

Module 02: Virtual Hardware

Multiple Choice

1. Brian has built a private cloud in his company's data center. He has just racked up a server and turns it on for the first time. Which of the following extensions might he see that he should ensure are enabled in the UEFI/BIOS setup before continuing to install the operating system and configure the server to be part of the private cloud? (Choose two)

- a. Intel-V
- b. VT-x
- c. AMD-V
- d. AV-x

ANSWER: b

FEEDBACK:

- a. Incorrect. The Intel extension would be the VT-x extension. There is also a VT-i extension for the Itanium line of processors, but there is not an Intel-V.
- b. Correct. The VT-x and VT-i extensions are possibilities you might see for the Intel architecture.
- c. Correct. The AMD-V extension is used for the AMD architecture.
- d. Incorrect. There is not an AV-x extension for hardware-assisted virtualization.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 4:53 AM

DATE MODIFIED: 6/16/2020 4:55 AM

2. Henry has just been hired as a security engineer and has been tasked with analyzing the cloud infrastructure that the company uses. Which of the following might Henry be concerned about if he discovers that critical data is being stored in that environment?

- a. Shared compute
- b. Dedicated compute
- c. High availability
- d. Cluster

ANSWER: a

FEEDBACK:

- a. Correct. A shared compute environment means that other tenants, or companies, are sharing resources with Henry's company. This means that there could be bugs or vulnerabilities that could potentially let one tenant see the information and data from another tenant. This is a potential risk to the critical data which Henry needs to make sure is protected.
- b. Incorrect. A dedicated compute environment means that Henry's company is the only one using that computing environment. This is more secure than a shared compute environment.
- c. Incorrect. High availability is the concept that a service should remain available a large percentage of the time. However, these setups can be configured as either a shared compute or dedicated compute environment.
- d. Incorrect. A cluster is a group of devices, computers, or servers that all work together as one. These can be deployed to offer shared compute or dedicated compute environments.

POINTS: 1

QUESTION TYPE: Multiple Choice

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HAS VARIABLES: False

DATE CREATED: 6/16/2020 4:56 AM

DATE MODIFIED: 6/16/2020 5:27 AM

3. Frank is configuring a virtual machine that will reside on a CSP's infrastructure that will eventually need multiple terabytes of storage for data. However, he decides to only configure it with one terabyte in the beginning and then provision more disk space as necessary. Which of the following is the most likely reason for his decision?

- a. Obsolescence
- b. Fragmentation
- c. Incompatibility
- d. Cost

ANSWER: d

FEEDBACK:

- a. Incorrect. Technology continuously evolves and what is current today may be obsolete next year. However, this does not impact storage sizing solutions for a product where you pay as you go such as using a cloud service provider.
- b. Incorrect. Technology continuously evolves and what is current today may be obsolete next year. However, this does not impact storage sizing solutions for a product where you pay as you go such as using a cloud service provider.
- c. Incorrect. The cloud provider should only continue to offer services and allow Frank to choose services that are compatible with each other. In the event that the type of storage that he has chosen initially is no longer compatible, he should be able to go through a migration process to whatever the replacement service or technology is.
- d. Correct. In this scenario, the cloud provider most likely charges for the space that has been provisioned and reserved for the customer, not necessarily the space that is actually used.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:23 AM

DATE MODIFIED: 6/16/2020 5:30 AM

4. Margaret has designed an application and the underlying systems that it resides on to have a five-nine uptime, or 99.999%. Which of the following techniques has she implemented?

- a. Shared compute
- b. High availability
- c. Disaster recovery
- d. Overcommitment

ANSWER: a

FEEDBACK:

- a. Incorrect. Shared compute is the idea that multiple virtual machines can share the same processing power. While these systems can certainly be deployed using shared compute, it cannot be completely determined from the scenario given.
- b. Correct. High availability is the term used to describe systems that are designed with very high uptimes with very minimal downtime. There are multiple techniques that can be used to deliver applications with high availability.
- c. Incorrect. While systems that implement high availability typically have a disaster

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recovery plan, they are a bit different. With disaster recovery, the goal is to recover from the failure as quickly as possible, whereas with high availability, the goal is to stay available even when there is a failure.

