

Difference between Hub vs Switch vs Router

TEMPLATE	HUB	SWITCH	ROUTER
Layer	Physical layer	Data link layer	Network layer
Function	To connect a network of personal computers together, they can be joined through a central hub	Allow connections to multiple devices, manage ports, manage VLAN security settings	Direct data in a network
Data Transmission form	electrical signal or bits	frame & packet	packet
Port	4/12 ports	multi-port, usually between 4 and 48	2/4/5/8 ports
Transmission type	Frame flooding, unicast, multicast or broadcast	First broadcast, then unicast and/or multicast depends on the need	At Initial Level Broadcast then Uni-cast and multicast
Device type	Non-intelligent device	Intelligent device	Intelligent device
Used in(LAN, MAN, WAN)	LAN	LAN	LAN, MAN, WAN
Transmission mode	Half duplex	Half/Full duplex	Full duplex
Speed	10Mbps	10/100Mbps, 1Gbps	1-100Mbps(wireless); 100Mbps-1Gbps(wired)
Address used for data transmission	MAC address	MAC address	IP address