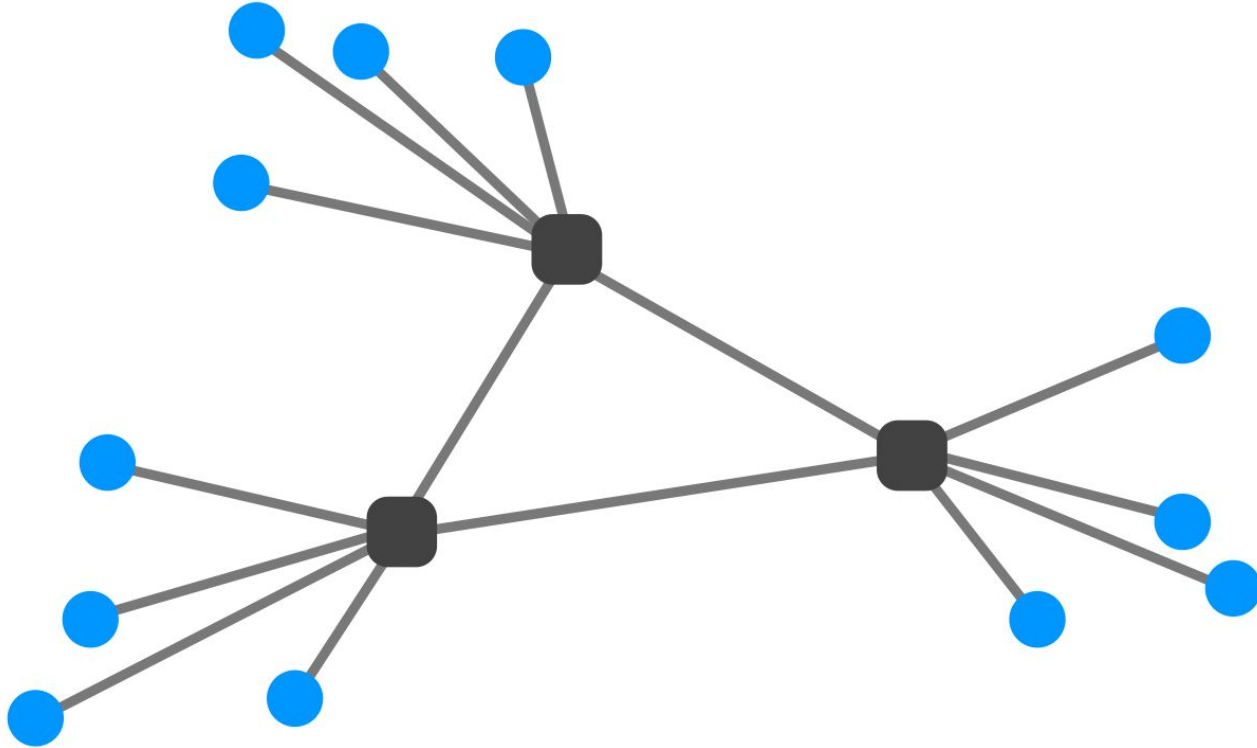
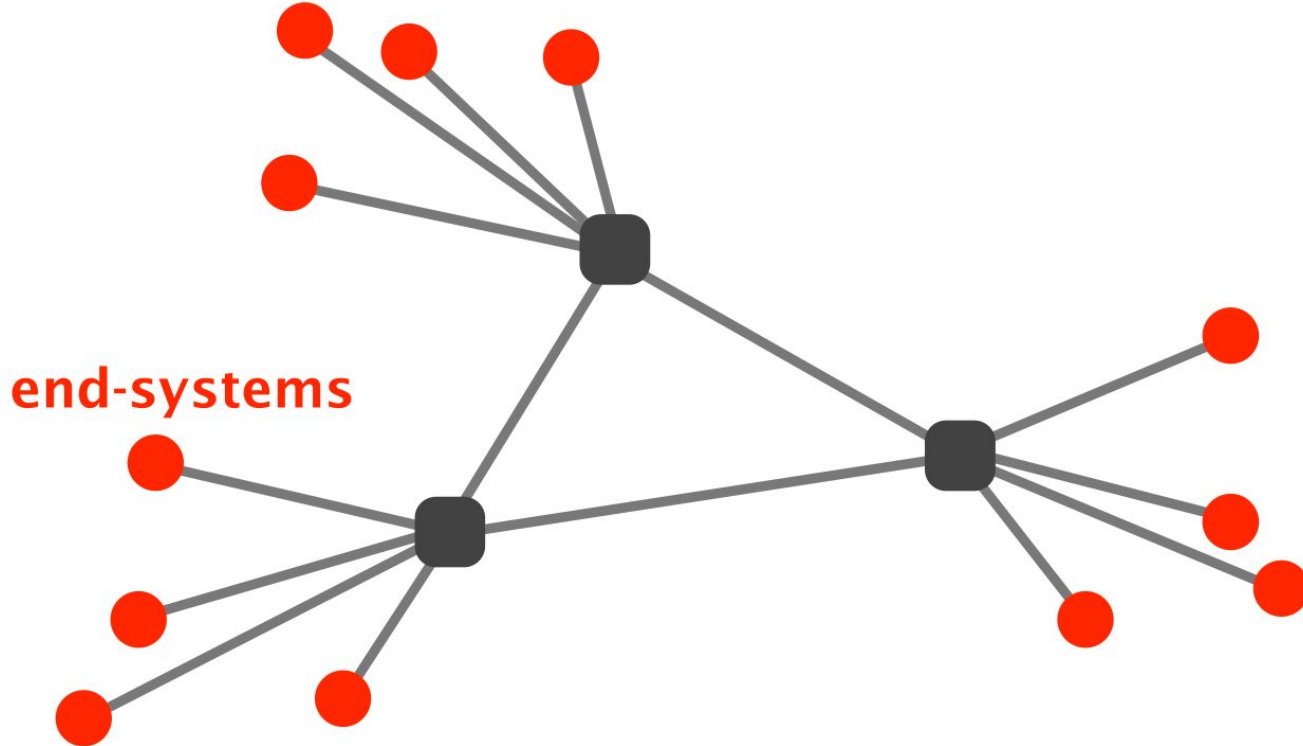