- d. Incorrect. An overcommitment ratio can be used to allocate more vCPUs on a host than there are logical cores available or to allocate more memory than is physically available. It is not necessarily a technique that would be used to describe high availability.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:24 AM

DATE MODIFIED: 6/16/2020 5:35 AM

5. Chris has learned about a technique that he can configure on some of his virtualized systems to help with memory allocation. Using this specific technique, a driver gets installed on each of the virtual machines on a host. That driver allows the host to control a fake process on the virtual machine so that the VM assigns memory to that process. Rather than actually do something with the memory that has been allocated to the process, the host can then assign that memory to another virtual machine so that it can use the memory instead. Which of the following is the best description of the memory reclamation process that Chris is considering using?

- a. Ballooning
- b. Overcommitment
- c. Bursting
- d. Hyperthreading

ANSWER: a

FEEDBACK:

- a. Correct. Ballooning is a technique that installs a driver from the host onto the virtual machine so that the VM can allocate memory to a process that the host has control over. That memory can then be re-allocated by the host to a different virtual machine.
- b. Incorrect. Overcommitment is the idea that you can allocate multiple vCPUs per logical thread or more total memory on the virtual machines combined than exists on the physical host.
- c. Incorrect. Bursting is the idea that a system may only need a certain amount of memory on average for most of its tasks, but has the ability to burst up to a certain amount when needed.
- d. Incorrect. Hyperthreading is the ability of an Intel CPU to schedule two series of tasks at one time so that a single physical core appears to have two logical cores.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:24 AM

DATE MODIFIED: 6/16/2020 5:39 AM

6. Jana is trying to optimize the cloud infrastructure of her organization for availability. She wants to ensure that the virtual machines that normally use a certain amount of memory have the ability to use more physical memory up to a predefined level in cases of heavy workloads. Which of the following features should she look at configuring?

- a. Overcommitment
- b. Ballooning

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- c. Hyperthreading
- d. Bursting

ANSWER: d

FEEDBACK:

- a. Incorrect. While the overcommitment of memory can certainly help optimize the cloud infrastructure, the scenario specifically states that the goal is availability. When looking to expand the resources available on the fly, bursting is the best answer in this case.
- b. Incorrect. Ballooning is a technique that can be used to reclaim memory resources from one virtual machine and redirect those resources to another virtual machine.
- c. Incorrect. Hyperthreading is the ability of an Intel CPU to schedule two series of tasks at one time so that a single physical core appears to have two logical cores.
- d. Correct. Bursting will allow the virtual machine to temporarily increase its consumption of physical memory to a maximum limit defined by the hypervisor.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:24 AM

DATE MODIFIED: 6/16/2020 5:42 AM

7. Fictional Corp has built a private cloud in their data center. That data center is in a region of the country that is prone to earthquakes. They want to ensure that the company can continue to operate in the event that a major earthquake hits and knocks out the power and Internet services. Which of the following strategies should they implement?

- a. Orchestration
- b. SDLC
- c. Disaster recovery
- d. Clustering

ANSWER: c

FEEDBACK:

- a. Incorrect. Orchestration is the design, development, and optimization of automation processes. While it could potentially be used as a part of the disaster recovery planning, it is not the best choice for the given scenario.
- b. Incorrect. SDLC is the software development life cycle that describes the planning, creation, testing, and deployment of applications as well as the deprovisioning at the end of their usefulness.
- c. Correct. Disaster recovery is a planning and strategic process whereby you plan for failures before they happen so that the business can continue to operate in the event of a disaster. In this kind of scenario, they would want to have geographically separate locations to fail over to in the event of a disaster.
- d. Incorrect. A cluster is typically a group of devices or resources that appear as a single device from a single location. If the data center loses power and Internet connectivity due to a natural disaster, the entire cluster may go down.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:24 AM

DATE MODIFIED: 6/16/2020 5:57 AM

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8. Fictional Corp is building out a private cloud in their data center. They want to ensure that there are extra resources available in the event that a server fails. Which of the following technologies might they build their cloud upon?

