St. Louis College of Pharmacy (USA)

Telephony Switching

The Challenge

The oldest U.S. school of pharmacy west of the Mississippi, St. Louis College of Pharmacy (STLCOP) has taught generations of students how to best ensure that patients receive the medications their doctors intend. Today, surrounded by world-class teaching hospitals in St. Louis's medical district, the school is committed to providing future pharmacists with the most advanced training possible. In keeping with this mission, STLCOP launched the "Building Our Future Today" initiative, which includes updating of the school's curriculum, modernizing the college's five-acre campus residence halls and facilities, and upgrading its voice system and data network.

Previously, STLCOP used a Mitel SX2000 PBX that was at capacity, forced many offices to share extensions, and cost more than $11,000 a year in maintenance fees for moves, adds, and changes. With no direct dialing or call forwarding, switchboard operators placed callers on hold and had to flip through a printed directory, guessing at names

from their pronunciation, to determine where to direct a call. The voice mail system often lost messages or simply failed to answer, leading to a plethora of missed messages. In addition, STLCOP's shared Ethernet network was unable to cope with the traffic volume as the college's applications and usage grew.

To rectify these situations, STLCOP needed a cost-effective, easy-to-manage way to provide reliable phone service and fast network access to its 900 students and 150 employees.

The Solution

Supported by St. Louis-based Metropark Communications, STLCOP cured its campus communications problems with the following 3Com® solutions:

- **3Com SuperStack® 3 NBX® Networked Telephony Solution**, which delivers robust, full-featured business communications to up to 1500 devices (lines and stations). Its powerful built-in call processing features include voice mail, automated attendants, hunt/call groups, call detail reporting, computer telephony integration (CTI), and more. It easily integrates a wide range of off-the-shelf applications, including speech recognition, and simplifies day-to-day operation with NBX NetSet™, its built-in, highly intuitive browser-based administration, and user programming utility.

- **3Com Switch 4007 switch**, which provides a high-speed backbone solution using optional Ethernet managed Layer 3 switching as well as Layer 2 and multilayer Gigabit and Ethernet modules. Policy-based

Number of Users: 1,050

Location: St. Louis, MO

Sites: 1

Vertical Industry: Education

Value Added Reseller:
Metropark Communications,
St. Louis, MO

Implemented: January 2003

Win over: Mitel

Chosen for its reliability, practical value, performance, and ease of maintenance, St. Louis College of Pharmacy's 3Com solution converges voice and data services over a single Gigabit Ethernet network.

Quality of Service (QoS)/Class of Service (CoS) functionality enhances performance, while device- and network-level resilience and link aggregation help ensure reliability.

- **3Com Switch 4005 switches**, which deliver feature-rich Layer 3 switching, in-chassis fault-tolerance, and Fast Ethernet and Gigabit Ethernet in a single platform, providing cost-effective connectivity across the STLCOP campus.

- **3Com SuperStack 3 Switch 4400 switches**, which ensure prioritized voice traffic in every building. The switches provide 24 or 48 switched 10/100 ports for high performance Ethernet managed Layer 2 switching and two expansion slots for Gigabit or Fast Ethernet uplinks. Enhanced features include advanced multilayer traffic filtering, QoS/CoS functionality, and full telephony support.

- Other **SuperStack and OfficeConnect® Fast Ethernet Switches**, which deliver connections to desktop computers campus-wide.

- **3Com Network Supervisor**, which is a powerful yet easy-to-use software that is downloadable from the web and also ships with all managed 3Com switches and NBX systems. It maps and monitors the network and quickly alerts administrators to emerging problems. It graphically discovers maps, and displays network links and IP devices including some popular third-party products (up to 1,500) and NBX telephones. It enables stress levels to be monitored, thresholds and alerts set, network events viewed, reports in user-defined formats generated, and device configuration tools launched.

The Benefits

Chosen for its reliability, practical value, performance, and ease of maintenance, St. Louis College of Pharmacy's 3Com solution converges voice and data services over a single

