

Wherever you are, WiFi will let you do business. With the right set-up, you can access a wireless network on the move, in a coffee shop, even outside.

#### WHAT IS WiFi?

WiFi (Wireless Fidelity) is a type of WLAN a wireless network operating over a short distance, for example, in an office. For a WLAN to be described as WiFi, it has to be built to standards drafted by the Wireless Ethernet Compatibility Alliance (WECA). These standards ensure interoperability that all equipment will work regardless of who it was manufactured by.

#### USING WiFi

- Create a flexible workspace work anywhere and accommodate new users without having to find network sockets.
- Work remotely wherever there is a 'hotspot' anywhere from a coffee shop to a library or a park can offer simple, unobtrusive internet access.
- Allow mobile working with a PDA or other mobile device, you can be constantly connected to your company network. This makes office workers constantly contactable and enables applications like real-time stock checking in warehouses.

#### INDUSTRY STANDARDS

WiFi is developing fast which means there are a number of standards in use with similar names, not all of which are compatible with each other. These technical standards are 802.11a, 802.11b and 802.11g (often referred to simply as 'a', 'b' and 'g'). Broadly speaking, 'a' and 'b' aren't compatible. 'g' is an advance on 'b', and is also compatible with it.

- IEEE 802.11b This is the most common WiFi

standard at present and has found widespread use with a large range of 'b' equipment readily available many hotspots, for example, use 'b'. Operating at a frequency of 2.4GHz, it has a maximum data transfer rate of 11Mbps much faster than Bluetooth and comparable with many standard Ethernet cabled connections that exist in office networks. It is also compatible with newer 'g' standard equipment. Because it shares the same radio frequency as Bluetooth and cordless phones, there have been reports of occasional interference.

- IEEE 802.11a This offers higher-powered transmissions at up to 54Mbps, which is exceptionally fast and makes 'b' more scalable than 'a' the greater bandwidth can be shared between more people while maintaining a fast connection. The transmission capability of 'a' may sometimes be affected where an unobstructed line of sight isn't available between the access point and the PC. Also, because it uses a different frequency (5GHz), 'a' equipment isn't compatible with 'b' or 'g' standards. As the technology begins to mature, however, some equipment is being released that can operate with any of the standards.
- IEEE 802.11g This has the same data transfer rate as 'a' (54Mbps) but with reportedly fewer line of sight problems. Importantly, 'g' operates on the same 2.4GHz frequency as 'b'. This means that it is compatible with existing 'b' equipment already in use, and thus enables its continued use, albeit still at their lower 11Mbps data rates.

### SECURITY

As with any new technology, the security of WiFi is subject to constant review and improvement. When you buy WiFi equipment you will probably find the security settings switched off this default allows maximum access to the wireless network. However it also opens the possibility of unauthorised access and use of your network.

The solution is to ensure the security settings such as WEP (Wired Equivalent Privacy) or WPA (WiFi Protected Access) are switched on before you begin using the network. This will provide a good standard of security for many applications. If you need a greater level of security, seek advice from an adviser who will be able to guide you on upgrading your network. Additionally, because WiFi is seen as a key technology by big players like Microsoft and Intel, a great deal of effort is going into creating even more secure standards.

### GETTING WiFi

Which standard you choose will depend on a number of factors in particular, compatibility with your systems, your office layout and the number of users and data speeds you need. If you intend to work with your business partners' WiFi systems, or use outside access points (hotspots), you need to ensure compatibility with these as well. Wireless network cards compatible with 'a', 'b' and 'g' standards may be useful in such situations.

Typically a wireless access point can cover up to 100m and support up to 256 users, depending on specification of equipment. You can buy packages from £120-£500, which include a WiFi router. On top of this you may need a wireless network card for each computer or handheld these cost from £40-£60 each, though WiFi technology is increasingly built into many laptops and PDAs.

### FURTHER ADVICE AND INFORMATION

<http://www.wi-fi.org> the latest news on WiFi developments.

[http://www.intel.com/unwire/connect\\_hotspot.htm](http://www.intel.com/unwire/connect_hotspot.htm) find your nearest WiFi hotspot.

<http://www.bt.com/openzone>,

<http://www.daconi.co.uk>, <http://www.intel.com> commercial providers of WiFi technology.

### GENERAL BUSINESS ADVICE

For more information on achieving best practice in your business: Contact your local Business Link advisor by visiting the website at <http://www.businesslink.gov.uk> or calling 0845 600 9 006.

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