



SOLUTION OVERVIEW

ADVANCING HIGHER EDUCATION THROUGH INNOVATIVE TECHNOLOGY

Cisco advanced technologies are helping colleges and universities improve operational effectiveness and further differentiate themselves from their competitors.

EXECUTIVE SUMMARY

To address escalating budget constraints and new operational challenges, colleges and universities are using technology to transform how they deliver instruction, manage operations, and create an information-agile institution. Advanced technologies from Cisco Systems® give higher education institutions the accessibility, security, and integration of information they require. Cisco® advanced technology solutions provide secure access to information and communication tools anytime, anywhere, and can support delivery of high-impact, personalized learning.

operational issues such as diversifying revenue streams, increasing productivity, realizing operational improvements, reducing costs, and protecting people and institutional assets.

CHALLENGE

The recent slowdown in the U.S. economy has created unprecedented budgetary constraints on institutions of higher education. Reductions in state funding, fewer grants, declining donations from alumni networks, and lower interest income on endowed investments are all contributing factors.

At the same time, competition among universities and community colleges for top students and academic professionals has never been more intense.

The field of higher education is undergoing fundamental changes in the constituencies it serves. A growing focus on addressing the needs of nontraditional students, including international students, people pursuing lifelong learning and continuing education, and those interested in executive and professional development, is central to this transformation.

Today's higher education institutions are also grappling with a spectrum of

INFORMATION AGILE INSTITUTION

Universities and community colleges are seeking new avenues of innovation to meet these challenges. Many of these institutions are turning to technology to facilitate a major transformation in how they deliver instruction, manage operations, and create a state-of-the-art campus environment.



Cisco Systems, Inc.

Anytime, Anywhere Access

Secure, wireless networking provides students and faculty with anywhere, anytime access to campus resources and services. Wireless networks facilitate increased faculty and student productivity by increasing network access and availability. Educators can easily share course materials anywhere on campus. Eliminating cabling brings flexibility, providing broadband connectivity to all areas of a campus quickly and cost effectively without expensive rewiring.

Secure Access—Both On and Off -Campus

Security is paramount for university administrators. Recent studies illustrate some of the new threats to organizations and their information resources, and the staggering costs they can incur:

- US\$202 billion lost every year by enterprises to “cyber crime”
- More than half of cyber-crime financial losses are internal (they involve an organization’s intranet)
- The U.S. government alone will experience more than 300,000 Internet security attacks this year
- More than 400,000 Webpages contain some form of hacker tool
- Cyber crimes on enterprises are estimated to take place every 20 seconds

Addressing new and growing security risks, while simultaneously increasing an institution’s flexibility and capacity to innovate, is a delicate balancing act. Meeting the demands of anytime, anywhere access and the growing reliance on e-learning, e-commerce, teleworking, remote connectivity, mobile applications, and more requires that an institution’s technology infrastructure help protect itself by validating user identity and securing information integrity as well as privacy. Identity-based network security will play a critical role in user authentication, authorization, and access control.

High-Impact, Personalized Learning Delivery

Communication, collaboration, and learning are fundamental building blocks of higher education. Institutions are continually striving to enhance these processes to maximize dissemination of knowledge. Students expect the latest technologies, preferring dynamic online content to static printed materials. Distance learning and e-learning allow institutions to deliver more engaging content to both on-campus and remote students, creating a new and potentially significant revenue stream. Enhancing education through video and rich media elements can provide students anywhere and anytime learning experiences not traditionally available and make abstract ideas easier to understand. IP video solutions effectively eliminate the barriers of time, distance, and resources by permitting faculty, staff, and students worldwide to function as if they were in the same room.

A Higher Level of Communication

A robust, effective, and reliable communications system is crucial to a sound educational infrastructure. Many higher education institutions add value to their communications foundation by adopting advanced systems that offer more features to their user communities.

Leading institutions are enabling the next level of faculty satisfaction and productivity by providing tools that deliver enhanced functions, better information integration, and improved collaboration. By taking full advantage of converged network technology for data, voice, and video, institutions are streamlining important business processes, eliminating infrastructure redundancies, and generating higher returns on capital investments.

Scalable and Efficient Deployment of Critical Data

To meet the growing demand for online study, many universities have implemented online courseware and needed to install more servers in their data centers to manage the increased content.

Demands on storage technology continue to soar as many higher education environments maintain duplicate data for training, development, and resiliency purposes. Coupled with budgetary constraints and intense scrutiny of IT investment dollars, consistent access to this critical data (and efficient data management) is an increasingly important issue for institutions. Implementing a storage network is an important first step to delivering anytime, anywhere availability, securing important data, and optimizing storage IT investments.

