Reprinted from University Business, September 2000

Wiring Up for Video
The New State of Art: 5,000 Ports, Hundreds of Streams, 3 mbps

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Couch potatoes, rejoice — universities across the country are building high-quality video networks for dormitories, making lectures and movies accessible at any time. Of the half-dozen digital video efforts at schools across the country, Northwestern University’s $2 million network upgrade is by far the most advanced. When students return to campus in late September, they will be able to access videos from their rooms.

By switching the campus network from shared Ethernet (100 megabytes per second for every shared port in a dorm) to switched Ethernet, NU officials have paved the way for transmission of up to 10 mbps to each unshared port, which is more than enough data to support digital video, according to David Carr, associate director of telecommunications and network services.

NU’s system upgrade began last year, when vice president of information technology Mort Rahimi commissioned a team of campus technologists to investigate digital possibilities on campus. The team selected Cisco to supply the hardware, and the school bought 175 switches at $150 per port to connect 5,000 ports to the network. Earlier this summer, the technologists tore out the old switches and installed new ones, testing and configuring each device by hand. To distribute video on demand from a central location, NU spent $1 million on an IBM SP2 supercomputer. Carr says it will soon be able to simultaneously deliver hundreds of movie-quality video streams, at up to 3 mbps.

To view these videos, students need only open a standard MPEG file from the campus server. After technologists help departments digitize and upload their content, any bit of video information stored in the device’s database will be accessible over the campus network.

Once the video is established, technologists plan to use the network to deliver other high-speed services, such as Voice-over IP (VoIP).