#Assignment 8

Chapter 4 Textbook Review Questions: R1, 3, 4, 8, 9, 11

R1. Let’s review some of the terminology used in this textbook. Recall that the name of a transport-layer packet is segment and that the name of a link-layer packet is frame. What is the name of a network-layer packet? Recall that both routers and link-layer switches are called packet switches. What is the fundamental difference between a router and link-layer switch? Recall that we use the term routers for both datagram networks and VC networks.

The name of a network-layer packet name is packet. router is a device that creates route for network in other words, controls network traffic (d). linked layer switch connects layers and devices on computer network.

R3.  What is the difference between routing and forwarding?

Routing means finding the best path for a packet from sender to destination and Forwarding is after routing, according to routing information, send to destination.

R4.  Do the routers in both datagram networks and virtual-circuit networks use for- warding tables? If so, describe the forwarding tables for both classes of networks.

Yes but both of them have different columns. Datagram networks use destination address, outgoing interface and virtual circuit network table uses incoming interface, VC number, outgoing interface and VC number.

R8.  Three types of switching fabrics are discussed in Section 4.3. List and briefly describe each type. Which, if any, can send multiple packets across the fabric in parallel?

Switching by memory, bus, interconnection network. As long as all packets are sent, interconnection network sends multiple packets across the fabric in parallel.

R9.  Describe how packet loss can occur at input ports. Describe how packet loss at input ports can be eliminated (without using infinite buffers).

If the rate at which packets arrive to the fabric exceeds switching fabric rate, then

packets will need to queue at the input ports. If this rate mismatch persists, the queues

will get larger and larger and eventually overflow the input port buffers, causing

packet loss. Packet loss can be eliminated if the switching fabric speed is at least n

times as fast as the input line speed, where n is the number of input ports.

R11.  What is HOL blocking? Does it occur in input ports or output ports?

HOL blocking occurs when input port queue need to wait for available output port space because there is no buffer space. Other than the first packet, all will be blocked and it occurs in input ports.

Made Question

1. We learned that what may need to process millions of flows of packets between different source-destination pairs at the same time ? (Textbook chapter 4 under summary p.g.412)

a>router

b>IP address

c> protocol stack

d>multicast

e>protocol

2. Which is not included as 6 link layer hops between wireless host and server? (Textbook chapter 5 p.g.435)

a>home network

b>company network

c>National or Global ISP

d>Enterprise network

e>Local or Regional ISP

3. The ability of the receiver to both detect and correct errors is known as? (Textbook chapter 5 p.g.442)

a>forward error correction (FEC).

b> forward error message (FEM)

c> backward error detection (BED)

d> backward error correction (BEC)

e> A or D