

Ethernet LANs

Exercise 1: How many possible OUI's are there? How many devices can be manufactured for each OUI?

$$2^{24} \text{ OUIs } (3 \text{ bytes} \times 8 \text{ bits/byte})$$

$$\approx 16 \times 10^6$$

$$2^{24} \text{ devices per OUI}$$

Exercise 2: Classify each of a hub, learning bridge and switch according to the following: can operate in full-duplex mode, can have independent PHY rates, collisions can happen, can receive from multiple ports simultaneously.

	hub	learning bridge	switch
full duplex	N	Y	Y
independent PHY rates	N	Y	Y
collisions possible	Y	N	N
rx multiple frames simultaneously	N	Y	Y