- a. Cluster
- b. Bundle
- c. Clump
- d. Collection

ANSWER: a

FEEDBACK:

- a. Correct. A cluster is a group of devices that work together and appear as a single device or resource to the rest of the network. This would allow a guest virtual machine to fail over to another piece of hardware in the case of a server failure.
- b. Incorrect. The term “bundle” can be used in a variety of ways within the technology world, but when describing a way to provide extra resources to take over in the event that a server fails, a cluster could be used to fail over to another piece of hardware.
- c. Incorrect. A clump is not a type of technology that one would expect as a possibility within a data center, but a cluster could be.
- d. Incorrect. The term “collection” can be used in a variety of ways within the technology world, but when describing a way to provide extra resources to take over in the event that a server fails, a cluster could be used to fail over to another piece of hardware.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 5:39 AM

DATE MODIFIED: 6/16/2020 5:59 AM

9. Frederick is trying to deploy a number of new virtual machines to a new private cloud that his company has just built in their data center. He knows that he needs to configure the virtual machines to have multiple vCPUs, but he also knows that the number of vCPUs needed outnumbers the actual number of total logical cores available on the physical servers. Which of the following might describe one of the concepts he could implement in this scenario?

- a. Multithreading
- b. Rationing
- c. Overcommitment ratio
- d. Slippery slope

ANSWER: c

FEEDBACK:

- a. Incorrect. Simultaneous multithreading is a brand-agnostic term to describe features of a CPU to be able to schedule two series of tasks at one time so that a single physical core appears to have two cores. However, taking into account that the number of logical cores has already been determined and that the vCPUs necessary outnumber those, Frederick would look at the overcommitment ratio and determine what an acceptable overcommitment ratio might be.
- b. Incorrect. Rationing is not a term typically used when describing allocation of vCPU resources.
- c. Correct. The overcommitment ratio describes the number of vCPUs provisioned on a system vs the number of logical cores that are available.
- d. Incorrect. Slippery slope is not a term typically used when describing allocation of vCPU resources.

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POINTS: 1
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 6/16/2020 5:39 AM
DATE MODIFIED: 6/16/2020 6:02 AM

10. Roz is configuring new virtual machines in the company’s private cloud. She knows that the virtual machines need a total of 512 GiB of memory. However, the physical machine that she’s deploying them to only has 256 GiB installed. Which of the following technologies, when configured correctly, could allow her to deploy the virtual machines to this hardware?

- a. Overcommitment ratio
- b. Memory bursting
- c. RAMming
- d. Ballooning

ANSWER: a

FEEDBACK:

- a. Correct. Overcommitment ratios can be used to describe the over-allocation of virtual CPUs or memory.
- b. Incorrect. Memory bursting is the idea that a virtual machine uses a standard amount of memory; however, a maximum limit can be defined that it can be allowed to burst up to when processes increase the usage and more memory is required to complete them.
- c. Incorrect. RAMming is not a valid technology term.
- d. Incorrect. Ballooning can be used to reclaim memory from virtual machines by the host in order to re-allocate it to other virtual machines.

POINTS: 1
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 6/16/2020 5:40 AM
DATE MODIFIED: 6/16/2020 6:05 AM

11. Jacob wants to export a virtual machine from one host to another as a single file. Which of the following file formats should he use?

- a. OVA
- b. VHD
- c. OVF
- d. VDI

ANSWER: a

FEEDBACK:

- a. Correct. The Open Virtual Appliance file format combines the virtual machine image and storage drives into a single file.
- b. Incorrect. The Virtual Hard Disk file format is used by Microsoft for storage only.
- c. Incorrect. The Open Virtualization Format uses multiple files, though they are in a single package.
- d. Incorrect. The Virtual Disk Image format is used by VirtualBox for storage only.

POINTS: 1
QUESTION TYPE: Multiple Choice

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HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:07 AM

12. Kathleen has noticed in the configuration management database that a couple of servers are no longer covered by the manufacturer's warranty. The organization has been migrating to the cloud over the past year, so that seemed to be the best place to migrate these to as well. What type of migration would this be considered?

