HP Networking Solutions for Higher Education Organizations

Brochure

BUILD

for the future.

"Securing the funds needed to keep up with performance requirements is always a challenge for higher educational institutions, and 3Com* offered powerful hardware and software solutions backed by highly competitive pricing that allowed us to secure the funding needed for a major network upgrade … IMC not only allows us to centrally monitor equipment, but it also allows us to centrally perform software updates and analyze each link to make sure all of our users are getting the bandwidth they need. It offers a flexible GUI that provides easy access to detailed statistical information that helps us to proactively manage the campus network to ensure reliability and performance."

Charlie Ulezelski,
Director of IT Operations,
Jacksonville University,
United States
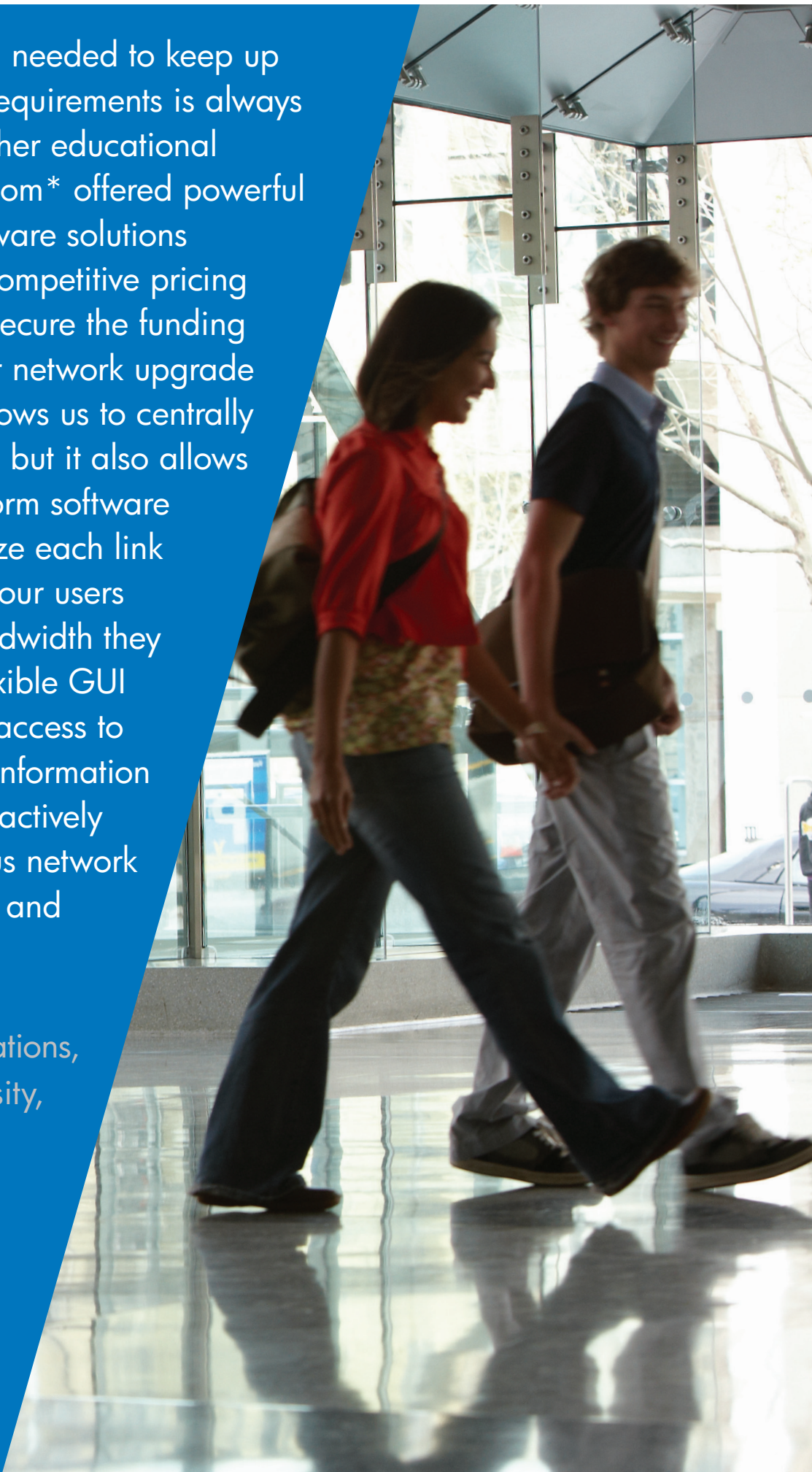
Major challenges. Bold solutions.

