Ch4

2

a) No, you can only transmit one packet at a time over a shared bus.

b) No, as discussed in the text, only one memory read/write can be done at a time over

the shared system bus.

c) No, in this case the two packets would have to be sent over the same output bus at the

same time, which is not possible.

5

a)

Prefix Match Link Interface

11100000 00 0

11100000 01000000 1

1110000 2

11100001 1 3

otherwise 3

b)

Prefix match for first address is 5 entry: link interface 3

Prefix match for second address is 3 entry: link interface 2

Prefix match for third address is 4 entry: link interface 3

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223.1.17.0/26

223.1.17.128/25

223.1.17.192/28

11

Any IP address in range 128.119.40.128 to 128.119.40.191

Four equal size subnets: 128.119.40.64/28, 128.119.40.80/28, 128.119.40.96/28, 128.119.40.112/28

18

It is not possible to devise such a technique. In order to establish a direct TCP connection

between Arnold and Bernard, either Arnold or Bob must initiate a connection to the other.

But the NATs covering Arnold and Bob drop SYN packets arriving from the WAN side.

Thus neither Arnold nor Bob can initiate a TCP connection to the other if they are both

behind NATs.