

Networking

A network is a group of computers and other devices such as printers connected together by cables. Wireless devices are now becoming common with built-in hubs and routers to add wireless functionality to your set-up without the need for cables.

Data travels over the cables and allows users on the network to share documents and files with each other and share printers so that anyone on the network can print directly.

Ethernet is the most popular networking method they are two types either 10Mbps (megabits per second) or 100Mbps, the latter is ten times the 10Mbps standard and is the standard in modern computers. This will evolve to the next standard in coming years of Gigabit Ethernet which operates at 1000Mbps.

Networking Hardware

Network Interface Card (NIC) more commonly known as a network card. Network Card (NIC) To allow any PC or device to use a wired Ethernet connection they must have a NIC installed in each device.



Most Motherboards now have at least one connection built-in, and network cards are still used for older PCs or to install additional ports. They will typically be a 100MB Ethernet connector newer PCs will come with a Gigabit connector.

Hubs - A hub connects computers and other devices together on a local area network (LAN) if there are four PCs to be networked each with a NIC then each PC is connected from the NIC to a port on the hub by a network cable. The hub acts as a junction box and once the PCs TCP/IP settings have been set allows each computer to be available from one of the others.



Linksys Hub When looking at hubs you should look at how many ports you need, normally four is the default, then eight and upwards. You should also check the hub is compatible with the speed of your NICs this is not a great problem with new hardware as 10Mbps and 100Mbps are both supported as default. Older hardware was limited to either one or the other.

Switches - are used in larger LANs and allow multiple computers to be connected together. Basically they act as a high performance alternative to the hub. Netgear Switch Switches are used in office environments or when it is likely significant amounts of network traffic will be generated within a network of many computers.



Router - is a device or occasionally software that determines the next network point where a packet should be forwarded.



Belkin Wireless ADSL Router with PCMCIA card Cisco Router Routers are often connected to a LAN and an ISP. This allows for the router which often includes a built-in firewall to sit between the internet and the LAN and allows for access to be restricted and monitored easily throughout your network. A wireless router is a device that performs the functions of a router but also includes the functions of a wireless access point. It is commonly used to allow access to the Internet or a computer network without the need for a cabled connection