

Computer Networks

Logan Sizemore

September 27, 2024

A computer network is a communications network that allows devices to exchange information or data.

0.1 Glossary

Nodes are the individual devices or components that connect to a network; essentially any active, addressable point in the network.

- Send
- Receive
- Store
- Forward

Links are the connections between nodes. They represent the medium through which data is transmitted. Can be physical or wireless.

Hosts are nodes in a network which run applications.

Internetwork is the collection of two or more networks connected via routers.

Non-obvious hosts include:

- Video-Game Consoles
- IoT Devices (Ring, Alex, Fridges, etc.)
- Pagers
- Card Payment Devices / ATMs

1 Creation

1.1 ARPANET

1.1.1 TCP/IP Standard

1.2 Metcalfe's Law

Metcalfe's Law 1 *The value of a network grows $O(n^2)$, where n is the number of nodes in a network.*

i.e. it is better for *a* network to have 100 nodes, than 10 networks with 10 nodes.