Section Quiz

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Score: 90% Passing Score: 80%

Question 1: ✔ Correct

Which of the following is an advantage of software-defined networking (SDN)?

- ➡ More granular control
- Standards are still being developed
- Lack of vendor support
- Is currently a new technology

EXPLANATION

One of the advantages of SDN is more granular control.

Some disadvantages of SDN include:

- Is currently a new technology
- Lack of vendor support
- Standards are still being developed

REFERENCES

9.3.3 SDN Facts

q_sdn_advantage_secp7.question.fex

Question 2: ✔ Correct

Which of the following BEST describes the Application SDN layer?

- Communicates with the Control layer through the southbound interface.
- Receives its requests and then provides configuration and instructions.
- ➡ Communicates with the Control layer through the northbound interface.
- Is software that is able to inventory hardware components in the network.

EXPLANATION

The Application layer communicates with the Control layer through what is called the northbound interface. These are sometimes called northbound APIs.

The Physical layer, also known as the Infrastructure layer, communicates with the Control layer through the southbound interface.

The Control layer receives its requests from the Application layer and then provides the Physical layer with its configuration and instructions.

The controller is software that is able to inventory hardware components in the network.

REFERENCES

9.3.3 SDN Facts

q_sdn_app_01_secp7.question.fex

Question 3: ✔ Correct

Which SDN layer would a load balancer that stops and starts VMs as resource use increases reside on?

- Control
- Physical
- Application
- Session

EXPLANATION

Applications reside on the Application layer. A load balancer that stops and starts VMs as resource use increases is an example of an application that would reside on this layer.

The Physical layer is where both physical and virtual network devices sit.

The Session layer is the fifth layer of the OSI model.

The Control layer is the middle layer. This is where the controller resides.

REFERENCES

9.3.3 SDN Facts

q_sdn_app_02_secp7.question.fex

Question 4: ✕ Incorrect

Software defined networking (SDN) uses a controller to manage devices. The controller is able to inventory hardware components on the network, gather network statistics, make routing decisions based on gathered data, and facilitate communication between devices from different vendors. It can also be used to make widespread configuration changes on just one device.

Which of the following best describes an SDN controller?

- ~~The SDN controller is hardware.~~
- The SDN controller is software.
- The SDN controller is a virtual networking device.
- The SDN controller is a networking protocol.

EXPLANATION

SDN uses a controller to manage devices. The controller is software that is able to inventory hardware components on the network, gather network statistics, make routing decisions based on gathered data, and facilitate communication between devices from different vendors. The controller can also be used to make widespread configuration changes on just one device.

REFERENCES

9.3.3 SDN Facts

q_sdn_controller_secp7.question.fex

Question 5: ✔ Correct

Drag the software defined networking (SDN) layer on the left to the appropriate function on the right. (Each SDN layer may be used once, more than once, or not at all.)

This layer receives its requests from the Application layer.

✔ Control layer

This layer is also known as the Infrastructure layer.

✔ Physical layer

This layer communicates with the Control layer through what is called the northbound interface.

✔ Application layer

This layer provides the Physical layer with configuration and instructions.

✔ Control layer

On this layer, individual networking devices use southbound APIs to communicate with the control plane.

✔ Physical layer

EXPLANATION

The SDN architecture consists of three layers:

- Application layer - communicates with the Control layer through the northbound interface. These are sometimes called northbound APIs.
- Control layer - receives its requests from the Application layer and then provides the Physical layer with its configuration and instructions.
- Physical layer - communicates with the Control layer through the. southbound interface. The individual networking devices use southbound APIs to communicate with the control plane and vice versa. Even though this is called the Physical layer, it is where both physical and virtual network devices sit. It is also known as the Infrastructure layer.

REFERENCES

9.3.3 SDN Facts

q_sdn_layer_secp7.question.fex

Question 6: ✔ Correct

Which of the following does the Application layer use to communicate with the Control layer?

- Controllers
- Southbound APIs
- Northbound APIs
- These layers do not communicate

EXPLANATION

The Application layer communicates with the Control layer through what is called the northbound interface. These are sometimes called northbound APIs.

The controller is just a software platform that contains other applications. It can be thought of as the network's operating system.

The individual networking devices on the Physical layer use southbound APIs to communicate with the control plane and vice versa.

The Application and Control layers do communicate.

REFERENCES

9.3.3 SDN Facts

q_sdn_north_secp7.question.fex

Question 7: ✔ Correct

Which of the following BEST describes the Physical SDN layer?

- Receives its requests from the Application layer.
- ➡ Also known as the Infrastructure layer.
- Sometimes called northbound APIs.
- Gives new life to old networking hardware.

EXPLANATION

The Physical layer is also known as the Infrastructure layer.

The Application layer is sometimes called a northbound API.

The Control layer receives its requests from the Application layer.

One of the advantages of SDN is it gives new life to old networking hardware.

REFERENCES

9.3.3 SDN Facts

q_sdn_phys_secp7.question.fex

Question 8: ✔ Correct

Network engineers have the option of using software to configure and control the network rather than relying on individual static configuration files that are located on each network device.

Which of the following is a relatively new technology that allows network and security professionals to use software to manage, control, and make changes to a network?

- Load balancing software
- Infrastructure software networking
- Control layer networking
- Software-defined networking (SDN)

EXPLANATION

Software-defined networking (SDN) is a relatively new technology that allows network and security professionals to manage, control, and make changes to a network. Network engineers are able to use software to configure and control the network rather than relying on individual static configuration files that are located on each network device.

The Control layer is one of three layers that comprise software defined networking. The other layers are the Application layer and the Physical layer. Load balancers can be a component of the Application layer. The Physical layer can also be referred to as the Infrastructure layer.

REFERENCES

9.3.3 SDN Facts

q_sdn_software_secp7.question.fex

Question 9: ✔ Correct

Which APIs do individual networking devices use to communicate with the control plane from the Physical layer?

- Northbound and Southbound
- Northbound
- None
- Southbound

EXPLANATION

Individual networking devices on the Physical layer use southbound APIs to communicate with the control plane and vice versa.

The Application layer communicates with the Control layer through what is called the northbound interface.

REFERENCES

9.3.3 SDN Facts

q_sdn_south_secp7.question.fex

Question 10: ✔ Correct

Which of the following is a disadvantage of software defined networking (SDN)?

- SDN creates centralized management.
- SDN facilitates communication between hardware from different vendors.
- SDN standards are still being developed.
- SDN gathers network information and statistics.

EXPLANATION

Some of the disadvantages of SDN include:

- Still a newer technology
- Lack of vendor support
- Standards are still being developed
- Centralized control opens a new target for security threats

Some of the advantages of SDN include:

- Centralized management
- More granular control
- Lower overall cost and labor
- Gives new life to old networking hardware
- Gathers network information and statistics
- Facilitates communication between hardware from different vendors

REFERENCES

9.3.3 SDN Facts

q_sdn_standards_secp7.question.fex