Network Components

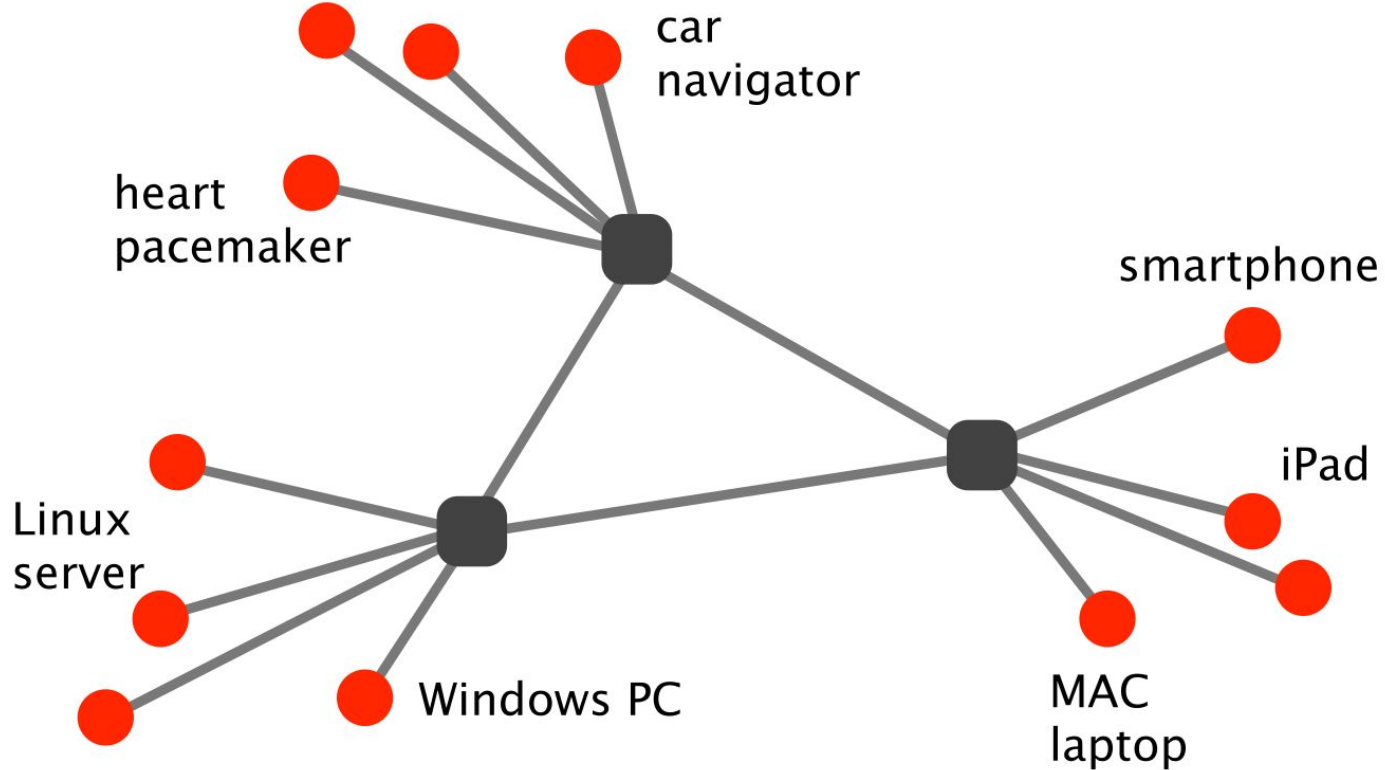
Networks are Composed of Three Basic Components



