

Types of networks

Different types of networks

Different types of (private) networks are distinguished based on their size (in terms of the number of machines), their data transfer speed, and their reach. **Private networks** are networks that belong to a single organization.

There are usually said to be three categories of networks:

- LAN (**local area network**)
- MAN (**metropolitan area network**)
- WAN (**wide area network**)

There are two other types of networks:

- **TANs (Tiny Area Network)**, which are the same as LANs but smaller (2 to 3 machines),
- and **CANs (Campus Area Networks)**, which are the same as MANs (with bandwidth limited between each of the network's LANs).

LAN

LAN stands for Local Area Network.

It's a group of computers which all belong to the same organization, and which are linked within a small geographic area using a network, and often the same technology (the most widespread being Ethernet).

A local area network is a network in its simplest form. Data transfer speeds over a local area network can reach up to 10 Mbps (such as for an Ethernet network) and 1 Gbps (as with FDDI or Gigabit Ethernet).

A local area network can reach as many as 100, or even 1000, users.

By expanding the definition of a LAN to the services that it provides, two different operating modes can be defined:

- In a "peer-to-peer" network, in which communication is carried out from one computer to another, without a central computer, and where each computer has the same role.
- in a "client/server" environment, in which a central computer provides network services to users.

MANs

MANs (*Metropolitan Area Networks*) connect multiple geographically nearby LANs to one another (over an area of up to a few dozen kilometres) at high speeds. Thus, a MAN lets two remote nodes communicate as if they were part of the same local area network.

A MAN is made from switches or routers connected to one another with high-speed links (usually fibre optic cables).

WANs

A **WAN** (Wide Area Network or extended network) connects multiple LANs to one another over great geographic distances.

The speed available on a WAN varies depending on the cost of the connections (which increases with distance) and may be low.

WANs operate using routers, which can "choose" the most appropriate path for data to take to reach a network node.

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