- a. P2P
- b. P2V
- c. V2P
- d. V2V

ANSWER: b

FEEDBACK:

- a. Incorrect. A physical to physical migration would mean migrating the applications and data on the old physical system to a new physical system. Since she is migrating to the cloud, these systems will most likely be imaged and then the image loaded onto their cloud as a virtual machine.
- b. Correct. This would be considered a physical to virtual migration.
- c. Incorrect. A virtual to physical migration is just the opposite of this scenario. If there was a virtual machine that was then deployed onto a dedicated piece of hardware, that would be a V2P migration.
- d. Incorrect. A virtual to virtual migration is typically what happens when a guest VM is migrated from one host to another. Since the scenario describes servers no longer covered by a manufacturer's warranty, they are most likely physical servers that she is migrating from.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:09 AM

13. Terry has noticed in the configuration management database that one of the servers that acts as a host for multiple virtual machines is no longer covered by the manufacturer's warranty. He gets a replacement with a lot more capacity installed and migrates the guest machines to the new host. What type of migration would this be considered?

- a. P2P
- b. P2V
- c. V2P
- d. V2V

ANSWER: d

FEEDBACK:

- a. Incorrect. A physical to physical migration would mean migrating the applications and data on an old physical system to a new physical system. The scenario, however, describes moving the guest virtual machine from one host to another. This would be a virtual to virtual, or V2V.
- b. Incorrect. A physical to virtual migration would typically require taking an image of a physical machine and importing it into a host as a virtual machine. However, the scenario describes moving the virtual machine from one host to another, which would be a V2V

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migration.

- c. Incorrect. A virtual to physical migration consists of taking a virtual machine and deploying it to a dedicated piece of hardware. This is not what the scenario describes.
- d. Correct. A virtual to virtual, or V2V, migration would be migrating a virtual machine from one host to another.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:11 AM

14. Fictional Corp’s primary data center is located in Silicon Valley not far from the San Andreas fault line. Over the past couple of years, earthquakes have been getting more and more frequent and of a higher intensity. As a precaution, the company has decided to use a CSP to geographically disperse the infrastructure. They are currently using multiple hosts that contain between 2 and 20 virtual machines each within their data center. Which of the following types of migration would this be considered?

- a. P2P
- b. P2V
- c. V2P
- d. V2V

ANSWER: d

FEEDBACK:

- a. Incorrect. Moving from an on-premises data center to a cloud service provider would not be a physical to physical migration when both sides are using virtual machines.
- b. Incorrect. This could not be a physical to virtual migration since the scenario describes their use of virtual machines within the data center and will continue using virtual machines on the cloud service provider.
- c. Incorrect. The cloud service provider will not be providing physical machines for each of the virtual machines to migrate to, so this cannot be a virtual to physical migration.
- d. Correct. A virtual to virtual migration doesn’t necessarily have to be from one host to another within the same network. It could be from an on-premises data center, private cloud, or even a cloud service provider to another data center, private cloud, or cloud service provider. The key idea is that you are simply moving a virtual machine from one host to another no matter where the source and destination are.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:13 AM

15. Fictional Corp has an ecommerce shop where customers can buy widgets directly from them through their website. The shop runs on a virtual machine at a cloud service provider. However, the company has just been offered a deal with another cloud service provider that will save them a significant amount of money. They want to make the move to the new cloud service provider as quickly as possible with as little downtime as possible. Which of the following would be their best option, assuming it is technically feasible with the options available from both platforms?

- a. Offline migration

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- b. Live migration
- c. Backup and restore
- d. P2P migration

ANSWER: b

FEEDBACK:

- a. Incorrect. Offline migration is not typically a term referenced in cloud technologies, but could be thought of as taking an image of a system and then taking or sending it to another location for it to be loaded onto that system. The system may experience a good bit of downtime while the system is being migrated.
- b. Correct. A live migration is the migration of a system while it is still running to prevent or minimize downtime.
- c. Incorrect. A backup and restore operation could mean downtime as you're synchronizing data from the old system to the new and making the transition.
- d. Incorrect. Neither cloud service provider would be providing physical infrastructure for the company. They provide virtual machines, so this could be classified as a virtual to virtual migration, not a physical to physical.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:14 AM

16. A server in one of Fictional Corp's branch offices is starting to generate warning messages that a piece of hardware is starting to experience issues and may fail soon. The company keeps the server on-premises for that location due to an unreliable Internet connection and thus cannot move it to the cloud because the office heavily relies on that server. Which of the following should a technician perform?