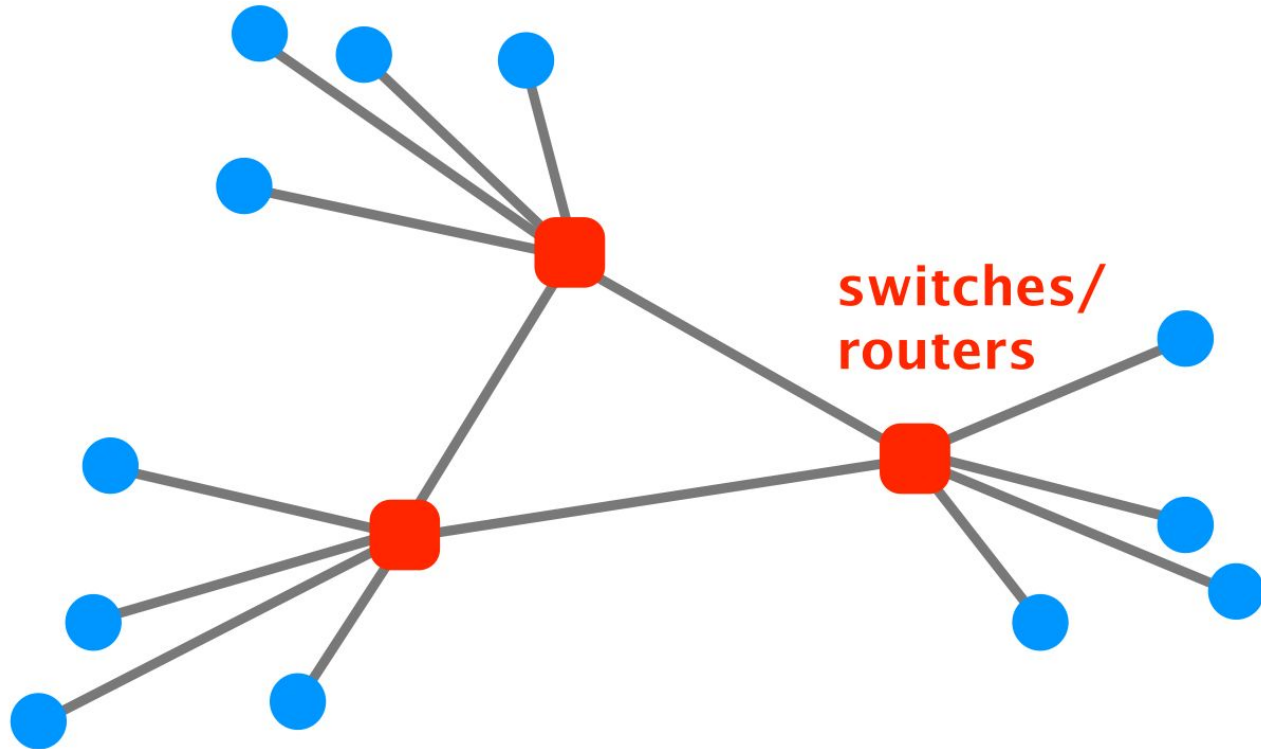
End Systems (Hosts) Send and Receive Data



