



**Doing More for Less: Long Island University and Optimum Lightpath Blaze a New Communications Trail**

In order to move forward, sometimes the most effective thing to do is look back. Learning from experience and gaining understanding from the past—whether you are a small, large, or enterprise organization, or an institution of higher education—has an inherent value. It is an opportunity to make sure you are not only reaching your goals, but also setting the strategic foundation for the future. It is with this conventional wisdom that Long Island University (LIU) spearheaded the development of one of the most sophisticated and forward-looking educational telecommunications networks—by paying just as much attention to the road behind as the one ahead.

When our university information technology team wanted insight on how to fund an ambitious, advanced telecommunications network that would support a broad array of state-of-the-art services, including worldwide distance learning, the first thing we did was evaluate what the existing network infrastructure was costing the university. And what we learned was surprising—and inspiring.

Long Island University is the seventh-largest private university in the United States, serving more than 31,000 students across six metropolitan New York campuses in Brooklyn, Brookville, Southampton, Brentwood, Rockland, and Westchester. Since it is geographically dispersed with a single university administrative center, intercampus communications are essential to the smooth functioning of the university.

What we learned from the initial cost analysis was that intercampus communication was prohibitively expensive and redundant. For instance, we found the university network was relying on 27 T-1 lines for telephone service, 21 T-1 lines for data, and two T-3 lines for Internet. This legacy, TDM-based (time division multiplexing) connectivity was costing the university more than \$29,000 a month with four service providers.

We believed that a Gigabit Ethernet (GigE) network would eliminate the prohibitive T-3 loop charges and provide the infrastructure to support the distance-learning initiatives the university was eager to deploy; but we needed to develop an ROI (return on investment) model that would help those in charge of writing the checks to see how the initial cost outlay would translate—in the long term—into greater cost savings and efficiencies.

For help with the GigE network—as well as the ROI model—the university turned to Optimum Lightpath, the business telecommunications services division of Cablevision Systems Corporation. Long Island University and Optimum Lightpath designed a metropolitan GigE solution that interconnects the once disparate networks into a single, larger, geographically defined network—linking the C.W. Post (Brookville), Brooklyn, and Southampton campuses via a 2.5 Gbps (OC-48) optical network—and creates the first end-to-end educational network on Long Island.

The added bandwidth supports IP (Internet protocol) telephony for intra-campus, inter-campus, and long distance communications. It allows the university to move from its TDM-based distance-learning program—which is distracting and difficult to watch because of the "Max Headroom-like" delays between sound and picture—to a premium, jitter-free model. The new fiber optic network supports video broadcasting which, among other exciting possibilities, allows the university to broadcast graduations online, so that friends and families throughout the nation can log in and participate should they not be able to visit in person. The university's WLIU radio station will also gain a ubiquitous presence by the additional speed acquired.

While the vision behind the network upgrades was strictly an educational imperative, the impetus for turning mandate into action was the cost savings that the university, with the help of Optimum Lightpath, was able to highlight.

We initially positioned the Metro GigE connection to the university as a cost-saving initiative. If you have a strong relationship with your telecommunications provider, such as the one we have with Optimum Lightpath, you actually make them a partner that can show you how to add service without adding cost. The

additional cost cutting allowed LIU to have the funds to invest in a backup fiber optic provider in case of primary link failure.

For example, Optimum Lightpath provided the university with an analysis of the pre-GigE intercampus telephone patterns that helped us build the case for a GigE investment. With Optimum Lightpath's help, we identified approximately \$2,000 that was being spent on calls going from Southampton to Brooklyn each month and nearly as much coming back from the Brooklyn campus during the same period. That analysis helped us sell the pitch for the Metro GigE investment because we could prove that the initial outlay would eventually recoup—in Brooklyn/Southampton telephone calls alone—nearly \$4,000 a month.

To be sure we could trust the insights of our partners at Optimum Lightpath, we did our due diligence: With years of experience dealing with vendors, we knew it was important to ensure that the vendor in question had a true understanding of our vision, as well as the technology to deliver on the business imperatives. Too often, vendors insist that their outdated technologies can be used to achieve new business goals. To confirm that Optimum Lightpath understood Long Island University's goals and had the expertise and technology to deliver on them, we did a little legwork.

It's imperative to have a vendor that has a staff capable of delivering according to your individual topography. One of the ways we did that with Optimum Lightpath was to go to technical meetings with their senior engineers. In doing so, we became confident that Optimum Lightpath could deliver what we expected of them. These site visits were extremely important as they enabled us to see firsthand how their network operations center was run. In addition, we were able to observe a site at which a similar initiative had been rolled out. It was an invaluable part of the process.

Ultimately, by looking backward and forward with equal measure, and by trusting the right partner, the road ahead wasn't so much about doing more with less—as is so often the case these days—but rather doing more for less.

—George Baroudi, Chief Information Officer, Long Island University