- a. P2P migration
- b. P2V migration
- c. V2P migration
- d. V2V migration

ANSWER: a

FEEDBACK:

- a. Correct. The technician should bring in a new physical server and migrate the applications, data, and configuration information from the old physical server to the new physical server.
- b. Incorrect. While it may be tempting to choose physical to virtual, the scenario doesn't give us any extra information about what kinds of resources may be available at this location. Since this is only a branch office and has an unreliable Internet connection, they may not have lots of servers at that location and only keep a couple of them on-site to provide critical services that are heavily used. The best option, given the information that is provided, is a physical to physical migration.
- c. Incorrect. The scenario doesn't provide any clues that would indicate a virtual machine is being used. In that case, we should probably assume it is a physical machine that is causing problems and thus this cannot be a virtual to physical migration.
- d. Incorrect. The scenario doesn't provide any clues that would indicate a virtual machine is being used. In that case, we should probably assume it is a physical machine that is causing problems and thus this cannot be a virtual to virtual migration.

POINTS: 1

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QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:16 AM

17. Kayla has been tasked with migrating a physical server to the cloud service provider that Fictional Corp uses. Which of the following will allow her to perform that migration?

- a. P2P
- b. Snapshot
- c. Orchestration
- d. V2V

ANSWER: b

FEEDBACK:

- a. Incorrect. When migrating a physical server to a cloud service provider, that is a P2V migration. However, the scenario did not ask what type of migration it was, but what would allow her to perform the migration.
- b. Correct. Kayla can take a snapshot, or an image, or the physical machine for the migration to the cloud service provider.
- c. Incorrect. Orchestration is the design, development, and optimization of automation processes. It is not typically considered as a necessary step of the migration process.
- d. Incorrect. The scenario describes a physical to virtual migration, which this cannot be. This is a P2V migration. Even if the answer choice was P2V, it would still be incorrect because the question asked what would allow her to perform the migration, which would be a snapshot of the physical machine.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:18 AM

18. Juan is implementing automation processes into some of the cloud infrastructure that his organization uses. Which of the following terms best describes the design, development, and optimization of these automation tools?

- a. SDLC
- b. Collaboration
- c. Orchestration
- d. Version control

ANSWER: c

FEEDBACK:

- a. Incorrect. The SDLC is the software development life cycle that references the planning, creating, testing, and deployment of applications. It does not specifically deal with just the automation processes.
- b. Incorrect. Collaboration can refer to versioning systems, such as Git, that allow teams to work together. It does not refer to automation processes.
- c. Correct. Orchestration is the design, development, and optimization of automation processes and tools.
- d. Incorrect. Version control is the ability to keep multiple copies of a file or program as it changes over time. It can allow you to roll back to a previous version, and can be

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incorporated as part of the automation processes, but the design, development, and optimization of the automation tools is referred to as orchestration.

POINTS: 1
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 6/16/2020 6:00 AM
DATE MODIFIED: 6/16/2020 6:20 AM

19. Ned is working on implementing an open-source container management service because it has some orchestration features that his organization would really benefit from. Which of the following is a possible solution that he may be working with?

- a. Ubuntu
- b. Slackware
- c. Kali
- d. Kubernetes

ANSWER: d

FEEDBACK:

- a. Incorrect. Ubuntu is a distribution of Linux, not a container management platform with orchestration features.
- b. Incorrect. Slackware is a distribution of Linux, not a container management platform with orchestration features.
- c. Incorrect. Kali is a distribution of Linux, not a container management platform with orchestration features.
- d. Correct. Kubernetes is an open-source container management service that has a variety of orchestration features.