The current challenging economic climate is driving colleges and universities worldwide to do more with less, and diminishing investment returns are placing greater pressure on higher education endowments and long-term funding. Meanwhile, technology innovation is changing the way that academic institutions teach and students learn. Distance education, on-demand courseware, the increasing use of social media, and the opportunity to collaborate with research partners from around the world are just some of the communication and instruction alternatives that are being embraced by learning institutions.

Reaping the full benefit of this impressive array of new technology solutions that are being introduced daily is creating additional challenges for colleges and universities. As they face tight budgets and strained IT resources, they need to consider price and performance value more than ever before. They no longer can afford single vendor infrastructures now that Ethernet and IP services are pervasive.

To enhance learning and protect investments, resources and information, HP networking solutions are designed to minimize total cost of ownership (TCO). From the very start of their product lifecycle, these solutions are built to reduce power consumption, increase efficiency and uptime, and ensure best-of-breed security. HP's experience in building higher education networks, its proven customer focus and an innovative edge-to-core portfolio provide bold solutions for the major challenges facing today's educational institutions.

Infrastructure innovation for evolving service needs

Today's learning institutions are challenged to improve collaboration among all those in the educational community and to enhance learning opportunities within and beyond campus environments. Teachers and students use laptops and other handheld devices throughout the day, and they need easy and secure access to the school's network and the Internet from hallways, dorms, cafeterias—even practice fields and gymnasiums—for growing web-based learning and social computing activities. Part-time students seeking continuing education particularly benefit from a range of mature e-learning tools, the ubiquity of Internet access and the increased use of multimedia communications.

Timely, dependable access to information lets students study more efficiently and helps faculty enhance course impact with video, audio and multimedia technology.Yet, traditional network infrastructures are often incapable of handling the high-bandwidth demands of these applications, resulting in bottlenecks, dropped calls, application timeouts and downtime that prevents students from obtaining access to information anytime from anywhere on the network.

As institutions balance tight budget constraints and the management and deployment of future technologies, they need solutions engineered for today's challenges that will lower TCO and provide investment protection.

Innovative management. With HP's Intelligent Management Center (IMC) solution, IT staff gain a single view of all network resources to help them ensure that all critical applications have the priority and maximum quality of service for delivering new instructional alternatives such as on-demand courses and social networking communication tools.

Ground-breaking value. Built on advanced green technologies, HP solutions deliver exceptional network performance, functionality, security and other value-added features, while reducing by as much as a third an institution's overall capital expenses and TCO.

Dynamic simplicity. Designed, built, and tested for some of the world's most demanding higher education institutions, the reliable performance and single platform management of an HP converged network infrastructure—including wired and wireless switching, security solutions, and WAN connectivity—minimize complexity as well as cost.

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"It is clear that the financial crisis and the looming recession have had a great impact on CIOs' list of priorities. However, if there is any larger trend to be seen from the data, it is that the focus of the CIOs seems to have shifted during the past year from a somewhat inward perspective of IT and IT infrastructure to a more institution/business-supportive perspective on applications and processes that actually deliver business results."

"Building Opportunities in a Financially Challenging Environment", Gartner, March 23, 2009, Jan-Martin Lowendahl, Amos Auringer

Reduced complexity and enhanced efficiency for operational excellence

CIOs and IT managers realize that efficient management of network resources is essential for supporting evolving multimedia learning initiatives and attaining educational and operational excellence. It is also needed to provide the comprehensive safeguards—simplified authorized network access and protection from the escalating volume and variety of security threats—required for compliance with government regulations.

In addition, network monitoring and management can stretch an already-thin IT staff and tight budgets to the limit—with some unfortunate effects. According to Yankee group, the leading cause (35 percent) of network downtime is human error when making configuration changes, and 90 percent of the time spent fixing the problem is focused on trying to isolate the issue (Yankee Group Network Downtime Survey).

To achieve excellence in the long term, networks must be easy to deploy, use and maintain, and preferably be based on a single, simple operating system to minimize training and save both time and money. They must scale to cost-effectively support the future growth of heterogeneous platforms and be flexible enough to incorporate applications designed with the latest technological innovation. And network management should ensure single-view visibility to increase return on investment through improved performance and reduced management costs.

Flexibility and agility. The standards-based IMC platform is flexible enough to integrate and support the host of new applications that continue to enrich higher education. Extensive network-planning capabilities ensure that even the most bandwidth intensive research projects have the resources to run without disrupting the network. This helps to protect and maximize the value of existing investments.

Comprehensive, unified management. With HP networking solutions, IT staff can manage multivendor network environments holistically, from a single point. This seamless integration frees up resources, so IT staff can pursue their strategic objectives and enjoy more rewarding work that helps retain the skills they offer.

Investment-protecting scalability. HP solutions are designed to help protect legacy investments and enable network upgrades or incorporation of branch remote campus locations cost-effectively, without undue administrative burden. They include embedded applications such as WAN optimization, application acceleration, intrusion prevention and Voice over IP that can be deployed on demand. And they support virtualization, software as a service, or outsourcing should an institution want to implement those strategies.

