

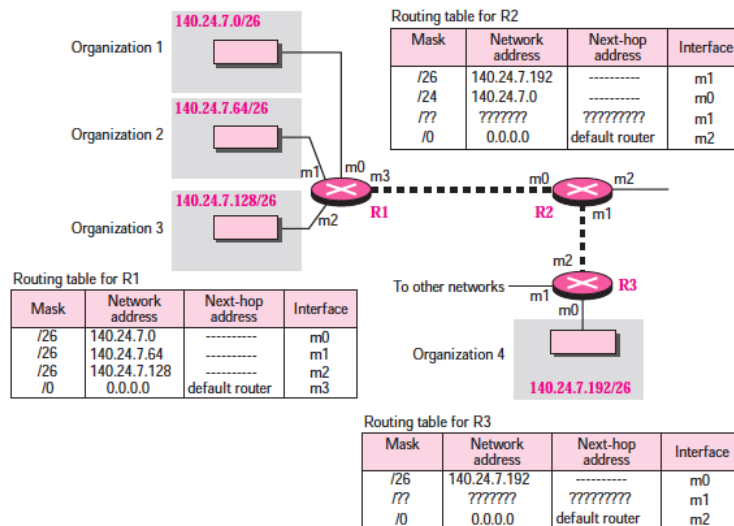
TSIN02 Internetworking

Exercise class 2 problems

Exercise 1: A host with IP address 137.23.56.23/16 sends a packet to a host with IP address 137.23.67.9/16. Is the delivery direct or indirect? Assume no subnetting.

Exercise 2: Describe the structure of a routing table for a host that is connected to a LAN without being connected to the Internet.

Exercise 3: Can router R1 in the figure below receive a packet with destination address 140.24.7.194? Explain your answer.

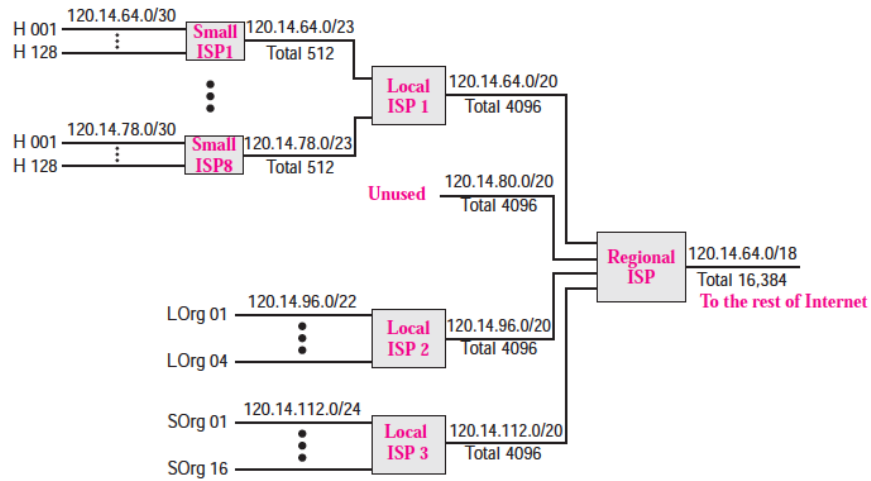


Exercise 4: Show the routing table for regional ISP in the following figure:

Exercise 5: In the same figure, show the routing table for local ISP 2.

Exercise 6: In the same figure, show the routing table for local ISP 1.

Exercise 7: In cases where reliability is not a primary importance, UDP would make a good transport protocol. Give examples of specific cases.



Exercise 8: A client uses TCP to send data to a server. The data consist of 16 bytes. Calculate the efficiency of this transmission at the TCP level (ratio of useful bytes to total bytes). Calculate the efficiency of transmission at the IP level. Assume no options for the IP header. Calculate the efficiency of transmission at the data link layer. Assume no options for the IP header and use Ethernet at the data link layer.