

WIRELESS NETWORKS

What is a wireless network?

Wireless *network* technology allows computers to communicate with each other via radio signals rather than cables. In its broadest meaning, wireless networking includes mobile and satellite phones, pagers, two-way radios, wireless Local Area Networks and modems. i.e. computer networks that are generally confined to the same building or site. A wireless *LAN* is often part of an existing wired network but can also be *standalone* systems.

Why have a wireless LAN?

The benefits of a *wireless* LAN may be clear for laptop users however there are a number of reasons why a wireless LAN is useful in general:

- They are relatively easy and quick to set up compared to wired networks
- Many buildings have unsuitable layouts or walls that cannot be wired for various reasons making it impractical to connect a network via cables.
- Cabling can be an expensive task. Wireless networks do not include this expense.
- It is easy to add new computers to a wireless network.
- It is easy to move a wireless network to a new location.

- If a small number of computers are separated from a main network, a wireless link can be more cost effective than network cabling although it may also be perfectly feasible to use network cabling.
- A temporary wireless LAN can easily be created for exhibitions, or community projects, without the hazard and inconvenience of trailing cables

A wireless LAN is not suitable for every environment however, and there are important issues to take into account before deciding on this option.

Disadvantages of a wireless LAN include:

- The presence of several competing standards. Using different standards on the same wireless LAN will cause problems.
- Since communication over the network is via radio waves it is hard to physically limit the extent of the network. In other words, people may be able to access your network from neighbouring offices, or even a car parked outside.
- Many wireless devices operate in the same 2.4-GHz radio frequency as cordless phones and microwave ovens. These can cause interference to your wireless LAN signal.

- Due to the intermittent nature of wireless connections, problems can occur with applications (e.g. Access databases) that require a stable connection.
- A wireless LAN runs at slower speeds than a wired network. Although manufacturers specify their equipment runs at 55Mbps, the reality is that wireless connections run at much lower speeds. This become more true as more computers are connected to it.
- If you already have a wired LAN installed, the initial costs of adopting a wireless LAN can be higher than extending the wired LAN

Source: <http://www.ictknowledgebase.org.uk/wirelessnetworks>