Gigabit Ethernet network. STLCOP also enjoys an outstanding low total cost of ownership using 3Com's Network Supervisor to manage and monitor the campus LAN.
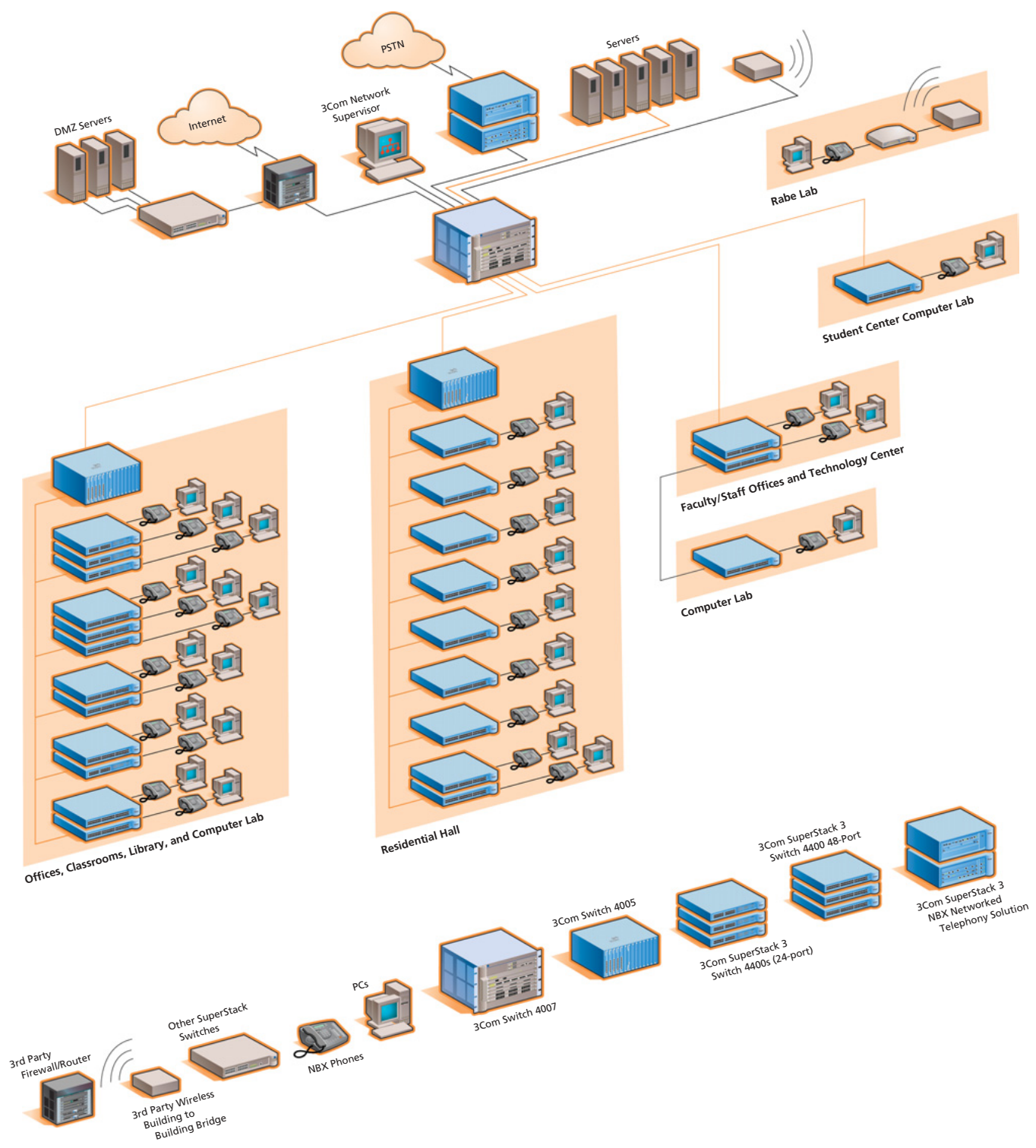
Priced $50,000 less than an equivalent IP solution from Mitel, the SuperStack 3 NBX solution is saving STLCOP more than $11,000 in annual maintenance fees and almost $65,000 in new telephone wiring costs. Moreover, by replacing 40 analog phone lines with two T-1 lines, the college is reaping additional savings of $1,800 a month.

Most importantly, the 3Com NBX solution today provides reliable telephone service across the six-building STLCOP campus, from a newly constructed dormitory to the security department office in its parking garage. Calls reach their destinations, messages arrive in a timely fashion, and every employee has a direct line for the first time—ensuring the college operates efficiently from day to day, whether administrators are ordering supplies or students are arranging study groups.

The NBX solution further provides the college's 150 employees with voice mail and four-digit internal dialing, as well as a host of other advanced features not previously available to them. Voice mail forwarding and offsite notification alert them by email or pager that they have messages, ensuring that top administrators know about emergencies and maintenance responds promptly to work orders. Automated attendants route calls to the appropriate department, eliminating the need to tie up live operators with the task. Hunt groups in critical departments, such as financial aid and the IT help desk, ensure no call goes unanswered.

Additionally, the college now uses BrightArrow Phone Assistant, a voice recognition directory that allows callers to reach staff and students simply by

PSTN

Servers

3Com Network
Supervisor

DMZ Servers

Internet

Rabe Lab

Student Center Computer Lab

Faculty/Staff Offices and Technology Center

Computer Lab

Offices, Classrooms, Library, and Computer Lab

Residential Hall

3Com SuperStack 3
Switch 4400 48-Port

3Com Switch 4005

3Com SuperStack 3
NBX Networked
Telephony Solution

3Com SuperStack 3
Switch 4400s (24-port)

PCs

Other SuperStack
Switches

NBX Phones

3Com Switch 4007

3rd Party
Firewall/Router

3rd Party Wireless
Building to
Building Bridge

speaking their name to the automated attendant - a significant convenience at a school with many foreign students with hard-to-spell names.

The 3Com Gigabit Ethernet network bolsters the NBX solution's ability to deliver clear, uninterrupted voice connections and prepare the campus for future bandwidth-intensive applications. A Switch 4007 at the core provides Layer 3 switching to prioritize voice traffic, with Switch 4005s in every building forming the campus backbone. At the edge, Switch 4400s drive a total of 450 NBX telephones, prioritizing voice traffic with the Switch 4400s' Quality of Service (QoS) functionality. Switch 3300s deliver 100 Mbps links to computers, servers, and other network devices.

The network easily supports a wide range of administrative and educational uses, from word-processing and email to drug interaction databases. The school also relies heavily on graphics-driven content, particularly in chemistry, physiology, anatomy, and physics classes. With network access in classrooms and residences, students can now follow along as instructors lead presentations and conduct their own online research at their convenience.

In addition, STLCOP now has ample bandwidth to pursue its goal of deploying video-over-IP in the next two years, allowing it to offer IP-based videoconferencing to support distance learning and prerecorded video lectures for students who miss class or want a refresher course.

"3Com enabled us to implement an information infrastructure with the future in mind," said Chad Shepherd, CIO and vice president of information technology for St. Louis College of Pharmacy. "Right now, we're using only 10 percent of our available bandwidth—which makes the 3Com solution practical, cost-effective, and above all, scalable to meet our needs today and for many years to come."

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Possible made practical™