### Network Configurations

Most offices have networked computer systems because they enable better control of the hardware, software and data in the system; offices can cut down on costs through sharing peripherals and systems can be used by multiple users. These networks can have various configurations called ‘topologies’.

#### Typical office configurations

‘Star’ topology

 All computers are connected to a central computer called a file server. This central computer holds the data and programs that allow the system to operate. They do this through a hubwhich copes with the data transfer.

 If the central computer breaks, all the other computers cannot function.

 This configuration is expensive to install because each device has its own cable that connects it to the central computer.

 As each computer is connected separately to the main computer it does not relay or wait for data.

 Adding in extra peripherals or computers is easy to do.

Star networks are used to store data in a central server and allow other computers to send and receive data to and from this server quickly.

In a business environment this means all the data can be held in a secure location away from the computers accessing it.

‘Bus’ topology

 In this network all the computers are connected to one main cable.

 Each computer sends and receives data along this cable.

 This means that if there is too much traffic, processing will be slow as each system will have to wait their turn.

 If the main cable breaks then the whole network will go down.

 It is cheaper than a star system because there is less cabling involved.

Bus networks are used to connect computers together cheaply.

‘Ring’ topology

 In this network computers are linked in the form of a ring.

 Data travels around the ring and is deposited when it finds the computer it is looking for.

 Data can only travel one way around the ring.

 It does not necessarily need to have a file server.

Ring networks are used to connect computers together when a file server is not necessarily present. It is suitable for linking a small number of computers.