveillance and more effectively control access to buildings and grounds. In response to a security event, your security staff can open and close doors, provide an escape path, ground elevators, alert local police or fire agencies, and coordinate all building systems from a single network interface, from anywhere in the school district. In addition, wireless video surveillance enables you to monitor local and remote areas.
- Improve energy management and save costs: An intelligent Cisco network links school buildings (or even multiple schools across a district) into a unified, centrally managed system. Instead of dedicating staff and money to manage separate, proprietary environmental and building control systems for each building or school in a district, you can manage all these functions from a central location with a single staff. Your facilities staff can take advantage of network intelligence and district policy to identify the least-cost resolution to maintenance issues, reduce redundant operations at each facility, and work more collaboratively and efficiently. The more networks can save time, talent, and money, the more resources you can redirect to the classroom

## Creating a Next Generation Learning Environment

With Cisco Connected Real Estate for Schools, the same network that supports converged building and security systems can also support the student- and faculty-facing services that make a state-of-the-art learning environment. Technology-enabled schools appeal to students with mobile devices, enhance teaching and learning, and can help improve attendance and graduation rates.

Services supported by the Cisco Connected Real Estate for Schools solution include:

- **Secure, high-speed Internet access:** With a Cisco network infrastructure, you can deliver faster Internet access to students and faculty at a lower cost, make new services available in school buildings, and support applications that streamline facilities operations.
- **Mobility solutions:** With an intelligent network foundation in place, you can easily add secure wireless access across school grounds. This allows both facilities staff and building applications to connect with the network from anywhere on school grounds and provides ubiquitous network access for faculty and students. For example, with secure wireless, you can use active radio-frequency identification (RFID) tags to track expensive equipment and prevent theft. RFID tags can automatically alert your security guards by SMS or email.
- **Building security and access:** The convergence of IT and building systems greatly strengthens your ability to create safer buildings. Interoperability of devices and networks helps ensure that critical real-time data is available and actionable. Video surveillance and access control work together over the wired and wireless IP network to support comprehensive physical security strategies. Additionally, network-connected sensors can check classroom temperatures or detect movement during the night to protect against theft of valuable property.
- **Converged network services:** An intelligent school network paves the way for innovative building control and communications solutions. Centrally controlled environmental and utility systems can yield a substantial cost savings. Intelligent networks also enable you to deploy converged communications solutions such as IP telephony, unified messaging, mobile voice, and video conferencing at a much lower cost than outfitting one building at a time.
- **Digital media systems:** In addition to standard data and communications services, your public-facing media systems can also be interactive, offering building directories, class schedules, and other video services. This solution is highly energy-efficient because it allows for fewer paper prints, automatic switching-off of the screens, and the lowest-possible power consumption of digital media players.
- **Advanced collaboration tools:** Using your wired and wireless network as the platform for the delivery of instructional and life experience broadens student and teacher perspective, enables access to global resources, and opens a world of educational opportunity.



## Cisco Services and Support

Cisco offers a professional services portfolio based on a lifecycle approach designed to help schools and districts successfully meet mission goals and objectives with the Cisco Connected Real Estate solution. The unique Cisco Lifecycle Services approach defines the requisite services, activities, and deliverables at each phase of the network lifecycle, offering a services framework that is independent of who performs the service activities—Cisco, partners, or customers themselves—and enabling multiple parties to provide the expertise needed as an integrated project team, and in a highly coordinated manner.

## Why Cisco?

Today's networks must support more sustainable ways of teaching and learning. Cisco's vision is to transform the network into a platform for operational sustainability, with every networked device potentially a part of the optimal solution. That means using the network to collaborate, and also to measure, monitor, and better utilize energy and natural resources.

In the process of developing technology solutions that benefit the environment, Cisco is improving the infrastructure of learning environments, reducing the need to travel, making school buildings more manageable and energy-efficient, supporting mobile applications, and helping teachers and students rethink traditional ways of learning. Many of these benefits require an intelligent network architecture that can perform multiple tasks, such as:

- Integrating an array of monitoring and control mechanisms
- Enabling comprehensive management of diverse systems and operations
- Supporting technologies that encourage long-distance and mobile collaboration

Cisco offers a comprehensive platform of end-to-end campus networking; solutions that combine voice, video, data, and wireless traffic; and highly rated service and support. Whether you are modernizing an existing site or building a new facility, Cisco Connected Real Estate can connect your schools to the power of the Internet and advanced communications for greater educational success.

## Get Connected

For more information about Cisco Connected Real Estate, visit [www.cisco.com/go/education](http://www.cisco.com/go/education) or contact your local account representative.




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