



**3COM® SOLUTIONS FOR
K-12 SCHOOLS**

Promoting Education with
Secure Converged Networks

ACHIEVING SECURITY AND HIGH PERFORMANCE

“The TippingPoint X505 is a perfect solution because it gave us the most robust security available at an affordable price point.”

Jeff Crawford
Manager, Network and Security
East Grand Rapids Public Schools

STRENGTHENING COMMUNICATIONS

TECHNICAL CHALLENGES

- › Ensuring secure, reliable access to people and information resources
- › Safely extending the physical boundaries of learning environments
- › Delivering the systems performance needed for rich, multimedia learning experiences
- › Enabling resource access from a range of communications devices

OPERATIONS CHALLENGES

- › Cost-effectively administering communications systems
- › Optimizing effectiveness of IT staff
- › Enabling users with varying technical expertise to benefit from advanced communications capabilities

As educational institutions become increasingly dependent on networked communications, and as security risks intensify, transparent and trustworthy network protection becomes more and more critical. Security capabilities integrated into 3Com® wired and wireless networks and the proactive impact of TippingPoint™ intrusion prevention technology can ensure the safety of students, staff and information without compromising network speed or clogging valuable bandwidth.

The TippingPoint Intrusion Prevention System (IPS) can be deployed anywhere on the network to block malicious traffic and initiate quarantine actions. Its management system provides administration, configuration, monitoring and reporting for multiple IPSs with turnkey, rack-mountable deployment and a state-of-the-art administrative interface. To maintain the highest level of vigilance, 3Com IPS solutions also include automatic updates of protective filters to guard against the latest threats. Delivered weekly or immediately in urgent situations, they provide a powerful layer of safeguards for servers and desktops and, in virtually every case, fully inoculate them before an attack.

CASE STUDY: East Grand Rapids Public Schools is well known for using technology to advance student learning at all levels. Recently the district deployed a robust 3Com network including Gigabit core switches with Expandable Resilient Networking (XRN®) technology and highly scalable edge switches. The school system also chose the TippingPoint X505 solution for protection from such malicious traffic as worms, viruses, Trojans, phishing, spyware and VoIP threats. Without impacting network performance or consuming the bandwidth needed to support advanced educational services and applications, this multi-function security solution integrates intrusion prevention, firewall, IPSec VPN and WAN routing features into a single system. Its industry-leading capabilities ensure proactive protection, VLAN support, web content filtering and policy-based traffic shaping, permitting bandwidth control for both inbound and outbound traffic. The TippingPoint Digital Vaccine® service offers further protection against the latest threats, often in advance of attacks, through weekly or more frequent automatic updates.

Read more at www.3com.com/east_grand_rapids_schools.

Convergence applications let school personnel, students and their families come together in ways that only a few short years ago were unimaginable. Convergence technologies are now readily available to help schools cost-effectively advance collaborative learning environments. Phones can be deployed without special service technicians by just unplugging them from one location and plugging them into another network port—without impacting customized settings or functionality. Calls can be made over the Internet without the expense of traditional long-distance service. Video and audio conferencing can be initiated with the click of a mouse. PCs can act as desktop phones. Voicemail messages can be retrieved from email attachments. System administrators and users can implement configurations from any location on the network via a web-based management tool.

3Com delivers all of these advanced capabilities in the 3Com Convergence Applications Suite, an integrated set of software modules with a range of hardware platforms and IP phones to match individual needs. 3Com convergence solutions let educators leverage their data network infrastructure to cost-effectively

"3Com blew away the competition on both price and performance—and didn't get blown away by the demands of this year's record-breaking hurricane season. That's what we call extraordinary value."

Jonathan O'Neill
Network Engineer
Martin County School District

THE VALUE OF STRATEGIC INVESTMENTS

"3Com equipment gave us the highest level of confidence that it would accommodate our long-term needs..."

Rick Hillman
Technology Manager
Mercer County Special Services
School District

gain the benefits of advanced, secure communications. They enable exceptionally easy-to-use real-time audio and video exchanges. They simplify school delivery of emergency notifications, replacing expensive and labor intensive manual dialing procedures. They even let administrators record malicious calls and activate automatic notification to authorities at the touch of a button.

CASE STUDY: Martin County School District is a fast-growing pre-K to grade 12 public school system just north of Palm Beach, Florida. It serves 17,800 students at 18 schools, including a new high school and elementary school. The district's top priorities, including parent-teacher communication and student safety, were difficult to achieve with its legacy PBX systems that connected five schools via point-to-point T1 circuits. The separate systems linked classrooms to each school's intercom, but didn't let teachers call 911 directly from their rooms in an emergency. An additional concern was cost, considering the need to upgrade its existing proprietary systems, extend service to all schools in the district and deploy solutions in older buildings where only a single network drop per classroom was available.

