Quiz Assignment-I Solutions: Cloud Computing and Distributed Systems (Week-1)

Q. 1 Which of these statements are correct?

Statement-1: Moore's law indicates that network bandwidth doubles every 18 months.

Statement-2: Gilder's law indicates that processor speed has doubled each year in the past.

- Only statement 1 is correct
- Only statement 2 is correct
- Both statements are correct
- Both statements are false

Answer: Both statements are false

Explanation: Correct statements are:

Statement-1: Moore's law indicates that processor speed doubles every 18 months.

Statement-2: Gilder's law indicates that network bandwidth has doubled each year in the past.

Q. 2 Amazon Web Services (AWS) is an example of

- Software as a service (SaaS)
- Infrastructure as a service (IaaS)
- Platform as a Service (PaaS)
- None of the mentioned

Answer: Infrastructure as a service (IaaS)

Explanation: Infrastructure as service or IaaS is the basic layer in cloud computing model. It is a form of cloud computing that provides virtualized computing resources over the internet. Common examples: DigitalOcean, Linode, Rackspace, Amazon Web Services (AWS), Cisco Metapod, Microsoft Azure, Google Compute Engine (GCE) are some popular examples of Iaas.

Q. 3 True or False ?

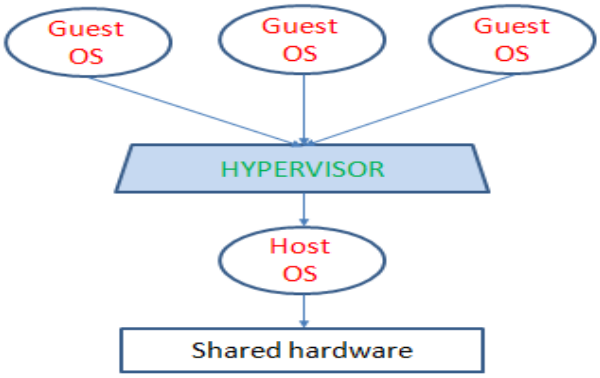
Utility computing focuses on a business model in which customers receive computing resources from a paid service provider.

- True
- False

Explanation: True

Solution: Utility computing focuses on a business model in which customers receive computing resources from a paid service provider.

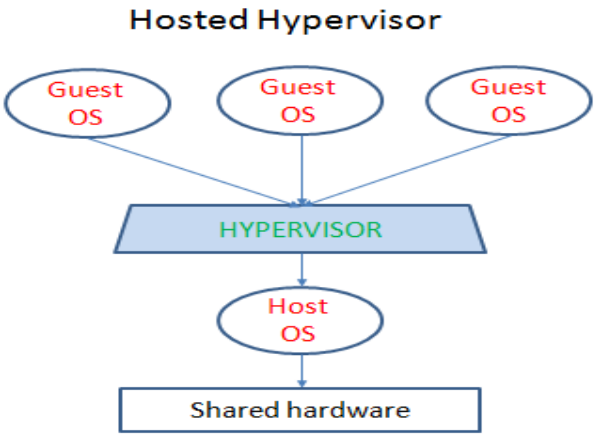
Q. 4 Which type of Hypervisor is shown in the following figure ?



- Type 1
- Type 2
- Type 3
- All of the mentioned

Answer: Type 2

Explanation:



In this model, at the lowest level, there is a full fledged host OS that manages all of the hardware resources.

