

THE COMPUTER CORNER

No. 127. Networking

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A home network makes life much easier. I have three desktops and a laptop networked in my office, plus I often get on the network from my basement workshop. Let me explain.

In my office, a little box is connected to three desktop computers via cables. The box is called a **switch**; actually, it is a four-port switch, which means I could add a fourth computer, but I only have three connected. The box is also a **wireless access point router**. It has two little antennas on it, which communicate with my laptop with no physical connections between the two – it communicates via RF. So, all four computers can communicate with each other, and they are all members of a **LAN**, or Local Area Network. I can send files to any of the other three from the computer I am working at, or I can pull files from any of the others to the machine I am working at. Indeed, when finished with this article, I will put copies on each of the other three as backups. A typical Computer Corner file will take well under a second to transfer. Sure beats the day of the “sneaker net” – copying a file to a floppy, then taking it across the room and copying it to the hard drive of another machine.

So, the four machines can communicate. But there is more. The switch is connected via a short cable to my Cable Modem that provides Roadrunner service. That means that all four computers also have access to the Internet. If I start my Firefox browser on any of the computers, I am instantly on the Internet for browsing, email or downloading files. So my LAN is also part of a **WAN** (Wide Area Network), actually a world-wide network, the Internet.

All this network activity takes very little time. My LAN as configured can move data from 10 to 100 Mbps (megabytes per second). When transferring at 10 Mbps, that is the equivalent of moving about seven floppy disks full of data every second. At 100 Mbps, 70 floppies worth of data move every second!

Some of you may know that for many years, I have been rebuilding computers for ARES/RACES use in the State of Wisconsin. I physically refurbish donated computers, then repartition and reformat the hard drives and add one or another version of the Windows operating system. Well, there are lots of security and other updates that need to be added to whatever version of Windows I am working with. I do it in my basement workshop by connecting to my LAN, and since my LAN is connected to the Internet, it is easy to download the needed updates.

How is this done? In my workshop I have a little “bauble”, which looks much like a keychain drive. You probably have seen keychain drives – little gadgets that when plugged into a USB port become a removable drive, and allow you to transfer 32, 64, 128 Mb or even a gigabyte or two of data between the computer and the drive. Well, this looks like a keychain drive, but it is not. Called a **Wireless LAN Mini USB Adapter**, it instantly connects with my LAN, two floors above, using RF. I plug it in, click START, then WINDOWS UPDATE, and instantly I am on the Internet getting ready to download whatever is needed. Boy, does that bauble make life easier! Oh yes, it requires the installation of a driver, but that takes about a minute. I keep the driver and installation program handy on a standard keychain drive. I just plug that drive in and run the program (drivers for the keychain drive itself are built into all modern versions of Windows, so no driver installation is necessary for that).

Is a network expensive? No. You can buy a 5-port switch for about \$20. One with a built-in wireless router can be had for about \$65. You will need to add the cost of cables for your fixed computers, and a wireless PC card for your laptop. You may even find some of this stuff at a local swapfest – keep a sharp

eye out. Oh yes, add a bunch of time to get it all wired and running. Get a local networking guru in your radio club to help you over any rough spots in the physical installation and setup. And please, be sure to have a firewall (Zone Alarm) and virus protection on each machine on the network if the switch is to be connected to the Internet. If it is, each computer will be connected to the Internet whenever the LAN is up and running and that particular machine is on.

When you are all done, it will be a pleasure. Hey, the Ozaukee Radio Club has had networked logging computers at each Field Day transmitter site for the last couple of years. Last year, we even had a server computer in a central location that displayed the progress of each networked station during the entire contest. Happy Computing!