* **Difference between bridge and router**

**Bridge** is a network device, which works in data link layer. Through bridge, data or information is store and sent in the form of packet. Whereas **Router** is also a network device which works in network layer. Through router, data or information is store and sent in the form of packet.

The main difference between bridge and router is that, bridge study or scan the device’s MAC address. On the other hand, router study or scan the device’s IP address.

* **Encapsulation**

Each layer adds information to the data by prepending headers to data that it receives

* **What’s the difference between internet and Internet**

internet means multiple networks connected together, using a

common protocol suite.

Internet refers to the collection of hosts (over one million) around

the world that can communicate with each using TCP/IP

* Distinction between the network layer and the transport layer

network layer (IP) provides a hop-by-hop service

transport layers (TCP and UDP) provide an end-to-end service

End to end indicates a communication happening between two applications (maybe you and your friend using Skype). It doesn't care what's in the middle, it just consider that the two ends are taking with one another. It generally is a Layer 4 (or higher) communication

Point to point is a Layer 2 link with two devices only on it. That is, two devices with an IP address have a cable going straight from a device into the other. A protocol used there is PPP, and HDLC is a legacy one.

Hop by Hop indicates the flow the communication follows. Data pass through multiple devices with an IP address, and each is genetically named “hop”. Hop by Hop indicates analyzing the data flow at layer 3, checking all devices in the path

* CSMA/CD, CSMA/CA
* 如何避免封包 duplicate?

bridge自我學習

* 如何避免封包 looping?

把網路切成tree

* 封包發生 collision 後，怎麼解決?

封包擇一重送，雖然可能會再次 collision，但總是能解決

* Data-Link Layer已保證data可以傳給隔壁 node，

為什麼Transport Layer 還要再做一次reliable檢查?

因Data-Link Layer無法保證封包在internal node裡的正確性

* LLC可以turn-off，那位甚麼還需要LLC?

用於較不穩定的傳輸 e.g. wifi

* QoS (Quality of Service)

針對不同使用者或者不同資料流採用相應不同的優先級

* Multihomed

透過為客戶端提供多於一條網際網路連線，使當中其中一條連線中斷時，系統可以自動切換使用另一條連線。允許一台機器有多個IP