

Networks are a natural evolution for home computing

By Bruce A. Love

Somewhere along the way, computers in my home multiplied – and I do not mean in the computational sense that we would expect from our computers. We now have one computer for each member of the family, and that does not include those collecting dust in our very own PC salvage yard. I suppose it is the natural evolution of technology that brought us to this point, but the mutual coexistence of man and machine has not always been as enjoyable and convenient as it is now – through networking.

As technology advances, I have found it necessary to replace older computers with machines that will help me stay current and competitive in my field. Although the replaced computers are dated, they still perform very well for many basic computer activities, such as word processing, instant messaging, and web surfing. As a result, a high-tech hand-me-down process takes place in our home each time we get a new computer.

Anyone with two or more computers in their home quickly discovers that there is always a need to move files from one computer to another. Sometimes this situation arises when we want to move a picture file that has been scanned on one machine to another, or when we want to use a printer connected to another computer. While we can move files by physically carrying them on floppies or re-writable CDs, it is much faster and easier to share them over a network.

A computer network comprises two or more computers linked together to share data and peripheral devices. There are many benefits to having a home computer network:

- Easy file sharing
- Convenient and efficient sharing of peripheral devices such as printers, scanners, high capacity drives, etc.
- Effortless sharing of your high-speed Internet connection
- Convenient method for file backup or archiving.

Setting up a home computer network is relatively easy and inexpensive. There are several ways to approach this task, but each requires a Network Interface Card

(NIC) in each of the computers to be networked. If you just want to connect two PCs, you should be able to do so very easily using an Ethernet crossover cable. Crossover cables simply connect the “receive” on one computer to the corresponding “transmit” of the other.

If you have more than two computers, a common approach to home networking is to run Ethernet cables from the NICs on each computer to a router, which determines where to route the data it receives. Cables run about \$.25/ft. You can find routers as cheap as \$30. This hard-wired arrangement gives you a very fast connection, but can be inconvenient to set up if you don't like running cables through your house.

The easiest way to set up a home network is to go wireless. Wireless Fidelity, or Wi-Fi, uses radio signals to and from each computer in the network. Connections over Wi-Fi are slower than through cables and degrades as distances between access points increase. Signals reach about 100 feet, but can be increased using upgraded antennas. In the home network environment, wireless is a very attractive option.

If you choose to go wireless, you will require a wireless router (typically hardwired to one computer through a standard NIC), and wireless network adapters for each computer on the network. I recommend buying a router that also functions as a print server. This way, you can print from any computer and not have to go through a computer that would have to remain “On,” 24/7. Look for equipment that functions with standards 802.11b and 802.11g.

You can find wireless routers for under \$50 dollars. If you want one that also functions as a print server, expect to pay about \$70. You can find wireless network adapters for under \$30 each. There are a number of kits available that include everything you need to set up a home network for under \$100.

After you have networked your home computers, and you are surfing the web from your wireless laptop computer while sitting under a tree, don't forget that a family that computes together, ... well ... computes separately. Make sure you make time to actually talk to members in your family and not use instant messaging as your primary means of communication!

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