Q. 5 Which of the following figure is the example of Passthrough Model:

- Figure 1
- Figure 2
- Figure 3
- None of the mentioned

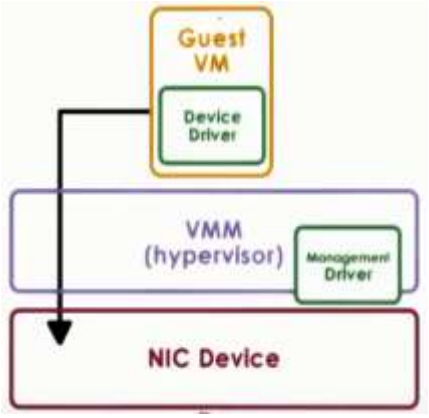


Figure 1

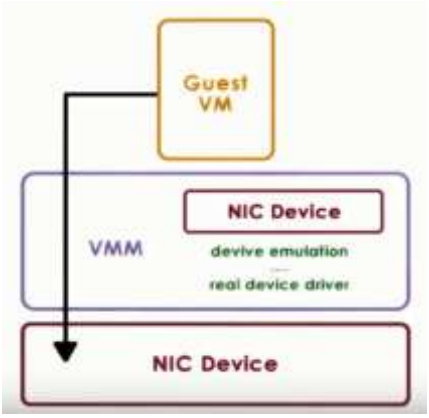


Figure 2

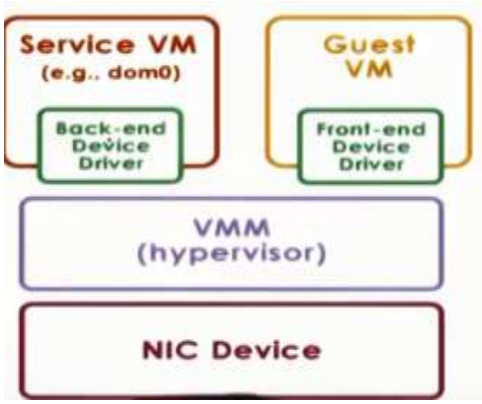


Figure 3

Answer: Figure 1

Explanation:

In passthrough model, VMM-level driver configures device access permissions

Q. 6 Fill in the blanks:

_____are accessible only to company employees

_____provide service to any paying customer

Private clouds, Private clouds

Public clouds, Public clouds

Private clouds, Public clouds

Public clouds, Private clouds

Answer: Private clouds, Public clouds

Explanation:

Private clouds are accessible only to company employees

Public clouds provide service to any paying customer

Q. 7 _____where a VM can be moved from one physical machine to another even as it continues to execute.

- Load Balancing
- Migration
- Live Migration
- Server consolidation

Answer: Live Migration

Explanation: Live migration refers to the process of moving a running virtual machine or application between different physical machines without disconnecting the client or application.

Q. 8 Consider the following regarding the Sandpiper architecture:

P. Nucleus	I. Detect when a hotspot occurs
Q. Control Plane	II. Determine where to migrate
R. Hotspot Detector	III. Monitor resources
S. Profiling Engine	IV. Centralized server
T. Migration Manager	V. Decide how much to allocate

- P: I,Q: II, R:III, S:IV, T:V
- P: IV,Q: III, R:I, S:V, T:II
- P: III,Q: V, R:I, S:IV, T:II
- P: III,Q: IV, R:I, S:V, T:II

Answer: P: III,Q: IV, R:I, S:V, T:II

Explanation:

Nucleus: Monitor resources

Control Plane: Centralized server

Hotspot Detector: Detect when a hotspot occurs

Profiling Engine: Decide how much to allocate

Migration Manager Determine where to migrate

Q. 9 _____ method is completely OS and application agnostic

_____method access to OS states and application logs

- Black-box, Gray-Box
- Gray-Box, Black-box
- Black-box, White-Box
- Gray-box, White-Box

Answer: Black-box, Gray-Box

Explanation:

Black-box: only data from outside the VM Completely OS and application agnostic

Gray-Box: access to OS states and application log

Q.10 Web based email service is an example of

- Software-as-a-Service (SaaS)
- Platform-as-a-Service (Paas)
- Infrastructure-as-a-Service (IaaS)
- None of the mentioned

Answer: Software-as-a-Service (SaaS)

Explanation: Software as a service (**SaaS**) is a software distribution **model** in which a third-party provider hosts applications and makes them available to customers over the Internet.

A simple example of SaaS is an online email service, like Gmail. If you use Gmail, you are not hosting your own email server.
