



What is Wi-fi / Wireless Networking?

Wi-fi is wireless networking - the ability to connect to a network or PC using radio (as opposed to network cabling). It's faster and has a greater range than Bluetooth, and is ideal for home or office connectivity. Using a wi-fi setup with your PDA or laptop means that you can share a broadband or dialup Internet connection, swap files, or share a printer or CD ROM between computer users.

Wi-fi comes in three speeds: 802.11b (data transfer rates up to 11 megabits per second) or the newer to 54 mbps and 108mbps, 802.11g (data transfer rates up to 54 /108 megabits per second). This compares with Bluetooth's much slower speed of 0.57 megabits per second. There's a newer standard, 802.11n due in 2007 that offers even faster connectivity.

Devices based on the 802.11g standard are backwards compatible with 802.11b equipment and may be a better investment.

Wifi 802.11 operates in the 2.4GHz frequency band (as with Bluetooth and microwave ovens), and has a typical range of around 500 feet (with clear line of site). Indoors, you can expect around 150 feet with 802.11 - this will increase with the 802.11n protocol.



What You Need :

Wireless Network Access Point / Router

Allow machines to connect onto a network to share resources such as a Broadband Internet connection and a printer.

Wireless USB Dongles

These little adapters plug into a spare USB port on your PC and add wi-fi

functionality. The current crop of USB wi-fi devices will support the major security encryption formats like WEP and WPA.

Laptop Wi-fi cards

These are PCMCIA cards that slide into a special slot on many laptops, adding wi-fi connectivity to laptops. However most of the new range of laptops already come equipped with their Wi-fi hardware already built in.

Wireless PCI Network Card

This is a wi-fi network card that plugs into a PCI slot on your computer's motherboard. Also available as PCMCIA cards for use in laptops. Ideal for connecting a PC to an existing wireless network, or to allow a PDA or laptop to connect to your PC to share files or an Internet connection.

Connectivity cards

If you have a laptop or a Pocket PC, look for an 802.11 wireless cards for your device. This could be a CF card (pictured) or an SD card, or a PCMCIA card for a laptop.

Example: A household has a PC, laptop and a Pocket PC. The house has a broadband connection, and all three devices want to connect wirelessly.

There are several different ways of enabling a house or small office for wi-fi, but we'll concentrate on one of the more common options. Also, as there's such a range of wireless devices out there, we can't hope to offer a walkthrough for every situation, so we're keeping it general:

- In a basic 'wired' setup, a PC is connected to broadband via a USB modem. For the setup we're going to cover in this example, you'll need a wireless router combined with a broadband ADSL modem. You'll need to replace the existing broadband modem with a wireless network access router. Most wireless routers have one or more ethernet connectors, allowing a direct cable connection to the PC.
- You will need to connect the router to your phone socket (for broadband), and then establish a connection between the router and the PC - you will need a PCI or USB ethernet adapter.
- Once connected, you can then use your PC to connect to the router and set up access to the Internet and the other wireless devices
- If the laptop or PDA have built-in wi-fi, then setup should be straightforward, otherwise you may need to get a connectivity card. Once the mobile device is wi-fi enabled, it's a case of setting up the device to connect to the Internet via the router

Broadband information

The page contains information and advice about Broadband

What is Broadband? A broadband connection (ADSL) provides high-speed Internet access over a standard phone line. The advantage of a broadband connection over a standard dialup service, is that Broadband is considerably faster, and is 'always-on', meaning that once you're logged on, your PC is online until the PC is turned off again.

Broadband offer high-speed Internet access and allows telephone calls and a permanent Internet connection to share a single phone line simultaneously.

The pros and cons?

Most of the marketing for broadband sells the fact that broadband is a fast, always-on service. So what are the real advantages, and what's wrong with your existing home dialup access?

If you're considering broadband for home, here's a summary of the key differences between broadband and dialup:

- **Cost** - There are no call charges so you don't have to worry about hanging up when you're finished. On the downside, you have to pay a monthly subscription fee to use broadband, and you have to buy a special broadband modem *unless you already have a broadband router (wireless or not)*
- **Connection time** - This is where the 'always-on' bit has benefits - you establish a connection, and hang on to it. You don't have to worry about logging off to save money. This saves all the hanging about waiting for your modem to dial in, connect, establish a connection and authenticate with your password
- **Speed** - Standard dialup modems have a maximum speed of 56k, and broadband typically offers between 512kbps (half a Megabyte) and 8mbps connections - up to 160 times faster than dialup. Note that you're sharing your bandwidth with other users in your area, so data transfer speeds vary, and you're unlikely to achieve the maximum throughput (this is known as 'contention', and eases bottlenecks at phone exchanges and ISPs).
- **Phone line** - When you're online with broadband, your home phone line isn't tied up.
- **Extras** - With Broadband, there's the option to watch TV over the Internet, make voice calls over the 'net (see our Skype Services), and even take control of your home PC from work - see below

What Else do I need?

- **ADSL coverage in your area.** Each broadband provider allows you to enter your phone number or postcode to check availability. A basic test is done on your line, and when you sign up, a more comprehensive test is carried out.
- **A Broadband (ADSL) modem or Broadband Router.** Many providers bundle a free modem and with some providers they will provide a free broadband wireless router with their service.
- **Microfilters.** When Broadband is enabled, the broadband signal is available via any extension socket in your home as well as the main point. You'll need to use a filter to cut out the Broadband "crackle". You need a filter on every phone socket that has something plugged into it - such as phone handsets, fax machines and your Sky box.

At Informatica, we can provide you with everything you require to successfully run and manage your own wi-fi network. Whether it be a home network or in an office environment.

We can provide you with the right solution.

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