Homework weeks 4-5

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Review questions

- 1. Compare and contrast link state and distance vector routing algorithms.
- 2. Discuss how a hierarchical organization of the Internet has helped to scale to millions of users
- 3. What is the 32-bit equivalent of the IP address 223.1.3.27?
- 4. Suppose there are three routers between a source host and a destination host. Ignoring fragmentation, an IP segment sent from the source host to the destination host will travel over how many interfaces? How many forwarding tables will be indexed to move the datagram from the source to the destination?
- 5. Suppose an application generates chunks of 40 bytes of data every 20 msec, and each chunk gets encapsulated in a TCP segment and then an IP datagram. What percentage of each datagram will be overhead, and what percentage will be application data?
- 6. Why are different inter-AS and intra-AS protocols used in the Internet?
- 7. Why are buffers needed at the input ports of a switch? Why are buffers needed at the input port of a switch?
- 8. It has been said that when IPv6 tunnels through IPv4 routers, IPv6 threats the IPv4 tunnels as link-layer protocols. Do you agree with this statement? Why or why not?