POINTS: 1
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 6/16/2020 6:00 AM
DATE MODIFIED: 6/16/2020 6:28 AM

20. Fictional Corp has multiple monitoring systems in place to report various events that occur as soon as they happen. However, they have also tried to design the infrastructure so that it can withstand and compensate for these failures and outages and allow the system to still function so that the users do not notice the failure. Which of the following terms could be used to describe the theory they used when designing their infrastructure?

- a. Overcommitment
- b. Resiliency
- c. Hyperthreading
- d. Virtualization

ANSWER: b

FEEDBACK:

- a. Incorrect. Overcommitment ratios can be used with CPU or memory resources to be able to allocate more than is physically available to virtual machines with the understanding that the VMs should not all be running at peak capacity at the same time.
- b. Correct. Resiliency is the ability of a system to withstand and compensate for failures or outages while continuing to function.

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- c. Incorrect. Hyperthreading is an Intel technology that allows a physical core of a processor to be recognized as two logical cores.
- d. Incorrect. While Fictional Corp may be using virtualization, the terminology used in the scenario points to resiliency – the ability of a system to withstand and compensate for failures or outages while continuing to function. They could very well have implemented resiliency at a hardware level without implementing virtualization.

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QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:00 AM

DATE MODIFIED: 6/16/2020 6:29 AM

21. Fictional Corp has decided to migrate much of its on-premises data center to a cloud service provider to take advantage of some of the benefits of cloud computing. The benefit that they found the most important was the ability to expand and grow (or shrink) as needed without any delay due to shipping and installing the hardware required for an on-premises data center. Which of the following common cloud terms was the most important factor in their decision?

- a. Elasticity
- b. Growability
- c. Hyperthreading
- d. Bursting

ANSWER: a

FEEDBACK:

- a. Correct. Elasticity describes the ability to quickly provision more resources such as disk space, bandwidth, CPU, memory, or any other features available to customers of a CSP.
- b. Incorrect. Growability is not a common term in the cloud technologies sector.
- c. Incorrect. Hyperthreading refers to the Intel chipset architecture whereby one physical core can be addressed as two logical cores.
- d. Incorrect. Bursting typically refers to CPU or memory usage and the ability to temporarily use more resources than have been allocated for normal usage patterns.

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QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 6:34 AM

22. Greg is deploying a new application that will originally have 1 terabyte of disk space allocated to storing user files. However, since it is a new application, he is unsure how quickly the disk space may fill up and need to grow to accommodate new files. Which of the following cloud features should he ensure is configured correctly so as not to cause any errors to be displayed to users about the storage space being full?

- a. Self-elasticity
- b. Auto-scaling
- c. Normalized growth
- d. SDLC

ANSWER: b

FEEDBACK: a. Incorrect. Elasticity describes the ability to quickly provision more resources such as disk

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space, bandwidth, CPU, memory, or any other features available to customers of a CSP. However, it's not typically referred to as self-elasticity. The proper term is auto-scaling.

- b. Correct. Auto-scaling is the ability to automatically increase resource availability, such as disk space in this particular scenario. When the resource usage approaches the limit, the system can automatically increase the available resources to ensure service availability.
- c. Incorrect. In the cloud technologies sector, normalized growth is not a commonly used term to describe the automatic growth of resources on-demand. The proper term is auto-scaling.
- d. Incorrect. The SDLC, or software development lifecycle, refers to the planning, creation, testing, and deployment of applications. It does not refer to the automatic growth of resources on-demand.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 6:59 AM

23. The legal department of your organization has requested that you audit the licenses you are using for the operating system your organization uses. As you start analyzing the on-premises cloud systems, you need to ensure that you have the correct number of licenses. Which of the following should you ensure to count on the machine?

- a. The number of CPU cores
- b. GiB of RAM
- c. The number of network cards/ports
- d. The number of disk volumes

ANSWER: a

FEEDBACK:

- a. Correct. Licenses for certain operating systems, and even software (such as MS SQL Server), are based on a per CPU core model.
- b. Incorrect. Operating system licenses do not take into account how much memory the system has.
- c. Incorrect. Operating system licenses do not take into account how many network cards or ports the system has.
- d. Incorrect. Operating system licenses do not take into account how many disks the system has.

