

1. Advantages of the Hub:

A. cheaper

b. half duplex

c. A hub has many ports

Disadvantages of the Hub:

A. The hub has only one collision

b. The hub cannot read data packets

c. requires quite a long time

Switch Advantages:

A. Replace what can be received and analyzed for each data packet that has been received before being received to the destination address

b. The switch is able to determine the destination address and source of the data packet that has passed through it

c. Switch quickly to forward each data packet correctly and quickly.

Disadvantages of a switch:

A. The price is slightly more expensive than the HUB because switching is a development of the HUB

b. HUB only has one collision control for all ports that can be used in conflict / data collision because data transmission is only controlled by one collision

c. Can only use straight cable, so if you want to use an existing cross cable must be changed to straight cable first.

d. Requires a long time to receive a package

2. Broadcast is a method of sending data, where data will be sent to many points immediately without checking whether the destination address is ready to receive data or not and also the delivery package also does not care whether the data matches the destination address or not.

3. ARP (Address Resolution Protocol) is a protocol for obtaining physical address information (MAC address) based on IP address information. When a host sends packets using the destination IP address, the switch will access entries in the ARP table to match the IP Address with the destination MAC address. The ARP table contains mapping information between IP addresses and MAC addresses. For more details, consider the following topology.

4. Collision Domain is a network segment that is connected by shared media or through repeaters where simultaneous data transmissions collide with each other. The collision domain applies specifically to wireless networks, but it also affects early Ethernet versions.