

Connecting Your Classroom to the Internet



The most common questions related to presenting Internet training seminars that I hear both on the NETTRAIN news list and in general conversation focus on how to

connect a classroom full of computers to the Internet, safely and securely.

Often, the quick answer is to install a modem, Windows 95/98/NT/2000 dial-up networking, and a phone line in each PC. The high tech answer is to find an ISP that offers high-speed digital service and then connect the classroom Ethernet network directly to the ISP (Internet Service Provider). Both of these options have limitations, as I'll discuss, and I think the best

The best answer to a complex problem is usually the most simple answer.

Occam's Razor

answer is a bit of a combination.

I'm fortunate in that I get to visit commercial training centers, community colleges, and government training facilities in my role as ITrain membership director. I've seen quite a few ways to connect classroom stations to the Internet, and some of them have cost over \$1,000 per station--plus monthly service fees, and some have been as inexpensive as a hundred dollars for the entire training center (up to 250 PCs) and about \$50 per month in access fees.

At heart, I'm still a pragmatic trainer, and I firmly believe that the best answer to a seemingly complex problem is usually the most simple.

Rather than establish separate modem connections for each PC, which costs about \$50/month in combined ISP and telephone charges and requires up to an hour per station to install and test each connection, I think the best idea is to connect the classroom network to the Internet and share access.

If your classroom doesn't already have a network, the investment in Ethernet cards, cabling, and labor is a bit steep, but the reduction in monthly costs will actually save money before the end of the first training year.

In our classrooms we've used a hardware product called Instant Internet. This Bay Networks

product was the first of its kind and made it simple to connect multiple PCs to a single dial-up or digital Internet source. For ease of setup, we've since moved to a combination of RideWay, a software proxy server and Linksys DSL/Cable router.

Through each of these products, our ISP requires only one account, and we've purchased additional POP3 mailboxes from our ISP so each student has private email for the duration of class.

We comfortably connected over 20 workstations at the same time for email or website development (HTML) training, and up to eight stations at the same time for Netscape Navigator or Internet Explorer training to a single dial-up modem connection.

Because classroom web surfing requires more bandwidth, we limit our concurrent connections during web browser training. Email and light duty web surfing, such as in an HTML class, work great with a modem connection, but my personal experience is that when more than a handful of students start serious web surfing, the shared connection should be at least a 128Kbps connection.

RideWay, being a software product can balance bandwidth among multiple connections. For example, classroom stations 1-4 can share the modem in station 1. Stations 5-8 can share station 5's modem, etc. With this plan, each available modem will have no more than four concurrent sessions. And our monthly costs will only increase by one ISP account and one phone line per every four stations. And, rather than have over 20 stations on one Instant Internet modem, we'll have only four stations on each RideWay workstation modem (and we'll use 56Kbps modems, too!).

If you've got a digital connection to the net, the Linksys router is a breeze to setup. It allows up to 253 workstations to concurrently access a single digital line, and it's a rock-solid firewall.

If you'd like more information about either of these products, RideWay or the Linksys product, give me a call. I'm glad to help you select the right product for your training classrooms.



Internet Access Options

RideWay - software proxy server, runs on Windows 95/98/NT/2000. Securely connects any access line to a network of PCs.

Linksys DSL/Cable Modem Router, securely connects digital access line to a network of PCs.

ITrain
International Association of
Information Technology Trainers
6030-M Marshalee Dr PMB 616
Elkridge, MD 21075-5987
410.567.5366 or 888.290.6200 or
801.650.0423 (fax)
itrain.org member@itrain.org