

The All-Digital Classroom: Full Speed Ahead!

By Julia McGrath



Keeping up with the latest technology has never been easy, and in these times of budget tightening, it can be tough to find a good deal. Many schools have taken a long, hard look at their technology infrastructure and found it no longer meets the needs of today's digital classroom.

Multimedia learning resources are now part of school districts' core curricula, and teachers are understandably eager to integrate on-demand multimedia content into their lesson plans. This means that streamed video, interactive whiteboards, and Internet access are becoming the teaching tools of choice, and applica-

tions like remote-learning, videoconferencing, and learn-from-home sessions are dissolving classroom walls and opening up a new world of learning experiences.

But extended learning horizons usually come at a price, forcing schools to reexamine the value for money they receive from their communications service provider who often provides the pipeline to the outside world.

Amid the positive changes going on in the classroom, a new technology called Metro Ethernet promises to help schools continue to expand their digital classrooms and increase data bandwidth at a lower price point.

School district decision makers beyond the chief technology officer may not be familiar with Ethernet, but it is essentially the networking technology that links computers and servers over a LAN (local-area network), such as within a school. Fast and flexible, Ethernet's reach has extended over time to encompass entire metropolitan areas, and it is already one of the services of choice in the government, health care, and finance sectors. As digital classroom initiatives continue to form part of core curricula, more school telecommunication requests for proposals are emerging for these Metro Ethernet services that can deliver the bandwidth needed by multimedia applications.

There is a reason for this trend. The education sector likes the fact that Metro Ethernet is easy and quick to install, already works with existing LAN infrastructures, and allows school districts to use virtually any

type of application at ultrafast speeds without performance bottlenecks, no matter how many students need access. Metro Ethernet is controlled from a central metropolitan area directly over optical fiber and can react dynamically to the demands placed on the network.

Getting Smarter

Leading school districts in the education sector are using Metro Ethernet as the basis for introducing a number of new and compelling educational practices. Some institutions are standardizing the applications to which students have access by placing popular software and video players online. Students are beginning to carry small, lightweight laptops to access information from anywhere—even at home. Teachers can record lessons and have students review them as videos, or students can take part in digital pop quizzes where results are immediately available so teachers can adjust their focus in real time based on student understanding of certain areas.

Teachers are using interactive whiteboards, adaptable touch-screen visual displays, as musical instruments when piano keys are superimposed on them, or to conduct virtual dissections in biology class. Students can have their work projected immediately onto a board for the whole class to see, and teachers can demonstrate how an internal combustion engine works by “constructing” one from spare parts on the screen using their fingers.

As such tools begin to evolve, so too do the resources to which students have access.

As such tools begin to evolve, so too do the resources to which students have access. With high-speed Metro Ethernet services, video, interactive libraries, and even fellow students in classrooms in Europe and Asia are within reach.

However, outmoded, slow, and inflexible telecommunications networks hamper many schools from extending this type of learning experience to their students. As applications such as file sharing, streamed video and audio, and real-time interactive touch-screen media become commonplace, networks built during the era of simple email or Web browsing are grinding to a halt. As students build huge repositories of digital research materials and coursework, moving them around the network becomes time-consuming and actually dilutes their learning experience.

Some schools have tried to tackle these issues by upgrading the amount of bandwidth available with their existing communications service provider. Often, these upgrades come in small bumps and they're usually at a

ADOPTION STORIES

Metro Ethernet's ability to cost-effectively meet surging technology demands across a number of industries has contributed to its increasing popularity, particularly in New Jersey.

New Jersey's Howell Township School District—the third-largest digital school district in the nation—switched to Metro Ethernet earlier this year. Now, its 12 schools, 6,800 students, and 1,500 teachers can use teleconferencing, conduct videoconferencing with the National Aeronautics and Space Administration and the National Archives, use SMART Boards and WebEx to increase efficiencies, and deliver podcasts for teaching and research. And the district saved money in the process.

Cresskill Public Schools of New Jersey saved significant funds by leveraging Metro Ethernet to upgrade to a one-gigabit wide-area network link, doubling its Internet access speed. Cresskill significantly increased computing and communications power for nearly 2,000 students and 180 teaching staff by replacing its previous service provider. This deployment enabled Cresskill to add cost-effective communication solutions and secure disaster recovery services while future-proofing its needs.

Wall Township Public Schools of New Jersey implemented a 100-megabit data and voice bundle over Metro Ethernet for the same cost that traditional service providers were quoting for half the bandwidth. In just a few weeks, students gained enhanced access to a suite of top-quality applications from within the school or at home. Now, Wall Township Public Schools have a solid platform that can support future growth and even more speed when they need it.

high premium. Soon enough, it's time to upgrade again, but high costs make that prohibitive. Once again, school and district technology coordinators are stuck having to compromise the use of technology in the learning experience based on available bandwidth to the outside world. And the cycle never ends.

A Cost-Effective Option

No doubt, it's difficult for schools to come across “extra” money in the budget right now. Schools may have made technical support staff redundant or furloughed them, stalling the ability to procure and implement new technology.

Metro Ethernet runs over a simplified, streamlined fiber network that offers the fastest bandwidth speeds available at a fraction of the cost of maintaining and upgrading bandwidth based on older network equip-

ment. In some cases, schools have been able to save about 50% on their monthly bills. Also, Metro Ethernet service providers are often able to offer a flat-rate bill that includes no surprises and helps school districts manage budgets transparently and predictably.

Because fiber is adaptable, service providers can often help schools maximize those budgets by bundling a telephone service with the data allowance that reduces bills or allows budgets to be reallocated and better spent elsewhere. Metro Ethernet services have a lower cost structure than those offered by many traditional communications service providers, and providers can operate their networks more efficiently, which translates into a major change in the way that services are priced.

Finding the Right Solution

So, what should you look for in a Metro Ethernet service provider? First, find one that owns its own network and isn't reselling bandwidth from a third party. Using a service provider with its own network ensures that the provider is wholly responsible and accountable for the service and makes troubleshooting more straightforward. The service provider should also be able to demonstrate that it has a diverse network that doesn't get clogged up during "rush hour" on common routes that are shared by hundreds of other organizations.

Your service provider should also be available through a direct customer service number that allows you to resolve any issues rapidly and according to a mutually agreed service level agreement. It may help if you can get similar requests for proposals issued by other organizations in your area so you can focus on the commonly asked questions before approaching a new service provider.

You can also find out if your school or district is able to access a Metro Ethernet fiber network by checking the coverage maps of your local service providers or talking to colleagues in other districts who may have undergone the upgrade process or who are members of a cooperative that helps schools generate bids.

Whoever you choose as your service provider, a move to Metro Ethernet is a smart one that will open up new educational opportunities for students. As the education sector largely moves to take advantage of higher bandwidth at a lower cost, it will have an advantage because its communications can not only handle today's high demands but are future-proofed for years to come. Metro Ethernet is a proven technology and here to stay. Look into it for yourself and see what it can do for your school.

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