Notes 1-11

Data Encoding

Layered Protocols

Common Technologies and Architectures

Design Criteria

* Capable of growing to global size
* Support a wide variety of applications
  + Bulk data transfer
  + Interactive processing
  + Telephony (voice, teleconferencing)
  + Streaming audio and video
* Easy to use for programmers

What is a network?

* Telephone (POTS)
* Cable system
* Water system and sewer system
* Electrical grid

Computer networks are generalized, they are designed to support a wide variety of tasks. Build with general purpose hardware, often COTS hardware. Not optimized for a specific task (therefore NOT optical at all).

Connectivity

* Limited connectivity (private network)
* Growth potential (scalability)

Nodes and Links

* Node: Network device, host
* Link: Connectivity
  + 2 types of links: point-to-point, multipoint

Indirect Connectivity

* Nodes connect network devices with software that forwards data received on one link to another link
* This is called switched network

2 Types of Switched Networks:

* Packed switched
* Circuit switched