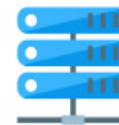# Computer network

A **computer network** is a group of computers and others modern devices linked to each other that enables they to communicate with each others and share their resources, data, and applications.

A computer network can be categorised by their size. Common network types:

- PAN (Personal Area Network)
- LAN (Local Area Network)
- MAN (Metropolitan Area Network)
- WAN (Wide Area Network)
- WLAN (Wireless LAN network)
- VPN (Virtual Private Network)

PAN (Personal Area Network)

A Personal Area Network handles data transmission within devices such as tablets, personal digital assistants, smartphones, and computers.

Note that single users in most cases basically use this type of network.

People make use of these types of networks commonly in situations where they need to connect wearable or mobile devices.
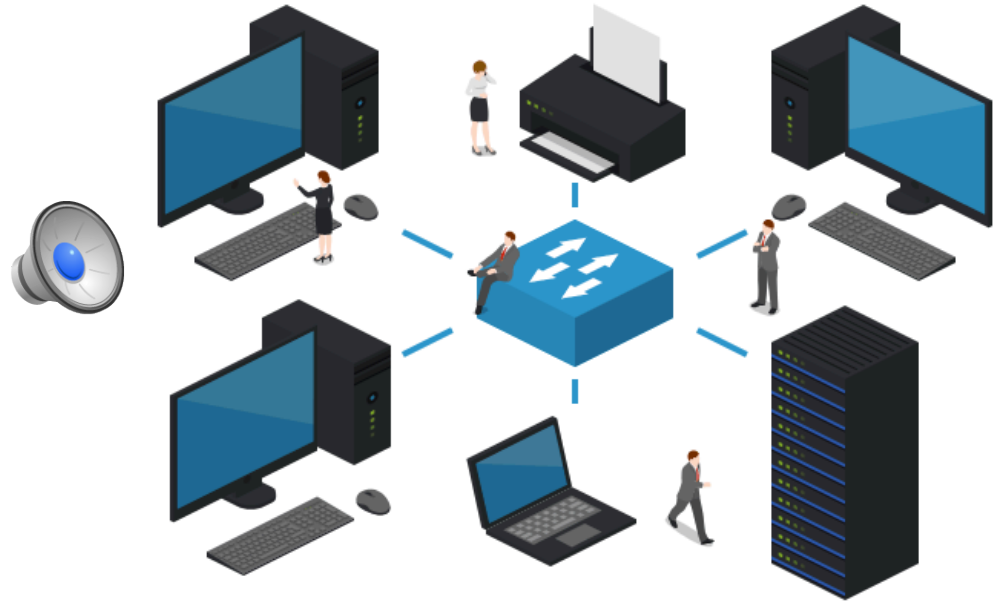
Personal area network (PAN)
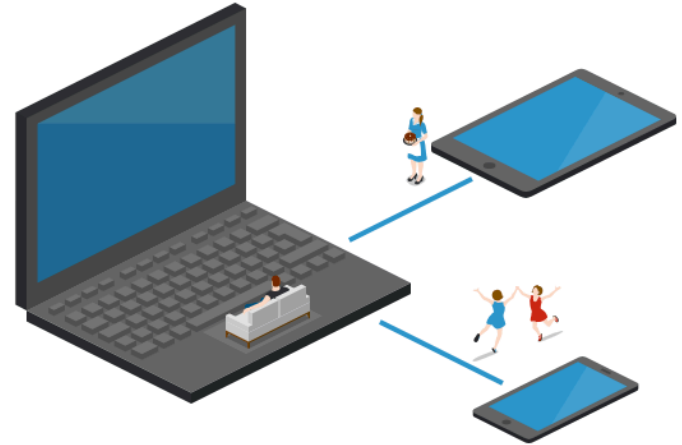
LAN (Local Area Network)

A Local Area Network or LAN as it's commonly known is a network that connects devices usually in the same building or local area. This could be computers or other devices that are within an office building, which are connected together to share resources.

Most people make use of this network type to share files and other business-related documents in an organisation. A router is often used when multiple Local Area Networks need to be connected to each other. **A LAN is probably the most commonly used computer network nowadays.**

Local area network (LAN)

MAN (Metropolitan Area Network)

When it comes to the MAN network type, know that it is usually a large computer network on a large geographical area that includes several buildings and LANs, or even the entire city or metropolitan area.

The geographical area of the MAN is larger than LAN, but smaller than WAN, which makes it fall in between a Local Area Network and a Wide Area Network.

Metropolitan area network (MAN)
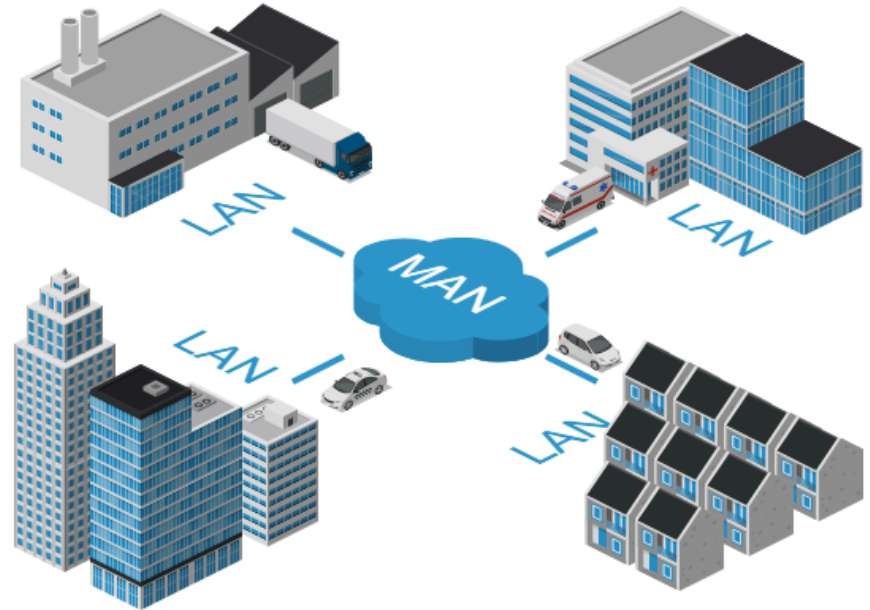
WAN (Wide Area Network)

Wide Area Networks or WAN are networks that span over wide geographical locations, which could be multiple buildings or even multiple cities or countries.

This kind of network is suitable for providing Internet access to Local Area Networks or some other kind of networks. Wide area network communication often require networking devices such as routers and modems for effective data communication.

Moreover, WANs are usually provided by ISPs which are interconnected to offer communication to wider areas. A WAN link is usually referring to a network interface that provides connection of the smaller network towards the bigger WAN network.

Wide area network (WAN)

WLAN (Wireless LAN network)

Unlike Local Area Network, a Wireless LAN network doesn't make use of a cable for end-to-end connectivity.

A WLAN makes use of a Wireless Access Point (WAP) device, which serves as the point of connectivity for wireless clients on the network.

Keep in mind that this kind of network can support other devices such as smartphones and tablets. One of the advantages of using a WLAN network is the flexibility it offers users, since there is are cable restrictions.

Wireless LAN (WLAN)

VPN (Virtual Private Network)

A Virtual Private Network is a type of network that makes use of existing private or public network infrastructure (e.g the Internet) to provide a secured network connection.

Have in mind that a VPN is also used to connect LAN networks that are far away between them. For example, a company has different buildings (with LAN networks) in different Cities and wants to interconnect the buildings over the Internet. A VPN will provide an ideal and cheap solution for such a case.

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