

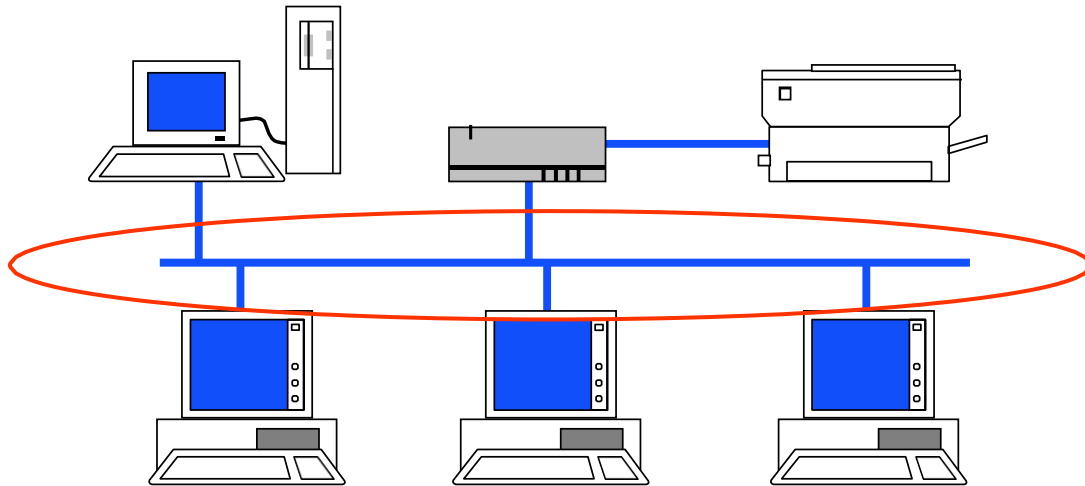
Overview of LANs

What is a LAN?

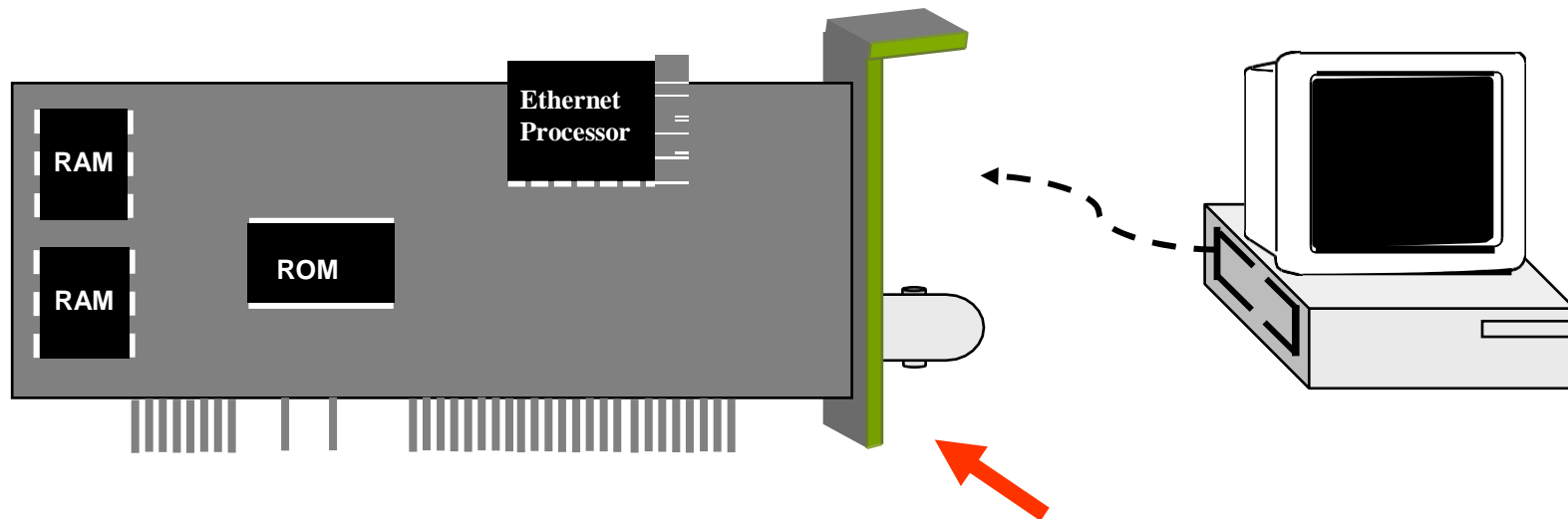
Local area means:

- Private ownership
 - freedom from regulatory constraints of WANs
- Short distance (~1km) between computers
 - low cost
 - very high-speed, relatively error-free communication
 - complex error control unnecessary
- Machines are constantly moved
 - Keeping track of location of computers a chore
 - Simply give each machine a unique address
 - *Broadcast all messages to all machines in the LAN*
- Need a *medium access control protocol*

Typical LAN Structure



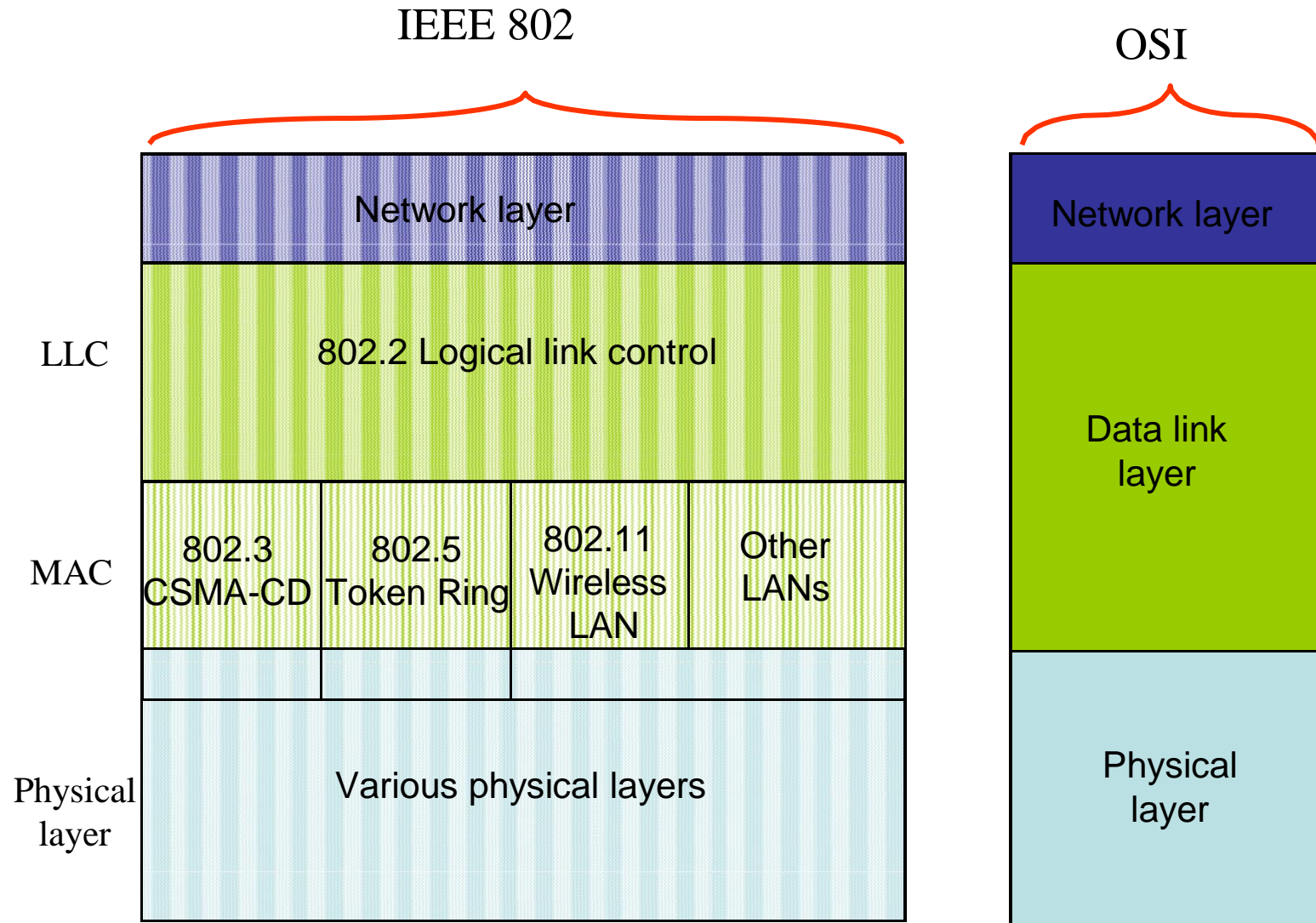
- Transmission Medium
- Network Interface Card (NIC)
- *Unique MAC "physical" address*