SOLUTIONS

Cisco Systems is providing colleges and universities worldwide with the converged network technologies that help create a state-of-the-art campus environment with the accessibility, security, and integration features they need.

Cisco Wireless Solution

The Cisco Aironet® Family of wireless LAN solutions integrates easily into an existing network as a wireless overlay, or creates freestanding all-wireless networks, enabling mobility and increasing productivity quickly and cost effectively. With products supporting IEEE 802.11a/b/g technologies, the Cisco Aironet Family offers a complete line of in-building and building-to-building wireless LAN solutions including access points, client adapters, bridges, antennas, and accessories.

Cisco Network Security—Protecting the Integrity and Reliability of the Network

Cisco delivers a comprehensive portfolio of advanced network security solutions for secure connectivity, threat defense, and trust and identity management. Virtual private networks (VPNs) provide secure connectivity solutions, such as IP Security (IPSec), Secure Sockets Layer (SSL) VPN, and Multiprotocol Label Switching (MPLS) VPN. A threat defense system protects against network attacks such as worms, denial of service, man in the middle, and Trojans. The threat defense system comprises many technologies including firewalls, network intrusion detection systems, network services in the routers and switches, network admission control, and security management. Trust and identity management focuses on network admission control, based on device and user credentials and policies, to control user access to applications.

Cisco IP Video Solutions—Effective Communication, Collaboration, and E-Learning

Cisco offers a comprehensive IP Video solution that is ideal for the higher education environment. This solution effectively eliminates the barriers of time, distance, and resources, permitting faculty, staff, and students worldwide to collaborate as if they were in the same room. Educational institutions can interactively disseminate knowledge anywhere, creating a true “campus without walls.” With bandwidth costs decreasing—and hardware value, quality, and performance on the rise, organizations can harness the power of IP technology to implement IP video solutions.

Cisco IP Communications—Anytime, Anywhere Communication

Cisco IP Communications is a comprehensive suite of enterprise-class technologies—including IP telephony, unified communications, IP audio- and videoconferencing, and contact center applications—that facilitate more engaging and efficient interactions among students, faculty, administrators, and alumni, and provide the foundation for a collaborative academic environment.

Enabled by Cisco AVVID (Architecture for Voice, Video and Integrated Data), IP Communications solutions help dramatically improve operational efficiencies, increase productivity, and enhance student and faculty communications to create an effective and empowering academic environment. By promoting greater levels of collaboration, Cisco IP Communications solutions help universities develop new revenue streams, attract and retain top students and faculty, and realize a measurable return on their investments.

Cisco Storage Networking—Harnessing the Power of Data and Information

Storage networking provides a standards-based infrastructure allowing colleges and universities to better use and share storage resources, reducing total cost of ownership and improving data availability and integrity. Storage networking infrastructure provides a high-performance and scalable means for connecting university or community college storage subsystems. Cisco storage networking solutions provide efficient and ubiquitous access to data—independent of its geographical location—and allow institutions to replicate and mirror data for disaster recovery.

WHY CISCO

Rather than an incremental solution, colleges and universities need to deploy a complete solution that brings together the network, applications, and services. This leads to the virtualization of applications and services allowing users to access the application and information they want, when and how they want. This complete solution leads to the lowest total cost of ownership and provides an agile network to meet future needs.

Cisco is the only company that provided integrated enterprise architectures designed to help customers protect, optimize, and grow their business to gain competitive advantage. Cisco, together with its partners, including leading application service providers and systems integrators serving higher education institutions, provides solutions for the foundation of the information agile institution.

Requirements of an Information Agile Institution	Cisco Solutions
Anytime, anywhere access	Wireless
Secure on-campus and remote access	Integrated Network Security
High-impact, personalized learning delivery	IP Video
Anytime, anywhere communication	IP Communications
Scalable and efficient deployment of critical data	Storage Networking

FOR MORE INFORMATION

For more information about Cisco advanced technologies in higher education institutions, visit: <http://www.cisco.com/go/education> or contact your local Cisco account representative.

**Corporate Headquarters**

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems International
BV

Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam

The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912

www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on **the Cisco Website at www.cisco.com/go/offices.**

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica
Croatia • Cyprus • Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR
Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea • Luxembourg • Malaysia • Mexico
The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Puerto Rico • Romania • Russia
Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan
Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Copyright © 2004 Cisco Systems, Inc. All rights reserved. Aironet, Cisco, Cisco Systems, and the Cisco Systems logo are registered trademarks or trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0406R) KB/LW6303 09/04

Printed in the USA