



Franklin Road Academy Prepares for the Future With ADC's CopperTen® 10-Gigabit Cabling

CASE STUDY

SITUATION

Renovate existing spaces and build new facilities with the latest technology to support 960 students and 140 faculty members and ensure a cabling infrastructure that would last a minimum of 20 years.

SOLUTION

Implement ADC's CopperTen® 10-gigabit cabling to support a state-of-the-art network, including data, VoIP, wireless access, intercom, and security applications.

RESULTS

Support campus-wide technology and advanced IP applications like broadcasting, video streaming, and voice applications to technologically prepare students for college and the 21st century.



SITUATION

Founded in 1971, Nashville-based Franklin Road Academy (FRA) is a coeducational, college-preparatory school serving qualified students in pre-kindergarten through 12th grade. FRA is committed to instilling a lifelong love of learning in students with an emphasis on academic excellence, Christian values, and balance through opportunities in the arts, athletics and activities.

When the academy set out to renovate outdated spaces and build new facilities to accommodate the 960 students and 140 faculty members, Steven Compton, FRA's director of IT, needed to implement the latest copper cabling that would last a minimum of 20 years.

"I felt that if we were going to renovate and build new buildings, we should invest wisely in the latest technology," said Compton. "Because we were considering total cost of ownership, 10-gig cabling simply made sense. I knew that even if we didn't need it today, we would need it tomorrow."

SOLUTION

In the fall of 2005, FRA began planning renovation of the upper school building that houses humanities and social studies, and the south campus that houses foreign language classrooms. At the same time, planning began for a new state-of-the-art math and science building, and a library and technology center.

For horizontal cabling in each of the four facilities, FRA selected ADC's CopperTen® plenum cabling. An integral part of ADC's TrueNet Structured Cabling System, CopperTen is the world's first Augmented Category 6 solution designed to support 10 gigabit Ethernet over a full 100 meters on UTP cabling. CopperTen's patent-pending design minimizes alien crosstalk and insertion loss, and meets the performance requirements of the recently ratified IEEE 802.3an 10GBASE-T standard as well as the current TIA 568-B.2-10 draft standard.

"During the planning stage, ADC was the first viable resource for 10-gig-over-copper cabling with a guarantee that CopperTen would support 10 gig even if switch protocols changed in the future," said Compton. "With that assurance, and the fact that the new solution is backwards compatible with our existing Category 5e and 6 cabling, there was essentially no risk involved."



Steven Compton, director of IT at Franklin Road Academy, considered total cost of ownership and decided to implement ADC's 10-gigabit CopperTen copper cabling to last a minimum of 20 years.

Head of School Dr. Margaret (Sissy) Wade charged Compton and other FRA IT staff with the task of technology planning and project management for the new cabling system. Compton's team designed the system to provide six CopperTen network drops per classroom for renovated space and eight network drops per classroom in the new facilities, including a connection for wireless access points (WAPs) and projectors in each classroom. The new cabling also supports intercom/bell speakers, a 3Com VoIP telephony system, video network, community printers, and door access control devices throughout campus, totaling more than 32,000 feet of CopperTen cable and 213 connections.

"Our existing phone system was maxed out, and given that we were building state-of-the-art facilities with state-of-the-art cabling, VoIP was a natural transition," said Compton. FRA's VoIP

phones, WAPs, and access control devices are also powered over the CopperTen cabling via PoE Cisco switches.

Tennessee-based System Integrations, Inc., a provider of security, network and telephony services for K-12 schools, assisted with the design and provided installation and testing services for the large-scale project. Construction began in April 2006, and the math and science building was completed for the 2006-2007 academic year. The library and technology center was completed just a few months later in November.



FRA's technology curriculum spans the entire school with wireless access in every classroom, portable laptop carts for students in pre-K through 6th grade, and tablet laptop PCs for every student starting in 7th grade.

Via the tablet PC, every student has the ability to send files through email and shared folders for submitting and retrieving assignments, both at school and from home. Students at FRA can connect anywhere at anytime, and broadcasting, video streaming and use of classroom projectors are commonplace around campus. Over the next several years, Compton is looking forward to continuing to upgrade the campus cabling with ADC's CopperTen 10-gigabit cable.

"Our ultimate goal is to be able to broadcast using video over IP from any space on campus. For example, if we want the upper school to demonstrate a science experiment for students in the lower school, it will be as simple as turning on the TV," Compton said.

Concluded Compton, "It's important to remember that we don't have this technology for technology's sake. Colleges are telling us they want students capable of using technology, and having our students prepared is huge for us – that's why we've invested wisely in advanced technologies like ADC's CopperTen cabling."



FRA's new construction, including this state-of-the-art math and science building, brings the overall size of FRA to more than 330,000 square feet of learning space.

RESULTS

FRA's technology curriculum spans the entire school. From software that teaches students to read and write, to classes that focus on keyboarding, technology for students in pre-K through 6th grade is provided through the use of portable laptop carts and wireless access in every classroom. Starting in 7th grade, every student has his or her own wireless tablet laptop PC for daily use.

"If we require our students to go home and get on the computer, it makes perfect sense for us to have them do it here," said Compton. "The tablet PC is a core part of our technology program, required as much as it's required to bring a pencil, wear a uniform or pay tuition."

CASE STUDY



Web Site: www.adc.com

From North America, Call Toll Free: 1-800-366-3891 • Outside of North America: +1-952-938-8080
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ADC Telecommunications, Inc., P.O. Box 1101, Minneapolis, Minnesota USA 55440-1101
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