3Com® End-to-End Solution Gives New College a State-of-the-Art Competitive Edge and Cuts Annual OPEX by $500,000

CASE STUDY

IN BRIEF

GOAL
› Affordably transition from an outsourced network management model to autonomous control by New College IT staff
› Provide a secure, converged, easy to manage and maintain infrastructure
› Meet networking expectations consistent with those for an elite educational institution

SOLUTION
› 3Com® VCX™ solutions—IP Conferencing and Messaging, 3102 Business Phones
› 3Com Switch 8800, 5500 and 4500 models
› Wireless LAN Controller WX4400 and Wireless LAN Managed Access Point 3750s
› TippingPoint™ IPSs and Security Management System
› 3Com Enterprise Management Suite and Network Director
› 3Com Professional Services and Maintenance

RESULT
› Full in-house control of data and voice network for annual savings of more than $500,000
› Communications infrastructure that can be efficiently managed by small internal IT department
› Flexible, future-proof network, providing a competitive edge as the school solidifies and advances its reputation for excellence

SNAPSHOT

When Florida's honors school, New College of Florida, hired CIO Erich Matola in 2005, the Sarasota campus was at the mercy of an aging data infrastructure, frequent outages and a phone system dating back to the 1980s. University of South Florida (USF) in Tampa had always maintained New College's entire data and voice network at a cost to New College of more than $600,000 a year. Within a week of arriving, Matola had installed a stopgap firewall to secure the email network that failed on his first day, but he knew the larger challenge lay ahead—providing the sophisticated technology that students, faculty and staff expect from an elite institution, while affordably transitioning from an outsourced model to in-house control—all with a small IT staff still to be hired.

Initially considering a phone system upgrade only, Matola began to see the merits of a completely integrated solution when 3Com and Hayes Computer Systems—a technology services and products company based in Tallahassee, Florida—applied their higher education industry experience to New College's problem. The 3Com team worked closely with New College to design and install a core-to-edge network that would address the college's technical challenges and lower its operations costs.

Today, New College boasts an entirely new voice and data network, including a full suite of VCX IP telephony solutions, 3Com core and workgroup LAN switches, a 3Com wireless mobility system, and a TippingPoint Intrusion Prevention System. Matola's small IT staff controls the entire network using 3Com network management tools.

CHALLENGES

New College is an independent, public honors college that attracts academically gifted and talented students, many of whom have become judges, members of Congress and CEOs of major companies. When Erich Matola was hired as the college's CIO in 2005, he encountered an aging Cisco data network, a Lucent phone system from the 1980s and an annual bill of more than $600,000 that the college was paying to USF for network outsourcing services. He identified activities to resolve three key issues:

1. <u>Transition from an outsourced model to autonomous control of the school's voice and data network.</u> An updated network infrastructure was critical to ensure the performance, security and economy that the aging system could not deliver. Equally important was to channel budget into delivering the sophisticated services required by the campus community and away from service fees. On Matola's very first day on the job, the entire email system went down because it lacked firewall protection. The legacy TDM phone system dated back to the 1980s and desperately needed updating. And though the college had already taken steps to become autonomous from USF, it was challenged by the need to cost-effectively implement and maintain a new infrastructure.

2. <u>Provide advanced, reliable services that could be deployed and maintained by a small IT staff.</u> To address the initial goal of replacing the outdated telephone system, Matola considered both a PBX hybrid and a Voice-over-IP (VoIP) solution. Although the VoIP option was more feature-rich and future-proof, it seemed to require a complete forklift upgrade of the network infrastructure, causing concern not only about equipment costs, but also about the IT resources needed to implement, and then maintain, the converged network.

3. <u>Ensure the cutting-edge communications expected from a highly competitive academic institution.</u> A secure, robust data and voice network was necessary for New College to recruit students and effectively support student, faculty, staff and alumni activities. Advanced telephony features, such as online directory services, messaging and teleconferencing were needed, and the phones had to be attractive and simple to use. The college also wanted to move in the direction of wireless communications for mobile access to intranet and Internet resources, campus services and learning programs. Moreover, the right balance of security had to be achieved to avoid creating an environment that was stifling to the college community.

