

Quiz 3

Due Mar 6 at 5pm**Points** 20**Questions** 15**Available** Feb 27 at 7pm - Mar 6 at 5pm**Time Limit** 30 Minutes

Instructions

You have 30 minutes to complete this quiz about Networking, SDN, mininet and NFV.


The quiz has 15 questions worth 20 points.

DO NOT CONSULT OTHER STUDENTS.

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	25 minutes	16 out of 20 *

* Some questions not yet graded

 **Correct answers will be available Mar 6 at 5pm - Mar 10 at 5pm.**

Score for this quiz: **16** out of 20 *

Submitted Mar 4 at 10:36am

This attempt took 25 minutes.

Question 1	1 / 1 pts
Which layer in the OSI model is mainly responsible for encryption?	
<input type="radio"/> Application	
<input checked="" type="radio"/> Presentation	
<input type="radio"/> Transport	

☐ Network

Question 2**1 / 1 pts**

Which layer in the OSI model does switching mainly happen?

☐ Application

☐ Presentation

☒ Data Link

☐ Network

Question 3**1 / 1 pts**

Select a reason why CLOS topology is better than a Fat Tree topology.

☐ Can use a highly specialized hardware

☐ Has less number of switches in general

☐ Has less number of links

☒ Has less number of hops between switches

Question 4**1 / 1 pts**

Which "Plane" does this operation refer to?

Updating the forwarding state.

- ☐ Data Plane
- ☒ Control Plane
- ☐ Management Plane

Question 5

1 / 1 pts

Which "Plane" does this operation refer to?

Perform actions defined in the OpenFlow protocol rule

- ☒ Data Plane
- ☐ Control Plane
- ☐ Management Plane

Question 6

1 / 1 pts

Which "Plane" does this operation refer to?

Applying firewall rules to incoming packets at line rate

- ☒ Data Plane
- ☐ Control Plane
- ☐ Management Plane

Question 7**1 / 1 pts**

Select a correct challenge in networking that motivated the invention and adoption of SDN.

☐ Switches have limited memory for storing local forwarding state

☐ Wanted to make switches open sourced, as traditional switches were proprietary and hard to understand

☒ Hard to reason about protocols running in distributed nature

☐ Faster to receive rules from a remote controller

Question 8**1 / 1 pts**

What is true about the control plane in SDN?

☐ All forwarding state is stored in the logically centralized control plane.

☒ Logically centralized control plane must be physically separate from the switch

☐ Logically centralized control plane always has an up to date view of the global network

☐ Distributed control planes are always more performant

Question 9**Not yet graded / 3 pts**

Please state how you would address scalability issues in SDN control plane.

Your Answer:

- Instead of centralized controller we can use the distributed controlled to improve scalability.
- For example if we have 3 switches, instead of connecting all the 3 switches to 1 controller we will create a separate controller for each switch.
- This will improve scalability

Question 10**1 / 1 pts**

True or False

Without OpenFlow it is impossible to implement SDN

☐ True

☒ False

Question 11**1 / 1 pts**

Please select the correct type of flow rules for this scenario.

The network operator is trying to block access into certain machines in the network from all users from a specific country due to the change in the regulation within the country to censor sensitive data.

☐ Flow-Based

☒ Aggregated

Incorrect

Question 12

0 / 1 pts

Please select the correct type of flow rule installation method for the following scenario.

The network operator is trying to block access into certain machines in the network from all users from a specific country due to the change in the regulation within the country to censor sensitive data.

☒ Reactive

☐ Proactive

Question 13

2.5 / 2.5 pts

Please answer the following question regarding Mininet

How many switches are created when you run "sudo mn --topo tree,fanout=3,depth=3"?

13

Question 14

2.5 / 2.5 pts

Please answer the following question regarding Mininet

How many links are created when you run "sudo mn --topo tree,fanout=3,depth=3"?

39

Question 15

1 / 1 pts

True or False

Networks that employ Network Function Virtualization do not have to replace hardware as often as ones that do not employ NFV.

☒ True

☐ False

Quiz Score: **16** out of 20