Addressing

- **MAC address: *Unique over the whole network***
  - **identifies the physical interface from station to the LAN**
  - **One-to-one**
  - **One-to-multiple (reliability)**
  - **Multiple-to-multiple (bridge)**
- **LLC address (LSAP): *Unique only within a station***
  - **Associated with a particular user within a station**
  - **Executing process**
  - **Hardware port**

Addressing (Cont.)

- **Group (multicasting) address**
- **Broadcasting**
- **Dedicated LSAP addresses**

MAC Sublayer

- **Objective:**
- **MAC Techniques:**
  - **Key parameters are *Where and How*?**
- ***Where?***
  - ***Centralized***
  - ***Distributed***
- ***How?***
  - **Topology**

Centralized MAC Sublayer

- **A *controller* is responsible for granting access to the network**
- **A station wishing to transmit must wait for the permission**
- **Advantages:**
  - **Offers greater control over access**
    - **To provide priority, overrides and guaranteed capacity**
  - **Relatively simple access logic**
  - **Avoids distributed coordination among peer entities**
- **Disadvantages:**
  - **Creates a single point of failure**
  - **Acts as a bottelneck**

Distributed MAC Sublayer

- **Stations collectively perform a MAC function to determine dynamically the order**

Synchronous Access Control

- **A specific capacity is dedicated to a connection**
- **Examples:**
  - **TDM**
  - **FDM**
- **Not optimal in LAN as the needs of stations are <u>not predictable</u>**

Asynchronous Access Control

- **Objective: to dynamically assign access**
- **Round Robin:**
  - » **A scheduling algorithm in which processes are activated in a fixed cyclic order**
- **Reservation**
- **Contention**