WHY 3COM

Matola and his staff initially considered all of the major phone system providers, including 3Com. In the early stages of the process, Avaya and Cisco looked like the frontrunners. The Avaya system promised to integrate with New College's existing infrastructure, while the USF campus at St. Petersburg was considering a Cisco VoIP system for their own transition from an outsouring to an in-house management model. Members of the New College IT staff that had 3Com solutions experience, however, helped channel interest toward the innovative secure, converged 3Com network portfolio. They liked the fact that unlike other vendor offerings, the 3Com VoIP solutions were based on industry standard Session Initiated Protocol (SIP), enabling the same quality and reliability as a traditional telephone system. When the Hayes technology services and products team also recommended a converged 3Com network, Matola began to see new possibilities.

With its extensive experience in higher education environments, the 3Com team proposed a converged solution consisting of a full VCX suite, core and workgroup LAN switches (8800, 5500 and 4500 systems), WX4400 wireless switch with 40 Wireless LAN Managed Access Point 3750s, and TippingPoint IPS TP50, TP400 and Security Management System—all tied together for optimized network management by the powerful 3Com Enterprise Management Suite and 3Com Network Director software. The proposed package also included 3Com Professional Services to efficiently get the system up and running and a full maintenance contract to support high-volume use.

A total solution approach seemed like the only logical option, especially when New College considered the $600,000 cost for the outsourcing alternative, the greatly reduced total cost of ownership that the 3Com solution enabled and the savings resulting from lowered management and maintenance complexity. Responsive expert service that is a hallmark of the 3Com customer commitment also assured Matola that a 3Com solution would provide lasting high value. Conversations with Jim Williams, a 3Com vice president located in nearby Bonita Springs, reinforced Matola's confidence that the New College implementation would get the transition support it needed. "3Com's demonstrated commitment to our success sealed the deal." Matola said.

An implementation of this size and scope is a major undertaking for any organization, but the challenge took on unprecedented proportions with the combination of a transition from USF and a completely new IT staff. New College required substantial support, and was convinced that 3Com and Hayes would provide it. As Matola noted, "The 3Com and Hayes team deserve a great deal of recognition. They stood by their products, they took the time to get answers, and when something wasn't right, they made it right. I've had a long career in IT and worked through many transitions, and 3Com is who I want on my team."

BENEFIT HIGHLIGHTS

COST-SAVING AUTONOMY ENHANCES COMMUNICATIONS AND ENABLES ADDITIONAL SERVICES

With the exception of one data line that they still share with USF for the Banner Human Resources and payroll application, the New College converged network is now completely autonomous. The Hayes and 3Com team worked with the New College IT staff around the clock installing equipment in data closets, configuring the network infrastructure and installing analog gateways to accommodate fax machines, alarms, elevators, credit card machines and the school's "blue phones" that connect directly to the police. Their efforts helped make the school's $650,000 annual payment to USF a thing of the past. Today, even with recurring provider costs, New College saves more than $500,000 a year, enabling some funds to flow back to various cost centers. For example, the cost of phone service to the dorms was reduced from $70,000 annually to $15,000, freeing $55,000 for that department's funding of additional student services.

The 3Com converged network has given New College complete control of its phone network. "We are our own phone company," said New College Telco Engineer Cody Stevenson. "We buy the line from US LEC, it terminates on the campus and we control everything from here. It sounds like a small thing, but it's huge." The school negotiates directly with its telecommunications provider, US LEC, to cut its long distance rate in half and expand the local calling area. In addition, the IT staff controls telephone billing and phone maintenance and can customize programming to meet New College's specific needs. The VCX system also allows IT staff to eliminate time-intensive manual tasks. Using a unique access code per cost center enables an automatic cost center tracking system.

While the IT staff installed the new phones and briefed the staff on basic operations, a 3Com Professional Services team trained a room of "super users"—administrators, office managers and fiscal liaisons from the various cost centers. These individuals that IT had identified to be the champions and local expert users from around the campus helped the larger user community enjoy the advanced capabilities of their feature-rich 3Com 3102 Business Phones. An up-to-date, searchable, online user directory has replaced the out-of date hard copy directory. With the touch of a single button, users can forward their calls to their cell phone, another office or to voice mail. The admissions office uses simple-to-set-up hunt groups and auto-attendants to enhance communications with college recruits, parents and students.

Call history, redial and conferencing features are used extensively on campus. The alumni office and the college president's staff are taking advantage of the 3Com IP conferencing application that lets a user or a member of the IT staff set up a teleconference online in less than five minutes, simply by dragging and dropping user names in an intuitive web interface. The teleconference feature makes collaboration and communication fast and easy, and saves New College the expense of using an outside teleconferencing provider.

