

# Convergence Makes the Grade



## Universities give NEC's Voice over IP solutions high marks.

When the University of San Francisco needed a new communications infrastructure, NEC Unified Solutions answered the call for help.

In recent months, NEC has deployed a multi-million dollar voice and data network for the university. The infrastructure, deployed in mid-2004, provides USF with improved network speeds on campus, redundancy for critical network and communications equipment, and more extensive network management and security tools. The system's design also paves the way for future Voice over IP (VoIP) services.

The University of San Francisco isn't alone. Across the country, colleges and universities are reevaluating their aging telecom infrastructures. The process often leads universities to evaluate or deploy VoIP.

"It's a no-brainer solution for schools with large residential populations," says Jill Chervenky-Keough, director of academic

computing at New York Institute of Technology (NYIT) in Old Westbury, N.Y. "VoIP paves the way for phone, fax, Internet, data and video services all running on a single network."

That's not all. VoIP also sets the stage for student services that increase university revenue. Potential options include research, movies and music on demand, delivered to

student dormitories. Some universities are also using VoIP and wireless systems to deliver news and university information to digital signs across their campus.

Of course, interoperability, scalability and reliability issues limited VoIP's appeal in the 1990s. But NEC and other technology companies have largely addressed those issues in recent years, setting the stage for VoIP to earn high marks from universities and the broader business marketplace. Nearly 40 percent of U.S. businesses now use IP telephony, and roughly 50 percent of the new lines shipped this year will use IP, according to a recent Yankee Group survey of 231 businesses. "VoIP has now gained critical mass in the university sector and in many business settings," says Zeus Kerravala, vice president of enterprise infrastructure at Yankee Group in Boston.

In fact, many universities enrolled VoIP long before large corporations and government agencies jumped on the convergence bandwagon. Early adopters included Dartmouth College, Texas A&M, University of Notre Dame, and dozens more.

"We are past the early adopter stage for VoIP in universities," says Kevin Beatty, general manager of marketing for NEC Unified Solutions. "Colleges continually strive to improve interaction between professors and students. Voice over IP is a reliable way to achieve that."

### Getting Started

NEC recommends five key steps for a successful VoIP implementation. First, assess the anticipated benefits your university can gain from VoIP. Look beyond reduced long-distance charges and zero in on specific applications that will allow your faculty, enrollment, registration and alumni services to serve students and graduates more effectively. For instance, wireless mobile computers with built-in soft phones allow universities to quickly set up ad-hoc workspaces to better serve students across campuses.

Second, work with partners such as

NEC on an IP Readiness Assessment. This step determines how a university's existing network infrastructure will need to evolve to properly support VoIP traffic. As part of this step, it's wise to perform a security assessment to determine how to safeguard the VoIP system, advises NEC Unified Solutions' marketing manager for Higher Education, Sydney Burton.

Third, leverage the readiness assessment to develop a network blueprint that incorporates voice and data communications. Fourth, involve all key parties—including faculty members, selected students, facilities, IT and business operations—during the planning, rollout and ongoing support stages. And finally, ensure you have proper IT support services in place to proactively monitor and maintain the IP system, especially as the university rolls it out into additional buildings or campus locations.

Once deployed, VoIP can dramatically reduce telecom costs because IP-based communications can bypass long-distance toll charges. Some colleges also point to infrastructure cost savings, because VoIP eliminates the need to manage separate voice and data networks. Dartmouth College in Hanover, N.H., for instance, estimates that its 7,000-user VoIP network has cut telecom costs by more than half during the past two to three years. Much of the savings involves reduced management and administration costs.

Much like a traditional telecom network, Dartmouth's VoIP network enjoys five-nines (99,999%) reliability, according to Brad Noblet, the college's chief technology officer. Noblet played a pioneering role in the early networking market, holding leading research positions during the past two decades at Ungermann-Bass and numerous networking startups.

## Expert Advisor

Of course, few colleges have a VoIP pioneer like Noblet on staff. And without the proper experts in place, VoIP projects can unravel quickly. Indeed, poor network designs or misconfigured equipment can trigger VoIP outages and erratic quality of service.

"Students and faculty take the dial tone for granted," says NYIT's Chervenky-Keough. "When you roll out Voice over IP, you better be absolutely sure your new architecture won't miss a beat."

That's why universities increasingly turn to NEC for VoIP consulting, deployment and

## 5 Steps to VoIP Success

- 1. Assess your needs:** Determine if old buildings can be retrofitted for VoIP; design new buildings with VoIP in mind from day one.
- 2. Assess your infrastructure:** Identify how your current telecom systems will need to evolve to support VoIP without pursuing a "rip-out and replace" strategy.
- 3. Draw up a blueprint:** Use the assessment to design a flexible, reliable IP infrastructure that supports voice and data, with potential links to local community centers.
- 4. Ensure proper training:** Determine who will handle training for the VoIP system, and how will it be offered—particularly to your ever-evolving student population.
- 5. Deploy and manage:** Even after the network goes live, be sure you have a monitoring service in place to maximize ongoing performance across all campuses.

support services. "University IT departments tend to be stretched thin," says Beatty. "When you're dealing with the complexities of a converged network experience certainly counts."

Rather than forcing universities to "rip and replace" their IT networks, NEC offers solutions that complement IP infrastructures. "That's one of our big differentiators," says Beatty. "With our hybrid and server-based products, you can deploy based on need, rather than force-fitting a solution into the customer setting."

The University of San Francisco, for instance, leverages two NEC NEAX 2400 IPX systems and a NEAXMail AD-120 unified messaging system at the main campus in San Francisco. NEC is providing ongoing support services to the entire University of San Francisco network, including NEC and Cisco equipment, via its NEC Secure support service. This support service will assist the University of San Francisco in ensuring the availability of mission-critical systems.

"We chose NEC to revamp our voice/data network because they have a strong reputation in the higher education market for delivering robust and reliable communications solutions," says Tracy Schroeder, CIO of USF. "We were looking for a one-stop shop that could design a complete, integrated system and successfully execute all aspects of this large project, from trenching and construction to voice and data network cutover. NEC's commitment to customer service, flexibility in adapting to our needs, and mix of products and services made them the right choice for us."

Consultants who track the convergence marketplace also praise NEC's VoIP expertise. Concludes Yankee Group's Kerravala, "The company's focus on vertical markets, such as higher education, provides universities with peace of mind as they take their mission-critical telecom systems into the IP age."

NEC's customers certainly agree.

## At a Glance

**Company:** NEC Unified Solutions

**Flagship products:** VoIP, network, wireless and convergence equipment that unifies voice and data communications and serves as a foundation for IP telephony applications

**Higher education focus:** Universities, colleges and community colleges that need to improve student/professor communications, registration, enrollment, and other student-oriented services

**Sample customers:** Vanderbilt University, University of Rochester, S.U.N.Y. schools, Metropolitan State University, St. Petersburg College, Miami University

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