Medium Access Control Sublayer

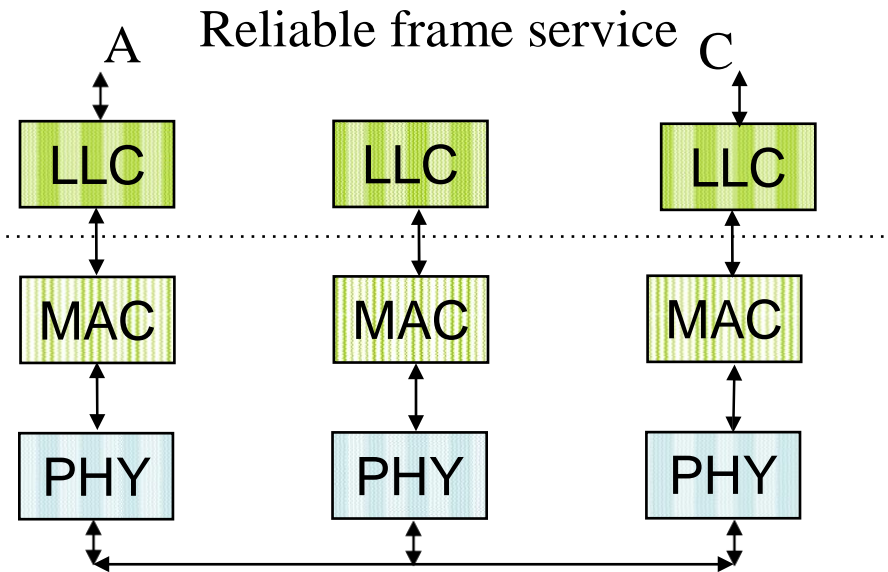
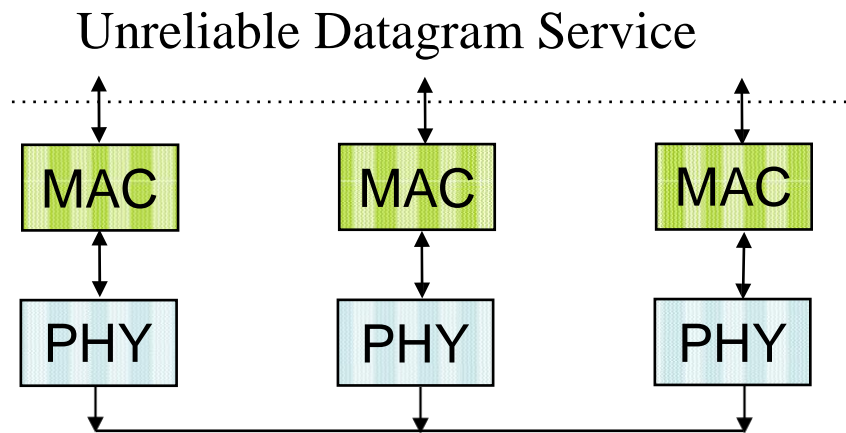
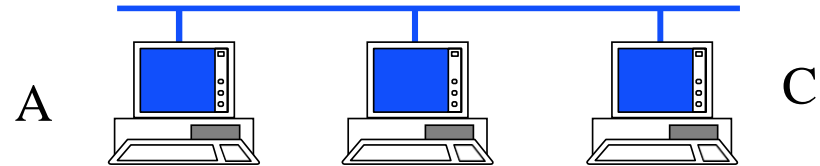
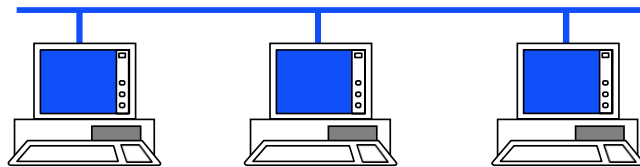
- In IEEE 802.1, Data Link Layer divided into:
 1. Medium Access Control Sublayer
 - Coordinate access to medium
 - Connectionless frame transfer service
 - Machines identified by MAC/physical address
 - Broadcast frames with MAC addresses
 2. Logical Link Control Sublayer
 - Between Network layer & MAC sublayer