SMALL IT GROUP EASILY MANAGES A SOPHISTICATED SECURE, CONVERGED NETWORK

With 3Com EMS and Network Director, Matola can optimize his small IT staff, enabling responsive service to students, faculty, staff and alumni users and efficiently increasing network control. Cody Stevenson and the Telco staff can now use Power over Ethernet (PoE) to simplify deployment of IP phones and further reduce installation time. Because PoE provides electrical power and network connectivity to devices such as the IP phones, Cody configures and stages each new phone in the IT area, then gives it to a tech staffer to deploy on the user's desk.

Powerful 3Com network management tools simplify and enhance network management with discovery and mapping devices, set-up wizards and troubleshooting tools that can rapidly locate and repair network problems before they can do damage. "Students sometimes plug in rogue network devices or a faculty member may hook up a device incorrectly, which could bring the network to a standstill," commented New College Network Engineer Jeff Smith. "I can detect and disable those devices from my desktop before they have any detrimental effect on the network."

The college's IT staff was able to confidently transition from a single firewall for their Outlook Exchange servers to a robust, campus-wide security system designed to increase both protection and network performance. Today, off-campus users, working from home or while traveling, access their PCs via a secure VPN connection, something they were unable to do before installation of the new 3Com network. And with their new IPS solutions, able to be deployed flexibly, anywhere on the network, the college's IT staff balance campus network security with the speed and access requirements of a creative college environment. They proactively respond to viruses and scams within the campus network and to worms that consume bandwidth, slowing down traffic as they populate and grow. The IPS's ability to simultaneously perform thousands of checks on each packet flow and cleanse the network while allowing good traffic to pass unimpeded has kept the campus network reliably up and running. "Prior to Tipping Point, the email server or web servers would go down on a weekly basis. Since the new 3Com network was installed, we have experienced no downtime whatsoever from cyber attacks," said Smith.

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Cody Stevenson,
New College Telco Engineer

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>
> Erich Matola

FLEXIBLE, STATE-OF-THE ART NETWORK DELIVERS DELIVERS A COMPETITIVE EDGE

With its 3Com infrastructure, New College is able to grow its network at its own pace, based on evolving performance and protection requirements. "With everything new and totally integrated, I am in the enviable position of having time to plan an upgrade strategy," Matola said. "The 3Com network is stable and secure, the network is scalable to meet our future needs and we have a great relationship with 3Com and Hayes that will serve us well."

No longer hindered by a slow, aging data network and outdated phone system, New College now uses a fast, reliable, best-of-breed infrastructure to provide the kind of service high-achieving students demand. Intelligent control nodes provide sophisticated IP flow classification and policy enforcement for superior voice service. A cutting-edge phone system delivers a range of productivity-enhancing, easy-to-use features, leading some users to comment on their "very cool" phones.

The already implemented 3Com WX4400 Wireless Controller has laid the groundwork for wireless connectivity, and new buildings are being outfitted with Wireless Access Point 3750s. Once external antennas are in place, IT staff can provide fast wireless access for Internet research, intranet libraries and campus services. The secure 3Com wireless switch optimizes IT activities. "As each department purchases new access points, the wireless controller will enable us to centrally configure the building's wireless access with a few keystrokes," Smith said. "Deploying a complex wireless network gets a lot easier with a 3Com solution."

According to Matola, New College's 3Com network is not only meeting student, faculty and staff needs, it is helping the college gain recognition within the college IT community. "At a recent college and university CIO meeting," said Matola, "I received numerous comments and congratulations on the new network. We're a small college, but our 3Com solution is helping to boost our reputation."

LOOKING AHEAD

With a return on investment of less than two years, a drastic reduction in operational costs, and cutting-edge technological services that set New College apart, the school can immediately consider implementing a SunGard Luminis Portal, which will give students, faculty and staff easy access to campus services and information via a single log-on. Students will be able to personalize their home pages to easily access campus services, and get email, course assignments and schedules. A common web interface to college learning and research resources, combined with the power of New College's network infrastructure, ensures a vibrant technology-based future for the entire school community.

In addition, the college's wireless network will continue to expand student learning opportunities with campus network access from the cafeteria, break-rooms or outside by the bay. Faculty will be free to conduct classes from the locations that best meet their needs, without losing access to intranet and Internet data. And because the 3Com wireless solution supports wireless IP telephony, faculty can enjoy even greater mobility using 3Com wireless phones.

"3Com helped us achieve our goal of total autonomy, and we have saved the college money, added new services and prepared for the future," Matola said. "I could not have done that with any other company's solution."

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