Leading-edge IT for attracting the brightest talent

Faculty members increasingly need the ability to collaborate with research partners from around the world, and students are more attracted to colleges and universities that enable mobility and remote access to network resources. As educational institutions adapt to these trends with alternative learning models such as online and/or mobile instruction, and by promoting global collaborative learning and business operations, their networks are challenged by increased security risks and management complexity.

According to a Gartner report in January 2009, online course enrollment will be greater than 30 percent of the total higher education enrollment in the Western world by 2012. IT departments must support this trend with outreach initiatives and application processes that extend to non-traditional students. They also need to implement approaches to securely delivering content both online and via mobile devices so that students and faculty can achieve their educational goals.
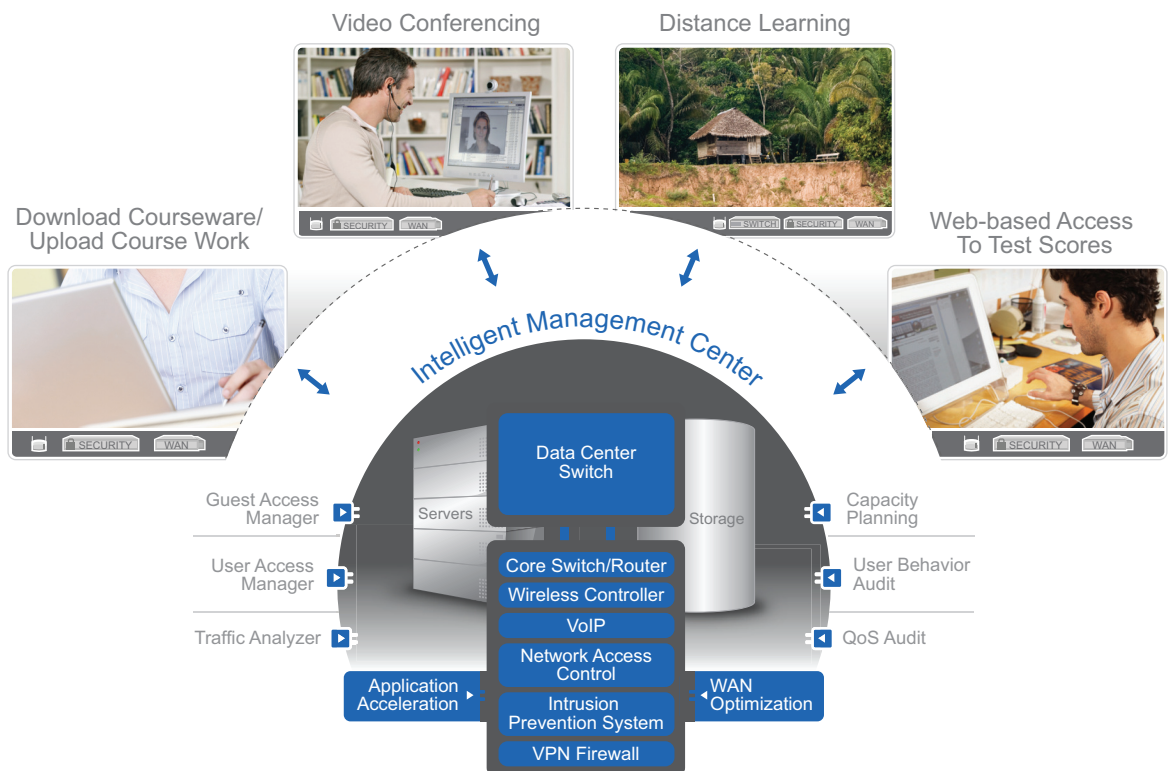
The HP networking portfolio offers unique solutions for overcoming the challenges presented by these evolving technology opportunities.

Real-time IT services. Wired and wireless HP networking solutions are optimized for voice and video, ensuring access to a range of new content delivery options such as on-demand courseware and virtual classrooms. Standards-based HP solutions can seamlessly integrate with third-party solutions, streamlining processes and improving productivity to save considerable time and cost.

Improved communications. HP platforms easily integrate with other unified communications solutions to support practical and affordable expansion of communication capabilities. And the HP wireless portfolio is highly reliable even in the most demanding environments, handling the most sophisticated e-learning applications without service interruption.

Forward-looking network architecture. To meet the needs of a remote campus or large campus environment, HP network solutions provide built-in scalability with embedded services such as application acceleration, WAN optimization, intrusion prevention, and IP-based voice communications, and with fully integrated network management that provides system administration across the infrastructure.

Learning on demand activities are enabled by a highly reliable and resilient HP campus network infrastructure with quality of service to ensure high-quality video and real-time audio transmissions.

