NETWORK HARDWARE
Key Revision Facts: GCSE Computer Science

Firewall

A type of software or hardware that stops unauthorised access to the network.

Gateway

A gateway is a piece of networking hardware or software used in telecommunications networks that allows data to flow from one discrete network to another.

Hub

A piece of hardware used to connect multiple network devices. A hub broadcasts data to **all** devices on a network. This can use a lot of bandwidth as it results in unnecessary data being sent, not all computers might need to receive the data.

Intranet

A network that works like the internet but is only available within a particular organisation.

LAN (Local Area Network)

A network of computers that covers a small area, eg a school or college.

MAC address

Every piece of hardware on a network has a unique MAC address. This is embedded in the hardware when the product is made in the factory, and the user cannot change it.

Modems

A modem enables a computer to connect to the internet over a telephone line.

NIC (Network Interface Card)

NICs enable computers to connect to a network. NICs are small circuit boards that connect to the motherboard.

Router

A router is connected to two or more data lines from different IP networks. When a data packet comes in the router reads the network address information in the packet header to determine the ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey.

Switch

A device for connecting network devices. A switch performs a similar role to a hub but is more powerful. It stores the MAC addresses of devices on a network and filters data packets to see which devices have asked for them. This makes a switch more efficient than a hub.

WAN (Wide Area Network)

A network that spans across a building, buildings or even countries, eg the internet.

WAP (Wireless Access Point)

Wi-Fi access point are required to connect to a network wirelessly. WAPs are usually built into the broadband router.