

Glossary:

Ethernet

A local-area network architecture that supports data transfer rates of 10 Mbps (megabits per second). Fast Ethernet supports 100 Mbps and Gigabit Ethernet supports 1 gigabit per second (i.e. 1,000 Mbps).

NIC

Network Interface Card. These come in different speeds. Now-a-days most cards you buy new are gigabit cards, but there may still be 100 megabit or even 10 megabit cards for sale.

Router

A home router is actually a combination of three pieces:

- A router: Connects two (or more) networks together. For example, it connects the Internet (i.e. the “Outside World”) to your home network (i.e. your private network).
- A firewall: Filters traffic into or out of a network. For example, certain ports may be blocked or allowed through. HTTP traffic uses port 80 and is allowed through. A program such as Timbuktu (a remote access program) uses ports 1417 through 1420. If you need to use that program, you can unblock those ports on your router.
- A Hub or Switch: This allows you to connect more than one computer together. Home routers usually have four ports. A switch is newer technology. It’s smarter and more efficient than a hub.

In the business world, a large company actually has separate devices. It has a router that only routes traffic. It has a separate box for the firewall. Then, there may be many hubs or switches connecting all the computers together. A home router combines all these pieces into one box.

Routers come in different speeds such as 10 Mbps, 100 Mbps, and 1,000 Mbps.

Patch Cables – Rule of Thumb:

Category 3 – ok for 10 Mbps networks, but not used any more. This is equivalent to phone cord. You won’t find CAT3 patch cables sold at computer stores.

Category 5 (a.k.a. CAT5) – for 100 Mbps networks. There is also CAT5E (enhanced) which is a little better.

Category 6 (a.k.a. CAT6) – for 1,000 Mbps (i.e. “gigabit”) networks.

The patch cable is the “weakest link”. If you have a gigabit network card and/or a gigabit switch, but CAT5 cable, you may have drop-outs and problems on your network. It looks like Best Buy only sells CAT6 cable now.

If you have a gigabit switch, but only a 100 megabit network card, the switch will usually sense what device is connected to it and adjust automatically, and vice-versa. If you have network problems, you might have to manually set the speeds on the NIC and the port on the switch.

Tips:**Workgroup Name**

Make sure all your computers are part of the same “workgroup”. It might be “MSHOME” or “WORKGROUP”, but just make sure all your computer have the same group name.

To find or set the group name, right-click on “My Computer” and select “Properties”. Click on the “Computer Name” tab. It will list the computer name and workgroup. click the [Change] button if you want to change either of them. After you make changes, reboot your computer.

Computer Name

Make sure all your computers have a different name.

To Check Your IP Address:

Start → Run. Type “cmd” and press [Enter]. At the command prompt, type “ipconfig”. This will give you basic information including your IP address.

If your IP address starts with “169...” or is all zeros, then your computer is not getting a valid IP address. Addresses that start with “169” are dummy addresses.

To release an IP address, type “ipconfig /release”.

To renew an IP address, type “ipconfig /renew”.

If you are getting all zeros or something that starts with “169”, then check your cables and your router. Your router is where you get the IP address from. If the router is off or the cables are unplugged, your computer can’t get an IP address.

For detailed information, you can type “ipconfig /all”.

Most home routers are set up so that computers get IP addresses that start with “192.168...”

Make Sure a Folder is Shared

You can have all your computers networked together, and they can all access the Internet, but if you want to share files between them you have to decide what folders to share.

In Windows Explorer, right-click on the folder you want to share and select “Properties”. Click on the “Sharing” tab and make sure sharing is turned on.

File and Printer Sharing Service:

Right-click on “My Network Places” and select “Properties”. Right-click on “Local Area Connection” and select “Properties”. If there’s more than one Local Area Connection, pick the one that’s enabled. In the list, make sure that “File and Printer Sharing” has a check-mark. If you don’t see it on the list at all, you need to [Install] it. You may need your Windows CDs for this.