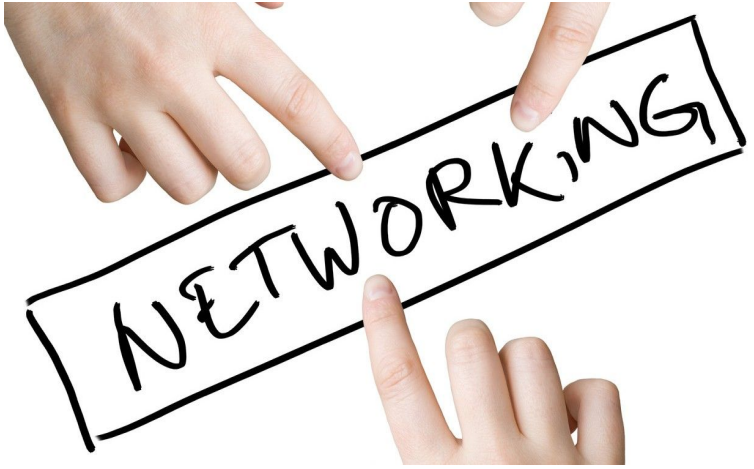
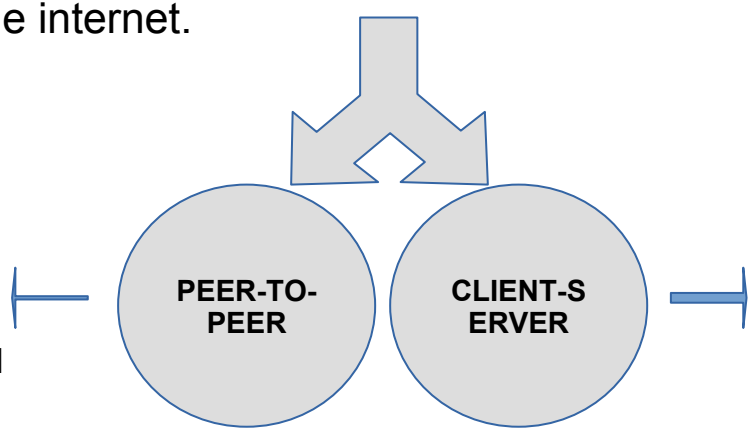
VIDEO LESSON: NETWORKING



COMPUTER NETWORKING

NETWORK = number of computers linked together and able to share resources, software, data and even a connection to the internet.



- All the computers have equal status.
- All the computers can share each other's resources.
- They are only suitable for small networks.
- Only very basic knowledge is needed to set up and use one.
- The more people use the network the slower the network is.

- One more powerful computer (**SERVER**) is in control of the network and is used to store the data and programs needed by the whole network.
- The network is totally dependent on the server; if it breaks down the network cannot be used.
- They are the popular choice for networks that need many computers.

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Medium through which the signals travel from one computer to another: **metal wires**, **fibre optic cables**, or **wireless connection.**

In order to connect to the network, a computer must be equipped with a **NIC**. Other network components include: **HUB**, **ROUTER**, **SWITCH**, **BRIDGE**, **REPEATER** and **GATEWAY**.

Match each component with its function.

NIC HUB ROUTER SWITCH BRIDGE REPEATER GATEWAY

1. To connect channels together and divide a network into separate segments. _____
2. To connect two different networks. _____
3. To connect several cables to single output. _____
4. To direct signals to the correct destination. _____
5. To improve the quality of degraded signals. _____
6. To inspect incoming traffic. _____
7. To provide the connection between the computer and the network cables. _____

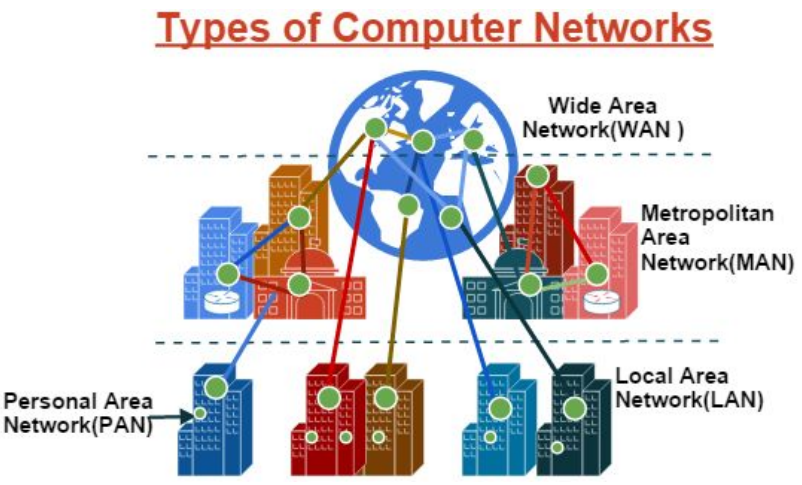
Listen to this extract and complete the table below.

PROS OF NETWORKS	CONS OF NETWORKS

TYPES OF NETWORKS

Apart from the basic distinction between peer-to-peer and client server, computer networks can be also classified according to:

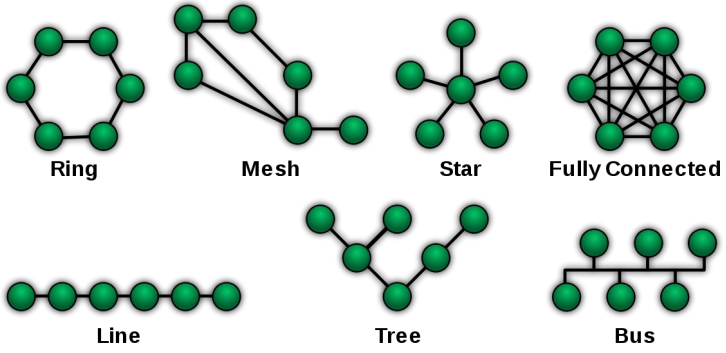
SIZE



- LAN
- WAN
- MAN
- ...

TOPOLOGY

- BUS
- RING
- STAR
- TREE
- MESH
- LINE



Match each description with the appriopriate network topology.

1. All devices are connected to a main central node or server. The other nodes are connected to it and to each other through a switch or a hub. _____
2. All devices are connected to a central cable, called the bus or back bone. There are more than two endpoints which are created by adding branches to the main section. If data are being sent between nodes, the others cannot transmit. _____
3. All devices are connected to one another in the shape of a ring. Each device is connected directly to two other devices, one on either side of it. Data travel in one direction using a control signal called token. _____
4. All the nodes of the network are connected to a common transmission mediums with exactly two endpoints. The data transmitted is received simultaneously by all the nodes in the network._____
5. There is a direct link between all pairs of nodes. There are multiple paths for data provided by a large number of redundant links between nodes. _____
6. There are redundant interconnections between network nodes. Every node has a connection to any other node in the network. _____
7. A hybrid type in which groups of star networks are connected to a linear backbone, like in a afmily tree. _____

Read the texts pp. 104-105 and fill in the table below.

TOPOLOGY	ADVANTEGES	DISADVANTAGES

HOW AN ETHERNET WORKS

Student's book p. 106 (text 3), 107 n. 6,7

Student's book p. 104 (text 1), 105 (text 2)