Knowledge Organiser: Networks

What is a Network?

Networking computers brings many benefits to users. Without networking, many computing applications would not be possible. A network is two or more computers (or other electronic devices) that are connected together for the purpose of communication. They are connected by a wired medium such as cables, or by a wireless medium such as Wi-Fi. A computer or device that is not connected to a network is called a stand-alone.

LAN—Local Area Network

A **LAN** is a network that is geographically confined to **one building** or site.
Examples include networks employed by small businesses, small organisations, schools, colleges, universities and in homes.

WAN—Wide Area Network

A **wide area network (WAN) is** a network that is spread over a **wide geographical area**. It can cover more than one site, or be spread across a country, or even the world.

Organisations that have more than one office or branch, such as banks, tend to use a WAN. The WAN allows the head office to communicate and share data with the sub-offices and branches. Communication is done through national telephone infrastructures or via wireless transmission.
The internet is essentially a huge, international WAN

Networks

Client Sever & Peer to Peer Networks

This type of network separates computers into one of two classifications - **servers and clients.**
A **server** is a computer that manages and stores files, or one that provides services to other computers on the network. They control the network and allow other computers to share and communicate. In effect, they serve other computers. Typical servers include:
Client-server networks are best suited to organisations with many computers, or to situations where many computers need access to the same information. Many schools use this type of model.
A server is a computer that manages and stores files, whereas a client is a computer that relies on other computers to provide and manage data

Peer to Peer Networks

In a **peer-to-peer (P2P) network,** all computers have equal status - no computer has control over the network. There are no servers or clients. Instead, each computer is known as a peer.
P2P networks are best suited to smaller organisations that have fewer computers, or where fewer computers need

Glossary

Key Vocabulary

Client	The computer on a network that request data from a server.
Client-server	A form of computer networking where the data or web application is hosted on a server and accessed by client computers.
Collision	The result of two devices on a network trying to communicate with each other simultaneously.
Domain	An area of control or management, eg bbc.co.uk is controlled by the BBC.
Fibre-optic cable	Cable that carries data transmitted as light.
File server	A networked computer that provides large amounts of shared storage, it can be accessed by workstations on the same network.
File sharing	The act of sharing files over the internet.
Host	A server that stores files for other computers to access.
Hub	A piece of hardware used in computer networks used to connect multiple devices.
Internet	A global network connecting millions of computers.
LAN	Local area network. A network of computers that covers a small area, eg a school or college.
Server	A computer that holds data to be shared with other computers. Servers require server software.
WAN	Wide area network. A network that spans across a building, buildings or even countries, eg the internet.