

# NETWORKING FOR DUMMIES (Part of 2)

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In part 1, I reviewed the history of my first network installation about 7 years ago, and the difficulties I encountered. Part 2 will cover all the work I did to essentially replace the old network, since the main wireless router had failed. For all practical purposes, the work involved now would have been the same as if this were a new network installation, starting from scratch.

## THE PURPOSE OF A HOME NETWORK

The main purpose of most home networks is to share an internet connection among several computers. Using a wireless router typically provides 4 plug in ports for hard wired cable connections, and a receiver/transmitter which broadcasts the connection wirelessly, with a typical range of up to 300 feet, depending upon the router, the surroundings, walls, etc.. You can of course share files, printers, et al, should you wish to do so, but configuring this is done after the initial setup.

## YOU WILL NEED THE FOLLOWING

**First you will need a wireless router.** The two current main varieties of routers are the “G” and “N” series. The “G” series wireless capability can handle up to 54 Mbps (megabits per second), and the “N” series is roughly twice as fast. But for home use, the “G” series hardware is more than fast enough for any high speed cable modem connection. And the “G” series runs at 2.4 Ghz, as opposed to a much higher frequency for the “N” series. Considering all the spec variables between “G” and “N”, I would recommend the “G” series, since it is also more readily compatible with earlier hardware types, especially “B”. I used a Linksys WRT54GL for this new install. The price range for this is in the \$70 region, depending upon your choice of vendors.

This router comes with an installation CD. Just run the CD, and follow the instructions which are plainly and clearly presented. In the areas of security, I would accept the suggestions made along the way. You will have to establish some passwords et al, and connect things up as directed. From what I've seen, most routers today come with a good install CD. Before you buy your router, check to make sure that is the case for the unit you choose.

There may be one window which comes up along the way, where there are fields to be filled in re IP addresses, gateways, etc.. But the one key item to be selected is the choice of static or dynamic IP addresses. In most instances, such as Comcast, dynamic IP addresses are used, and when that choice is made in the window, all the other fields disappear, making life that much easier. Locate the router as high up as possible.

**A computer cable modem is required.** But if you already have an Internet service provider, you already have the necessary modem in place and working. For a number of years, I rented the cable modem, for \$5 per month on my Comcast cable bill. You are allowed to purchase your own modem, which I did, and save the monthly charge. A suitable Motorola cable modem will cost in the \$40-\$55 region, and will quickly pay for itself. Of course, if you own it, you are responsible for it. Cable modems seem to have very long life however.

## Several lengths of Ethernet Cat-5 cable with RJ-45 connectors

You will need one length to connect the cable modem to the wireless router, and then another length to connect the router to your computer. You can of course have all your computers run via a wireless adapter. But it is usually better to have your “main” computer hard wired to the router. However, if your cable modem is in a location which is not convenient for this, all computers can run in the wireless mode. Most routers come with one length of cable. If you need more, CompUSA is as good place as any to go. Even Office Depot may carry the needed cables.

## **WIRELESS USB ADAPTERS AS NEEDED**

For any computer that does not already have a wireless capability, you will have to buy a wireless adapter(s). These are small units ranging from the size of a flash drive to a few inches square, with a USB connector on them. Some have a captive short USB cable already built in. They should be mounted in a “free space area” preferably on the wall, and above the desktop to obtain the best reception, and connected to a USB port on the computer involved. Again, these days, most adapters come with an installation CD, which is usually run first - then follow the instructions as they appear.

Once you get the wireless computer running on the network, check the signal strength. There should be a small icon in the right taskbar area indicating you are connected online. Double clicking it will bring up a window, and there should be a display there with a series of green bars (hopefully). This shows wireless the signal strength. One bar is marginal, but usable. Three bars is very good, and four or five bars is excellent. If your signal strength is low, try moving/repositioning the adapter, or router, if possible.

## **IF ALL IS NOT WORKING, WHEN ALL IS DONE - NOW WHAT**

After I connected everything, and followed all the steps I outlined, my main computer (hard wired) was connected very solidly to the Internet. I had also taken my old wireless signal booster, and added it into the new system, on top of the new router, as it was fully compatible.

I went to my number 2 computer, which already had a wireless adapter installed in it via a PCI card. It had good received signal strength, but no Internet connection. So I started browsing around in the various XP network connection windows. I saw some strange numbers in some of windows, and they were absolutely wrong. I questioned how I had ever gotten it onto the Internet in the past, but I usually did, although with occasional glitches. But try as I might, I could not get things working there. So I decided to download the 7 day trial version of Network Magic. Go to this site and read all about Network Magic

<http://www.purenetworks.com/product/pro.php>

I installed Network Magic on my main machine, which was working nicely on the Internet, and on my number 2 machine. On my number 2 machine, I then clicked on a choice in Network Magic which said “connect to the Internet”. I clicked, and in about 2 seconds, a confirmation window came up saying all was OK. And indeed it was - I didn't have to do anything. Three cheers for Network Magic.

Then I went to my #3 desktop machine where I had been using BOINGO - the free software program that Linksys had referred me to 7 years ago. I uninstalled that software, and also removed the old Linksys USB wireless adapter that had given me 1 bar of signal strength over the years. I installed a new wireless adapter which the CompUSA salesman had suggested I use. It was a refurbished NetGear unit, about the size of a flash drive, and it sold for \$15, instead of the typical \$40-50 for a new adapter. It came with a note telling me where to go online at the NetGear site to download the install file for this adapter. I did so, and installed the software, then connected the unit as directed. Immediately I was on line, and I had 4 bars of signal strength. I never had such a strong signal before, and with no real work on my part.

Lastly, I powered up my Acer laptop with its built in wireless capability, and as usual, I didn't have to do anything here - it immediately was on, with a very strong signal strength.

Windows has all the necessary features to arrange for file and printer sharing. But, one has to know where to look for them, and how to set them up. And when sharing files, the protocols in XP are not as clean and simple as doing this via Network Magic. It took me about 10 seconds to designate one folder on my main machine as a shared folder, and it immediately was accessible by all my other machines. Sharing a printer was just as easy. Amazing what a fine piece of software can do with no bumps along the way.

## PURCHASING NETWORK MAGIC

I was so impressed with Network Magic, and all the things it offered, that I immediately went online, and purchased the Pro version. Even though I had a Linksys router, and many of the trial software features would still remain working forever because of that, I wanted 4 computers to use the program, and I wanted file and possibly printer sharing. At \$39, I consider the program worth every penny, especially when I saw what it did for me when I couldn't initially get my number 2 machine connected to the Internet. If I had Network Magic back 7 years ago, I would not have had to spend over a week working at getting my 2 machines functioning on the network.

Below are some screen shots of several of the windows in Network Magic.

This is a MAP of the network, showing all the elements on this network.



This screen shows a listing of the various tasks which Network Magic can perform.



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