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QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:01 AM

24. John has just created a new virtual machine on its own virtual network. After configuring the operating system and ensuring the appropriate services are running, he tries and fails to connect to the virtual machine's IP address via RDP. Which of the following might be the reason?

- a. He did not open port 22 on the firewall for that vnet.
- b. He did not open port 3389 on the firewall for that vnet.
- c. He did not configure DNS for the virtual machine.

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d. He did not configure SSH on the virtual machine.

ANSWER: b

FEEDBACK:

- a. Incorrect. Microsoft's Remote Desktop Protocol uses port 3389, not port 22.
- b. Correct. By default, the firewall settings for a virtual network typically do not allow any traffic. John needs to go in and configure rules to allow inbound traffic on port 3389 for Microsoft's Remote Desktop Protocol.
- c. Incorrect. John is trying to connect by IP address and thus does not need DNS configured.
- d. Incorrect. Microsoft's Remote Desktop Protocol does not rely on SSH to function.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:03 AM

25. Darren has been using Kubernetes for container management with the deployments his company has been using on the Google Cloud Platform. However, he is now being told that the company is going to be migrating to a different container management platform with Azure and AWS. Which of the following tools might he need to learn in order to make this transition and start deploying applications on the new platform?

- a. Docker Swarm
- b. Docker Flock
- c. Docker Crowd
- d. Docker Concourse

ANSWER: a

FEEDBACK:

- a. Correct. Docker Swarm is an open-source container orchestration platform.
- b. Incorrect. There is not a Docker Flock container management platform.
- c. Incorrect. There is not a Docker Crowd container management platform.
- d. Incorrect. There is not a Docker Concourse container management platform.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:05 AM

26. There have been multiple performance issues with the virtual machines that reside on one of the hosts in the data center at Fictional Corp. After a bit of research, it is discovered that during peak hours, they are all concurrently trying to use all of the vCPUs that have been configured for them. Which of the following was set too high in this configuration?

- a. Bursting
- b. Overcommitment ratio
- c. Elasticity index
- d. Scalability ratio

ANSWER: b

FEEDBACK:

- a. Incorrect. Bursting is used for memory, not virtual CPUs.

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- b. Correct. The overcommitment ratio has been configured too high for this particular host and most likely should have some of the guest VMs moved to another host where there are more resources available.
- c. Incorrect. There is not an elasticity index in cloud computing.
- d. Incorrect. There is not a scalability ratio in cloud computing.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:07 AM

27. Fictional Corp has just finished migrating a number of servers from an on-premises data center to a cloud service provider. However, users are now complaining that they are running much slower than before. Which of the following would NOT be a contributing factor as to why they seem slower?

- a. Internet bandwidth limitations
- b. Less memory allocated to virtual machines at the CSP
- c. Fewer CPU cores allocated to virtual machines at the CSP
- d. Amount of disk space provisioned for virtual machines at the CSP

ANSWER: d

FEEDBACK:

- a. Incorrect. If the users were connecting to applications within an on-premises data center and are now having to connect through the Internet to the cloud service provider, this will impact the amount of bandwidth being used through the Internet connection. The company may need to look into increasing the amount of bandwidth available from their ISP.
- b. Incorrect. If the virtual machines at the cloud service provider have not been correctly configured, it could be that they need more memory in order to run the processes and services for the applications that they are delivering.
- c. Incorrect. If the virtual machines at the cloud service provider do not have enough processing power to effectively run the processes and services for the applications they are delivering, that could be a cause of the slowness issue.
- d. Correct. The amount of disk space provisioned should not have an impact on the response times and speed of an application being hosted at a cloud service provider.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:16 AM

28. Wayne has received reports from users that several web applications are running very slowly at times. He is analyzing the virtual machine they reside on and sees that it is maxing out its resources on a regular basis. Which of the following cloud features should he configure so that more resources would be available on demand?