MAC Sub-layer

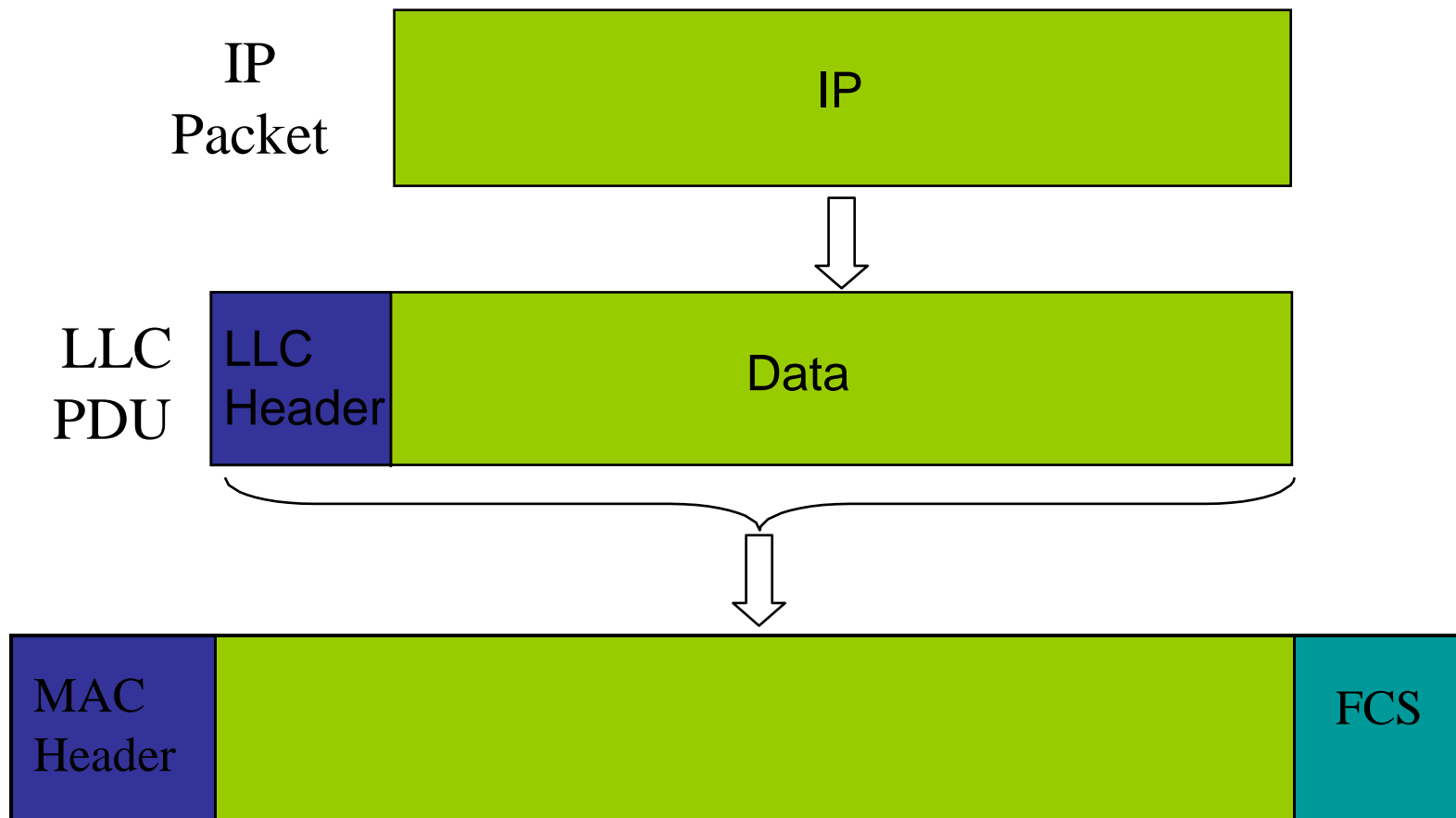


Logical Link Control Layer

- IEEE 802.2: LLC enhances service provided by MAC



Encapsulation of MAC frames



THANK YOU.....