End Systems (Hosts) Can be Many Things



Switches and Routers Forward Data Towards the Destination



Wide Variety of Switches/Routers

Home
router



~20 cm

0,5 kg

1 Gbps

Internet core
router

>200cm

700kg

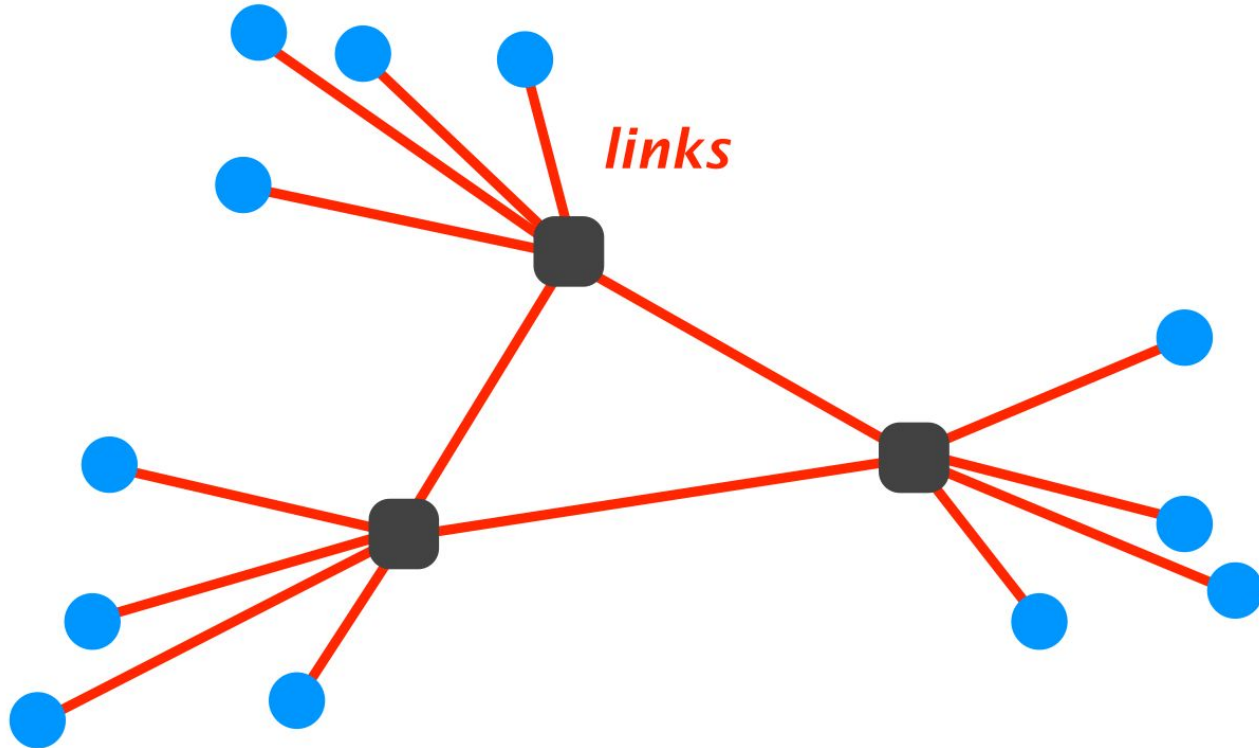
>12 Tbps

(>920 Tbps in
multi-chassis*)



*https://www.cisco.com/c/en/us/products/collateral/routers/carrier-routing-system/data_sheet_c78-726136.html

Links Connect Hosts to Switches and Switches to Each Other



Links Also Vary Greatly



Copper

ADSL, RJ-45,...



Optical fibers



Wireless link

Huge Number of **Access Technologies**

Ethernet	most common, symmetric
DSL	over phone lines, asymmetric
CATV	via cable TV, shared
Cellular	smart phones
Satellite	remote areas
FTTH	household
Fibers	Internet backbone
Infiniband	High performance computing

Networking Tools