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Communication Systems Group (CSG)

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Exercises in PMMC

Exercise 12

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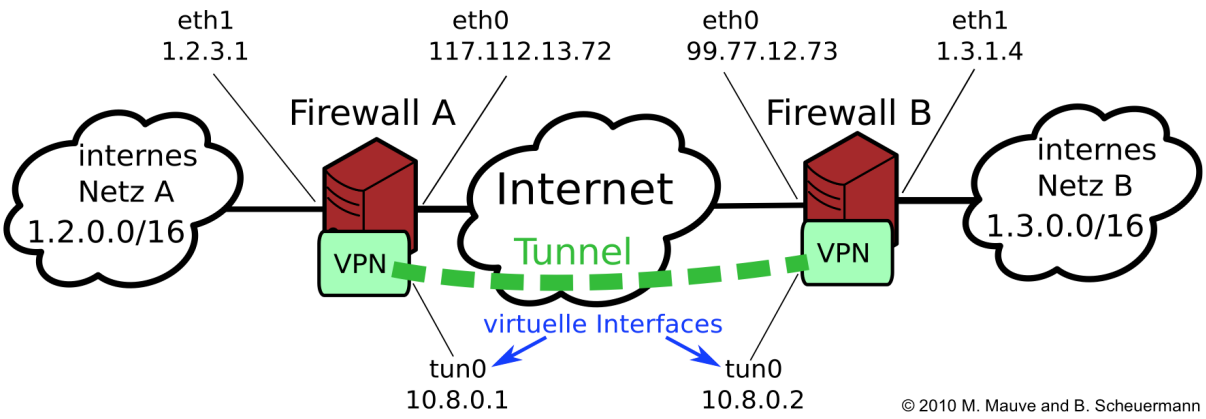
1) VPN



1.1) Consider the network topology illustrated above to fill in the empty cells in the two routing tables below.

Routing table of Firewall A

Destination	Gateway	Interface
1.2.0.0/16		
10.8.0.0/24	---	tun0
1.3.0.0/16	10.8.0.2	
default	117.112.13.1	

Routing table of Firewall B

Destination	Gateway	Interface
1.2.0.0/16		
10.8.0.0/24	---	tun0
1.3.0.0/16		
default	99.77.12.1	

1.2) Assume an IP packet *p* is send from a host located in Netz A to IP address 1.3.0.26. Which destination IP address will the packet have that Firewall A sends to Firewall B upon reception of *p*?

1.3) a) The VPN can make QoS guarantees for packets sent between Netz A and Netz B in terms of packet-loss.

☐ true ☐ false

b) The VPN can make QoS guarantees for packets sent between Netz A and B in terms of jitter.

☐ true ☐ false

c) Since the VPN tunnels via layer 3/IP, it looks to the network like a layer3/IP link/hop.

☐ true ☐ false

2) CDNs

2.1) a) CDNs usually concentrate their servers in the backbone of the internet, because it allows them reach many edge ISPs with the same servers.

☐ true ☐ false

b) Edge-ISPs forward CDN traffic without being compensated by the CDN, because the traffic is of high interest to the end-users hosted by the edge ISP.

☐ true ☐ false