- a. Resilience
- b. Rlasticity
- c. Hyperthreading
- d. Simultaneous multithreading

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ANSWER: b

FEEDBACK:

- a. Incorrect. Resilience is the idea that if part of the system fails, it will continue operating and fail over to other parts of the system.
- b. Correct. Elasticity means that services can be expanded as needed. Wayne should configure the virtual machine to be able to take advantage of the elasticity features from the company's cloud service provider.
- c. Incorrect. Hyperthreading is an Intel technology that allows a physical core of a processor to be recognized as two logical cores. The problem most likely is not that hyperthreading is not enabled, but that he needs to be able to expand the resources on-demand by taking advantage of the cloud service provider's elasticity features.
- d. Incorrect. Simultaneous multithreading is a brand-agnostic term for the ability of a core of a physical processor to be recognized as two cores. The problem most likely is not that simultaneous multithreading is not enabled, but that he needs to be able to expand the resources on-demand by taking advantage of the cloud service provider's elasticity features.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:30 AM

DATE MODIFIED: 6/16/2020 7:18 AM

29. Fictional Corp wants to start migrating a bunch of internal applications to a CSP. However, they are located in a rural area and their only connection option is a T1. However, they know that the move would save them money in electrical expenses and reduce the maintenance burden from having to monitor and control the various firewalls and other related equipment. Which of the following is most likely going to be the biggest hurdle for them?

- a. Storage
- b. Bandwidth limitations
- c. Cost
- d. Security

ANSWER: b

FEEDBACK:

- a. Incorrect. The cloud service provider should have more than adequate storage available for Fictional Corp's needs.
- b. Correct. Some companies that choose to locate in a rural area may still have issues getting a high-speed Internet connection to their office, making it more difficult to allow users to connect to cloud-based applications.
- c. Incorrect. The cost of using a cloud service provider will most likely save Fictional Corp money in electrical and capitalized expenses. Even though they may have to pay more for a higher-speed Internet service, it may not even be available in their area, making that their biggest concern.
- d. Incorrect. Security is always a high priority, but from the description in the scenario, it sounds like moving to the cloud would be a security improvement for them, not a limitation.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:31 AM

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DATE MODIFIED: 6/16/2020 7:22 AM

30. Darla has changed the hostname of a Linux virtual machine within the operating system. She went to ping the server by the new name from her workstation, but is getting a host not found error message. Which of the following does she still need to configure?

- a. SNMP
- b. DNS
- c. ICMP
- d. SSH

ANSWER: b

FEEDBACK:

- a. Incorrect. The Simple Network Management Protocol doesn't have anything to do with name resolution. Even though she has configured the name on the server, she still needs to configure DNS entries in order for the name to resolve to the IP address to ping it by name.
- b. Correct. The Domain Name System is the most common method of name resolution. There should be a DNS server where she can create entries to resolve the name to the IP address.
- c. Incorrect. While the Internet Control Message Protocol is used by the ping command, there is nothing to configure for name resolution for it. It should use the existing Domain Name System servers.
- d. Incorrect. Secure Shell has nothing to do with name resolution.

POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 6:31 AM

DATE MODIFIED: 6/16/2020 7:24 AM

31. Homer has just changed the public IP address on one of the virtual machines residing on the cloud service provider his company uses. However, he is now no longer able to ping the server by the FQDN, though he is still able to ping it by the IP address. Which of the following does Homer need to modify?

- a. DNS A record
- b. DHCP configuration
- c. NTP master
- d. MAC address

ANSWER: a

FEEDBACK:

- a. Correct. The DNS A record is what resolves a fully qualified domain name to an IP address and should be modified to reflect the new IP address.
- b. Incorrect. When Homer changed the public IP address, he set it to a static IP address, so the Dynamic Host Configuration Protocol is not being used. (It is possible to create reservations on a DHCP server, but in that case he wouldn't have changed the IP address on the server, he would have changed the reservation for that server on the DHCP server itself.)
- c. Incorrect. The Network Time Protocol has nothing to do with name resolution.
- d. Incorrect. Name resolution does not resolve down to the MAC address. IP address to MAC address resolution is performed by ARP, or the Address Resolution Protocol.

Name: _____ Class: _____ Date: _____

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POINTS: 1

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 6/16/2020 7:25 AM

DATE MODIFIED: 6/16/2020 7:27 AM