



Connected Campuses: Find Savings to Reinvest in Education

Today's college and university campuses are complex systems that serve large numbers of mobile students, professors, administrators, and support staff. Until recently, building subsystems from access control to heating and ventilation required separate networks, making a complex, costly environment that was difficult to operate and maintain. Today, you can efficiently deliver building services over a single, converged, centrally managed IP-based network. This network provides the backbone of a 21st century education environment that helps better prepare your students for success in the 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 colleges and universities to anticipate and respond to the demand for new teaching and learning approaches that promote employability and social equity.

Challenges

In most campus 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 campus, is a complex undertaking with high installation, integration, and ongoing maintenance costs.

Historically, 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, disconnected systems, administrators can apply savings back into the classroom.

Case Study: Ave Maria University Uses a Converged Network to Manage and Operate All Aspects of Campus Life

Ave Maria University in southwestern Florida creates building efficiencies and enhanced services by integrating building systems on a single Cisco network.

Challenge:

- Reduce costs of installing separate and proprietary mechanical, electrical, and communications systems
- Free up staff time for higher-value work by eliminating the need to physically monitor and maintain each separate building system across a 908-acre campus
- Enable detailed monitoring of utility usage to track power spikes or excess supply and expense and reconcile them with utilities

Solution:

- Campuswide intelligent, wired and wireless information network based on Cisco solutions interlinked on a rapidly scalable and reliable optical network
- Interfaces and sensors installed in all building systems to connect with Cisco end-to-end network
- 24-hour network operations center that controls and monitors all university communications and building operations from one location

Benefits:

- Saved over US\$1 million in building costs by eliminating redundant wiring and cabling
- Saved \$350,000 in annual staffing costs by enabling IT to assume tasks of building maintenance staff
- Estimated \$600,000 annual savings through efficiencies in utility usage

View the case study video here: <http://newsroom.cisco.com/Newsroom/flash/evp/?vidid=B4DD34701E16C689EB58A005EDDC4FF9>

Solution

Progressive colleges and universities are making use of the data network as the “fourth utility,” to address facilities management and create long-term, sustainable solutions. The Cisco® Connected Real Estate for Higher Education solution is based on a high-speed network backbone running through the core of all buildings on campus. This intelligent, wired and wireless 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 converged environments in which facilities are transformed into intelligent buildings, enabling interoperability that creates options and allows services to work together—thereby, promoting administrative and operational efficiency, increasing safety and security, and improving energy management.

Educational Benefits

The goal of Cisco Connected Real Estate for Higher Education is to provide a powerful, flexible platform for thriving in the 21st century. With a Cisco connected campus, students, professors, 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 campus 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 Higher Education solution, you can:

- **Promote efficiency:** Many institutions still use paper-based systems that require multiple forms and approvals, even for when professors change office locations. With Cisco Connected Real Estate for Higher Education, building staff or faculty simply report a move through the building’s web portal or IP-based contact center, via the wired or wireless network, and work orders are automatically approved and routed to a technician’s wireless PDA. Meanwhile, the professor’s computer and IP phone are intelligent endpoints that notify the system of their new location as soon as they are plugged into their new location. Intelligent relocation like this is feasible across any operational subsystem that is IP-enabled. IP-enabled environments improve your ability to manage any remote location, 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 campus safety and security:** Cisco Connected Real Estate for Higher Education helps you keep your campus 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 on campus. Wireless video surveillance enables you to monitor local and remote areas.
- **Improve energy management and save costs:** An intelligent Cisco network links buildings 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 campus, you can manage all these functions via sensors and monitoring from a central location with a single staff. Your facilities staff can take advantage of network intelligence and school 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 and talent and create significant, sustainable cost savings, the more resources you can redirect to education itself.

Creating a Next Generation Learning Environment

With Cisco Connected Real Estate for Higher Education, 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 campuses appeal to students with mobile devices, enhance teaching and learning, and can help improve student intake and course attendance.

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

- **Secure, high-speed Internet access:** With a Cisco wired and wireless network infrastructure, you can deliver faster Internet access to students and faculty at a lower cost, make new services available on campus, and support applications that streamline facilities operations.
- **Mobility solutions:** With an intelligent network foundation in place, you can easily add secure wireless access campuswide. This allows both facilities staff and building applications to connect with the network from anywhere on campus and provides ubiquitous network access for faculty and students. For example, you can use active radio-frequency identification (RFID) tags to track equipment and prevent theft. RFID tags can use the wireless network to automatically alert your security guards by SMS or email if the asset is moved from its specified location.
- **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. And 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 campus network paves the way for innovative building control and communications solutions. Centrally controlled environmental and utility systems can yield 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. These screens can also be used to facilitate communications during an emergency.
- **Advanced collaboration tools:** Using your wired and wireless network as the platform for the delivery of instructional and life experience broadens student and professor perspective, enables access to global experience and expertise, and opens a world of educational opportunity. The same network that delivers an advanced means of enabling operational efficiencies also supports advanced communications, including Cisco TelePresence, which transform instruction and securely position your higher education institution in the 21st century.



Cisco Services and Support

Cisco offers a professional services portfolio based on a lifecycle approach designed to help higher education institutions 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 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 for learning environments, reducing the need to travel, making campus buildings more manageable and energy-efficient, supporting mobile applications, and helping professors 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 wired and wireless campus networking; solutions that combine voice, video, and data; 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 educational institution 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 or contact your local account representative.



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