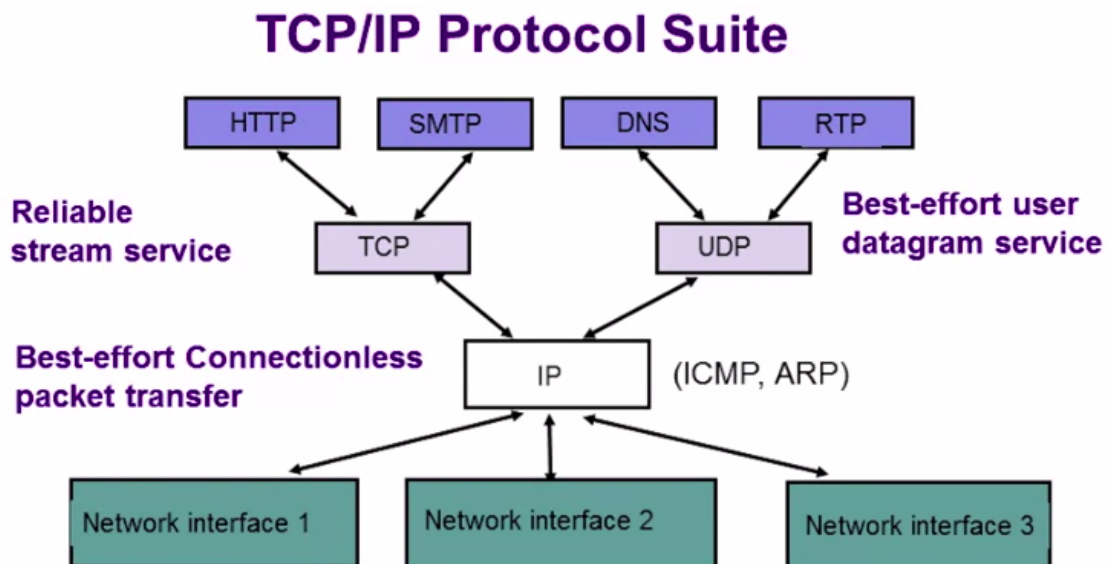# TCP & IP

TCP and IP

TCP and IP Protocol Suite

Physical Address

- LANs assign physical addresses to physical attachment to the network
- The network uses its own address to transfer packets or frames to the appropriate destination
- IP address needs to be resolved to physical address at each IP network interface, by address resolution protocol (ARP)
- Example: Ethernet uses 48-bit addresses
  - Each NIC has globally unique physical address (called MAC address)
  - First 24 bits identify NIC manufacturer; second 24 bits are serial number

Encapsulation

- Ethernet header contains:
  - source and destination physical addresses
  - network protocol type (e.g. IP)

IP header	IP Payload

⇩

Ethernet header	IP header	IP Payload	FCS