Video Conferencing

Distance Learning

Download Courseware/ Upload Course Work

Web-based Access To Test Scores

Intelligent Management Center

Guest Access Manager

User Access Manager

Traffic Analyzer

Servers

Data Center Switch

Core Switch/Router

Wireless Controller

VoIP

Network Access Control

Application Acceleration

Intrusion Prevention System

VPN Firewall

WAN Optimization

Storage

Capacity Planning

User Behavior Audit

QoS Audit

"With H3C* and TippingPoint solutions, at all times, we are aware of the health of our network and can quickly respond to problems, such as zero-day threats, as they arise."
Brian Kelly, Director of Information Security and Network Operations, Quinnipiac University, United States

Advanced management and security tools to increase network protection

Security continues to be a top strategic issue. Higher education institutions need networks that can meet the evolving requirements of an increasingly technology-savvy user community that demands speed and responsiveness. Yet, they must also ensure protection from cyber attacks that can devastate collaboration, instruction, assessment, and research activities.

The amount of critical network-delivered data and new services continues to increase, while security incidents, reported data breaches, and the number of compliance requirements grow. Ensuring the security of information resources while operating within a culture of openness and decentralization is

a central and acute concern of all higher education IT departments and a daunting task for college and university personnel. HP networks are designed to provide the layered security that can thwart attacks from any source.

End-to-end, multi-layered security. HP security solutions are deployed at all layers of the physical and logical network and fully integrate with switching and routing infrastructure. Automated services reduce the time and costs associated with routine administration to help safeguard network resources and users from complex and evolving threats, including those from hackers, the latest worm or even a virus introduced into the network by an unsuspecting faculty member or student.

Increased threat visibility. Easy-to-understand reports and in-depth data analysis help reveal security vulnerabilities and monitor user behavior to minimize potential hazards. A protected, high-performance network minimizes disruption and allows all staff to work more efficiently.

Simplified, unified network management. Unified HP management solutions provide complete end-to-end infrastructure visibility, automating, auditing, and reporting to simplify administrative workload, streamline implementation of new regulations and policies, and allow action to be taken quickly should the need arise.

"Collaboration and mobility are the new operatives for the student population, and to remain attractive to prospective students, institutions will have to create a communications and messaging environment that features those aspects of Web 2.0 as well as offer a robust mobile communications infrastructure and services to accommodate students' growing dependence upon their mobile devices. Any initiatives will have to accommodate many faculty and staff members' more traditional communication patterns, requiring a balance between the old and new—at least in the short term."
"Spreading the Word: Messaging and Communications in Higher Education", ECAR, Judith A. Pirani and Mark C. Sheehan

Unique value and relationships

HP offers higher education institutions an exceptional value proposition to make it practical and affordable to deploy and use advanced networking technology.

Reduced TCO

Market-leading performance combines with reduced capital expenditure and lower TCO to provide higher education institutions a strong return on investment and a converged infrastructure that supports the highest quality of collaboration, communication, and information sharing. HP solutions typically deliver up to 40 percent reduction in overall TCO without compromising network performance, functionality, security, or value-added features.[1] From the very start of the product lifecycle, HP solutions are built to minimize power consumption, ease integration, and optimize efficiency and uptime, while ensuring best-of-breed security.

Future-proofed network architecture

HP solutions use the most modern, least power-hungry merchant silicon chipsets available in the market today for a highly agile architecture that allows rapid response to evolving higher education requirements. Because HP solutions are built on open standards, they easily integrate with existing infrastructure components. An open architecture supports service-blade capabilities that let organizations easily extend core switching, routing functionality, and new applications within the construct of their existing network, saving time and money. Through a 100 percent virtualized core, HP solutions facilitate distributed virtualization of systems management and high availability, as well as simple, dynamic provisioning so that higher education institutions can organize and manage work in new, cost-saving ways.

Enhanced customer intimacy

Providing exemplary education services both demands and drives constant IT innovation. That's why higher education organizations require technology partners that have the characteristics of a start-up enterprise, that move fast, anticipating rather than reacting to market trends. HP is committed to innovation, fast and savvy product development, and expert solution implementations. Well-funded R&D and engineering teams work side-by-side with customers, establishing a level of intimacy that is uncommon in the networking industry. This collaboration is able to support even the most ground-breaking applications and enables budget-stretching integration of new and pre-existing solutions—benefits not readily matched by other technology vendors. Whether working directly with organizations or with their System Integrator, HP experts, follow-the-sun customer support professionals, and sales partners are dedicated to ensuring unparalleled service everyday, year after year.

[1] "Analyzing the Hard Numbers for Your Campus LAN: A Total Cost of Ownership Comparison", Info-Tech, October, 2009.

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