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ISDS 4120

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Hands-On Assignment #3

CHAPTER 4

1. I would recommend three different file transfer protocols. HDLC, LAP-B, and Ethernet (IEEE 802.3).

-HDLC means “high level data link control” and it was developed by ISO and commonly used in WANs. Address and control fields can be longer than SDLC.

-LAP-B, “link access protocol-balanced”, uses the same structure as HDLC but is scaled down. The textbook says that the differences are ‘beyond the scope of this book’.

-Ethernet is a popular LAN protocol and one that most people have experience using in their home or office.

1. Errors tend to occur in bursts rather than sporadically. Some common sources for error include: cross-talk, lightning, attenuation, and echo. Some ways to reduce and prevent errors are: shielding the cables, using repeaters/amplifiers, upgrading the equipment & connections, and making sure that cables are not near other sources of noise or power.

CHAPTER 5

1.

**I. Introduction**

A. Network Layer

**II. Network Protocols**

1. Transmission Control Protocol (TCP)
2. Internet Protocol (IP)
3. IPv4
4. IPv6
5. User Datagram Protocol (UDP)

**III. Addressing**

1. Transport Layer
2. Network Layer
3. Assigning Address
4. Address Resolution

**IV. Routing**

1. Routers
2. Centralized Routing
3. Static Routing vs. Dynamic Routing
4. Connectionless vs. Connection-Oriented routing

**V. TCP/IP Configuration**

1. Known Addresses, Same Subnet/Different Subnet
2. Unknown Address
3. TCP/IP Summary

2. From the slides, standards ensure that hardware and software from different vendors work together and ‘speak the same language’”.

ISO, the International Organization for Standardization, creates standards that directly affect data communication. ISO delineates both a connection layer and a physical layer for transferring data between close sources. The International Telecommunication Union is an agency that focuses on data communication standards for sources around the world.

3.

* Transmission control protocol/internet protocol (TCP/IP) is essentially the language a computer uses to function and connect to the internet. TCP/IP contains four layers.
* The four layers are: Application, Transport, Network, and Physical.
* TCP defines how applications can communicate over a network.
* IP defines how packets (information) are addressed and routed. Your IP address is an “address” for your computer.