

# Confidence in Transition



## How a College Campus Handles Media Conversion

Moody Bible College ([www.moody.edu](http://www.moody.edu)), located in Chicago, needed to revamp its network infrastructure to link the college's many buildings to the physical plant's building management system. Access to the network was via dial-up connections to a server. Since the school consists of a central campus area and several other buildings scattered around a 12-block area in downtown Chicago, this proved cumbersome and quite unsatisfactory.

### Moody's Fiber Ring

At Moody, the core of the network is the 100BASE-FX fiber ring. However, the physical plant uses a building management system made by Andover Controls to monitor and regulate all building services from air conditioning and heating to the keypad and security access. In addition, the system keeps track of boilers, water pumps and fans.

Linking a pair of different media – like coax and fiber – with the fiber running at different speeds, proved to be a challenge. It was tough to “see” all of the network devices that were being linked. In addition, there were a number of 10/100 switches that insisted on crashing if everything was not set up perfectly.

Paul Siebold, department manager for engineering systems, was able to build a network that allowed him to put all of the building management controllers together. It is on a 100BASE-TX Ethernet network and is separate from the school's IS network.

“I needed something to connect all of this together,” Siebold says. Most of the building management network is 10BASE2 coax. “I wanted the server and the workstations we were using to do our programming to be at 100Mbps since we do pass graphics on them,” he explains.

He was not interested in spending a wad of money on fancy switches that would give him every conceivable port combination possible. “I bought NetGear's FS-508 8-port 10/100 auto sensing switches. They allow us to connect the 10Mbps controllers, 100Mbps workstations and the server together.”

Of course, he wanted the backbone to be 100BASE-FX, so he needed 100BASE-TX to 100BASE-FX media converters. He looked for a converter but came up empty. Nobody had a product compatible with auto-sensing technology. “Everybody was making the switches, but none of the converters were able to talk to them,” Siebold says.

The blockage of the auto-sensing information made it necessary to manually reconfigure the hub, switch or router port to either full or half duplex. In the best of scenarios, this requires time-consuming intervention at the management console or removing the cover to configure dip switches. In the worst cases, it simply was not possible to make the link come up right. Devices wanted to see a 100-based port. But the 10/100 switches were wired to say that, unless told otherwise, links had to be treated as 10Mbps. “The switches insist on auto-sensing (that's their reason for existence),” Siebold says.

He discovered engineers at Transition Networks were working on the problem and an account manager obtained two prototype stand-alone units for Siebold to try.

“We plugged them in and they worked fine. They just came right up and everything worked the way it was supposed to work. We put them in and, quite frankly, I've forgotten about them,” Siebold says. “They just work. They give us no trouble.”

### Further Savings

About six months after moving the computer room, the campus engineer decided to upgrade the campus feed for the domain from 10Mbps Ethernet to Fast Ethernet. “Once again, the Conversion Center proved its value because all that needed to happen was changing the media converter from a 10BASE-FL/10BASE-T to a 100BASE-FX/100BASE-TX,” Guster says.

“Because the center supports hot swap capability, the conversion could easily be accomplished in five to ten minutes,” he adds.



Worldwide Headquarters  
6475 City West Parkway  
Minneapolis, MN 55344 USA

tel: 952.941.7600  
toll free tel: 800.526.9267  
fax: 952.941.2322  
[info@transition.com](mailto:info@transition.com)  
[www.transition.com](http://www.transition.com)