

## Network+ | 01.Basics Cheat Sheet by Aelphi (Aelphi) via cheatography.com/179727/cs/37393/

Network Components	3
Client	end-user access
Server	provides resources to network
Hub	connects devices - rebroadcast data
Switch	idem but uses selective adressing (IP/MAC)
Wireless Access Point	(WAP) - wireless hub
Media	connecting media (cables, waves, electricity,)
WAN Link	DSL, Cable, leased lines, satellite, cellular, MW,

Wired Network Topologies		
can be	physical (cabling) or logical (traffic flow)	
Bus	backbone cable, old, single collision domain	
Ring	circular loop, singular direction	
	token ring = devices wait their turn	
	FDDI (fiber) = 2-counter rotating, redundancy	
Star	connected to central device, SPOF!	
Hub & Spoke	Star topology with WAN i.o. LAN (hubs)	
Full- <b>Mesh</b>	rendundant, everyone is connected, efficient, very expensive	
Partial-Mesh	hybrid of Full-Mesh and Hub&Spoke	

Wireless Network Topologies	
Infrastructure Mode	most common, cenralized mgmt, uses wireless securtiy control
Ad Hoc	P2P connections, no routers
Wireless Mesh Topology	Different type of nodes or devices, client-route- rs-gatways

Network Resources		
Client/Ser ver	Def	uses servers to provide access to files, printers, etc
	+	centralized, easier mgmt, scalable
	-	high cost, dedicated resources, network operating system
Peer-to- Peer	Def	Peers share resources directly to others
	+	lower cost, no dedicated resource, no specialized system
	-	decentralized mgmt, inefficent for large NW, poor scalability

Netwo	rk Geography	,
PAN	Personnal	bluetooth, cellphone, usb drive, watch
LAN	Local	limited distance, ethernet (802.3), WIFI (802.11),
CAN	Campus	connects several buildings, camps, MIL bases, schools
MAN	Metrop- olitan	up to 25-mile radius like city departments, community over a region
WAN	Wide	across country, world, uing leased lines or VPN

Internet of Things (IoT)		
802.11 WIFI	operates infrastructure or ad-hoc	
Bluetooth	low energy, mesh network, pairing sys	
RFID	electromagnetic fields, ie badge reader	
NFC	RFID but 4cm range, more precise	
IR Infrared	in line-of-sight	
Z-wave	short range, low-latency data transfer for <b>home</b> automation	
Ant+	sensor data for remote control systems	



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