3Com came to the district's rescue. In fact, shortly after installation, the 3Com converged network solution was put to the test by two hurricanes that hit Martin County in rapid succession and caused damage that shut down the district's Pinewood Elementary School. The 3Com VoIP system enabled emergency actions that were transparent to users. The easily programmed auto-attendant handled incoming calls to multiple locations and the versatile 3Com IP phones allowed existing network drops to power handsets and PCs using the phones' uplink ports. The 3Com converged system continues to optimize the district's communications with its sophisticated, yet easy-to-manage, call handling and messaging services that facilitate efficiencies among school office and teaching personnel and improve communications with students and their families. Callers can listen to a schedule of sports events at the high school or check bus routes when they dial the transportation office. Administrators can implement unprecedented control over campus security. Caller ID capabilities support requests for student early dismissals. Enhanced 911 service lets teachers summon help directly to their classrooms, saving precious minutes in a crisis. Call detail records let principals verify emergency calls in real-time, thwarting callers trying to disrupt the school day.

Read more at www.3com.com/martin_county_schools.

The best technology investments are those that continue to provide value over time, avoiding obsolescence triggered by fast-paced innovation. That's why 3Com designs standards-based solutions that can grow and evolve with ease. Among the many ways that 3Com solutions help educational institutions is by delivering interoperability to let schools stretch limited budgets and migrate to new systems and applications at their own pace.

Standards-based solutions provide the straightforward installation and practical management that contribute to investment value. They can be easily configured to work side-by-side with existing third-party equipment and future standards-based acquisitions. 3Com solutions offer simple, centralized and remote administration to reduce training, travel and response time. Management software allows IT staff to maintain LANs, WAN connectivity, Voice over IP communications and wireless systems with the same tools. Plus, 3Com offers expert professional design and implementation services that school systems need to effectively deploy high-value systems, as well as maintenance support to ensure continuing high-quality performance.

CASE STUDY: Mercer County Special Services School District of Trenton, New Jersey, provides over 750 severely disabled students from 18 communities with an advanced special education curriculum well beyond the means of local school districts. Though the district upgraded to a 3Com Fast Ethernet network in 1998, evolving needs in recent years made it necessary to consider a further network upgrade. The district chose 3Com solutions once again to meet increasing demands for online services, including content sharing, email, a student database, budgeting and accounting—all without taxing the district's three-person IT staff.

Today, a single modular 3Com core switch in the district's new elementary school provides Gigabit uplinks over fiber to connect all four of the district's buildings. It delivers high performance, line-rate 10-Gigabit and Gigabit switching and routing, as well as the scalability to support more than 10,000 nodes. Traffic management and link aggregation capabilities ensure that the network operates at peak efficiency, even when large numbers of students are watching instructional video content. The switch's Access Control Lists (ACLs) add an additional measure of Internet security by allowing only authorized users to access restricted locations. Sub-second failover

UNTETHERING ACCESS TO PEOPLE AND INFORMATION

"Thanks to 3Com,
our wireless LAN is
now as easy to manage
and secure as our hard-
wired network, with
scalability that lets us
plan for the future."

John Savage
Executive Director, Technology
Newport News Public Schools

ENSURING EXCELLENCE

in the switching fabric protects the district from costly and disruptive downtime in the event of an outage, dramatically lightening the system management workload of IT staff. For providing network connectivity to more than 600 Macintosh desktops throughout the campus, the school district is using enterprise-class 3Com stackable workgroup switches.

Read more at www.3com.com/mercer_county_special_services_schools.

Instant access to technology has become a requirement at home, in businesses and in schools. Devices of all kinds and advanced networking solutions now support (and encourage) this expectation—wireless networks free users from traditional work locations and reduce the expense and disruption of extending networks with wired connectivity. They can provide remote and interactive learning opportunities that enhance collaboration and create virtual classrooms unbounded by physical or geographic limits. With the 3Com wireless LAN Mobility System, not only can schools ensure untethered connectivity, they can also provide data security and privacy for information exchanges. They can create easily managed wireless systems that deliver seamless connectivity, eliminating coverage gaps and optimizing RF performance.

CASE STUDY: Newport News Public School District in Newport News, Virginia, includes 33,200 students and 4,900 faculty and staff. Commitment to ensuring the finest education opportunities for its students required a powerful, secure wireless solution that the district's IT staff could manage from anywhere on the network. After comprehensive research, the district found that only 3Com offered a solution combining best-of-breed security features with extraordinary ease of management.

Newport News deployed the innovative 3Com Wireless LAN Mobility System and the 3Com Enterprise Management Suite. With this secure, easily scalable, robust-featured system, district staff are able to manage hundreds of access points (APs) simultaneously. Centralized administration eases the task of configuring the managed APs (MAPs), virtual LAN (VLAN) functionality and user authentication. IT staff can specify which networked resources a given login or group of logins can use. Wireless controllers push the data to every MAP at once, centrally authenticating users and enforcing network authorizations for network-wide protection without requiring extensive staff travel among the school district's five high schools, eight middle schools, 28 elementary schools and four early childhood centers.

Read more at www.3com.com/newport_news_schools.

From small elementary schools to sprawling multicampus districts, 3Com secure, converged networks are enriching the lives of students. They are facilitating the work of educators with intelligent, integrated communications solutions. Their simplicity and economy—hallmarks of 3Com solutions—deliver both the efficient deployment and management and the standards-based interoperability that let schools maximize the value of their investments.

Read more about 3Com secure converged networks at www.3com.com.

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